ISN 84982

LESOTHO AGRICULTURAL PRODUCTION AND INSTITUTIONAL SUPPORT PROJECT (LAPIS)

632-0221

FINAL EVALUATION

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List of Acronyms

AEC	Agricultural Education Component
ARC	Agricultural Research Component
ARD	Agricultural Research Division
AVRDC	Asian Vegetable Research and Development Center
CIAT	International Center for Tropical Agriculture
CIDA	Canadian International Development Agency
CIMMYT	International Center for the Development of Maize and Wheat Improvement
CIP	International Potato Center
DAO	District Agricultural Officer
DEO	District Extension Officer
FSR	Farming Systems Research (somestimes called OFR)
FSRP	Farming Systems Research Project (preceded LAPIS)
GDP	Gross Domestic Product
GOL	Government of Lesotho
ICRISAT	International Crop Research Institute for the Semi-Arid Tropics
IFAD	International Fund for Agricultural Development
IITA	International Institute for Tropical Agriculture
ISAQC	Inter-Laboratory Soil Analysis Quality Control Scheme
ISNAR	International Service for National Agricultural Research
LAC	Lesotho Agricultural College

LNARS	Lesotho National Agricultural Research Strategy
MOA	Ministry of Agriculture, Cooperatives and Marketing of the Government of Lesotho
MULPOC	Multi-National Programming Operational Center for South African States
NUL	National University of Lesotho
OFR	On-Farm Research (sometimes called FSR)
PIC	Production Initiatives Component (of LAPIS)
PIL	Project Implementation Letter (from USAID)
RAC	Research Advisory Committee
RSA	Republic of South Africa
SACCAR	Southern African Center for Cooperation in Agricultural Research
SADCC	Southern African Development Coordination Conference
SARCCUS	Southern African Regional Commission for the Conservation and Utilization of the Soil
SWACAP	Soil and Water Conservation Project
SMS	Subject Matter Specialist
WSU	Washington State University Acronyms

FINAL CONSULTANT DRAFT

LESOTHO AGRICULTURAL PRODUCTION AND INSTITUTIONAL SUPPORT PROJECT (LAPIS) 632-0221

F I N A L E V A L U A T I O N OF THE PRODUCTION INITIATIVES COMPONENT (PIC); TRAINING COMPONENT; AGRICULTURAL EDUCATION COMPONENT (AEC); AND AGRICULTURAL RESEARCH COMPONENT (ARC).

0. PREFACE:

Three sub-components of the LAPIS project, the Lesotho Credit Union, the Range Management and the Home Gardens programs were previously evaluated (see the executive summary and full reports in Annexes). This Evaluation undertaken from April to May 1992, concentrated on the Production Initiatives, Training, Agricultural Education and Agricultural Research components.

In order to understand the complexities enveloping the LAPIS Project and the mixed findings of this partial Evaluation, it is necessary to begin with a background description of the socio-agricultural-economic situation of Lesotho.

0.1. The only generally recognized nation in the world that is completely contained within the borders of another country, Lesotho receives many opportunities from, but is also in many ways dependent on and dominated by the Republic of South Africa (RSA). A major part of Lesotho's GDP comes from remittances by Basotho workers in the RSA mines; large portions of Lesotho's government revenues derive from the Customs Union dominated by the RSA; virtually all of the country's consumer goods are manufactured in the RSA; and most of the fruits and vegetables eaten here are grown in the RSA.

0.1.1. The results of this opportunity/dependency as they affect the LAPIS project and this evaluation are: a large number of Lesotho's young men are not available for farming here, they are working in the RSA; agriculture accounts for a far smaller portion of GDP than would normally be expected in a Third World country with little in the way of natural resources or industry; personal incomes are higher and the economy more highly monetized than would otherwise be the case; Lesotho agricultural production finds it difficult to compete with the more efficient farms and varied agro-climatic zones of the RSA; and Lesotho has had no incentive to develop an efficient marketing system for indigenous agricultural produce because it is so much easier for the country's wholesalers to buy across the border.

0.1.2. Lesotho's dependence on the RSA has served to arouse a degree of donor interest, not always as well coordinated as it should be unfortunately, that makes this one of the most heavily assisted countries, per capita, in the Third World. This has sometimes had the effect of shifting dependency from the RSA to "the donors" and has also tended to tie up large amounts of limited available Government of Lesotho (GOL) funds and personnel as counterpart to ongoing donor projects, leaving scant resources to sustain the activities thus established, once the donor-funded phase is terminated.

0.2. In addition to the cited external constraints, Lesotho is affected by certain indigenous limitations that adversely impact agricultural development programs, whether of the LAPIS type or of the area-based type epitomized in the Bauer Projects:

0.2.1. Though most rural and even some urban Basotho farm and/or keep livestock, agriculture is not widely viewed as a current or potential primary economic activity. This attitude severely limits people's investment of interest, time and money in agricultural activities, making the rural population at large a limited-potential target for development efforts.

0.2.2. Land tenure restrictions serve to inhibit an efficient scale of agricultural production: mortgageable title is virtually impossible to obtain; only a complex set of usufructary rights are available. Thus it is difficult, and often socially disruptive, to assemble contiguous parcels of a size adequate for the most efficient production of high value crops.

0.2.3. The credit situation for small agricultural enterprises is nothing short of abysmal. On the one hand, the local lending institutions are far more attuned to a prospective borrower's access to collateral (which is generally limited: see

0.2.2. above) than to the repayment potential of an enterprise. On the other, a tendency has been noted among Basotho small farmers to give scant thought to the repayment obligation a loan entails. Until and unless this problem is resolved, a replicable small farmer development program will be difficult to design, progress will be largely limited to the lucky few who happen to obtain donor financing under a specific development program.

0.2.4. As a corollary to 0.2.3. above, many small farmers lack the kind of modern-world sophistication that is necessary to make the transition from subsistence to commercial farming: e.g. they are reluctant to accept that a middleman has legitimate operational expenses, and may only be willing to sell/consign to him for the same price as is being quoted for the retail market at Maseru.

0.2.5. A disequilibrium exists among RSA businesses, the GOL and the indigenous private sector. In an attempt to substitute for the perceived inadequacies of that private sector and attain a greater degree of local value-added, the GOL, often with donor encouragement and assistance, has taken a controlling position in many aspects of agriculture, including processing, marketing and input supply. The consequent inhibiting effect on local private initiative tends to reinforce existing inadequacies and compel the Basotho businessman to be even more risk-averse and non-entrepreneurial than before.

0.2.6. Restrictions, both customary and legal, on the rights and roles of women have an even more harmful social and economic effect than usual in a country where the majority of farm households are headed by women. It might be noted, however, that this could well be a self-correcting syndrome, insofar as more women than men are thus enabled to further their education. In fact, the country appears to be modernizing in this respect, although slowly.

0.3. As a result of the concatenation of all the above highly intractable constraints, it has so far been the case that numerous and varied approaches by the donor community to bringing replicable progress to Basotho agriculture have all had limited success, at least in the short term. This points up the wisdom demonstrated by the realigned version of the LAPIS project in focussing on the type of institutional development that holds out at least a degree of hope for progress in the longer term.

I. EXECUTIVE SUMMARY AND RECOMMENDATIONS:

EXECUTIVE SUMMARY:

Evaluation Summaries of the Credit Union, Range and Home Garden Programs

Three project sub-components of the LAPIS Project are not included in the main evaluation report. All three are sub-components of the Production Initiatives Component (PIC). Firstly, the Small Farmer Production Credit (SFPC) component was not evaluated because of: a) the AFR/DP evaluation of Agricultural Credit projects which included Lesotho; b) the lengthy cable to AID/W updating that evaluation; and the WOCCU Technical Advisor's final report which further summarizes the lessons learned. These documents will be attached as annexes.

The Range Management program was not evaluated because of: the "evaluation" that was done as part of the Agriculture Sector Analysis in 1990; the high quality AAI report on lessons learned from their RMA experience; and because efforts in this area are continuing under the new Community Natural Resources Management (CNRM) Project. Both documents are annexed.

The third sub-component which was excluded from this evaluation, is the Home Gardens program. This program had also been evaluated previously, and it has a follow-on project, the new Small Scale Intensive Agriculture Production (SSIAP) Project. The evaluation is attached as an annex.

The Small Farmer Production Credit Sub-component.

The Lesotho Credit Union Project (LCUP) funded by LAPIS, was implemented as a supporting activity of the Production Initiatives Component of the LAPIS project. This program was implemented by the Lesotho Cooperative Credit Union League (LCCUL) with the assistance of the World Council of Credit Unions (WOCCU). The program was designed to provide Credit Union members with access to production credit. The objective was to provide an integrated program of credit, input supplies, technical and educational assistance, and to assist with marketing services. The strategy for achieving this objective was to strengthen the technical, financial and administrative capacities of the Lesotho Cooperative Credit Union League (LCCUL) and its member Credit Unions.

In 1988, AID/AFR launched an exercise to assess the impact of rural credit projects in Africa. Lesotho was one of the five countries selected for study for this exercise.
In April 1989 a LAPIS project audit was conducted by the Regional Inspector General's (RIG) office, an objective of which was to determine whether the project purpose was being accomplished as planned; to identify impediments to the accomplishment of the project purpose and to determine the causes of such impediments.

Both the AID/AFR evaluation and RIG audit concluded that the Credit Union program had not been a success. According to RIG this was because the conditions precedent established by USAID/Lesotho to ensure success of the Credit Union Program were not effectively implemented by LCCUL. While the strategy of strengthening the LCCUL and member Credit Unions seemed sound, its success was questionable. The AID/AFR evaluation attributed this to the self-defeating methodology of directing the investment decisions of a financial institution, and at the same time encouraging it to be more self-sufficient. Whatever argument is advanced, the outcome was that as a result of poor credit administration and management, the program purpose of establishing a sustainable system for providing credit for increased production was not served. The RIG went so far as to recommend that this project sub-component be discontinued. The USAID Mission sharply scaled back assistance, and together with WOCCU, imposed stiffer conditions on the continuation of donor funding. When these conditions were not met, the project was closed entirely in early 1992. The attached final report by WOCCU reviews these events in greater detail and presents lessons learned.

The Range Management Program

Range Management was one of the activities of the Range Livestock Production Unit (RLPU) sub-component of PIC. The livestock and land conservation interventions of LAPIS were actually a follow-on to the previous Land Conservation and Range Development (LCRD) Project which was officially phased into the LAPIS project in 1988. The Range Management Area (RMA) concept was developed as a strategic model for improving livestock production within a framework of community controlled grazing resources combined with range and livestock improvement programs and more efficient marketing channels. The RMA pilot effort in Sehlabathebe, unlike most range management projects in Africa at the time, had been judged by a previous evaluation as exhibiting great potential.

An RMA is a specific area with finite borders, which is managed by associated livestock owners called a Grazing Association (GA), within which seasonal grazing areas are delineated and rotational grazing and herd improvement programs are practised for the purpose of range and livestock improvement. During the LCRD Project, the Sehlabathebe RMA was developed, and the Ramatseliso RMA identified for later development. During the LAPIS project, a total of four RMAs including Sehlabathebe, were developed and two identified for future development. The four RMAs cover an approximate area of 133,000 hectares which forms 6% of the country's total grazing area.

The range management program has been successful in achieving its purpose. Improvements in both quality and productivity of animals has been demonstrated in the RMAs, and measurements of range quality in the longest established RMA show approximately three-quarters reduction in the surface exposed to erosion by rainfall, and increases in forage quality and quantity.

In 1990 an external thorough assessment of the RMA program was undertaken as part of the Agricultural Sector Analysis exercise which was done for the development of the Mission Country Program Strategic Plan (CPSP). While the assessment report indicated areas that could be improved or further developed, and made recommendations on how to replicate the program in a more self-sustaining manner, it was nevertheless very positive, and it confirmed the Mission's convictions that this progam was worth USAID's continued support. Hence the new CNRM project.

The Home Gardens Nutrition Program

Another successful sub-component of PIC, the focus of the Home Gardens program was increasing production of fruit and vegetables at the most fundamental household level. The rationale for the program was to improve nutrition and enhance the potential for establishing horticultural production as a source of income. In 1989 an implementation proposal was approved by the Mission for a two year pilot program. The program was implemented by the Nutrition Division of the Ministry of Agriculture with assistance from Peace Corps. The activity was named the Home Gardens Nutrition Program (HGNP) and its goal was to improve household food security in the remote mountain areas of Lesotho.

The main objectives of the program were to: 1) improve vegetable and fruit production; 2) train homemakers to improve

the nutritional status of their families by properly utilizing food and learning more about nutrition; 3) assist participating community members in organizing themselves to meet their nutritional and gardening needs and 4) improve the capability of the Ministry of Agriculture Nutrition Division to conduct nutrition and gardening extension programs in the mountain areas. In 1991 the pilot program was evaluated. The purpose of the evaluation was to assess the impact of HGNP; to determine whether it was being implemented according to design and to make recommendations for more effective future implementation.

The evaluation showed that in general, program objectives were being met. Recommendations were made for improvements, but the overall conclusion was that the pilot program was a success. Following the Home Gardens Nutrition Program as a model, USAID is now beggining implementation of the new Small Scale Intensive Agriculture Production Project, which will be administered through a Participating Agencies Services Agreement (PASA) with Peace Corps.

OVERVIEW:

In order to understand the complexities of the LAPIS Project, it is necessary to begin with some background. Development of agricultural capability in Lesotho is difficult. Not only does the highly developed agriculture of the Republic of South Africa (RSA) hold a competitive advantage, Lesotho's farming is also uniquely burdened by an onerous set of indigenous constraints: agriculture is not considered a primary economic activity; land tenure restrictions tend to inhibit an efficient scale of production, with mortgageable title virtually impossible to obtain; the credit situation is abysmal; many small farmers lack the sophistication to make the transition to commercial farming; and restrictions on the rights and roles of women are especially harmful in a country where the majority of farm households are headed by females. As a final note, massive and largely uncoordinated donor aid has limited the country's ability to chart its own development path.

The original LAPIS Project was a well-intentioned but overly ambitious attempt to build on earlier A.I.D. investments in the agricultural sector and continue to provide assistance in key areas. Weaknesses in the project design and difficulties in implementation soon became apparent, however; consequently, a thorough project evaluation was carried out and a major realignment of the project designed. It is only certain portions of the

realigned LAPIS project that are being evaluated here, rather than the project as it was originally designed.

For the purpose of this evaluation, the ultimate beneficiary of project activities, the small farmer, is defined as: A farmer whose resources of land, capital, technology and outlook are insufficient to make the transition from non-commercial to commercial farmer without assistance, but who has the capacity to make that transition with such assistance.

Although some direct benefits to small farmers have already been attained, the major activities of those components of the realigned project being evaluated herein consist of aiding the institutional development of the Ministry of Agriculture, Cooperatives and Marketing (MOA). Thus, the immediate impact of the project will consist of laying the sustainable foundations for future increases in the production and income of the small farmer. It is, therefore, sustainability in the near-to-medium term and potential impact on small farmers in the longer run that are the subjects of this evaluation.

SUSTAINABILITY:

Since allocation of budgetary resources is a key aspect of sustainability for any program, the evaluation has examined recent MOA budgetary trends; the 1992-93 MOA Budget should be examined by the USAID when it becomes available. A review of MOA budgets from 1987-88 through 1990-91 shows that funding for the Departments engaged in activities related to the material being evaluated has risen somewhat faster than inflation for two out of the three inter-year periods, while declining in absolute terms between 1988-89 and 1989-90. Clearly, the upcoming budget will furnish a critical indicator of sustainability, for without the funds for salaries and, especially, operating expenses, the LAPIS activities will wither.

However, a wild card in the overall MOA budgetary picture is the role played by donor support: it is not realistic to assume donor assistance to the MOA is likely to come to a halt any time soon. Since the overall goal of increasing productivity and incomes of the rural poor is common to LAPIS and the majority of donor agencies, any estimate indicating limitations imposed by inadequate MOA budgets on LAPIS sustainability should be tempered by the realization that LAPIS-derived programs exist in a <u>milieu</u> of other donor activities, rather than in a vacuum.

Even aside from the marginal level of the MOA budgets, it would not be enough simply to have seemingly adequate funding

for that ministry or even for a particular division within the ministry: those funds would also have to be available for the programs whose sustainability we are evaluating and the institutional support would have to be present for their utilization. Therefore, it is necessary to employ additional methods of examination to determine the degree to which the LAPIS-derived programs will or will not be likely to be sustained.

An overall institutional review of the MOA revealed an extremely mixed pattern of positive and problematic aspects, leading to the conclusion that:

> "When LAPIS support ends, several programs will likely sustain and build upon current momentum. Others will probably falter initially, perhaps be reorganized, then continue to evolve, and some may decline and ultimately be discontinued. At this point, it is impossible to foresee the future of any program with certainty because of the number of unknown or uncontrollable variables at work."

It therefore became necessary to examine those portions of the LAPIS project being evaluated component-by-component.

PRODUCTION INITIATIVES COMPONENT (PIC):

The design flaw in the "Individual Small Farmer Approach" which was the keystone of the original LAPIS project was the failure to recognize that high value vegetables and fruits <u>are</u> high value precisely for the reason that they are not easy or inexpensive to grow. The expectation that a substantial number of traditional, low-capital farmers with no marketing experience could quickly and easily make a transition to modern, capital-intensive commercial farmers marketing significant surpluses was simply not realistic. Although direct expatriate assistance from LAPIS TAs to small farmers was able to produce a reasonable degree of success on the production side, it was clearly not cost-effective. Therefore, direct assistance was discontinued in the course of realignment and written out of the project purpose statement.

An analysis of the constraints to smallholder high-yield farming shows a list of obstacles so daunting that the need for a long-range institutionally-focussed approach becomes obvious: limited access to capital; excessively technology-intensive production packages; the high management requirements of irrigated farming; onerous land tenure constraints; population pressures; nationwide environmental degradation; marketing

difficulties; crop rotation/environmental problems; and questions about the degree and sincerity of small farmer interest in making such major changes in their agricultural practices.

Another constraint which remains an open question is that of a possible GOL/MOA preference for the so-called "area schemes": i.e. the GOL bringing together, whether by persuasion or compulsion, large blocs of contiguous landholdings to be furnished with irrigation facilities and farmed more-or-less as a unit. These schemes had the obvious potential benefit of being able to utilize economies of scale, but they also found themselves creating severe social problems in the context of the traditional Basotho culture. The weight of opinion appears to be that the MOA is moving toward the sophisticated approach of judging proposals on their individual merit, rather than whether they are area-based or individual small farmer.

Consideration of gender issues, a subject of significant importance worldwide, becomes doubly meaningful here, in light of the fact that well over half of Lesotho's small farms are headed by women. Key gender issues that must be addressed include: the unique legal disabilities of women in Lesotho; customary restrictions on a woman's role; womens' childbearing/rearing and home-making responsibilities; and unique aspects of womens' health vulnerability. This evaluation finds that while gender issues have been recognized and dealt with by LAPIS, to a degree, its personnel have seen the project as primarily one of generalized institution building and production/marketing assistance, rather than as a directed attempt to address the gender issue in its agricultural sector manifestation.

A key recommendation of the 1988 evaluation was that a Production Coordinating Unit (PCU) be established to identify and assist selected market-led producers and insure proper coordination between marketing and production so that an adequate supply of fresh vegetables and fruits would be available for the existing and planned marketing outlets. Currently, the PCU is supporting a number of activities that require the cooperation of several departments or divisions within the MOA. The LAPIS team attaches particular importance to PCU support for an MOA Strategy Statement, due in August 1992. Otherwise, however, it appears that there has been more done by way of discussing coordination than there has been actual production to coordinate. Prospects for continuation of PCU would appear to depend upon a sufficient increase in actual production to justify their coordination role.

The major surviving remnant among the crop production support components of the original LAPIS project being evaluated

here are the Irrigation Resource Planners (IRPs). Their functions include: irrigation system design; coordinated production plans; determination of appropriate input requirements; design of production enterprises; improvement of linkages between farmers and rural credit institutions; and assistance in site development. Their first two years of operation have been less than impressive, and they face an intimidating list of problems. Because IRP is such a significant link to the small farmer, however, it is important that it be both continued and reformed to a level of meaningful accomplishment. This poses a challenge to the PCU to plan for and coordinate resolution of the constraints; however knowledgeable MOA officials have expressed doubt that the funding will be available for IEP continuation at any meaningful level.

Another major component of the realigned LAPIS project is intensive livestock production, which was designed from the start primarily as an institution-building activity. The major institutional impacts have been: long and short term training; linkages within the Department of Livestock Services (DLS) and with other MOA agencies and outside organizations; publications and other training materials; institutional assistance in the formation of such new enterprises as feedlots for cattle and lamb fattening; assistance in animal selection; aiding the DLS in seeking activity funding; and helping equip the DLS to assist farmers in enterprise budgeting. Direct production activities include: broiler production; development of a "fat lambs" program; pig raising; and fodder production (in cooperation with a CIDA dairy program). As an operation that more than pays for itself, it is a strong candidate for survival.

A minor component of the LAPIS project, the Horizontal Well Drilling Program, does not appear to be cost-effective for irrigation purposes, but has some utility for livestock watering and is extremely popular at providing domestic water supplies.

MARKETING COMPONENT:

Although in a sense a part of PIC, the Marketing Component contains enough unique factors to merit separate treatment. The LAPIS approach to marketing has been, for the most part, enthusiastically embraced by the GOL and has received increased budgetary allocations since realignment, thus increasing the odds in favor of sustainability. The GOL, with LAPIS concurrence, has been promoting the marketing component as part of "an overall vertically coordinated production and marketing plan," but has assured the evaluation team that the concept is limited to furnishing assistance to aid the independent decision

making of free market producers and marketers, rather than seeking to exercise an undue degree of control.

The marketing information and extension services functions of this component are, by all indications, performing well at furnishing the farmer with critical information relevant to the decisions that must be made to enter into the world of commercial agriculture. The marketing information function is carried out by weekly newsletters and radio broadcasts reporting wholesale prices, low-cost services that can be easily sustained. The extension function involves cooperation of marketing officers with MOA extension agents in a program of price collection, crop monitoring and assisting farmers. An FAO marketing project will provide continued support for marketing extension until 1993, however MOA funding of transport and per diems is already weak, so the program will have to be watched before any great optimism on sustainability would be justified.

An institutional development aspect of the marketing component, the livestock marketing activity, appears to have played both a useful and a profitable role in strengthening the capabilities of the DLS through conducting studies and assisting in the development of marketing channels.

The greatest weakness in the Marketing Component appears to have been the lack of support for transportation. Although transport was identified as a major marketing problem for small farmers, there was a difference of opinion between LAPIS and USAID as to how the problem should be approached: whether through an MOA "market development" transport program for one or two years, or through seeking to immediately work through utilizing existing capacity in the private sector. The difference was never satisfactorily resolved. It is the opinion of the evaluation team that a strong demonstration of feasibility would be necessary before the generally risk-averse and capital-short private sector would undertake the admittedly difficult task of organizing and executing a transport system for serving the small farmer, the profitability of which could take two years or more to develop.

Another possible weakness in the component, though one that depends on technical and economic factors that have not yet been well established, is the limited attention given to investigations into the question of storage.

The final activity under the marketing component has been the project sponsorship of construction of two wholesale marketing centers. The marketing system for agricultural produce

in Lesotho is less advanced than in most developing countries, due to limited local production and the ease of purchasing from the RSA, so there may well be a market niche for them. They should, however, be treated as pilots and not replicated until at least one of them has proven successful. Two points of detail are worth mentioning: first, it must be acknowledged that these markets will require operational subsidies during their start-up period, a doubtful proposition in an era of budget cutting; second, that even with external funding and TA, construction of the markets was delayed for a full two years, a poor omen for sustainability.

AGRICULTURAL EDUCATION AND TRAINING COMPONENTS:

These components had six elements; long and short-term training, assistance to the MOA Agricultural Information Services (AIS) and Farmer Training Centres (FTC) and support to curriculum development and the Student Enterprise Projects (SEP) at Lesotho Agricultural College (LAC). Excellent reporting and documentation of component activities were prepared as the project progressed.

Long-term Training:

LAPIS long-term training focused on changing the institutional structure of the Ministry by providing trained personnel to staff key positions in research and extension in a manner appropriate to increase small farmer production. 75 MOA participant trainees, 29 of which were women, were supported in degree training in the United States. Mid-level training was emphasized. Seventy-one participant trainees have completed their studies and returned.

The impact of this long-term training on the MOA was marked. A high degree of training relevance to participant positions in the Ministry was assured by careful selection of candidates according to needs in MOA from which they were sent and to which they would return after training. Trainees report increased confidence in the workplace from technical competence gained. Supervisors of returned participants note boosted morale, positive attitudinal changes and higher motivation in addition to greatly improved technical skills.

Most long-term training participants are now employed in the Ministry. Some were disappointed not to receive automatic promotions and salary increases after training; others have had to wait for Ministry employment because the Ministry was not

adequately prepared for their return and/or because of MOA budget restrictions.

An estimated 10 percent have left the Ministry for greener pastures elsewhere. Yet, the retention rate is enviable and the LAPIS long-term training component highly successful in achieving project objectives.

Short-term Training:

LAPIS provided short-term training for literally thousands of MOA staff, farmers and herdboys and was one of the primary benefits of project influence. Training activities were initially designed to support PIC project objectives through extension agent and farmer training. Later most of the short-term training was directed at specific LAPIS project components for their own department/division or clientele.

Short-term training was given in management and technical skills through courses, seminars and tours running from two days to six months. Through March 1992, 4,512 men and 1,430 women had received short-term training.

The institutional capability of MOA departments/ divisions benefiting from LAPIS short-term training has grown. Improved skills levels of staff have increased the management, leadership and technical capabilities of their institutions and perceptions of responsibility have improved. Often the training given was in direct response to specific requests from farmers and others making training especially relevant.

Agricultural Information Services:

The objective of LAPIS support to AIS was essentially institution building through strengthening MOA capacity to disseminate information to its field staff and farmers. Major concentration was on improving the capability to produce extension publications. Project inputs were: a) technical assistance through TA time, short-term consultants and local hire in production of printed training materials, equipment selection, procurement, operation and maintenance training, publication design and production and other services; b) both long and short-term training for AIS staff members; and c) commodities purchased supporting the AIS press section, new and repaired equipment and a building extension.

Institutional capability has grown, services have expanded and product quality has improved as AIS changed its

doctrine from public relations reporting to one of instructional media assistance to farmers and MOA extension services.

Farmer Training Centres:

LAPIS project assistance to the FTCs upgraded their facilities to better accommodate training workshops and make activities at these institutions more self-sufficient. Commodity inputs included improvements to classrooms, refectories, dormitory and staff housing, pens and buildings and livestock purchase, irrigation and construction materials, tools, implements and seed and fertilizer.

Assistance has provided greater self-sufficiency and better management in the livestock sections, reduced theft due to security fencing, and improvement in the orchards and seedling production. The centres were put in a much stronger position to support training activities.

Lesotho Agricultural College Curriculum Development:

Since 1986 LAC has moved certificate programmes to the Leribe campus and advanced from three certificate and two 2-year diploma programmes to five 3-year diploma programs at the Maseru campus. The curriculum has been adapted to reflect the new mandate of the College to prepare its students for private sector or self-employment and for opportunities in the education sector. Nearly 20 new courses have been developed and many others revised resulting in training more practical and appropriate to Lesotho's conditions.

The level of training of teaching staff has increased markedly and institutional capability has grown with increased training and experience and benefit of good counterpart relationships with project staff. The quality and pace of work in LAC's systems has improved and contact with public and private sector concerns have been effectively established. The ability of the college to acquire technology has improved and the education output of the College has increased in quality and relevancy. The LAPIS project has had a positive impact on these developments and was instrumental in affecting most of these changes at the College.

The majority of LAC graduates find employment, though few have been successful in establishing their own enterprises, largely due to credit constraints discussed elsewhere in this evaluation.

LAC Student Enterprise Projects Program:

SEP was initiated at LAC through LAPIS support to produce students who would graduate with hands-on agribusiness experience who could potentially become entrepreneurs. SEP participants choose projects, plan, implement, manage and do the daily work of their own enterprises. They receive technical advice from a supervisor who monitors their project on a daily basis and evaluates them at project end. They also have the benefit of a follow-up team that provides them with ongoing assistance after graduation.

Since SEP began 90 students have completed the program and 18 are now preparing business plans for 1992-93 projects. 30 percent of the participants have been women. SEP is the first project of its kind and scale in Africa and has become a model for other countries.

SEP can certainly be said to have achieved its objectives at LAC. However, due to constraints to starting private agricultural enterprises, few graduates to date have been able to initiate their own enterprises. Some have found positions with the GOL or in the private sector.

Sustainability Questions

The elements assisted in the AEC component have benefited from LAPIS project TA expertise and funding allowing them to expand operations and services. In some cases project support has led to a corresponding need for increased staff, training and operating funds. The future of these initiatives depends upon the commitment of the Ministry to maintain what has been set in motion and availability of funds to support this commitment.

The potential for continued impact over time of long-term training is threatened not only by MOA budgetary restrictions in hiring returned trainees at incentives sufficient to keep them, but also by the lack of operating funds to allow trainees to do the work for which they have been trained. Yet the long-term training component has in many ways been the most sustainable of all LAPIS initiatives. Skills, knowledge and attitudes acquired will remain available to MOA at a significant level.

Quite obviously MOA funding will not allow all the short-term training activities initiated by LAPIS to continue at project levels.

Ministry commitment to maintaining new levels of AIS productivity is evidenced by enlarged staff and increased budget. However, new staff are still junior, inexperienced workers and budget allocations to AIS need to be increased systematically, not sporadically as has been the case to date.

The FTCs continue to be plagued by financial shortages. Conditions can too quickly again deteriorate in the absence of aggressive, on-going maintenance. There are questions concerning future preservation of the level of training established during LAPIS intervention.

Concern for the future of LAC also centers around college personnel and finances. Probably more time was needed to ensure that the overlap between project TAs with LAC staff training returning from degree studies was adequate to preserve advances made in program development. MOA commitment to LAC staff salaries appears to be fairly firm. Provision for maintenance, depreciation and replacement of equipment and vehicles at LAC is likely in greater jeopardy in the light of MOA budget restrictions.

Large numbers of SEP student participants create some difficulties for LAC given the limited resources for operating the intensive program. SEP responsibilities can overload college staff. Sustainability of the SEP program after LAPIS will depend upon LAC's capacity to provide resources demanded by the program and upon the success of students in overcoming the constraints of production site availability and start-up loans.

AGRICULTURAL RESEARCH COMPONENT (ARC):

ARC's original Outputs were to include testing and transfer of farmer technology packages; institutionalization of research skills; linkages among research, extension, and farmers; and a functioning soils lab. At the close of LAPIS, 4,000 Basotho farmer households were to be using "improved research packages." LAPIS was to work with small farmers using "Farming Systems Research" (FSR), the approach to research of its predecessor project, the USAID-funded FSRP.

The scale of the small-farmer target group initially troubled project advisors, largely because it had not been formally defined. At issue was the ability of the ARC to achieve the project-mandated transformation of small-farm agriculture that would result in substantial income and employment gains. It appeared that the target group might be incompatible with project

objectives, since the original LAPIS designers had underestimated the compelling constraints that made Lesotho's economy that of a labor reserve rather than an agricultural society. Anticipated increases in income and employment through the production of "high-value horticultural crops and livestock" were unrealistic until a de facto consensus was reached that the definition would include those farmers with sufficient access to resources (land, capital, water, labor) required for such production to have a reasonable chance of making the transition to commercial farming; the increases could never come from the most truly limited-resource farmers - certainly not within a span of six years.

Related to this issue is that of the FSR approach, which LAPIS declined to follow. In the project design, the *small* farmer would be addressed through FSR, the two being woven together in the scheme of things. But the TA team had little interest and limited experience in FSR - perhaps fortunately, since ARD lacked the capacity to mount an effective FSR program, with its requirement of station- backed on-farm research. It lacks that capacity today - as, for that matter, it lacks the capacity to mount any other type of program without substantial donor assistance.

USAID management never adequately addressed the FSR issue. This lack of resolution, especially in 1988-89, has been disruptive to project implementation. In May, 1990, USAID issued PIL No. 29, which altered research Outputs from "4,000 Basotho farmer households *using improved research packages*." to "At least 1,000 Basotho farmer households are *participating in field days and demonstrations* of research packages."

Inadequate staffing is a major constraint to ARD. More than twice the present number of researchers is needed to mount an effective program. Staff morale and salaries are low. Five of the 12 staff who completed LAPIS-funded degrees and returned to work in ARD have since resigned, and another transferred out. Over the LAPIS life, ARD has covered about 20 percant of total research expenditures and about 30 percent of operating costs. ISNAR has observed that ARD's yearly operating costs per scientist are less than half those of "productive research systems" in other developing countries. Without donor assistance, there is little evidence that Lesotho can or will sustain research at a level even remotely responsive to the country's needs.

The circumstance of weak GOL commitment to agricultural research and ARD's extreme and long-time dependence on donor assistance have largely countered LAPIS efforts directed at

institution building. GOL has heretofore not complied with ARD/LAPIS proposals for a national research strategy including the creation of a badly needed researcher career-development scheme and a policy-formulation body, although at least a part of the subject is to be included in the overall crops stragegy due in August 1992. Inadequate staffing, low researcher commitment, and unviable procedures have rendered sterile the reorganization of ARD around commodity programs as a way to promote inter-disciplinary research.

The creation of an agricultural sector committee (RAC) to vet proposals prepared by ARD researchers, thus making research responsive to farmer needs, has enjoyed no more success; the committee cum proposal process is a misguided effort. ARD has no mechanism to make technologies appropriate; researchers, relying excessively on extensionists and SMSs, generally have little direct contact with farmers, except through field days, and on-farm demonstrations (as opposed to on-farm trials). Low mobility and weak training seriously constrain extension. Short courses for extensionists, with ARC/ARD personnel as trainers and covering ARC technologies, were suspended last year for reasons that are not entirely clear. And LAPIS' pending departure does not augur well for the future of the soils lab. In a word, the return on institution-building efforts has been dubious; the prospect of sustainability remains elusive.

ARC's major achievements have been on the agronomic, rather than the horticultural side. These achievements, substantial despite obstacles, include the successful adaptation and promotion of pinto beans as well as an improved wheat variety (Tugela). LAPIS' *Production Guidelines* compile for extensionists a welter of useful technical information on crop, livestock, and fruit production and must be counted an important contribution - though how to get the technologies to farmers (except through other projects; the MOA extension system is weak), and to adapt them to the conditions of actual farmer groups (still a research function) - remains unresolved. ARC has not, in recent years, given livestock the emphasis that its importance in Lesotho warrants. Nevertheless, notable contributions have included "fodder-flow" research on oats, lucerne, and sorghums for use in dairy production. CIDA is already promoting these fodder-production technologies. Research on lamb fattening also holds promise.

The need for first-hand researcher knowledge of farmer constraints and opportunities becomes critical if research is to respond to their needs. Pressures on this group are growing

because of natural population increase and the return of Basotho labor from RSA, where employment opportunities may further decline as changes there oblige RSA to respond first to the needs of its own peoples. Small plots, climatic adversity, and the declining access to capital may increasingly characterize the Basotho farmer, who, facing these conditions, will not be an easy client for research to reach: the "technological space" within which it can work may be small indeed.

To address the needs of this clientele, technologies will have to be "low tech" and exploit the latitude for improving current cultivation or husbandry practices at current input levels. In the crops area, new varieties that address current constraints, yet are compatible with the totality of farmer practices (including their dietary preferences) and capacities, can give relief. The recent work with pinto beans appears to be an example of this type of research. With livestock, research should continue to refine feedlot technology for lambs and cattle. And the "fodder-flow" work for dairy production should continue. Research should continue on the smaller species, like chickens, found in almost every Basotho household.

With three or four distinctive agroecological zones, Lesotho needs an agricultural research function. The scope and quality of that function will ultimately depend on GOL's commitment to support it. For whatever reason, there is scant evidence of such commitment at present. Should that change, GOL, MOA, and ARD might consider the recommendations set out in the appropriate section below:

OVERALL RECOMMENDATIONS:

Since this is a Final Evaluation and the LAPIS TAs, like Kipling's "Captains and Kings" will have soon departed, the bulk of the recommendations herein will be directed toward those who will remain: the GOL, USAID . . . and the Donor Community. As an evaluation, rather than an audit, these recommendations will not deal with non-substantive issues.

1. The donor community should do more to coordinate its programs of assistance; the GOL is not strong enough to compel them to do so, but the donors should realize that uncoordinated programs often do as much harm as good - Bauer being the perfect example.

2. The GOL should realize that with the changing situation in the RSA, Lesotho may have to rediscover the importance of

agriculture; the present MOA budget is a fraction of what it was some years ago - and of what it needs to be now.

3. The MOA should make a concerted presentation to the GOL budgetary authorities to promote its needs. It should seek donor support/leverage in this endeavor.

4. A.I.D. should improve its project design capability. The original LAPIS PP displayed a lack of understanding of the realities of both agricultural development and Lesotho, at considerable cost in money, time and opportunity. The realignment did a good deal better, but took an inordinate amount of time to design and continued to leave some key issues fuzzy (e.g. small farmer, FSR), thus handicapping implementation.

PRODUCTION IMPROVEMENTS COMPONENT RECOMMENDATIONS:

1. All agencies involved in small farmer assistance programs should heed the LAPIS example and plan for an extremely long term effort taking into account the need for an integrated program of attitudinal change, technical assistance, credit, capital investment, transportation, marketing, and enough time for all of those elements to come together.

2. Those same agencies should also accept the essentiality of making their programs sustainable/replicable/cost-effective. It is not eough to pour large amounts of effort and expense into a limited number of farmers, because their production will not be enough to meet national needs and their good fortune will create problems with those not so favored. In practice, that means donor programs must operate by creating institutional capability within the host country, for only in that way can indigenous social realities be taken into accound and activity costs be kept to replicable levels.

3. The GOL should seek donor agency assistance to address the credit problem, which is one of the biggest constraints to agricultural development.

4. The GOL should push the reforms to the Land Act, so as to begin to reduce the land tenure constraint.

5. The GOL should give its fullest support to ongoing and proposed programs to address the serious environmental issues facing the country.

6. The GOL should move promptly to resolve the legal restrictions on women and should seek to mold public opinion toward changing those social attitudes that also handicap women.

7. The MOA should support the PCU even in times when it appears there is little production to coordinate, since the eventual role of the PCU will be extremely important.

8. The MOA should create Established positions for the IRPs and provide at least modest funding for them to carry out their role in assisting the very small farmer.

9. The MOA should employ an Irrigation Engineer to backstop the IRPs.

10. DLS should promote its Intensive Livestock Program to other MOA agencies as an example of how agricultural development programs can be both effective and profitable.

MARKETING COMPONENT RECOMMENDATIONS:

1. The MOA should continue to emphasize the voluntary nature of the "overall vertically coordinated production and marketing plan" and not seek to make it compulsory.

2. The MOA should continue to fund the Market Information and Extension Services, realizing that producers will only undertake the additional effort and expense to increase production if they feel they can sell their produce at a profit.

3. The MOA should supply or seek donor funding for a "market development" transportation program for the small farmer's agricultural produce.

4. The MOA should accept the need of at least the Leribe Market Centre for an operating subsidy during its start-up period.

EDUCATION/TRAINING RECOMMENDATIONS:

1. The design for long-term training developed by LAPIS is an exceptional model of planning and execution. The Ministry can benefit in the future by using this model when considering long-term training.

2. Careful planning for long-term training must be done to avoid too many staff being absent from their institution posts at one time. Close working relationships with project TAs over an adequate time span both before and after training is critical to realizing maximum potential training impact.

3. It is wasteful of vital resources when the Ministry is slow to respond to higher levels of training with employment, promotion and commensurate salary. This waste obtains not only when trained staff leave the Ministry for employment elsewhere but also when trained employees who stay with the Ministry are frustrated in their positions by low incentives and inadequate operating support.

4. LAPIS project administrators probably did not involve Ministry officials adequately in project budget decisions over the life of the project. Stronger MOA-Project finance working relationships could have helped MOA better understand the cost of short-term training and importance of allocating funding for on-going training.

5. In addition to quarterly planning for short-term training, the Ministry should continue to build on progress made by implementating and operationalizing training activities.

6. The Training/Communications Coordinating Committee (T/CCC) was an effective and appreciated mechanism to link farmer activities with extension in-service training by headquarters specialist staff. This was especially helpful to AIS as well as other Ministry enterprises. It is hoped that it will again be initiated as the team has been informed is likely.

7. Gains made at the Leribe and Mohale's Hoek FTCs during LAPIS project life risk quickly being lost if on-going Ministry financial and professional support is not strong.

8. Very high quality and comprehensive documents have been prepared at LAC covering all phases of the SEP program and for course outlines, etc. These are excellent resources. Employing them and following their guidelines will help assure continuing success at the College.

9. LAC may need to consider limiting the number of students who participate in the SEP program to prevent overload to the system's limited resources.

RESEARCH RECOMMENDATIONS:

1. GOL should implement the Lesotho National Agricultural Research Strategy (LNARS) as proposed by ARD in April, 1991. The Agricultural Research Council, to be formed as part of this strategy, would decide how to focus research - what areas of the country, what farmer groups, what types of crops (e.g., household food crops vs. commercial crops), or what types of livestock (e.g., small animals vs. range animals).

2. GOL should immediately implement a career development plan as proposed in the LNARS. Without such a plan, ARD will be unable to attract good researchers - and may soon lose the best talent that it already has.

3. To complement its commodity programs, ARD should institute an FSR (or OFR) program as a way to make its technologies relevant to specific farmer needs. The current scheme to make technology appropriate, involving an RAC (which has not operated for more than a year) is inviable for this purpose, as is the procedure for preparing research proposals. GOL should call upon CIMMYT's East Africa Economics Program, which has much experience with OFR in eastern and southern Africa, to help institute this program as well as to periodically train Basotho researchers in the methods of OFR.

4. Once the GOL decides upon the financial level at which it is willing to support research, it should call upon ISNAR to assist in designing an institutional and research-station configuration suited to the needs of the country and to the indicated level of support. At current staffing and financial levels, ARD cannot support five commodity programs, the several disciplinary sections on the 1992 organigram, and an OFR program in even *one* agroecological zone. CIMMYT's East Africa Economics Program can assist ISNAR with this effort. ISNAR/CIMMYT should also train appropriate ARD personnel in research management, including the management of OFR.

5. GOL should seek ISNAR's advice on rationalizing MOA. There is much role confusion and duplication of function among the Departments of Crop and Livestock Services, and the divisions of research and extension. Much of what these departments do could be done by strong research and extension divisions, well coordinated and adequately funded within a single department.

6. GOL/ARD should also seek to strengthen links to research organizations in RSA; recent changes there may favor such initiatives. RSA is strong in grain research and could also provide agricultural training to Basotho researchers in the basic sciences. ISNAR should evaluate this potential link, and others in the region as well, as (and if) it assists GOL to shape and rationalize its institutions in accordance with available resources.

II. INTRODUCTION:

The original LAPIS Project, which was designed in 1984, authorized in 1985 and first implemented in mid-1986, was a well-intentioned but overly ambitious attempt to build on earlier A.I.D. investments in the agricultural sector and continue to provide assistance in key areas, much of it directly to the favorite target group of A.I.D. assistance programs worldwide, smallholders. Weaknesses in the project design and difficulties in implementation soon became apparent, however, especially in the limited access to capital and capabilities of many of those smallholders; consequently, a thorough project evaluation was carried out in early 1988, only 18 months after implementation had begun. As a result of the evaluation, a joint USAID/AAI review and a subsequent R.I.G. audit, a major realignment of the project took place over another 18 month period, lasting until late 1989. It is only certain portions of the realigned LAPIS project that are being formally evaluated here, rather than the project as it was originally designed, but there will be occasions upon which a discussion of various aspects of the original project will be necessary to put the newer material into context.

2.1. Scope of Work:

This is the final evaluation of the stated components of the LAPIS project. Given the mid-course correction of the realigned project toward institutional development, the major emphasis of the present evaluation will be on determining the degree of success in the institutional strengthening of the Ministry. Closely related to this question is the extent to which LAPIS project initiatives have been institutionalized within the Ministry, both organizationally and financially, in a way which would lead toward the eventual sustainability of the activities.

2.1.1. The evaluation will assess overall progress toward achievement of the project purpose and will specifically highlight whether the recommendations of the previous evaluation, the audit and the realignment exercise have been implemented, as well as the extent to which their implementation has contributed to attainment of project objectives. It will also assess:

- the effectiveness of the LAPIS individual small-farmer strategy and implementation in promoting and developing commercial high value fruit and vegetable production in Lesotho;

- overall progress and accomplishments in meeting objectives of the Agricultural Research Component; and

- the institutional strengthening and sustainability aspects of the Training and Agricultural Education Components.

2.1.2. The following components of the LAPIS project have already been the subject of an adequate level of A.I.D. examination and are therefore excluded from this evaluation:

- direct LAPIS TA assistance to individual farmers and associations of farmers;

- the LCCUL/WOCCU Agricultural Credit component;

- the Range Management component; and

- the Home Gardens program.

Key evaluation material concerning those components is included as Annexes 01 through 06 hereof.

2.1.3. The detailed Scope of Work for this evaluation is set forth in Annex 1.

2.2. Organization of Evaluation:

The evaluation team, as designed in the Scope of Work, has consisted of three specialists working in their individual areas of expertise and rendering their own evaluations of LAPIS achievements and shortcomings in those areas. The function of the team leader in this set-up has been essentially limited to insuring conformity with the Scope of Work, rather than seeking

to influence or override the professional judgements of the team specialists.

2.3. Evaluation Methodology:

The team followed the standard methodology for project evaluations, starting with an exhaustive review of the extensive documentation in this highly-studied project. This was followed by interviews, group and one-on-one, with key personnel in the LAPIS team, appropriate GOL officials, and knowledgeable private sector individuals. These interviews were interspersed with field trips to observe LAPIS-related production, marketing, educational and research facilities. Finally, an Outline, a First Draft and a Revised Draft were prepared and discussed at length with USAID and the LAPIS team.

A Bibliography and List of Persons Contacted are attached hereto as Annexes 9 and 10.

III. PROJECT DESCRIPTION AND PROJECT RESPONSES TO PREVIOUS EVALUATION AND AUDIT:

The revised description of the project as it is to be evaluated herein is set forth in PIL No. 26, dated August 2, 1989:

> "This Project will assist the GOL to expand the commercial horticultural and livestock production of small farmers, while continuing to strengthen the institutional capacity of the Ministry of Agriculture to facilitate, coordinate and foster agricultural development in Lesotho. Technical assistance, training and commodity support will be provided to the MOA Crops, Research, Range Management and Livestock Divisions and the Lesotho Agricultural College (LAC) so that they may more adequately meet the needs of expanding production and long-term development."

Assistance to the MOA Marketing Division was subsequently added to the revised project description.

3.1. Project Goal and Purpose:

3.1.1. The project goal was the same both before and after the realignment:

> "The goal of the project is to increase the incomes and employment of the rural population."

3.1.2. The original project purpose was:

> "To provide direct production and marketing assistance to small farmers and to strengthen GOL institutional capabilities in agriculture research and extension education for contributing to small farmer production."

3.1.3. The project purpose was modified in the course of the realignment exercise to reflect the changed situation by striking the word "direct" and adding:

> "The emphasis for the remaining LOP will focus on strengthening GOL institutional capabilities relative to supporting smallholder agriculture in Lesotho."

3.2. End Of Project Status (EOPS) and Project Outputs:

(Attached hereto as Annex 2.)

3.3. Interdependence of Project Components:

The project, throughout, has seen the small farmer as the ultimate beneficiary, with institutional assistance to the MOA, education and training, and research designed to facilitate provision of a satisfactory level of quantitative and qualitative support to that farmer, rather than as ends in and of themselves.

3.4. Definition of "Small Farmer":

A satisfactory definition of "small farmer" in the Lesotho context - and as the LAPIS project was intended to deal with - is not easy, as evidenced by disagreement on the subject among the project's analytical material; presenting a definition was sedulously avoided in the official implementation documents. However, in view of its repeated use in the Project Description, Purpose, EOPS, and Outputs, it appears necessary to attempt such a definition for the purposes of this evaluation if it is to deal fairly with the accomplishments and shortfalls of a project using the term so frequently.

In light of the peculiar nature of Basotho agriculture, as discussed elsewhere in this evaluation, and of the project goal: "to increase incomes and employment," the most reasonable definition for the purposes of those components being evaluated herein would appear to be:

> "a farmer whose resources of land, capital, technology and outlook are insufficient to make the transition from the level of non-commercial farmer to that of commercial farmer without assistance from some external source, indigenous or foreign, but who has the capacity to make that transition with such assistance."

It should be noted that this definition excludes those farmers, small or otherwise, whose limitations of resources or personal capabilities are such that they have no realistic prospect of ever becoming commercial. The 1992 LAPIS report Assessment of Intermediate-Level Production of High Value Crops (hereinafter cited as: "The High Value Crops Assessment") aptly stated:

> "The selection of farmers to participate in this kind of program is always difficult. While there is a strong desire for donors to target farmers who are disadvantaged or lack resources, this kind of individual will be the least likely to succeed in an enterprise that requires resources, literacy, and management and production skills."

It is the judgement of the evaluation team that the intention of the LAPIS project, as designed, was to target farmers with reasonable prospects of succeeding.

A survey of the known commercial-level vegetable farmers in Lesotho during the 1990/1991 crop season, showed 51 individual farmers with a total farm area of 113 hectares, just over 2 hectares per farm. That should fit any known definition of small farmer.

3.5. Project Evaluation Summary of 1988 Evaluation:

The Project Evaluation Summary prepared from the 1988 Evaluation identified the following ISSUES as being of primary importance and made the resulting RECOMMENDATIONS; these elicited the stated ACTIONS:

3.5.1. ISSUE: The LAPIS project was not successfully integrated into MOA operations nor was the MOA providing adequate personnel support to the project, especially in the field.

RECOMMENDATION: Both the project emphasis on institutionalization and the MOA receptiveness to such emphasis should be more formally established.

ACTION: This was done through PILs Nos. 26 and 29. The principal post-realignment thrust of the project has been toward institutionalization.

3.5.2. ISSUE: The Production Inititiatives Component (PIC) lacked the type of production coordination mechanism that would be necessary for successful project implementation and sustainability.

RECOMMENDATION: A Production Coordination Unit (PCU) should be established and supported in its functioning.

ACTION: This has been done, as reflected in the range of activities currently being coordinated by the PCU. See Section 5.3. below.

3.5.3. ISSUE: The project lacked a marketing strategy that would permit alternative responses to varying market situations.

RECOMMENDATION: A flexible marketing strategy should be developed and substantially more project attention paid to the subject.

ACTION: This has been done, as reflected in the extensive marketing program now being carried out under the program. See Section VI. below.

3.5.4. ISSUE: There was serious doubt as to whether the GOL remained willing to support an agricultural development policy based on individual smallholder farmers, in view of its apparent shift to a program of area-based development in which the individual farmers were gathered into groups, with or without their consent.

RECOMMENDATION: The USAID should review with the MOA whether the GOL preference for area irrigation schemes would be permitted to work to the exclusion of an adequate effort being made to support the LAPIS concepts and activities; PIC in

particular should be considered for discontinuation if satisfactory GOL assurance of support could not be obtained.

ACTION: The GOL position, both at the time of the prior evaluation and at present, has been that there is room for a variety of approaches to development, depending on local circumstances and that their support for area-based schemes did not preclude support for LAPIS activities as well.

3.5.5. ISSUE: Disagreement on the meaning of "Farming Systems Research" and how it should function was hindering project-funded research activities.

RECOMMENDATION: USAID and the LAPIS TA team should work out agreement on the relationship of the Farming Systems Research concept to the research to be carried out under the project.

ACTION: This Issue is discussed in 9.3.1.

3.5.6. ISSUE: Inadequate project management on the part of all parties was hindering the possibility of attaining project objectives.

RECOMMENDATION: Increased management effort on the part of the PMC, the LAPIS team and the USAID would be required to provide the project with satisfactory likelihood of success.

ACTION: This has been done, as reflected in the records of PMC actions, the extensive network of USAID and LAPIS reporting documents, and the discussions of the evaluation team with GOL officials.

3.5.7. ISSUE: Inadequate salary levels in GOL counterpart agencies were hindering their performance in pursuit of project objectives.

RECOMMENDATION: The chronic shortage of qualified staff at LAC can only be addressed by increasing salaries to levels comparable to university levels. A similar problem exists with respect to other professional staff in MOA.

ACTION: Salaries at counterpart agencies have only been increased by the same inadequate amounts as general GOL salaries. The problem remains a major obstacle to sustainability.

3.5.8. ISSUE: It would be difficult to accomplish the institutional development needed within the original project time frame in light of the fact that many key Basothos had been sent away for long term training.

RECOMMENDATION: Any project redesign should consider the possible desirability of a PACD extension.

ACTION: PACD extension for a seventh year of project implementation, until April 1993, has been authorized; it should be noted, however, that the bulk of the LAPIS team will depart as of the end of May 1992.

3.6. RECOMMENDATION of R.I.G. Audit and USAID RESPONSE:

3.6.1. The relevant RECOMMENDATION of R.I.G. Audit Report No. 3-632-90-03, dated November 20, 1989 was that USAID:

> "redesign the Lesotho Agricultural Production and Institutional Support project to carefully define a project purpose and end-of-project status that is achievable by the project's planned completion date."

3.6.2. The USAID replied per MASERU 03315, dated 06 NOV 89 as follows:

> "USAID/LESOTHO FULLY ACCEPTS THE ESSENCE OF THIS RECOMMENDATION, AND HAS ALREADY TAKEN CORRECTIVE ACTION TO IMPLEMENT IT . . .
>
> " - THE PROJECT OUTPUTS HAVE BEEN REVISED AND SCALED BACK TO MAKE THEM MORE REALISTIC."

3.7. New Realignment Objectives:

3.7.1. The limited changes made in the project goal, purpose, EOPS and outputs, insofar as they relate to that portion of the realigned LAPIS project being evaluated herein, apparently indicated the intention to keep alive as many as possible of the objectives of the original project.

3.7.2. The following were the major modifications made in those project objectives being evaluated herein as out-growths of the realignment:

> 3.7.2.1. Reactivation of the Project Management Committee (PMC);

3.7.2.2. Requiring the obtaining of fiscal data and use of more economic analysis to evaluate technical packages;

3.7.2.3. Increased emphasis on marketing;

3.7.2.4. Increasing the MOA role in project implementation;

3.7.2.5. Increasing short-term in-service training of MOA extension staff;

3.7.2.6. ARC/ARD cooperation under overall MOA direction, exercised through the RAC, in the review and prioritization of research activities;

3.7.2.7. Concentration of research activities on the adaptation of off-the-shelf technologies to Lesotho agricultural conditions;

3.7.2.8. Triage of existing PIC farmers;

3.7.2.9. Development of an intensive livestock program; and

3.7.2.10. Use of financial and economic analyses for assessment of farm level production units and research activities.

IV. SUSTAINABILITY OF COMPONENTS BEING EVALUATED:

Although some benefits to small farmers have already been attained through the activities of LAPIS - and have also demonstrated a degree of sustainability through the continued profitable operations of some of the assisted farmers - the major activities of those components of the realigned project being evaluated herein consisted of aiding the institutional development of the MOA through:

- establishing counterpart relationships;
- imparting managerial skills in the formulation of doctrine;
- developing leadership;

- teaching programming, planning and recognition of the importance of linkages and how to develop them; and

- providing training, TA, short-term consultancies and research programs.

The primary potential impact of the LAPIS project components being evaluated herein will consist of laying the foundations for widespread future increases in production and income for the small farmers of Lesotho. It is the combined contribution of the above accomplishments toward achieving that potential impact, rather than the accomplishments considered in isolation, whose sustainability will be evaluated.

It must be noted that both sustainability in the near-to-medium term and impact on small farmers in the longer run are also subject to such exogenous factors as drought, political instability and MOA budgetary stringencies. The fact that these circumstances are beyond the control of both LAPIS and USAID is important in the ultimate sense of causation or its absence, but to the degree that they affect the likelihood of achieving the project objectives, they will be considered.

Organizationally, the sustainability analysis will be divided into a consideration of overall MOA capabilities and limitations, expressed primarily in budgetary terms, followed by a programmatic examination of the individual project components. Thus, questions related to the sustainability of the Production Initiatives Component will be discussed in Sections V and VI, those related to the Agricultural Education and Training Components in Sections VII and VIII and those related to the Agricultural Research Component in Section IX.

4.1. Budgetary Analysis:

In evaluating governmental operations, allocation of budgetary resources is the linchpin of sustainability for any program: funds to pay salaries, funds for operating expenses. Operations funding is both especially important and particularly vulnerable: important because many functions of an agency that is supposed to deal with farmers located in every corner of the country cannot be carried out while chained to a desk for lack of funds to conduct field operations; vulnerable because, as one official frankly stated, the primary interest of all of them lay in more adequate salaries. In the absence of an adequate budget for the MOA - Operations as well as Emoluments - many LAPIS-derived activities would not be sustainable. Therefore it will

> the project was implemented. The generally low emphasis placed on policy development and strategic planning activities, the shift in MOA doctrine to target large-scale schemes, . . . and the lack of efforts to address the ministry's extension function from an institution building perspective fall in this category.
>
> * * * * * * * * * * * * * * * * * *
>
> "Third, some constraints which the project has attempted to alleviate persist, either because they were not evident initially and were thus addressed late or because they have proven too difficult to definitively overcome given the resources available.
>
> * * * * * * * * * * * * * * * * * *
>
> "Fourth, institutional development takes time . . . the true impact of the LAPIS effort will probably not be evident for years to come."

The report concluded:

> "When LAPIS support ends, several programs will likely sustain and build upon current momentum. Others will probably falter initially, perhaps be reorganized, then continue to evolve, and some may decline and ultimately be discontinued. At this point, it is impossible to foresee the future of any program with certainty because of the number of unknown or uncontrollable variables at work."

4.3. Need to Evaluate Impact and Sustainability of Project Components Separately:

In the final analysis, then, the sustainability of the different components and their individual activities under the project in an era of budgetary stringency will depend upon their actual and/or perceived accomplishments. It therefore becomes necessary to evaluate the LAPIS project component-by-component.

assistance to the MOA is likely to come to a halt any time soon, so we would not posit a worst-case scenario of abrupt cut-off. Nevertheless, the uncertainties as to timing, amount and thrust of future donor programs make it impossible to depend on such support to insure LAPIS sustainability. It is also necessary to assume that much if not all future donor assistance to the MOA will be tied to the particular activities favored by that donor.

That having been said, however, it should also be noted that the overall goal of increasing the productivity and incomes of the rural poor is common to LAPIS and the majority of donor agencies, whatever may be the different methods each considers best suited to attain that goal. An indicator of that commonality of ultimate interest is the frequent contacting of the LAPIS team by technicians working on other donor projects and designers preparing their projects for the future.

Therefore, any estimate indicating limitations imposed by inadequate MOA budgets on LAPIS sustainability should be tempered by the realization that LAPIS-derived programs exist in a milieu of other donor programs with similar aims, rather than in a vacuum. Account would also have to be taken of the benefits to such other donor programs of the institutional strengthening and personnel training imparted by LAPIS to the MOA, benefits which will incline the donors to support those institutions and personnel to the indirect benefit of LAPIS sustainability.

4.1.4. Sustainability Workshop:

An examination by the implementing institutions of the questions being discussed was the LAPIS Project Sustainability Workshop held jointly by MOA/LAPIS/USAID in September 1991. The Workshop, attended by 57 out of the 60 MOA Department/ Division/Section Heads invited - up to and including the MOA Principal Secretary - developed a range of useful information in their analyses of the strengths, weaknesses and prospects of the prog-rams being discussed. Of particular importance to sustainability was their prioritization of the different activities, a good indication of which are most likely to survive at a given level of funding availability.

However, the critical importance of funding - and the parlous condition of financial resources availability for LAPIS-derived programs - was underscored by the fact that all six of the Working Groups, covering the entire range of primary LAPIS activities, cited funding as a constraint to sustainability. And all of them, to a greater or lesser degree, contemplated the need for assistance from donors in obtaining such funding. The subject

was further emphasized by the amounts of LAPIS funding to the four Departments receiving the bulk of assistance, Crops, Livestock, Research and LAC: the LAPIS contribution to their operating expenses ranged from half the level of GOL funding to equality. Unless this funding is replaced upon the LAPIS departure, functions will inevitably be cut.

4.1.5. Willingness of MOA to Sustain Activities:

Although the Ministry clearly cannot support what it cannot afford, nevertheless officials' statements of intent as to how they wish to allocate resources should be considered on both the positive and negative sides. In this respect, different MOA officials have expressed varying viewpoints on the degree of support expected to be available for particular LAPIS-derived activities vis a vis competing requirements. Understandably, the officials who have had the most opportunity to discover the benefits of LAPIS programs as well as LAPIS money are the most interested in seeing those programs continue.

4.2. Institutional Analysis:

Even aside from the marginal level of the MOA budgets we have been able to review (and leaving aside the problematic subject of other donor support), it would not be enough simply to have a seemingly adequate budget for that ministry or even for a particular division within the ministry: those funds would also have to be available, directly or indirectly, for the programs whose sustainability we are evaluating. If a breakdown of the MOA budget and the operation of LAPIS-derived activities within the Ministry permitted, it would be desirable to make an analysis of the actual funding flows. That is not the case: the budget is not broken out in such a way as to permit such analysis in any meaningful sense. In addition, the activities of MOA personnel and uses of MOA resources are divided among a number of programs in such a way that the sustainability of LAPIS can be neither established nor refuted in that way. It is, therefore, necessary to engage in a deeper examination of individual activities to determine the degree to which they will or will not be likely to be sustained.

The June, 1991 LAPIS team report: Institutional Development of the Ministry of Agriculture, Cooperatives and Marketing: LAPIS Project Impact and Further Needs (hereinafter cited as: "The 1991 Institutional Report") is a thorough and frank assessment of the MOA institutional situation: progress already made, likelihood of its sustainability, and progress yet to be made. This report, after extensively reviewing the

activities to be discussed in the following Sections of this evaluation, presents an overview of project sustainability:

> "In spite of the notable institutional development fostered by the project through the term, the supported programs' prospects for sustainability remain an open issue. Persistent, systemic constraints to the institutional development of the ministry and its component organizations pose the greatest threat, and they have not been alleviated by the LAPIS Project for several reasons.
>
> "First, a number of the most severe constraints could not have been rectified by the project . . . The actual and potential budgetary constraints faced by the ministry could not have been definitively overcome by the project. Similarly, problems with public service procedures, attrition of professional staff, mobility in leadership positions and the influence of inadequately coordinated donor efforts have largely and rationally been outside the mandate of the project.
>
> * * * * * * * * * * * * * * * * * *
>
> "Second, several important constraints which could have been addressed by the project have not been, because of shortcomings in the project design or decisions made by donor, ministry or contractor administrators since the project was implemented. The generally low emphasis placed on policy development and strategic planning activities, the shift in MOA doctrine to target large-scale schemes, . . . and the lack of efforts to address the ministry's extension function from an institution building perspective fall in this category.
>
> * * * * * * * * * * * * * * * * * *
>
> "Third, some constraints which the project has attempted to alleviate persist, either because they were not evident initially and were thus addressed late or because they have

> proven too difficult to definitively overcome given the resources available.
>
> * * * * * * * * * * * * * * * * * *
>
> "Fourth, institutional development takes time . . . the true impact of the LAPIS effort will probably not be evident for years to come."

The report concluded:

> "When LAPIS support ends, several programs will likely sustain and build upon current momentum. Others will probably falter initially, perhaps be reorganized, then continue to evolve, and some may decline and ultimately be discontinued. At this point, it is impossible to foresee the future of any program with certainty because of the number of unknown or uncontrollable variables at work."

4.3. Need to Evaluate Impact and Sustainability of Project Components Separately:

In the final analysis, then, the sustainability of the different components and their individual activities under the project in an era of budgetary stringency will depend upon their actual and/or perceived accomplishments. It therefore becomes necessary to evaluate the LAPIS project component-by-component.

V. PRODUCTION INITIATIVES COMPONENT (PIC):

5.1. Individual Small Farmer Approach:

High value fruits and vegetables <u>are</u> high value precisely for the reason that they are not easy or inexpensive to grow. The expectation that any substantial number of traditional, low-capital farmers with no marketing experience could quickly and easily make a transition to modern, capital-intensive commercial farmers marketing significant surpluses was questionable from the beginning. The situation was exacerbated by the factors discussed in the PREFACE, above, and the course of implementation brought out additional problems. Although direct expatriate assistance to small farmers was able to produce a degree of success on the production side, it was clearly not cost-effective. Neither did

it result in institutionalization within the MOA, which was, at the time, under overall GOL pressure to concentrate on the area-based schemes. Therefore, direct assistance was discontinued in the course of realignment and written out of the project purpose statement.

5.1.1. Success Rates Among LAPIS-Aided Farmers:

A number of the farmers and associations who were directly assisted by the LAPIS TAs during the first phase of the PIC implementation - and aided in obtaining financing, one of the biggest overall constraints to the development of agriculture in Lesotho - enjoyed a reasonable degree of success during that period of intensive mentoring. Others failed, whether through ill fortune, personal shortcomings or poor location (some were sited in rather remote areas).

The record subsequently has been mixed. A study made during the 1989-90 crop year by the Research Division, after LAPIS TA direct support had ended, was forced to use several proxy indicators to make up for data limitations, but nevertheless showed that well over half of the sample chosen were making a reasonable profit, even though some others had suffered losses or gone out of vegetable farming. These results may have been skewed upward by market prices that were higher than budgeted, however, since production accomplishments drew the rather faint praise: "yields for half the crops were respectable." Monitoring since that time has been less thorough, and the current overall situation of the farmers is unclear, although it is known that several more have since dropped out of vegetable farming.

The evaluation team was able to visit one individual farmer and one association of 41 farmers (37 of whom were female heads of household) both of which had continued to enjoy a good measure of success and attributed much of that success to the continuing effect of their prior LAPIS assistance, plus a measure of MOA follow-on.

It must be stated, however, that both were having maintenance problems with their pumps and that neither of those had repaid the capital cost of their irrigation systems: the association because their system had been a grant and the farmer for reasons allegedly related to both the LCCUL failure (which is not being evaluated herein) and to lack of adequate transport for crop marketing.

It is also believed that there has been a considerable increase in recent years in small scale vegetable gardening in

Lesotho, especially in peri-urban areas. Some extimates indicate that up to 40 percent of Lesotho's vegetable production (up from 20 percent three years ago) comes from such gardening. It is probable (though not provable) that LAPIS efforts and technology have helped bring about a portion of this increase. (See the evaluation material on the USAID Home Garden and Nutrition Program in Annex __.)

5.1.2. Constraints to Smallholder High-Yield Farming:

If smallholder activities in the fields of high-yield production are to be replicable: that is, cost-effective in the longer term, several key constraints must be overcome:

5.1.2.1. Limited Access to Capital:

The failure of the LCCUL/WOCCU component of the original LAPIS project was symptomatic of a number of constraints, both institutional and individual, that serve to limit the ability of small farmers - including those with reasonable potential to become commercial - to obtain and properly utilize the capital necessary for the relatively hi-tech production envisioned by LAPIS:

- Commercial credit institutions in Lesotho, primarily Barclays and Standard Chartered banks are extremely conservative in their lending practices.

- The Lesotho Agricultural Development Bank and the Lesotho Development Bank, institutions of a type which in many countries would fill the void, are equally hidebound in their lending criteria. One key GOL official who has seen his programs hamstrung by lack of credit strongly denounced the banks and urged some donor to furnish a Rural Banking Specialist to address the situation.

- Consequently, there is an overall lack of capital made available for agricultural lending, nationwide, with GOL financial and credit policies reflected in the performance of the above "Development" Banks.

- Most of the pressures moving Lesotho into more modern financial/economic ways of doing business begin with some donor intitiative, and the donors have not

yet effectively addressed the financial problems of the agriculture sector. Even in seeking to facilitate the provision of credit for their own specific projects/ beneficiaries, the donors have shown a marked inability to resolve the overall problem of credit in Lesotho.

- Because of Lesotho's unique land tenure situation, small farmers have little or no collateral on which to support borrowing;

- Whether through a lack of understanding of the nature of credit or a willingness to take advantage of the ineptitude of such lending institutions as LCCUL, many smallholders tend to treat a loan as a gift, to the detriment of future creditworthiness.

5.1.2.2. Technology-Intensive Production Packages:

The above problems concerning effective access to capital are exacerbated by the fact that excessively intensive technology packages are often presented to the farmers: partly because the thinking of donor agencies and their TAs is frequently based on experience in their own relatively advanced agricultural economies, and partly because of the nature of the linkages between agricultural research and the actual needs and capabilities of smallholder farmers, as discussed in Section IX below.

5.1.2.3. Management Requirements of Irrigated Farming:

Scheduling and properly executing the complex series of actions necessary to grow high value, hi-tech irrigated crops requires a degree of sophistication and level of education beyond the capability of some of the small farmers, who may have had previous experience only in simpler agronomic crop production.

5.1.2.4. Land Tenure Constraints:

Lesotho's land tenure situation, where the farmer lacks full title and usufructory rights can be severely limited, and where planted trees even on one's "own" land may be claimed by the village chief, makes it risky to invest substantial sums making productive improvements to the land they are seeking to farm. The Land Act of 1979 made some worthwhile

improvements in the legal situation, but the lack of implementation of the law has created a lack of confidence in its practical effect, leaving effectively in place the legal climate that has tended to inhibit farmers from making major investments.

Recognizing the problem, the GOL has been engaged in a major effort at redrafting the Land Act, combining both agricultural requirements and respect for local customs. The new law is due to be promulgated shortly and one of the most knowledgeable and capable MOA officials has reassured the evaluation team that it will serve to substantially ease land tenure problems, and that this time he thinks its actual implementation will cause people to begin to believe in it and act on it.

5.1.2.5. Population Pressures:

Both a high internal rate of population growth (2.7 percent in 1987) and a high rate of return of displaced workers from the RSA are combining with the land tenure problems cited above to create additional pressure on the limited amount of land that is both arable and available under existing land laws. The official cited above expressed both the hope and the concern that many of the returned mine workers would take up farming. This accords with the team's understanding that at least two of the most successful LAPIS farmers were returned miners.

5.1.2.6. Environmental Degradation:

Similarly, the decreasing amount of arable land resulting from environmental degradation means less is available per-capita. In such a situation, it is generally the economically weakest class that suffers the major loss of access.

5.1.2.7. Marketing Problems:

Even those farmers who participated in LAPIS and produced a surplus of a high-value crop often had trouble marketing that surplus, largely because of the inadequacies of transport and marketing to be discussed later. Although the LAPIS team provided a measure of direct marketing assistance at the farmer level during the period of mentoring, this was not an adequate

substitute for the comprehensive national marketing effort that was instituted in the course of the realignment and is discussed in Section VI., below.

5.1.2.8. Crop Rotation/Environmental Problems:

The statement was made in the PCU meeting of September 19, 1990, as well as in the LAPIS 1990 Work Plan, that very small production units make crop rotation designs more difficult to implement, which leads to soil depletion and environmental degredation. Although this statement has been challenged, it nevertheless underscores the importance of realistic planning in choosing farmers with at least a degree of commercial potential as the assistance target group.

5.1.2.9. Degree of Interest Shown By Small Farmers:

It is the contention of the designers and implementors of LAPIS that small farmers are generally willing to ignore the above constraints and push into production of the recommended crops. The contrary contention is that although there were a number of farmers with a sincere interest in farming, there were also a number who hoped to get a gift of equipment. Resolution of this controversy would require a more detailed study than has yet been made.

5.1.3. Possible GOL/MOA Preference for Area Schemes:

At the time of the 1988 evaluation, it appeared clear that the GOL as a whole - even though there were pockets of disagreement in the MOA - felt that the potential economies of scale of the area-based irrigation schemes offered a better pattern for development than the LAPIS approach of individual small farmers and small associations. Although the area-based schemes were clearly donor-driven to a considerable degree, the majority GOL support appeared genuine. Either the persuasiveness or the power of the GOL approach caused LAPIS to request permission to join in aiding these schemes, a request the USAID denied. Even as late as 1991, the USAID Assessment of Program Impact for 1992 conceded that much of the 1990 production gain might be credited to the area schemes. The Assessment went on, however, to express the opinion that the incompatibility of the schemes' social organization with Basotho traditions made them unsatisfactory vehicles for sustainable agricultural development.

The true potential as well as the degree of current GOL/MOA preference for area schemes in general and specific area schemes in particular over smallholder farms remains the subject of debate. Clearly some of the schemes, such as the Bauer operation, made their full share of mistakes during the start-up phase, much as LAPIS did. Just as certainly, some of those area schemes have subsequently learned more effective approaches, again like LAPIS.

The current consensus appears to be that the MOA now realizes that each development plan for each area or type of program has to be weighed on the basis of its own conformity with the agricultural and social realities of the location where the activity is to be carried out: area-based schemes will be best under one set of circumstances; individual farmer plans under another.

5.1.4. Relationship of Research to Small Farmer Needs:

This question is discussed in Section IX.

5.2. Consideration of Gender Issues:

In light of the fact that well over half of Lesotho's small farms are headed by women, issues of their unique situation merit substantial consideration. As the October 1991 USAID/ Lesotho Gender Report stated:

> "Recognizing and understanding of the cultural constraints can lead to increased effectiveness of USAID projects and programs."

Nevertheless, only 1 out of 19 LAPIS TAs was female - although a good 36 percent of the in-country trainees were women (not counting the rudimentary training given to herdboys). The general LAPIS project documentation, such as Annual Work Plans/ Annual Reports, have not demonstrated any great degree of concern for the subject, but there is enough other evidence of consideration to indicate the subject has not been totally neglected. Key gender issues that must be addressed include:

- The unique legal disabilities of women make obtaining credit even harder for them than for men; ultra-low cost technology packages would permit them to share in programs from which they might otherwise be excluded.

- Customary restrictions on a woman's role (e.g. no plowing) should be recognized and then designed around to the greatest degree possible.

- Womens' childbearing/rearing and home-making responsibilities require special project design consideration. For example, local child care schemes may be required in some/many instances.

- The scheduling of project activities and training sessions should take into account the competing responsibilities of the women who are or should be involved.

- Unique aspects of health vulnerability (especially applying agricultural chemicals while pregnant or lactating) must be taken into account in putting together technology packages.

LAPIS has addressed these issues as pointed out in its response to a questionnaire used in preparation of the Gender Report:

> "The LAPIS project was designed in recognition of the importance of women in Lesotho's agricultural economy and of the gender-related constraints they face. Our approach has been to work around or help alleviate these constraints as practical. Progress to date indicates that the approach has been successful, as women have been at least as successful as men in taking up and profiting from the various types of technology put forward."

Additionally, LAPIS points out that it has not only sponsored the usual studies on the subject, it specifically designed its farmer associations to deal primarily with female-headed families and supported creation of a day care center in one of those associations. As a result, while most participants in the individual farmer component of the project were male, reflecting their preferred legal status, the inclusion of the associations pushed female participation in the overall LAPIS project to the 80 percent level.

In summary, while gender issues have certainly been recognized and dealt with by LAPIS, to a degree, its personnel have seen the project as primarily one of generalized institution

building and production/marketing assistance, rather than as a directed attempt to address the gender issue in its agricultural sector manifestation. This is not an unreasonable position, especially in light of the many difficulties the project has faced, but the limitations placed upon Lesotho agricultural development by failing to take full advantage of the capabilities of its female population could have made a sharper focus on those issues economically as well as socially productive.

5.3. The Production Coordinating Unit (PCU):

5.3.1. History of the PCU:

In the early days of the LAPIS project, the PCU was envisioned as a large body with a broad mandate. This proved unworkable, and the purpose and functionality of the unit was closely examined during the realignment exercise, along with complementary requirements for organizational reform within the MOA as a whole. The reformed PCU was established in late 1989.

5.3.2. Purpose of Reformed PCU:

> "The PCU is to identify and assist selected market led producers of Lesotho in order to ensure production of an adequate supply of fresh vegetables and fruits for the existing and planned marketing outlets. The PCU will ensure that proper coordination between marketing and production is established and maintained."

5.3.3. Current Composition of PCU:

The PCU is made up of the MOA Chief Agricultural, Extension and Marketing Officers and Irrigation Specialist, the Department of Crop Services (DCS) Horticulturist, the LAPIS Team Leader and Marketing Specialist, and such Adhoc invitees as might be desired for a particular purpose. The LAPIS team recently recommended the addition to the PCU of a representitive of the Department of Field Services (DFS) to better serve as liason between headquarters agencies and the extension function.

5.3.4. Terms of Reference of PCU:

The PCU will: Serve as a coordinating unit for screening requests for assistance in vegetable and fruit production and identify and select those which are economically and technically viable; assist in providing guidelines and work plans for those

selected; provide advisory support in technical areas; provide leadership in mobilization of services and support of other MOA Divisions; monitor the effectiveness of production/marketing of selected sites; and review production/marketing/credit-related pilot schemes and process the approval for implementing those viable.

5.3.5. Functioning of PCU to Date:

The concept of a PCU is clearly a sound one for the avoidance of omission or duplication of activities. Previously, there had been poor communication among the several Divisions of the MOA, resulting in confusing and often contradictory advice being given both to MOA field staff and farmers themselves. The PCU is overcoming this constraint, and will become even more effective once the DFS member is on board.

Currently, the body is supporting several activities that require the cooperation of several departments or divisions. These include the Directors of Crops and Field Services and the Marketing Division. Specific activities currently supported by the PCU include: crop monitoring, support for the survey of national fruit and vegetable producers, Irrigation Resource Planners (IRP), preparation of the Department of Crops Services Strategy Statement and, in cooperation with the Marketing Division a planned marketing/production effort. The LAPIS team attaches particular importance to PCU support for the Strategy Statement, due in August, 1992.

However, from an operational standpoint, it appears to have gotten off to a rather slow start: perusal of all available Minutes of PCU meetings (and those of its predecessor the PCC, or Production Coordination Committee) leaves the impression that that there has been more done by way of discussing coordination than there has been actual production to coordinate.

5.3.6. Prospects for Continuation of PCU:

The 1991 Institutional Report felt that the institutionalization of the PCU remained tenuous. Since that time, the situation appears to have improved with growing recognition of its usefulness. Even one senior MOA official who was extremely pessimistic about the budget situation overall felt the PCU would survive, partly because it itself is inexpensive and partly due to its potential for enabling the MOA to save money through the avoidance of duplication and waste.

5.4. Irrigation Resource Planners (IRP):

5.4.1. Stated Functions of IRP:

- Irrigation system design;
- Design of coordinated production plans to complement existing local marketing environment;
- Determination of appropriate input requirements in accordance with the farmer's abilities and financial resources;
- Design of production enterprises which complement the farmer's technical and managerial abilities;
- Improvement of linkages between farmers and rural credit institutions; and
- Assistance in expediting site implementation.

5.4.2. Relationship to MOA Extension Agents:

The relationship with the MOA extension staff varies from district to district, but in general, since the IRPs are district-based they are part of the staff and are in resonable contact with each other.

5.4.3. Activities to Date:

The planners were put through an intensive four and a half month training course that was generally considered to provide them with a strong foundation for carrying out their functions - assuming they would display the necessary individual initiative and receive the necessary institutional support.

It is over two years since the training was completed, though only somewhat more than one since the LAPIS irrigation engineer began his duties so, while it is still too early to make any ultimate judgments as to the longer term prospects for the program, enough time has passed for interim evaluation. It must be said that the beginnings have been less than impressive: only 14 irrigation projects (all but one micro-projects of less than one half hectare) have been executed through April 1992, and all but one of those were in a single district with heavy support (including loan guarantees to overcome the major constraint to agricultural development in Lesotho!) from a nearby donor-funded project. Moreover, only half of the country's 10 Agricultural Districts have yet begun to actively participate in the program.

A daunting list of problems has been set out by the LAPIS TA in charge of the program:

- lack of DAO motivation/understanding;
- lack of IRP motivation;
- conflicting/competing job responsibilities: their supervisors finding something "more important" for them to do;
- lack of direction from headquarters;
- no Established (permanent) positions for IRPs, leading to severe morale problems;
- staff shortages at the district level;
- lack of resources at the district;
- problems with farmers obtaining credit;
- inadequate farmer/site selection on the part of the IRPs;
- failure of the IRP to involve the farmer fully enough in the planning process: the old "top-down" syndrome once again (!);
- incomplete skills on the part of many of the IRPs; and
- lack of a trained MOA engineer to provide the guidance and supervision that will be required once the LAPIS TA has departed.

The USAID ADO has added that the technology being promoted by the IRPs may be excessively complex and costly; in addition, he wondered whether, in some cases, farmers might be approaching the IRP with insufficient determination to enter into a complete farming enterprise. The LAPIS TA assured the evaluation team that lower tech approaches are now being promoted based on the success of the 13 plans of that type that have already been implemented.

5.4.4. Prospects for Continuation:

Since IRP is the major surviving remnant among the crop production support components of LAPIS being evaluated herein, it would be desirable for it to be both continued and reformed to a level of meaningful accomplishment. The above constraints and concerns are clearly valid and pose a challenge to the PCU to try to plan for and coordinate their resolution. However, the MOA official in the best position to know feels that the budgetary situation, coupled with the scarcity of credit to finance even the modest plans make it likely IRP will be put into a holding pattern: the IRPs will remain in place, retain their skills and continue to use those skills on schemes that are able to obtain financing, but the program of actually putting new IRP schemes into operation will have to await more favorable financial times.

5.5. Intensive Livestock Production:

This was designed primarily as an institution building activity: the TAs were instructed not to engage in direct support to individual farmers so as not to occupy Project resources on a select clientele. The major institutional impacts have been:

- Long term training: a major infusion of highly trained personnel have come into DLS as a result of the LAPIS training program.

- Linkages: within the DLS several departments have been enabled to engage in closer coordination; cooperation with other MOA agencies has been markedly facilitated; and relations with outside organizations have become considerably closer.

- Feedstuffs: LAPIS efforts have assisted local agroindustry in supplying feedstuffs to Lesotho's farmers.

- Publications: Over 80 titles have been developed for use as extension materials and in farmer training sessions.

- Short-Term Training: An extensive program of short-term training has raised skill levels considerably; this has been particularly important for SMS and Extension personnel, for whom the training has also provided a useful forum for the exchange of ideas.

- Farmer contacts: A major emphasis has been on the wide dissemination, through the extension service,

of training materials to actual or prospective farmers.

- New Enterprises: LAPIS-initiated efforts include feedlots for cattle and lamb fattening, as an exercise in technology transfer.

- Animal Selection: TA support on buying missions, farmer tours, local shows and training courses have given DLS staff and local farmers better appreciation of important traits to assess when selecting livestock for purchase and breeding.

- Accessing Funding Sources: TA has assisted the DLS to become more proficient in seeking funding from various sources, and making the effort to access funding through preparation of proposals and justifications. There is still a long way to go in this area, however, as scarcity of credit remains a major constraint to development.

- Feasibility Analyses: Many intensive livestock enterprises are capital intensive, requiring a significant amounts of both initial capital and operating funds, and are sensitive to technical performance. LAPIS has helped equip the DLS to assist the farmer in enterprise budgeting.

- Facilities, Equipment and Management: As a corollary to the above, SMS now have a better grasp of overall profitability and the need for proper facilities, equipment and management.

- Infrastructure: LAPIS TAs have assisted the DLS and ARD to access (non-LAPIS) funding to attain improved facilities.

Direct activities of the Intensive Livestock Program relate to portions of the Range Management and PIC Small Farmer programs. The main PIC-related components and their progress to date are:

5.5.1. Broilers:

This program aims to raise broilers much as is done in the developed countries, with special breeds, special housing and special feeds. The Technical Advisor stated that such an integrated program was necessary to have satisfactory results - that

neither fattening chickens hatched and raised in a farmyard nor helping small households make minor improvements in their breeds would be feasible. However, with well over a thousand farms now active in the program, it is clear that is, in fact, reaching down into the small farmer ranks.

5.5.2. Fat Lambs:

In light of the major importance to Lesotho of high quality wool exports, the GOL has been reluctant to permit other breeds of sheep to enter the country for fear of interbreeding. Only under carefully controlled conditions are meat-breeds of sheep allowed into this experimental program. The results have been promising in the sense of value-added for a market that eats considerable amounts of mutton, but the controlled nature of the experiment raised the questions in the minds of the evaluation team as to: a) how well would the animals do under less qualified management once the program was widely replicated; and b) would there be the risk of some of them escaping from small farmers, putting the entire effort in danger of curtailment by the GOL?

The LAPIS TA and a high DLS official were able to reassure the team that given the Basotho familiarity with farm animals - in contrast to their unfamiliarity with commercial vegetable farming - the expansion of the program which was already under way was proving successful; and that that same familiarity made the risk of unwanted interbreeding minimal.

5.5.3. Pigs:

A relatively minor program for the scientific raising of pigs is in its experimental stage and has not yet produced results sufficiently firm to evaluate. Being relatively low-tech, this program is well suited for even the more resource limited small farmer.

5.5.4. Fodder:

Working with the CIDA Dairy Cattle program in an exemplary demonstration of donor cooperation, the fodder program is designed to help substitute domestic production for imports in improving the quantity and quality of milk produced in Lesotho.

5.5.5. Relationship to Small Farmers:

As can be seen from the above, the intensive livestock programs frequently require an amount of capital and degree of sophistication that are beyond the smallest of small farmers.

However, once there is an understanding of the reasoning behind the definition of small farmer set out in 3.4., above, it can be seen that these programs, as they have been designed, provide genuine economic and social benefits, both to the country and to those farmers who have the potential of becoming commercial, without requiring economies of scale that only the country's few large farmers could employ.

5.6. GOL Strategy on Crop Production:

Preparation of a Strategy Statement is under way and the document is expected to be finalized by August 1992.

5.7. GOL Agricultural Financial and Credit Policies:

Although listed in the Scope of Work for this evaluation, the subject is of such great importance and high degree of complexity that the evaluation team recommends it be made the subject of a separate study.

5.8. LAPIS Horizontal Well Drilling Program:

In a paper attached to the agenda for the October 26 1990 PCU meeting, the horizontal well drilling program was presented as a cost-effective way to provide water for irrigation as well as livestock and domestic consumption. Analysis of data available to date raises the question of whether the program is, in fact, suitable for all of those uses.

5.8.1. Irrigation:

LAPIS annual reports indicate that in more than two years of drilling under the Range/Livestock Production Unit (RLPU), the Horizontal Well Drilling program had produced a cumulative pre-drought flow of water sufficient to irrigate only about two hectares of fruits/vegetables. Cost data is not being kept in sufficient detail to calculate an IRR, but it seems clear that its viability for irrigation programs is extremely dubious.

5.8.2. Livestock:

Although production from the horizontal wells varies widely, the flow from an average well would appear sufficient to provide enough water for flocks of up to 500 sheep or goats, or several dozen dairy cattle on a sole source basis, and could furnish supplementary water to a considerably larger number. This could be a cost-effective enterprise, depending on the particular circumstances.

5.8.3. Domestic Consumption:

Perhaps the most popular aspect of a highly popular program is the provision of water for small rural communities or livestock stations. Although there are several other donor activities being carried on in the same field, the need for and health benefits of clean water appear sufficient to justify a modest activity of this nature, even in the absence of a formal analysis of costs and benefits.

VI. MARKETING COMPONENT:

Although in a sense a part of PIC, the Marketing Component contains enough unique factors to merit separate treatment. With its importance not adequately realized in the original project design, marketing has had to run to catch up.

In addition to the institutional, financial, production and transportation constraints discussed below, there is a major psychological hurdle to be overcome, as stated by the Post-Harvest consultant, Dr. Grierson:

> "The initial problem is psychological. People who have spent their lives growing maize and sorghum and herding cattle are conditioned to growing crops that they can harvest at their own convenience and market when they please. If they don't get the price they expect, they can bring their product home with little prospect of loss. They are psychologically ill-prepared to market crops that must be picked at some precise stage of maturity and which have only a brief, transitory life. Most of them have no comprehension of such basic marketing concepts as the essential role of middlemen and the effects of supply and demand on the prices that they can expect . . . many could not grasp that they could seldom expect to get the total (retail) price for their products, nor could they expect to hold out for the price that they considered fair."

This analysis is fully in keeping with the reports of numerous assistance workers who have had extensive contact with farmers lacking in prior commercial experience, and points out the depth

of the problems to be addressed if this target group is to be brought into the world of commercial production and marketing.

6.1. Triage:

It should be recognized up front that some farmers will never be able to benefit from unsubsidized commercial marketing services, because their location is inaccessible, production low, or they are personally unable to make the necessary adjustments to a market economy as described above. If assistance to these farmers is considered to be socially desirable, it should be given on that basis rather than making untenable claims for what is expected to be accomplished. The change in selection criteria for farmers to participate (under MOA auspices) in the realigned LAPIS project was made in recognition of this situation.

6.2. Accordance with GOL Marketing Strategy:

The LAPIS approach to marketing has been, for the most part, enthusiastically embraced by the GOL and has received increased budgetary allocations since realignment, thus greatly increasing the odds in favor of sustainability. The 1991 Institutional Report and the LAPIS Marketing Advisor's Final Report present valuable information on the strength of MOA committment to the program. Their major caveat is the logical one that if production does not increase within a reasonable time, there will be little to market and the program could lose its appeal.

6.3. Validity of GOL "Vertically Coordinated" Concept:

The GOL, with LAPIS concurrence, has been promoting the marketing component as part of "an overall vertically coordinated production and marketing plan." Although government controlled agricultural production and marketing schemes are, justifiably, in poor repute worldwide, the evaluation team has been assured that the GOL concept is limited to furnishing assistance to producers and marketers in determining what crops have the best market potential, when the farmers should plant so as to harvest when prices are at their best, etc., rather than seeking to exercise control over such functions. However, with the memory of the infamous "Marketing Boards" of many African countries still fresh, we should keep watch that the GOL program does not succumb to the temptation of dictating to its farmers.

6.4. Marketing Information and Extension Services:

The LAPIS Marketing Advisor's Final Report, backed up by evaluation team discussions with Ministry personnel, indicate

that both of the services are functioning well at furnishing the farmer with critical information relevant to the decisions that must be made to enter into the world of commercial agriculture.

6.4.1. The Marketing Information function is carried out by weekly market newsletters and radio broadcasts (even the smallest and poorest farmer has a radio) based upon price gathering and analysis from relevant Lesotho and RSA markets. Marketing Officers in each of the 10 districts report wholesale prices on six vegetables each week. Headquarters staff receive the prices and calculate price averages and ranges. The Agricultural information service prints the market newsletters and makes the weekly price broadcasts. This service is low cost and can be sustained with minimal effort.

6.4.2. The Marketing Extension function is more complex, involving the training of 10 Marketing Officers, one for each geographical district, already carried out successfully under the LAPIS training component, and their coordination with the far larger number of MOA extension agents. This program includes price collection, crop monitoring and assisting farmers with marketing. The marketing extension positions are funded by the MOA as permanent positions. However, funding at the district level, particularly in terms of transport and per diems, has been limited, so the program will have to be watched before a firm statement on sustainability would be justified. This extension program is clearly worthy of being sustained because of its critical importance in raising farmers out of the non-commercial mentality. Fortunately, the FAO marketing project has agreed to provide continued support to marketing extension until 1993.

6.5. Livestock Marketing Activity:

6.5.1. Institutional Support:

LAPIS TAs were active on the task force that drafted the National Livestock Policy and Implementation Plan, and on the Marketing Task Force livestock sub-groups developing marketing strategies.

6.5.2. Specific Studies:

Studies have been carried out on:

- marketing of wool and mohair;
- marketing of eggs and broilers;

- "sphere of influence" marketing to ascertain market size for milk and broiler meat;
- livestock sales in the RMAs and on a national basis;
- wool and mohair market trends; and
- historical RSA lamb prices.

6.5.3 Marketing Arrangements:

At the formal level, many intensive livestock commodities are marketed through statuatory bodies, and in some cases, there are gazetted prices and import channels.

- Wool and mohair are channeled through LPMS (Livestock Product Marketing Services).
- Milk is sold to Maluti Maid Dairy.
- Eggs are sold through the Egg Circle (Poultry Coop Societies).

6.6. Lack of Project Component for Transportation:

Early in the project, LAPIS identified transport as a major marketing problem for small farmers. There was a difference of opinion as to how the transport problem should be approached and whether there should be a formal separate component and, if so, when. LAPIS/MOA felt that a long term project-funded pilot program should be carried out so as to stimulate private sector interest in a more permanent arrangement.

6.6.1. In late 1988, LAPIS proposed the purchase of 3 trucks which would be used to support a pilot transportation program over a two year period. If successful, the trucks would have been transferred to associations or other private sector enterprises. LAPIS/MOA later proposed several alternative types of transport assistance which would be tied in to the marketing centers.

6.6.2. LAPIS also conducted two small scale pilot transport activities of one to two months each in 1989 and 1990 . The evaluation team feels these trials were of far too short a duration to prove or disprove a concept that could require up to two years of market development.

6.6.3. USAID viewed the transport problem in terms of farmers expecting government to do everything for them, as part of an overall dependency syndrome. USAID in fact supported the small scale pilot demonstrations but decided that, unless there was some further study, the risk was too great of a large transport program becoming a permanent intrusion into the private sector. Instead, USAID contended, every effort should be made to encourage farmers to use the existing transport network, which possesses adequate capacity and will presumably be willing to serve a profitable market. Only if existing transport proved to be inadequate would USAID consider some sort of transport suport from a fund for pilot activities. Unfortunately the market centres were not completed before the end of the project and the transport situation was not resolved.

6.6.4. On the arguments presented, the evaluation team feels strongly that: a) the risk-averse and generally non-entrepreneurial nature of the Basotho private sector is such that a strong demonstration of feasibility would be needed before they would undertake the admittedly difficult task of organizing and executing a profitable system for serving the small farmer; the profitability of the transportation component could take two years or more to develop, as both production and marketing need time to reach adequate levels, and the Basotho entrepreneur has neither the capital nor the time-horizon to accept two or more years of losses in the hope of developing a market than might never come into existence; b) the magnitude of the transportation constraint and its essentiality to success of the entire production and marketing exercise is so overwhelming - every farmer the team has contacted cited lack of transportation as being one of the most critical items - that the trial should have been made. It still should be if another source of funding, such as an expansion of the FAO Marketing Project, could be found.

6.6.5. If another source of funding can be found for conducting an experimental transportation program, consideration should be given to extending the LAPIS Marketing Advisor at least long enough to help the experiment get under way.

6.7. Limited Project Component for Storage:

Large seasonal variations in fruit and vegetable prices and reports of high levels of spoilage caused by insufficient market absorptive capacity make storage of produce, where technically and economically feasible, a potential way to benefit producer and consumer alike. A highly qualified post-harvest consultant was brought in and some seemingly successful pilot programs were carried out, but there did not appear to be any

substantial degree of follow-up. There should be a report on what, if any, follow-up might be appropriate.

There appears to be opportunity for on-farm storage of potatoes, onions, and pumpkins, which have been the subject of investigation by ARD researchers. In addition, FAO has a post-harvest handling project, with its own research component under which they will conduct additional research on the technical and economically feasiblity of storing certain vegetables with a reasonably long storage life under low-cost conditions.

Investigation into more expensive cold-storage schemes might be initiated, using facilities rented from local wholesale dealers, but any widespread consideration of cold-storage for local produce would have to be deferred until production has increased markedly.

6.8. Role of Market Centres:

6.8.1. Degree to Which Private Marketers Already Cover the Functions of the Market Centres:

The marketing system for local agricultural produce in Lesotho is less advanced than in most developing countries, due to limited local production and the ease of purchasing from the RSA. Although there are wholesalers dealing to some degree with local produce, there does appear to be a market niche for the LAPIS centres - but only assuming they are well located and well run. Having visited both centres, the team is dubious about the viability of the Mohales Hoek location, a mile from the existing heavily patronized market area; the Leribe centre is much better located, in close proximity to the present market, and the manager appears capable of doing the job. These centres, along with one in Maseru which may be built with UNCDF funding, should be treated as pilots and not replicated until at least Leribe has proven successful.

6.8.2. Questions on Market Centre Design:

The evaluation team noted that the market centres do not have provision for washing and grading produce. The washing is essential and should be provided. The LAPIS team explained that grading was to be done on the farm, as is the case in the RSA. However, the evaluation team has expressed doubt that what works on a large, professionally run farm will necessarily be feasible for a small farm with a less sophisticated operator; provision for grading at the market was therefore recommended.

Subsequently, the team was informed by LAPIS that the FAO project will provide grading and packing lines at the market centres which will be used for training. This line can also be used for grading and packing produce for small farmers, if necessary while the large vegetable schemes will grade and pack on the farm. The FAO project is already providing packing tables and training for several of the schemes.

6.8.3. Need for Initial Subsidy:

The 1989 National Marketing Plan estimated that the markets could take up to four years until they were operating at full capacity, with commensurate earnings. It will clearly be necessary to charge users favorable promotional fees and subsidize operating costs during that time. Given the budgetary stringencies discussed above, it will undoubtedly be a struggle to obtain sufficient funding; only the fear of seeing the market centres standing there empty is likely to bring forth the necessary funds.

6.8.4. Significance of Implementation Delays:

The fact that even with external funding and TA the GOL was unable to get its act together on actually constructing the market centres for a full two years is a poor omen for project sustainability. However, to the degree that the primary cause lay with the Ministry of Works, which hopefully will not have to be dealt with often in the future, this may not be significant.

6.8.5. If the Leribe centre actually becomes operational by mid-1992, consideration should be given to extending the LAPIS Marketing Advisor to help it through its difficult startup period.

VII. TRAINING COMPONENT:

7.1. Introduction:

LAPIS long-term training focused on developing the institutional capacity of the MOA by providing trained personnel to staff key positions in research, extension and other MOA Departments in a manner appropriate to increase small farmer production. MOA would then have the capacity to integrate activities of various technical divisions and periodically retrain existing staff to support agricultural production systems that deliver services to farmers and assist them on through the

marketing phase. The projected project cost of long-term training for the 75 participant trainee positions has been set at $2,918,382.

Short-term training activities in the beginning phase were primarily designed to support objectives of the PIC component and AEC was charged with coordinating this. Extension agent and farmer training were predominant. In the second phase, with the phasing out of PIC activities in 1988, the responsibility of short-term training was transferred to an overall coordinator based within AEC but working through the administrative wing of LAPIS. Since then most short-term training has been implemented via specific LAPIS project components for their own department/ division or clientele. Through March, 1992, $632,657 had been expended by the project for short-term training.

7.2. Long-Term Training:

7.2.1. Numbers of Participants and Fields of Training:

While USAID was most interested in training for positions supporting LAPIS project objectives MOA was also interested in securing training for general upgrading of the Ministry structure as a whole. LAPIS TA's were interested in upgrading the staff who supported their particular components. The final subject matter breakdown for the 75 positions was:

Ag Engineering	4	Ag Econ/Mktg	9
Home Economics	4	Agronomy	11
Communications	4	Animal Science	15
Extension	5	Range Management	17
Horticulture	6		

The distribution of MOA departments/divisions support was:

Ag Info Services	3	LAC	12
Marketing Dept.	4	Research	15
Livestock Dept.	9	Range Management	19
DFS and Crop Serv.	13		

Emphasis was placed on mid-level training as is demonstrated in the levels of training shown below:

Diploma	8	Masters	17
Bachelors	49	Doctorate	1

A major feature was the high percentage of women trained. Twenty-nine (over 38 percent) of the trainees were women including one at the diploma level, 18 at the BSc level and 10 at the MSc level. This was a positive step in response to the important role and contribution of women in Lesotho's agricultural development. Yet men continue to enjoy privilege in securing managerial positions. To date only one MOA Department Head position has been filled by a woman.

7.2.2. Success Rate:

Statistically, LAPIS achieved a 94.6 percent success rate with 71 out of 75 long-term trainees completing their degrees and returning to work within the MOA by the date of this evaluation. One student was killed during training, two dropped out for personal reasons before completing training and returned to their previous MOA positions, one completed her training and disappeared and one stayed in the US for additional training through other sponsorship and has recently returned with an advanced degree.

7.2.3. Impact of Training:

Careful selection of candidates according to needs in the MOA departments/divisions from which candidates were taken and to which they were to return after training assured a high degree of training relevance to positions held and work performed.

Participants report increased confidence in the classroom (LAC faculty) and workplace resulting from technical competence gained in training. Supervisors of the returned participants have noticed boosted morale and higher motivation after training. MOA administrators report a greatly improved work standard; trained people have a much greater ability to face and solve problems.

In addition to academic/technical values, social values were realized from the long-term training. Marked attitudinal changes in returning participants, especially noticed in some MOA employees who had been troublesome before receiving training, were evident. The long-term training participants have tended to become more cooperative with Ministry administration.

LAPIS personnel believe exposure through long-term training to the American approach to problem solving has had

a positive influence which will assist MOA to cope with agricultural production issues in Lesotho and reduce the technical assistance load on future projects.

LAPIS long-term training experience has shown, however, that a good academic foundation is a necessary but not sufficient ingredient for maximum impact to be realized from training. Many of the returning participants lacked practical skills to help in applying newly acquired academic skills. Training impact was greatest in cases where the candidate had worked in an MOA position with a LAPIS TA for a significant period of time prior to training and again with this TA after training. In a number of cases this was not possible as trainees were away in training for too much of the LAPIS project life or their TA counterparts were no longer with the project when they returned.

In some cases trainee impact potential was reduced by the inability of the Ministry to meet their expectations.

7.2.4. Retention Rate:

Though long-term training was undoubtedly one of the most successful LAPIS project components, that success was not quite as good as the initial high rates would indicate. As of June, 1991, all returned LAPIS funded candidates were employed in Lesotho. However, one had taken a lecturer's post at NUL and one was employed by the Lesotho Bank. Since that time there have been six other losses to MOA. Due to the high quality training received, trainees are marketable and some yield to the natural temptation to accept more attractive salaries elsewhere. One trainee is now employed by Rhodes University in South Africa. By project end, just under ten percent of the long-term trainees had left MOA.

Expectations of returning trainees were high. Most hoped to receive promotions and salary increases automatically upon completion of their studies; some were dissastified when this did not happen. Though most did get into the particular MOA position for which they had trained, some had to wait. In some cases, though the MOA had frozen positions for them, when they arrived back in Lesotho budget restrictions did not allow for immediate hiring. Some were put on a temporary basis. Some returned trainees are still waiting for permanent MOA employment because the MOA planning was inadequate prior to their departure.

Yet, by almost any measure, the LAPIS long-term training component has been highly successful in achieving project objectives. One could also argue that, though some

trainees have been lost to MOA, an impressively high percentage of the initial 75 are still serving larger country needs.

Annex 1 gives lists of long-term training recipients and their employment as of March, 1992.

7.2.5. Sustainability Questions:

The potential for continued impact over time of long-term training is reduced not only by MOA budgetary restrictions in hiring returned trainees, but also by the lack of operating funds to allow trainees to do the work for which they have been trained. At LAC and elsewhere, there is fear that funding may not be adequate to sustain training provided by LAPIS.

The failure of MOA to hold trainees to their bonding agreement to work in MOA two years for each year of training received was a source of disappointment to LAPIS. They made a complaint, through USAID, to the Ministry upon the first departure, but failed to receive favorable consideration, so did not further push the issue.

Yet this component has in many ways been the most sustainable of all LAPIS initiatives. Though some losses were suffered and problems limit returner effectiveness, skills, knowledge and attitudes have been acquired and will remain available to the MOA at a significant level.

7.2.6. Lessons Learned:

- The design for long-term training developed by LAPIS represents an exceptional model of planning and execution. Outstanding elements of the design include USAID/LAPIS/MOA lines of communication, the MOA training needs assessment, selection procedures, university placement, orientations, monitoring, campus visitation, mid-winter seminars and other enrichment activities, financial management and general administrative support.

- An unexpected negative effect of this training was the relatively slow acceptance of change regarding innovations occuring at LAC during their absence by some participants upon their return. Perhaps to be expected, but also a negative result, was the dissatisfaction experienced by a number of participants which stemmed from high, but unmet, expectations upon return to Lesotho and the MOA.

- Only a certain number of individuals can be absent from a department without seriously damaging normal operations. Large staffing turnovers caused by departure and return of a large group of trainees at one time can be disruptive. With so many trainees gone on extended training at one time manpower gaps were created making it hard for MOA to keep the agreement to provide counterparts to LAPIS TA so that on-the-job skills transfer could be achieved.

- Long-term training candidates should work with TAs for one year before leaving for training to help them know better what to study and to integrate them more effectively into the system. After training, participants should also work another year with the TA to help "customize" them to the practical aspects of applying their learnings to their job.

- A strong middle management level is necessary to cement the base of MOA; training at the BSc level has frequently enhanced the professional management capabilities of the trainees, so as to qualify them for such positions.

- The active involvement of the upper level MOA management in selecting candidates and training disciplines is imperative.

- Participants trained in MSc and PhD degrees experienced frustration from the slowness of the GOL to respond to their higher level of training with job promotions and salary increases. A mechanism needs to be developed within GOL to reward higher levels of training.

- MOA divisions/departments should adopt a more proactive role in curriculum design and in communicating with the student during training.

Annex 7 presents a more detailed listing of lessons learned and recommendations made by the LAPIS project for long-term training. The most important of these are:

- It has been recognized that strong middle management is necessary for the effective operation of government services.

- Specially designed Diploma programs can play an important role in specialized areas of training.
- A mid-winter seminar can be useful.
- Fixed candidate selection criteria assure that the best qualified candidates will be sent for training.
- Upper level MOA management should participate in the selection process.
- Constant follow-up on and communication with students is essential to keep up their morale and head off possible problems.

7.3 Short-Term Training:

The LAPIS project provided short-term training for literally thousands of recipients representing MOA staff, farmers and herdboys. Training was given in management and technical training in areas where MOA staff and farmers most needed skills improvement. Instructors for local specific training activities were LAPIS long and short term TAs and MOA staff. Courses, seminars and tours ran from two days to six months and were conducted in-country, regionally and overseas. Training affiliation and numbers of men and women receiving training through February, 1992, follow (Numbers do not represent specific individuals since some may have received training more than once and may be counted more than once. Male/female ratio is a close approximation):

Affiliation	Men	Women
Lesotho Agricultural College	236	162
Agriculture Information Services	37	24
Crops Services Department	37	46
Livestock and Range Management	2,274	146*
Planning/Econ/Marketing Dept.	178	127
Agricultural Research Division	256	190
MOA (Various Depts/Divisions)	116	71
MOA Field Staff	428	395
Lead Farmers	944	269
TOTAL	4,512	1,430
GRAND TOTAL	5,942	

*Predominantly herdboys which accounts for disproportion of male vs female

Of these totals, 24 percent are women. When the Livestock and Range Management group is removed from calculations to correct for the disproportionately high number of herdboys, the percent of women trainees rises to 36 percent, nearly equal to that of long-term training.

By recipient categories, short-term training breaks down as:

Extension Agents	500	MOA HQ Staff	954
LAC Students	98	Subject Matter Specialists	590
Lead Farmers	1,423	Others*	2,376

*Predominantly herdboys

Annex 8 gives a summary of short-term training accomplishments by type of training and category of recipients.

7.3.2. Usefulness and Relevance of Training:

The institutional capability of MOA departments and divisions affected by LAPIS short-term training has grown. Improved skill levels of staff have increased the management, leadership and technical capabilities of their institutions. LAPIS Tas and MOA staff have often responded to requests by farmers, farmers' district staff, extension agents and other projects by conducting short training courses of the subject matter requested. This specifically requested training was especially relevant. Much in-service training was provided also as TAs advised their counterpart staff persons in their areas of expertise in day-to-day work.

In late 1991 a LAPIS Sustainability Workshop was attended by 57 MOA department/division/section heads, LAPIS project specialists and USAID representatives. Six participant groups were asked to identify and rank LAPIS supported activities according to level of importance to MOA. Three groups listed training as the activity of highest importance, two listed it third, and one placed it sixth.

7.3.3. Contribution to Achievement of LAPIS Project Objectives:

LAPIS short-term training activities have provided one of the primary benefits of the project and can certainly be interpreted as institution building, since each applicable

department/division was strengthened by staff with improved training. This is true in spite of the fact that short-term training activities in early project planning were not well targeted to support the institution as a whole. Rather they were designed primarily to support PIC by providing better trained extension personnel and farmer training, also part of LAPIS project objectives.

When the LAPIS project began, many changes were taking place in MOA resulting in considerable confusion and stress with low incentive structures, weak infrastructural support for district based staff and poor motivation. Since then the MOA institutional capability has grown, though many problems still exist. Skills have been enhanced. Perceptions of responsibility have improved. The effects in these areas of the LAPIS team efforts are easily recognizable.

7.3.4. Sustainability Questions:

In the Sustainability Workshop mentioned above, nearly all participant groups cited funding as the primary constraint to maintaining training activities following termination of the LAPIS project. Quite obviously, MOA funding levels will not allow all activities initiated by LAPIS to continue at project levels. Other donors have also been operating within MOA, without much in the way of coordination; everyone expects their own activities to be sustainable, without much regard for MOA absorptive capacity. MOA cannot handle all this activity and will have to decide how best to sustain which activities at which levels.

7.3.5. Lessons Learned:

Appreciation of the substantial positive benefits of the short-term training program discussed above constitutes the primary lesson to be learned from the activities of LAPIS in this area. However, in addition their are some cautionary items to be noted:

- LAPIS might have insisted that MOA invest more funding in short-term training on a cost-sharing basis all along during project life. MOA officials probably were not adequately involved in project budget item decisions until too near the end of the project. Stronger MOA-project finance working relationships could have helped MOA better understand the real cost of short-term training and the

importance of allocating adequate funding for such training.

- Though progress has been made by involving MOA in quarterly planning for short-term training, it has been hard to get MOA to move into an operational mode to actually carry out the training needed and planned for.

- Short-term training outside Lesotho is sometimes viewed as a "perk trip" where participants with less than the desired commitment to learning may waste much of the potential of the training opportunity.

VIII. AGRICULTURAL EDUCATION COMPONENT (AEC):

8.1. Introduction:

The objective of AEC was to increase agricultural production, incomes and employment by strengthening MOA capacity to provide improved agricultural education and to disseminate practical and applied agricultural information. These objectives were to be achieved by reinforcing LAC's ability to provide high quality, practical and production-oriented formal education, as well as short-term training for MOA field-based extension and technical staff, farmers and other public and private sector personnel, and by strengthening MOA's capacity to disseminate information to its field staff and farmers through AIS.

AEC project activities began in June 1986 with the USAID contribution to the component budgeted at $5.02 million. The original project plan allocated funds among technical assistance, degree and short-term training, commodities and other costs. Project outputs for the AIS, FTC, LAC curriculum development and SEP components are described in the following sections.

8.2 Agricultural Information Services - AIS:

LAPIS purposes in AIS were essentially institution building. The major activity objective concentrated on the institution's capability to produce extension publications. Secondary objectives targeted the art and photography sections and improvements to the AIS library. LAPIS project assistance was the first direct donor support received by AIS.

8.2.1 Project Inputs:

- Technical assistance:

  The LAPIS AEC extension education specialist gave approximately 25 percent of his time to coordinate project interventions at AIS. Five short-term consultants and one local hire person provided additional technical assistance.

- Training:

  AIS staff members received both long-term and short-term training from LAPIS.

- Commodities:

  At a total cost of $107,000 the LAPIS project provided commodities supporting the AIS press section and other institutional improvements. A press, supplies, computers, printers, office equipment and furniture, A-V equipment, repairs to existing equipment and other items were provided as well as an extension to the AIS library, computer room and office building.

- Technical services

  Technical assistance was provided to the press section to enable AIS to produce printed training materials for distribution to farmers and extension staff. This included equipment selection and procurement, operation and maintenance training, publication design and production, distribution system design and up-keep, record keeping and materials storage, coordination within the MOA for sustained usage of AIS services and materials evaluation.

  Technical assistance for other AIS institutional activities included coordination of radio broadcast design, selection and procurement of materials for the art and photo sections, design and contracting of the expansion of the existing building, repair of existing A-V equipment and implementing an evaluation of the effectiveness of AIS services to the farming and extension communities.

Project technical assistance was given to provide MOA inter-institutional coordination. Early in the project life a "Task Force for Training and Extension Packages" was initiated. As needs evolved this was replaced in 1989 with the Training/Communications Coordination Committee (T/CCC). The T/CCC initiated a mechanism linking farmer activities with the extension service and conducted an excellent in-service training course taught by head-quarters specialist staff. This insured a constant infusion of informational needs from the farmer via extension staff to specialists and diffusion of information back to farmers.

LAPIS technical assistance also helped coordinate and fund assistance programs of FAO and UNDP/UNFPA to AIS.

8.2.2. Changes at AIS from 1986 to Present - Project Impact:

Change has been dramatic at AIS since the beginning of the project. AIS institutional capability has grown significantly, services have expanded and product quality has improved.

The MOA budget for AIS has increased over 220 percent, the number of staff members holding degrees has increased from two to five and staff has increased from 31 to 41. Coordination with other MOA divisions and district offices has improved the ability to provide for real farmer needs. Commodity purchases have enabled AIS to provide a relatively sophisticated publication function.

AIS has changed its doctrine from public relations reporting to one of instructional media assistance to farmers and MOA extension services. A mechanism to ensure a flow of information to AIS was institutionalized. AIS is better able now to acquire new technology. The publications section produces much more technical information in the form of leaflets, circulates, bulletins, reports, handbooks, lecture notes and research guidelines for farmers.

Resources supplied by the AIS library are of a more professional nature, but output of the A-V and graphic sections has improved only slightly. The level of influence which AIS now exerts is greater. LAPIS project support has, in most cases,

been directly or indirectly instrumental in effecting these changes.

8.2.3. Sustainability Questions:

Operations and services which have been expanded at AIS as a result of LAPIS project support have led to a corresponding need for increased staff, training and funds. Expectations have been raised. There is a question whether the MOA will be able to provide the levels of support required to sustain these improvements.

The increase in AIS staff members may be viewed as increased MOA support for AIS and a program sustainability factor. However, these are junior, inexperienced staff whose contributions will initially be at a basic level only. In 1989/90 and in 1990/91 four new positions were requested for the new publication function initiated by LAPIS, but both requests were denied.

The increase in MOA budget for AIS does evidence increased MOA support and reflects an awareness of the need to sustain ongoing services. However, budget allocations need to be increased systematically, not sporadically as has been the case so far.

As LAPIS project support was phased out in 1990 UNDP/UNFPA committed itself to three years of continued support which will undoubtedly help carry AIS through a transitional time.

Skills levels are better now, yet there is need for improvement, especially in management for the professional staff. The most severe constraints to AIS production no longer lie in the lack of technical expertise but in the ability of management to hold their staff professionally accountable.

AIS was able to increase its influence through the T/CCC. Disappointingly, the Committee was suspended in 1991 due to lack of recognition from the DFS office and the departure of several key members from their MOA positions. However, the T/CCC has recently gone through a self-evaluation and appears ready to resume activity under a new DFS and with support from another donor.

8.3. Farmer Training Centres (FTC):

The objective of the LAPIS project assistance to FTCs was to upgrade facilities to Better accommodate project-related training workshops in ways which would support the FTCs as MOA institutions and to make activities at these institutions more self-sufficient.

8.3.1. Project Inputs:

Project commodity inputs included tool kits, ox-drawn equipment/oxen, crop demo materials, instruction materials, portable video presenters, generator, A-V equipment, room/board facilities, irrigation and building materials for a total cost of $58,113. These expenditures were allocated 50 percent to the Leribe FTC, 40 percent to the Mohale's Hoek FTC and 10 percent to the Matela FTC.

At the Leribe FTC project, facility inputs included improvements to the classroom, refectory, dormitory and staff housing. Livestock facility improvements included rebuilding pens, kraals and buildings and purchase of livestock. Irrigation pump repair, irrigation construction, tools/elements and seed and fertilizer inputs were made available to the crop/ irrigation section.

At the Mohale's Hoek FTC, classroom, refectory and dormitory improvements were made. Livestock facility improvements included fencing, animal housing, a hay barn, feed store, water tank construction, livestock and materials. Project funds also supported a livestock workshop. Irrigation system and greenhouse construction, materials, tools/equipment, fertilizer, seed and fruit trees were provided to the crops/irrigation section.

At the Matela FTC, refectory and dormitory improvements were made, livestock was purchased and a greenhouse was built.

Technical assistance was provided to the FTCs to give advice on construction and crop management.

8.3.2. Project Impact:

- Leribe FTC:

  Greater self-sufficiency has been obtained in the livestock section and management of its facilities has improved. Theft of produce in the crops/ irrigation section was reduced thanks to security fencing; effective irrigation and production of

seedlings became possible. The FTC was in much better shape to support training activities and good short-term training continues to be provided there.

- Mohale's Hoek FTC:

  Successful training programs have been mounted as the centre now works with greater self-sufficiency. Management of its livestock facilities has also improved tremendously. Effective irrigation and production of seedlings became possible and the orchard has been improved. The FTC was in a much stronger position to support training activities and good short-term training continues to be provided.

- Matela FTC:

  The FTC was able to mount more successful training activities and the greenhouse could assist year round crop production.

8.3.3. Sustainability questions:

The Leribe and Mohale's Hoek centres continue to be plagued by financial shortages. Discipline and commitment are sometimes inadequate to keep equipment and maintain facilities at the centres. Major LAPIS assistance to the FTCs occurred in 1988 and 1989, but facilities and conditions have again begun to deteriorate. Thus questions arise concerning future maintenance of the level of training established during LAPIS intervention at the FTCs. However, support likely from the Finnish Forestry Training Project for the Leribe centre will strengthen the sustainability potential significantly there.

8.3.4. Lesson Learned:

- Donor projects can inject assistance into FTCs and raise the level of performance, but without on-going MOA financial and professional support project gains can quickly be lost.

8.4 LAC Curriculum Development:

8.4.1. Role and Effectiveness of New and Revised Courses:

As with AIS, LAPIS project purposes at LAC were essentially institution building, with formal education to be improved and nonformal linkages between LAC and other MOA divisions to be developed. Prior to the project, in 1986, LAC had three certificate programs and two 2-year diploma programs. The LAC mandate had been changed from training civil servants to preparation for private sector or self-employment and for opportunities in the education sector as MOA sharply decreased employment of graduates. However the college had been able to do little to adapt its curriculum to meet these new demands.

Since 1986, many improvements have occurred at LAC. The certificate programs have been moved to the Leribe campus and LAC Maseru now has five 3-year diploma programs. The curriculum has been adapted to reflect the new mandate of the college. Nearly 20 new courses have been developed in Animal Science, Socio and Quantitative Studies, Agronomy, Agricultural Engineering, Home Economics and Forestry, Range and Livestock Management and Conservation. Training at the college has become more practical through the new and revised courses, internships and more afternoon practicums and is more appropriate to Lesotho's conditions. Annex 9 lists diploma and certificate programs offered by LAC. Annex 10 lists new classes developed at LAC since LAPIS began and classes in which ARD/LAPIS personnel assisted.

The training level of teaching staff has increased markedly; institutional capability grew solidly with increased training and experience and the benefit of good counterpart relationships with project staff. The quality and pace of work moving through LAC's system has improved and an extensive network of professional linkages is now in place. Improved contacts with public and private sector concerns locally, regionally and internationally have been established.

Full computerization of records and library and A-V theatre improvements give evidence of the significantly increased ability of the college to acquire technology. The formal and non-formal education output of the college has increased and educational quality is perceived as having improved and become more relevant.

Directly or indirectly the LAPIS project has had a positive impact on these developments, and in most cases project support was instrumental in affecting these changes.

Though one of the new LAC mandate objectives was to train students for self-employment, very few graduates have been

successful in establishing farming or other enterprises, as shown in 8.4.2. below

8.4.2. Market Demand for LAC Graduates:

The majority of LAC graduates find employment. In a survey of LAC graduates of 1987, 1988 and 1989, 98 students or 62 percent of the graduates, responded. The graduate group was equally divided according to gender, as were the 98 respondents. Survey results are shown below:

Presently studying	3 of 98 or 3.06%
Full time farmer	3 of 98 or 3.06%
Full time homemaker	2 of 98 or 2.04%
Self employed	3 of 98 or 3.06%
Employed by another	73 of 98 or 74.49%
Inactive	14 of 98 or 14.29%

Annex 10a. is a summary of the graduate survey generalizations.

In 1986 only 4.5 percent of LAC graduates were employed in the private sector. In 1989 this figure had risen to 29 percent and in 1991 it was 26 percent.

8.4.3. Sustainability Questions:

Concern for the future of LAC focuses around college personnel and finances. Duration of TA support has probably been too short; more time is required to insure that the overlap between project TA staff and the LAC staff returning from degree studies is sufficient to preserve the advances made in program development. GOL reaction to changes at LAC has been very positive. LAC staff incentives were recently increased and funding for the college is a stated priority for MOA. Staff salaries will probably be first priority leaving provision for maintenance, depreciation and replacement costs for equipment and vehicles in greater jeopardy.

8.4.4. Lessons Learned:

- Project intervention can bring about changes in curriculum, administration and classroom, both in teaching and in skills transfer to local staff, to greatly enhance the effectiveness of a college and assist it to implement changes necessary to achieve a new mandate.

- Assistance to an institution like LAC can be planned and implemented in a more straight forward manner than assistance to some other areas in MOA, for example agricultural production in general. Results of this assistance can also be more clearly anticipated.

8.5. LAC Student Enterprise Projects Program - SEP:

Prior to 1986 many LAC graduates found employment as MOA extension agents and subject matter specialists. Budgetary constraints then forced a reduction in the hiring of government employees. SEP was initiated at LAC with LAPIS support at the request of MOA for the purpose of producing students who would graduate with hands-on agribusiness experience and who could potentially become entrepreneurs. SEP is the major activity during the final year of programs leading to the Diplomas in General Agriculture and Home Economics.

8.5.1. Program Design:

Students who choose the SEP option decide upon a project from those currently offered - production of dairy, pigs, eggs, broilers, beef, fat lambs, rabbits, vegetables, orchard, seedlings, textiles and confectionary/bakery. Individual projects and staff supervisors are assigned with whom the student works closely on a daily basis.

Students work out a plan for their production project, make a budget proposal and receive loans from a Trust Fund governed by a Trust Fund Board of Trustees. Participants then begin their enterprises, making required purchases and sales, managing and doing the daily hands-on work involved. They receive technical advice from their supervisor who monitors their project on a regular basis and evaluates them at the end of the project.

Students pay realistic rates of interest, rent for the use of LAC buildings, land, equipment, other facilities and utilities. Very complete guides have been established for student record keeping, bookkeeping, supervisors and coordinators.

A follow-up team was supported by LAPIS in the final year to help graduates start their own enterprises and develop an institutional model for future assistance. The team was composed

of a LAPIS TA, the LAC Extension Lecturer, and a Peace Corps Volunteer from that agency's Small Business Development Program.

8.5.2. SEP Program Development:

In the four years since SEP began 90 students have completed the program, with 18 preparing business plans for 1992-93 SEP projects. 30 percent of the participants have been women. The majority of LAC students now opt for curricula including SEP because they want the real-life business experience and can graduate with project earnings.

After one year the follow-up team assisted 29 graduates: five of these started new enterprises and ten have financial proposals pending with the Agricultural Development Bank. Seminars were held for graduates, additional agri-business courses were piloted for SEP students as a result of training needs identified by the team through its experiences in assisting graduates. Students were made more fully aware of the constraints in starting enterprises in Lesotho upon graduation, most notably credit and suitable land.

SEP is the first project of its kind and scale on the African continent. It has become a practical education model for other agricultural colleges and "the envy of other SADCC countries."

8.5.3. Impact of the SEP Program:

SEP is a practical education model and is achieving its objectives at LAC. It is successfully training students who are capable of starting agribusiness enterprises, employment in the private sector or can make a relevant contribution within the MOA or with donor projects focusing on market oriented production. Overall, however, it has been difficult for graduates of SEP to begin enterprises due to the inherent constraints on commercial agriculture. A survey of 1987-1990 graduates indicates that 59 percent of SEP respondents rated their experience as "excellent" and 37 percent gave a "good" rating.

8.5.4. Sustainability Questions:

The SEP program benefitted from project TAs and local-hire professionals. LAPIS provided funds and expertise in establishing SEP infrastructure, vehicles and equipment. Large numbers of students participating in SEP have already created some difficulties for LAC, given the limited resources in operating the intensive program. The duties of student

supervisors, for example, are very time consuming and can overload college staff.

Success of the program has created participant expectations but SEP graduates face constraints to starting private production enterprises in obtaining production sites and procuring loans. Some students have been successful at this and others have found positions with GOL or the private sector. LAPIS support to SEP has provided graduate follow-up and assisted some participants in successful enterprise establishment. Systematic support for graduates has only been in place for one year, and it is still in its infancy. In order for follow-up support to continue, the MOA must consider establishing a full-time position for a coordinator, otherwise the sustainability of these efforts may be doubtful.

SEP sustainability after LAPIS appears to depend upon LACs capacity to provide resources demanded by the program, and upon success of students in overcoming the constraints of production site availability and start-up loans.

IX. AGRICULTURAL RESEARCH COMPONENT:

9.1. Background and Setting:

9.1.1. The ARC Mandate:

About 26 percent of the total USAID grant for LAPIS was budgeted for ARC. ARC's Outputs were to include research, with priorities based on farmer constraints and goals; on-station and on-farm research trials; testing and transfer of farmer technology packages; institutionalization of research skills, including Farming Systems Research (FSR) and support services; linkages among research, extension, farmers, input services and support institutions; a functioning soils laboratory; and feedback from ARD to curriculum planning and training. The original Output target was: "4,000 Basotho farmer households using improved research packages" by the PACD.

An ARC section was drafted for the first external LAPIS evaluation, made in 1998, but was considered unsatisfactory and excised. That evaluation cites only in summary form the sending of seven Basotho abroad for degree training as ARC's major achievement, and little progress in meeting other objectives (USAID 1988: 16). The evaluation further noted with disapproval that ARC had not followed the FSR approach (see Annex 16), which

was the subject of much controversy: "within the MOA, the TA team, and USAID" (USAID 1988: 5).

USAID subsequently commissioned a special evaluation of ARC, which was conducted two months later (Busby and Pasley 1988). That report cited as major weaknesses the lack of a "Socioeconomist on the ARC Team" (a design flaw) (p. 15); a failure to strengthen the FSR efforts begun under the previous project and "to build on the network the FSR project had established between farmers, Extension, and Research"; research organized along disciplinary lines; and ARD's "difficulty in identifying and prioritizing problems" (p. 27). Noting that "Several other countries in this part of Africa now conduct research using a coordinated commodity approach," the evaluators recommended that ARC and ARD organize research around commodities rather than disciplines (p. 13). They also recommended "That the MOA enlist the support of the CIMMYT Regional East Africa Economics Program to facilitate the establishment of a viable OFR Program" (p. 16). OFR ("on-farm research") is CIMMYT parlance for FSR.

Invited by MOA, ISNAR (in conjunction with a local task force from ARD, LAPIS, and USAID) conducted a review of Lesotho's agricultural research system in mid-1989 (ISNAR 1989). ISNAR recommended a reorganization of ARD along five program lines: Cereals (maize, sorghum, wheat), Food Legumes (beans, peas), Fruits and Vegetables, Livestock (sheep, goats, cattle, range management, fodder production), and Natural Resources Management (Soil/Water Management, including Agroforestry) (pp. 22-23). ISNAR also recommended (over the short to medium term) creation of a sixth program on "crop diversification" to explore the "production potential in new and high-value crops" (p. 47). Observing that only two Basotho researchers were assigned to work on ten vegetable crops (p. 24), ISNAR reviewers note that "Critical masses of researchers should be assigned to each program according to the needs of the program and the relative priority of the researchable problems defined" (p. 23).

Reviewers further suggested that MOA upgrade ARD to the status of Department (p. 13) as well as recommended the creation of a ministerial policy body (made up of the Permanent Secretary, Department heads within MOA, and the ARD director) to discuss and determine research policy (p. 13); the formulation of a national research strategy (p. 15); the creation of a "National Programs Advisory Committee" (pp. 14, 26-27, 46); and the drafting of a proposal for a "scheme of service for agricultural research officers to provide incentives and insure staff develoment and stability" (p. 46).

Subsequent to the 1988 evaluations and the ISNAR review, USAID "realigned" LAPIS in late 1989 (see USAID 1989a). The realignment basically endorsed the recommendations for ARC and ARD cited above, but is officially silent in regard to FSR. It otherwise hews to original mandates concerning the ARC: "This project will assist GOL to expand the commercial horticultural and livestock production of small farmers . . . While traditional crops such as maize, sorghum and wheat will continue to be supported by the GOL (USAID will continue to provide research and extension assistance on food grain crops), the priority under [LAPIS] will be placed on high value horticultural crops [in the lowlands and foothills] and livestock [in the mountains]. The Project will assist activities which are of sufficiently high value to support employment generation in input produc-tion, input supply, processing and marketing. This is important to the growing numbers of landless who . . . need . . . opportunities [to participate] in production-related enterprise activities" (USAID 1989a: 1-2).

In a subsequent team-building exercise involving LAPIS advisors and MOA and USAID personnel, realignment issues were discussed and debated. LAPIS advisors and MOA personnel pressed for changes in the project purpose to make it read: ". . . to establish and increase sustainable, commercial, cash crop and livestock production in small-farmer enterprises *of various scales* . . ." (USAID 1989b: 2; italics added). Furthermore, "The MOA and the LAPIS team are suggesting changes in project outputs which would redirect project focus toward 'commercial agriculture'. The 'small' reference is dropped. Commercial in this situation means large-scale units . . . . This generally reflects the desire of the MOA to focus more on what they consider to be viable commercial activities rather than the individual small farm unit." (USAID 1989b: 3).

USAID *formally* rejected these suggestions: "LAPIS was designed to support small farmers. The suggested changes by LAPIS team/MOA would significantly change the purpose of the project and subsequently would require major changes in implementation activities." (USAID 1989b: 3). But this rejection was not without ambivalence: "However, the realignment team was made aware of the visit to Lesotho by the Overseas Private Investment Corporation (OPIC) and Pioneer Seed Company staff. The LAPIS team, with its skills and experience in large scale agricultural production, can be of great help in advising MOA to plan on how to enter into, for example, seed production under joint venture arrangement with a company like Pioneer" (USAID 1989b: 4;).

For project implementors, the definition of the "small farmer" target group has been problematic and the source of considerable discussion. At issue has been the ability of the ARC and its advisors to achieve the project-mandated transformation of small-farm agriculture so as to result in substantial income and employment gains. There was concern that a target group definition be arrived at that was compatible with project objectives. The lack of an original definition, a design flaw, appeared to be the result of misunderstandings about rural Lesotho and what could realistically be accomplished given conditions there. Eventually, USAID/LAPIS came up with the operating definition set out in 3.4. above, but they never reduced that definition to writing.

In May 1990, as the wrap-up document in the realignment exercise USAID issued PIL No. 29, which altered one of the research Output from: "4,000 Basotho farmer households using improved research packages" to "At least 1,000 Basotho farmer households are participating in field days and demonstrations of research packages." (USAID 1989c).

9.1.2. The Policy Environment:

A lack of clear, consistent GOL policies for agricultural research has posed problems for ARC/ARD. In 1984-85, GOL policies focused on independent small farms. In 1986, GOL forced MOA to shift its focus to "area-based production schemes," or groups of small farmers linked through participation in large-scale irrigation schemes. USAID refused LAPIS support to these schemes, arguing that that would violate the project's independent small-farm mandate (USAID 1988: 4). (USAID was also uncomfortable with the unrest resulting from GOL's efforts to force farmer participation in such schemes.) The 1988 LAPIS evaluations and the 1989 ISNAR review also cited a lack of research policy guidance for ARD. ARD drafted (with LAPIS advisors) a proposed research policy as well as a plan for the development and decentralization of the division (ARD 1988a; 1988b), and submitted both to MOA in 1988, immediately after the first evaluation. Little came of the effort at the time, but the team has been informed the Crops Strategy Statement due in August 1992 will contain a Research component.

ARD submitted to the MOA a Lesotho National Agricultural Research Strategy (ARD 1991) in April, 1991; prepared with the help of LAPIS advisors, the strategy was in compliance with recommendations from the 1989 ISNAR review. The Strategy cites the existence of both a national agricultural development policy and an agricultural research policy (which

bears no relation to the policy proposed by ARD in 1988, and mentioned above) and purports to be based on them (ARD 1991: 4-5). In addition to stipulating four "research program objectives" (pp. 9-10), the Strategy commits GOL in the first year to the establishment of a Lesotho Agricultural Research Council which would provide policy and planning guidance and coordinate donor-funded projects (pp. 7-8). Also in the first year, the MOA (in consultation with ARD) was to prepare a career development scheme for research officers "to provide incentives and maintain staff stability" (p. 10). The Strategy further stipulates (first year) a reduction in the number of "research programs" and their reorganization along commodity rather than disciplinary lines; and a "fully functional" Research Advisory Committee (p. 10). In the second year, the Strategy stipulates "organizational changes to upgrade the ARD to the level of a Department..." (p. 10).

GOL has allowed this Strategy to circulate but had not formally approved it at the time of this evaluation. No Agricultural Research Council has been created, and MOA has not moved on developing a career development scheme or elevating ARD to departmental status. But in April of 1991, MOA is said to have elevated the ARD director's salary to that of a department head.

In mid-1991, USAID encouraged MOA to come up with a "crops strategy," and committed LAPIS funds to that end. Two regional workshops have been held, and a third is planned to synthesize thinking from the first two and enable the drafting of a strategy, including research as part of the overall strategy, by August 1992.

GOL approved a National Livestock Policy Statement in April, 1989 (LNLTF 1990: iv). The Lesotho National Livestock Task Force, created before LAPIS and now largely inactive, drafted a National Livestock Policy Implementation Plan (approved in Feb., 1990); the Director of Livestock Services was appointed plan coordinator (LNLTF 1990: v). The LAPIS research on lamb fattening follows this plan (see LNLTF 1990: 23).

9.1.3. The Institutional and Organizational Environment:

ARC has operated in a highly fluid organizational environment; it has been affected by reorganizations within MOA and has itself initiated substantial reorganizations within ARD. In the late 1970s, GOL began to decentralize from headquarters to the districts, a process that remains incomplete, has encountered

considerable resistance, and has confused many government personnel and project advisors (see Ferguson 1990: 194-227). In the agricultural sphere, decentralization brought the creation of District Agricultural Offices. Whereas extensionists and SMSs formerly reported directly to their respective headquarters in Maseru, they are now responsible to a DAO, the maximum agricultural authority in the district. Some of the SMSs, however, still give primary allegiance to their departments (Crops Services or Livestock Services) in Maseru.

This situation is perhaps less problematic for extensionists, who report to one of their own - the DEO, who is under the DAO - at the district level. But with decentralization and the need to conserve scarce human resources has come a drive to once again make generalists out of extensionists, as they were at the time of national independence in 1966. And there is considerable resistance: many specialized extensionists are reluctant to broaden their expertise and work on a wider front for which they have little training and scant resources.

The MOA has undergone a substantial reorganization since LAPIS began in 1986. Then, ARD was part of a Department of Technical Services (later abolished), and the extension function belonged to the Department of Field Services, where it is today. Under MOA's current structure (with eight departments rather than the former five), ARD is also under the Department of Field Services (see organi-grams, Annex 11).

The ARD, created in 1979, has undergone several reorganizations since 1986, often at the behest of LAPIS. In 1986, ARD supported thirteen disciplinary sections (see Annex 11), "many of which had only one or two staff members" (some were abroad in training) (Loomis 1992a: 2). The number of sections was reduced to five (see Annex 11) in late 1987: "to improve communication and cooperation", each consisting of: "from eight to twelve staff members from closely related disciplines." (Loomis 1992b: 16). Limited manpower per section continued to be a problem, and there was little communication among the disciplines. ARD was again reorganized in early 1990, with five "commodity programs" replacing the five sections (see Annex 11) as a way to promote inter-disciplinary research around commodities. Program Leaders were named for each program in June, 1990 (Loomis 1992a: 12).

The LNARS of April, 1991 (a year after the 1990 reorganization), cites a "tendency towards discipline- oriented research" and notes that "Further . . . restructuring is being planned to institutionalize the multi-disciplinary approach to

research . . . Program Leaders will be appointed to supervise the multi-disciplinary research programs which have been or are currently being developed" (ARD 1991: 3,8).

9.1.4. The Approach to Research:

The LAPIS design enjoined the project to build on the previous FSR project (which worked only with ARD) and to employ the FSR approach. According to the first external evaluation in 1988, "The intended and correct emphasis on farming systems research methodology has not been the emphasis of the research component . . . The contractor's approach . . . has nevertheless received the tacit approval of USAID" (USAID 1988: 16).

The 1988 ARD evaluation team remarked the use of irrigation at the Maseru station for trials on crops that farmers grow under dryland conditions and questioned the validity of trial data "because the conditions from which it was derived bear no correlation to the conditions farmers normally experience. Thus, the opportunity exists . . . to create an artificial situation such that the technology derived on-station is totally inappropriate to farmers." (Busby and Pasley 1988: 11-12). For some purposes, such as varietal testing, the occasional need for irrigation has been argued. After noting marked differences between conditions on the Maseru station (and at LAC) and those of a sheep and goat production area at Lekubane, the team suggested moving the ARD Range and Livestock Section "to a more appropriate location" in order to achieve "more frequent contact with livestock farmers, and a better understanding of their problems; [and] more appropriate farmer-oriented research . . ." (Busby and Pasley 1988: 11). Research at Lekubane was ongoing at the time,but facilities were later improved as suggested.

According to the final evaluation of the FSRP, "The WSU staff members and the RD [ARD] Director, utilizing the FSR approach, have been very successful in orienting the RD to conducting research programs closely tied to farmers and farm problems . . . The problem is that similar progress has not been made in building the production research capability of the RD including the Station [at Maseru] and substations . . . " (Frolik and Thompson: 33). As one Mosotho researcher involved in both projects said of the FSRP: "They accepted the use of the ox-drawn plow and harrow for seed-bed preparation. . . They made packages around what farmers already had." (By this it should not be understood, however, that LAPIS did not develop technologies for farmers using "the ox-drawn plot and harrow.")

LAPIS advisors on the scene in 1986 (at the close of the FSRP) comment on the high failure rate of FSRP's on-farm trials because of drought, insects, and plundering by thieves and livestock. Furthermore, "There were no organizational structures established or sufficient [numbers of] experienced staff . . . to conduct a sustained farming systems type of approach to research." (Loomis 1992a: 2). Under the FSRP, "The vast majority of ARD's efforts focused on prototype-area farmers, and few linkages were in place to transfer knowledge gained outside that limited sphere. Because of the problems with the FSR approach . . . and because of a widely held perception that research must target problems and support development efforts on a wider front, a different approach was adopted [by LAPIS]. . ."(Artz 1990: 19).

FSRP's approach (methods and philosophy) to research, the FSR approach, differed markedly from the approach LAPIS has taken. LAPIS began with efforts to strengthen on-station research capacity as well as ARD as an institution. The ISNAR review team endorsed this position as late as 1989: "Overall, the FSR project tended to disperse the rather limited national research capacity. While it did bring research closer to the farmer, research had little to offer because it lacked the critical mass and resources to adapt the technologies needed by the farmers . . . Given the small number of researchers, the need to maintain a critical mass of effort in the crucial programs, and the lack of adequate facilities in the branch stations, the ISNAR mission supports the present concentration of scientific staff in the main station" (ISNAR 1989: 9, 11).

Despite efforts to institute the concept of inter-disciplinary research, the LAPIS approach to the generation and extension of technology has remained largely traditional (following the U.S. Land-Grant model). Except for on-farm demonstrations (as opposed to trials) and field days, researcher-farmer communication has been largely mediated by extensionists (or SMSs). Farmers have not been systematically incorporated into the *research process*. There have been exceptions to this assessment, but they have been few and ad hoc, and have depended mostly on the disposition - and training - of individual researchers, both Basotho and advisor.

9.2. The Agricultural Research Division (ARD):

9.2.1. Staffing, Budgeting, and Sustainability:

Inadequate staffing - by numbers, training level, and pay grade - has been a major constraint to ARD since inception. Indeed, because of program expansion, this constraint seems to

have relaxed only marginally since that time. According to information from ARD's administration, the division currently has 31 professionals (including Research Technical Officers), 17 of them in the "Research Officer" class. (By one account, the number of Establishment List positions allocated to ARD has not changed since 1982 - Artz 1990: 28.) By academic degree, they represent 2 PhDs, 7 MScs (or MAs), 13 BScs (or BAs), and 9 diplomates. All but one Research Officer has at least a BSc. These 31 individuals staff 23 administrative units (see Annex 11), with several persons assigned to more than one unit. The leaders of all five commodity programs, for example, are also heads of disciplinary sections, with one person leading two programs - indeed, that person (a Ph.D.), who serves as Research-Extension Coordinator (because of its higher salary grade), heads a total of five units.

A statement in the LNARS speaks poignantly to the numerical inadequacy of current staffing levels: "Recognizing that the national agricultural research service will be a relatively small organization, the staff level will be increased to a minimum of 30 to 35 research officers plus the necessary technical support staff. This size represents the critical mass necessary to carry out the needed research programs. The four major branch stations at Nyakosoba, Siloe, Thaba Tseka and Leribe will be staffed at the Research Technical Officer level" (ARD 1991: 8). The LNARS thus argues for more than a doubling of the current number of Research Officers alone.

Staffing instability also has plagued the MOA over the years. Contributing have been low motivation and low morale due to low salaries (several researchers work their own farms, or have other jobs) and no chance for promotions within one's specialty. There is thus little incentive for highly trained staff to remain, or for trained individuals to enter the division. Two of the three former ARD PhDs no longer work for the division, but it should be noted that the one PhD trained by LAPIS has remained. It was observed during a meeting of the Project Management Committee in March, 1992, that ARD should have had a total of seven PhDs by 1993. One, for example, left to join Rhodes University in Cape Town, while another took a position with the National University of Lesotho. Of the 18 ARD staff who completed LAPIS-funded degree training and returned to the division, five subsequently resigned and one transferred out (see Annex 12).

One observer described ARD's Animal Science section as a "revolving door." The section's current head, trained at WSU under the FSRP, returned after LAPIS had begun and assumed his

old position. Of three staff to complete degree training under LAPIS, two subsequently left ARD to pursue further degree training abroad under non-LAPIS auspices, and the third left for a position at NUL. Two more employees left the section, one for a parastatal and the other to become a DAO - both to receive higher salaries. The section now has only two researchers and two technicians, and thus little research capacity.

There is no career-development scheme within ARD. All positions are part of GOL's civil service system. The two main classes of professional staff, Research Officer and Senior Research Officer, fall under civil service Grade 9 (salary range: R 15,948-R 18,840; R 2.88 = $1 U.S.) and carry the same salary. Technical Officers fall into Grade 8 (13,392-15,852). The ARD Director is a Grade 16 (39,960-43,956). Under the current scheme, the only way a researcher can advance in salary beyond Grade 9 is to enter one of the administrative positions, thus leaving his field of research interest and expertise. The ceiling, of course, is the Director's salary.

The "career path" proposed in the LNARS recognizes five positions for "professional staff," with Grades ranging from 9 to 16, and two classes of Technical Officer, with Grades from 7 to 12 (see Annex 13). The ARD Director remains a Grade 16 (ARD 1991: 13-14). As already noted, GOL has not acted on this proposal. Whether by adopting the proposal, or by removing the research function to NUL as has been suggested, or by placing it under a semi-autonomous foundation as has been done in some countries, GOL should move soon to eliminate this constraint. As one Mosotho observed, "Trained personnel now go to the Bantustans in South Africa." This "brain drain" can only increase with the recent changes in RSA, where there will be an increasing demand for trained agricultural personnel to assist with the economic integration of the homelands.

The relatively small sums the GOL invests in agricultural research, and the small fraction of total research expenditures that these sums represent, have invited much commentary. During the LAPIS years, about 80% of ARD's budget has gone to salaries and 20% for operations (LAPIS 1991: 19). Looking at ARD expenditures during the period 1985 to 1989, ISNAR observed that operating costs (converted to US dollars) per scientist per year were below $3,500 for each year, ". . . whereas it is estimated that for . . . productive research systems in the developing countries of Africa, Asia and Latin America reasonable operating costs per scientist per year . . . should be on the order of $7,000 to $10,000 (ISNAR 1989: 17).

Based on GOL expenditures on ARD and USAID expenditures on LAPIS over this same four-year period, ISNAR estimates total project expenditures (personnel costs and operating expenses) over six years at $7,578,132--$6,797,392 from USAID and $780,740 from GOL. "This . . . situation whereby ARD's expenditure constitutes only 17%-25% of the total research expenditures and about 26%-33% of operating costs demonstrates clearly that agricultural research in Lesotho is largely project driven" (ISNAR 1989: 17-18). ISNAR describes this pattern as "long-standing" and notes that it obtained under the USAID-funded FSRP.

According to one study, in fiscal year 1989-90 (excluding GOL costs for ARD salaries, donor-funded long- term TA, and donor-funded contingencies) GOL contributed (to ARD) about $80,000, LAPIS $280,000, and other donors $220,000. "In other words, outside funding . . . exceeded local funding by a factor of six" (Artz 1990: 4). This means essentially that GOL financed only one-sixth of the amount spent on ARD operations (or programs) during the fiscal year. This large imbalance also means that projects drive not only research funding but research programs as well, and may explain why a few Basotho in ARD view technical advisors as patrons: only if one is paired or otherwise linked to an advisor is one assured of program resources.

ISNAR attributes "the low-profile status accorded to agricultural research" in Lesotho to its project-driven character (ISNAR 1989: 15). "The dependence on donor project funding calls into question the long-term sustainability of the modest research that is currently being undertaken and highlights the need for GOL to make greater commitment to research as a matter of policy." (ISNAR 1989: 18). All evidence suggests that ARD's current activity level will not be sustained without substantial donor funding. Indeed, without such funding, both Basotho and technical advisor unanimously and unequivocally dismiss the prospect as impossible. A bigger question is whether research can or will be sustained at a level that even remotely addresses the country's needs. And again, there is little evidence that it will.

LAPIS has bought the seeds, the chemicals, and the fertilizers for farm trials; the salt for livestock research; and the vehicles and fuel for mobility. As one Mosotho bluntly put it, "All that's held people together was the fact that there was money to work with." Mobility alone is critical to effective research. The cumulative LAPIS contribution to ARD through October, 1990, was about $873,000 (calculations using figures from Artz 1990: 4; excludes costs for long-term TA and

contingencies). Vehicle operation and maintenance, a costly item in Lesotho's mountainous terrain, accounts for about 20 percent of this amount (after long-term training - 58 percent). Without donor funding ARD will be largely confined to the Maseru station: there will be little work in the country's four agroecological zones, and little development of the branch stations at Siloe, Nyakosoba, Thaba Tseka and Leribe as is currently planned. And there will be little contact with farmers.

9.2.2. The ARC Program:

9.2.2.1. Impact on Farmers:

At the close of October, 1990, there had been 229 "cumulative ARC-supported studies . . . conducted with instrumental participation of the TA staff." These divide as follows: Agronomy, 64; Horticulture, 61; Plant Protection, 19; Soil Fertility, 28; and Animal Production and Range Management, 57 (Artz 1990: 23). It is difficult, however, to assess the *current* impact on farmers of these and subsequent "studies" since the project has involved farmers only marginally in the technology-generation process and in general has little reliable information on what is happening at the farm level. According to the ISNAR review, ". . . our discussions with District Agricultural Officers in the most productive districts confirmed that there have indeed been serious problems with technology being adopted by farmers without adequate screening by the ARD and with disappointing results for Basotho farmers" (ISNAR 1989: 5).

The ISNAR assessment, however, obscures some very positive ARC contributions. For crops (livestock are treated below), evidence points to a greater impact at the farm level with so-called agronomic crops, despite the priority LAPIS has assigned to "high-value horticultural crops." This impact has been achieved mostly through the introduction of new varieties - varieties with farmer- desired attributes, yet that square well with farmers' current production regimes and capacities. The evidence suggests that farmers in substantial numbers are adopting varieties of pinto beans and wheat.

The sale of pinto-bean seed by Coop/Lesotho, a parastatal contributing a large portion of the sales of agricultural inputs, climbed from none in 1986 to 10,500 kg. in FY 1990, and then to 80,000 kg. in FY 1991 (USAID 1991: 20-21). These figures underestimate the volume of seeds being planted, for many farmers now use their own seeds. The FSRP first introduced the pinto (variety NW 590) to Lesotho, where "Bonus," a non-pinto bean, was the standard (as in RSA). ARC began to

experiment with other varieties of pinto and now promotes four of them; a sharp rise in the planting of pintos began in about 1988 (see Bloem 1992: 5). A recent study (in seven districts of the lowlands and foothills) revealed that 21 percent of those farmers planting pintos heard about them from other farmers - as against some 60 percent who learned about them directly or indirectly through the MOA - but that 40 percent of farmers sampled were still growing other varieties of bean (Bloem 1992: 6, 18).

Sales of new wheat seed by Coop/Lesotho went from none in 1986 to 151,500 kg. in FY 1990, but then fell back (because of drought) to 114,850 kg. in FY 1991 (USAID 1992: 20-21). ARC's wheat work has been a collaborative effort with RSA's Bethelehm Small Grain Centre and has involved experimenting with four varieties (from Bethelehem germplasm; Lesotho has no breeding program) in Lesotho; Tugela was selected as the best for Lesotho conditions. More acid-tolerant than Skipper 66, the local variety, Tugela is said to yield three to four times Skipper 66 even under traditional cultural practices. Further collaborative adaptive work has recently produced a strain of Tugela resistant to Russian wheat aphid (a problem in Lesotho); that strain is to be released in Lesotho next year. ARD already has eight sacks of the new strain and is now looking for ways to reproduce it; Lesotho's seed-multiplication facility is said to lack both the capacity and the necessary quality control.

ARC (LAPIS TAs and ARD agronomy staff) helped to establish lowland on-farm maize demonstrations funded by MULPOC - by some accounts, the strongest LAPIS on-farm activity. The objective of MULPOC's maize program is to promote improved maize-production techniques, especially the use of hybrid maize, through on-farm demonstrations. In Lesotho, selected farmers were provided with inputs for demonstrations of the new hybrids - seed, fertilizer, and herbicides. Area farmers were then invited for field days to see the results. There is no reliable study on adoption rates of hybrid maize, and the brief information on the topic, from a study of the economics of improved maize technologies (Campbell and Jobo 1991), is not convincing. Given the lively debate that has surrounded the introduction of hybrid maize to Africa in recent years, a digression is in order.

Lesotho farmers grow maize for consumption, not for sale, and what they grow does not satisfy household needs. To quote from a study conducted in Thaba-Tseka province (admittedly not the best growing area): "For the average household, in a 'good year,' the field food will last about 3.7 months . . . . This implies that even those who hold land, and even in the best years, are able to produce only about one-third of their total

subsistence needs of maize and sorghum." (Ferguson 1990: 124). The large production shortfall is purchased with off-farm income, mostly mine remittances. Anecdotal evidence suggests this to be the case for most of rural Lesotho.

It is known that "subsistence" farmers (i.e., those who farm full-time only to meet food needs) do not usually spend scarce "surplus" income on the production of household food crops, which, unlike commercial crops, do not return the investment. But since Basotho farmers are not "subsistence" in this sense, one might ask why they do not purchase inputs (readily available here) and produce hybrid maize (or other crops) with these remittances. Small land-holdings (insecure tenure may also figure), scarce labor, and weather risk (hail, killer frosts, and drought) - the answer probably lies in farmer assessment of these factors, either singly or in combination. If one has the income, purchasing food is seen as more feasible, or less risky, than growing it. (The weather factor is probably paramount in the case of hybrid maize.) As one Mosotho researcher said about his home district, "The costs, this is why they're not switching [to hybrid maize]. They're not convinced they should abandon the open-pollinated varieties, they want to save seed for next season. They don't want to gamble away their money on hybrids."

The sale of agricultural lime (in metric tons) by Coop/Lesotho rose from none in 1986 to 92 in FY 1990, then fell (because of drought) to 44.3 in FY 1991. And soil samples analyzed by ARD's soils lab rose from none in 1983 to 1,748 in FY 1990, then fell to 1,227 in FY 1991 (USAID 1992: 20-21). About one-third of Lesotho's soils are acid, and ARC has strongly promoted the practice of liming, which increases the yield of all crops, dramatically so of acid- sensitive ones like vegetables. Soil sampling is necessary, however, to know how much lime to add. Although the liming indicators suggest an ARC impact at the farm level, the case is less clear than that for either pinto beans or wheat. Forty-two percent of the samples received by the soils lab in 1991, for example, came from farmers, while 40% came from ARD itself and 18% from other development projects (Badamchian 1992: 6).

Data on ARC's farm impact with vegetables are only anecdotal. The Basotho like leafy-green vegetables; collards, mustards, and kale are new to Lesotho and are LAPIS introductions. The seeds for these are available. Many Basotho, whether "farmer" or not, grow backyard vegetables (viz. the USAID Home Garden and Nutrition Project), and there is evidence that LAPIS varieties are finding their way to these gardens. But

commercial vegetable production requires reliable water, the application of agrochemicals, and intensive care. The farmers (excluding those in the Home Garden and Nutrition Project) that have used LAPIS vegetable "packages," which are beyond the reach of limited-resource farmers, are commercial vegetable farmers with sprinkler irrigation systems. And their numbers are few. Given the landholding regime, and the need for water (which means irrigation) and purchased inputs (requiring capital), not to mention secure markets, it was unrealistic for LAPIS to expect broad increases in income generation and employment from the production of "high-value horticultural crops."

Livestock research has been de-emphasized since 1989 because of ARC's (and ARD's) predominantly crop focus - a questionable judgement given the role of livestock in local society and economy. This research, including sociological queries into farmer constraints, has concentrated on ruminants - sheep, goats, and cattle (in that order) - and has focused thematically on nutrition because of Lesotho's serious overgrazing problem. (There has been livestock research conducted under LAPIS's Range Management Program, which does not come within the purview of this evaluation.)

Livestock research has collaborated with ARD's agronomy section to produce fodder crops - oats, lucerne, and fodder sorghums - for use in dairy production. CIDA has already taken recommendations from ARC's "fodder flow" research for use in their dairy project, and about 200 has. of these fodders are said to have been planted by CIDA-project farmers.

LAPIS has conducted research on lamb fattening using rations of local materials. Three Student Enterprise Projects used lamb-fattening technologies, and a few farmers are now buying sheep pellets (a feed supplement). None are yet producing commercially, however, because of capital constraints. According to USAID, "The number of [LAPIS intensive livestock] 'packages' developed has gone from zero in 1986 to 20 in 1991" (USAID 1992: 17). There is no information currently available on the impact of these technologies at the farm level.

9.2.2.2. Relevance to Farmer Needs:

To address the issue of the relevance of technologies to farmer needs, one must first ask: "which farmers?" In talking to persons knowledgeable of rural Lesotho, one hears the terms "commercial farmers," "subsistence farmers," "lead farmers," "higher-end farmers," "advanced farmers," and "conservative farmers." One observer recognizes three types of farmers:

subsistence farmers; commercial farmers; and farmers with about a hectare of land and who recognize that food can fetch money, and so want to change. Another observer describes farmers as "progressive," "prospective," and "conservative." Probably the most commonly perceived division is between "commercial" and "subsistence" farmers, even though that violates the strict definition of "subsistence" in that they do not depend on their farming for survival.

Comments from several Basotho suggest that the following crude portrait is fairly typical of rural Lesotho: The bulk of the residents in any community have very small landholdings; and a few have no land at all. (Landlessness is known to be increasing.) Those without land tend to be younger, those with it older - often much older. Many of these younger residents work in the mines part of the time to support their families; indeed, almost every household has a member working off the farm, most often in RSA and most often in the mines. These members send home income - which is sometimes used to purchase livestock, less often to increase agricultural production.

A few individuals in these communities, for a variety of reasons, have been able to expand the land available to them, often in exchange for favors to some neighbor - putting a neighbor's son through high school, say, or extending a favor to the old. These individuals, often young and entrepreneurial, acquire access to capital and purchase farm equipment, especially tractors, with which they "sharecrop" - plow a neighbor's field or perform some other service in exchange for a portion of the harvest. In this way they accumulate resources and further expand the land accessible to them - all with the knowledge of local chiefs who allocate the land.

LAPIS technologies have tended to favor those farmers with greater entrepreneurial drive and better resource endowments, and the current technology generation process is implicitly biased toward that group. Technologies have tended, that is, to favor those farmers with at least some access to resources in the above portrait. (There are some outstanding exceptions to this statement, pinto beans being one.) As one researcher put it, "LAPIS has focused on those farmers who have the means and the desire to do better . . . Most farmers don't want to farm, don't want to put their money into agriculture." Said another: "Most LAPIS packages are 'high-tech' packages; inputs alone are costly, most farmers can't afford them. But the few that can will be successful; LAPIS packages have been successful with *commercial* farmers."

The LAPIS mandate in part explains this bias. As has been observed: "When LAPIS was designed, it was anticipated that there would be fewer opportunities for Basotho in South Africa, and the issue was what to do with them in Lesotho." To promote the production of high-value crops and livestock with the smallest of "smallholders" - those farmers having the fewest resources in the above portrait - and to increase income and employment in that way sufficiently to absorb returnees from RSA was a tall order, given the many constraints to agricultural production in Lesotho. Such increases could not be achieved by working with the most severely "limited-resource" farmers, certainly not within the space of six years; but neither could they be achieved by working with those self-sufficient farmers having more-or-less adequate access to resources, for they were too few.

Much of the ARC research effort has implicitly (and unintentionally) begged the question of appropriateness of technologies, or at least of matching them to particular farmer groups. A two-volume work, *Production Guidelines* (another volume, *Fruit Production Guide for Lesotho*, is also available), assembles a welter of good technical information on crop and livestock production pitched at the extensionist level, and is a valuable ARC contribution. But the infor-mation in these guides must still be adapted, or "fitted," to existing farming systems (for some recommendations, ranges are given to accommodate the country's agroecological diversity) in order to have a farm impact. And the matter of "fitting" is a research function, or one that research can conduct in close collaboration with extension. (Given the weakness of extension in Lesotho, their utility becomes problematic. Personnel from other projects - e.g., the IFAD-funded SWACAP project - have, however, solicited the guides, and LAC has used them in training.)

Since about 1989, ARC has incorporated economic analysis in its technology designs. The analysis is of a standard farm-management kind, based on calculations of net returns under differing scenarios of yield and market price (non-yield-linked input prices are fixed) for individual crops. But this sort of analysis, like the technology itself, needs to be made farmer-group specific. To say that a technology is economic under hypothetical conditions (i.e., at certain input and market prices) does not mean that a particular farmer will accept it - can purchase the inputs or is willing to run the production risks. Again, the starting point for this type of analysis is the technology, not the farmer. It is not the sort of analysis that will make technologies "appropriate" for farmers whose resource availability falls below a certain level; it can

be very useful, however, for the entrepreneurial, commercial farmer with high-risk tolerance. This issue aside, it is questionable whether a capacity for economic analysis will be sustained within ARD for reasons of limited personnel and funding.

Technology generation begins with problem identification. Under the current problem identification procedure within ARD, an individual researcher prepares a proposal (according to a given format) to address a particular problem. The proposal is then circulated among his colleagues, who read it and sign it if they wish to participate (a way to make research interdisciplinary). These proposals, after being reviewed within ARD, are then submitted to a Research Advisory Committee (discussed in a subsequent section) for final selection. In theory, the RAC selects only those proposals that can respond to farmer needs (i.e., that are appropriate).

This procedure does not guarantee the appropriateness of technology. First, the genesis of the research topic - and ultimately, the technology issuing from it - rests with an individual who may or may not know the farm milieu - may never have spent much time talking to farmers, for example. And since the individual represents a single discipline, the problem is defined from the outset from the standpoint of that discipline (most real-farm problems are inherently multidisciplinary); a subsequent expression of interest by collegueas from other disciplines (through signing the proposal) cannot change that. Furthermore, since the signatory disciplines did not participate in defining the problem, they identify less with it and will be less inclined to collaborate later. The research problem should be defined collectively from the outset. This matter aside, the set of proposals (problem definitions) that reaches the RAC is already biased toward problems as defined by the individual researchers; RAC members can only make appropriate what perchance is already so.

The conclusion is that the scheme within ARD to make technologies appropriate is weak. Mechanisms for "integrating the research output in the farm context, and for evolving, adapting and testing technologies appropriate for farmers . . . are largely absent in Lesotho, and ARD's attempt at technology integration and testing is therefore weak and poorly supported" (ISNAR 1989: 20). This assessment by ISNAR in 1989 remains true today.

9.2.2.3. Impact on ARD:

LAPIS' ARC has more than merely *influenced* ARD; for the past six years, the two have been co-terminus and virtually synonymous, for ARD has depended fundamentaly on LAPIS funds and technical advisors. Indeed, ARD seems to have had little identity apart from ARC.

9.2.2.3.1. Policy and Organizational Issues:

The LNARS, submitted by ARD in early 1991 but not yet approved by GOL, has already been discussed. LAPIS advisors assisted in the drafting of this strategy, which is a key document: it delineates the current needs of ARD (including a career-development scheme) as well as plots future directions.

In early 1990, ARD was reorganized around five "commodity programs" (see Annex 11). The rationale for this reorganization was to support interdisciplinary research; the new structure was recommended in both the 1988 ARC evaluation and the ISNAR review, though LAPIS advisors, who have largely supported this reorganization, maintain they were moving in this direction even before the 1988 evaluation. Today, ten disciplinary sections support these commodity programs.

Obstacles to the effective functioning of this reorganization have been several. First, as already noted, ARD does not have the staff to fill all the positions required by the new structure. Second, researchers seem to have little idea of the mechanics of how problems can be defined and research conducted along multidisciplinary lines, which the new structure is designed to foster. Third, established methods or procedures "below" this commodity structure to foster interdisciplinary research are weak. And fourth, several key researchers appear little inclined to abandon the security of their disciplines - and the professional identity the disciplines provide - for the hazards of collaboration and collective endeavor. Disparity in researcher committment (and ability) deepens the problem.

True interdisciplinary collaboration is not easy. The shift from a disciplinary focus to a commodity one has posed one of the major challenges to agricultural research institutions in developing countries in recent years. Given ARD's limited resources, little experience with this reorganization or committment to it, the prospects that it will be sustained are slim.

On the intangible side, one can argue that LAPIS has made a strong case for research within MOA and GOL. Communications between ARD and other units of MOA are said to

have increased. Also, LAPIS has helped to make the point that research needs to be planned and prioritized, though the mechanisms established for doing so have been less than satisfactory. The sheer size of LAPIS has also helped to give ARD a greater visibility within the GOL, and even in the countryside (through field days, for example - see Annex 14), than it had when the project began.

On the tangible side, LAPIS has trained Basotho in basic research skills. ARD has more trained staff now than it did in 1986. And LAPIS has produced a mass of technical information which one hopes can be further translated into farm impacts (see Annex 15). On the material side, LAPIS contributions have included vehicles, and a greenhouse and improved irrigation system on ARD's Maseru station, as well as a soils lab and small stock research facilities.

9.2.2.3.2. Research Advisory Committee (RAC):

LAPIS has promoted the RAC, established in 1990 as part of the project realignment; lineaments for its creation appear in the 1989 ISNAR report (ISNAR 1989: 26-27). The Committee consists of five DAOs, five farmers; and ten representatives from the MOA's several Departments, from LAC, from the Ministry of the Interior, and from agri-business (ARD 1991: 12). According to its formal terms of reference, RAC would ensure that research and demonstration programs "address the problems of the agricultural sector and are in accord with Ministry of Agriculture policy; assist in identifying researchable problems and advise the ARD in establishing research priorities . . . review and approve on-going research programs on an annual basis . . . [and] advise the ARD in other matters related to possible training and information dissemination" (ARD 1991: 12). RAC was to meet twice per year, once to approve research programs and again to monitor them. Persons involved cite the main reason for RAC's creation as a need to interest key persons in GOL and the private sector in the importance of the research function, thereby advancing it and widening ARD's support base.

It has been reported that the first couple of meetings in 1990 encountered problems; apparently the terms of reference had been inadequately clarified. In addition, the committee has not met now for more than a year and a half for unstated reasons. As discussed already, the RAC was to evaluate researcher-prepared proposals, and thus be part of a process to make research respond to farmer needs. This RAC function has not been well received by some Basotho researchers, who argue that RAC is a political body, not a scientific one, and so is not qualified to make decisions

about research; furthermore, the farmers often do not speak English. And researchers balk at preparing their proposals in a way that the lay RAC members can understand them.

Charging such a non-professional committee with evaluating researcher-prepared proposals does not appear to be an effective way to make the technology responsive to farmer needs. And it unnecessarily shackles researchers and impedes the research process. What such a committee can do is give high-level policy guidance - guidance in regard to where to focus research geographically, or whether to focus on basic grains (and which ones) versus horticultural crops, or commercial farmers versus limited-resource ones. But this role was to be played by an Agricultural Research Council, which according to the LNARS was to be established last year. There is as yet no such council. In a word, it is unlikely that the RAC will be sustained - and it should not be in its present form and function.

9.2.2.3.3. Management Issues:

Several issues that might have been addressed here have been dealt with elsewhere - the creation of commodity programs, the creation of the RAC, the preparation of research proposals, the preparation of a strategic plan for research. All have in some measure been efforts to provide greater structure to ARD and increase its efficiency. All therefore touch the realm of management. Even the preparation of research proposals, despite the problematic way in which they were to function, has helped researchers think through (and draft) what they want to do - and to consider the costs, for the proposals must carry budgets. This had not been done prior to LAPIS. The provision of computers and the sending of three ARD management persons to observe research organizations in four surrounding SADCC countries have also been LAPIS contributions to management.

LAPIS work plans have guided ARD since FY 1987-88, when the division prepared its last annual work plan. ARD work plans, dating from FSRP days, followed the USAID "Log Frame" (Objective/ Activity/Target/Method/Remarks) format and included no budgets. The plan of the year before was photocopied, then adjusted to reflect new activities. Budgets (broken down by "personal emoluments" and "operating costs") are still prepared by ARD's accountant, who adjusts the previous year's figures to reflect inflation and new activities. ARD prepared its last annual report (organized by "section") for the period July 1, 1987-June 30, 1988. Informed sources say that it was subsequently thought most efficient to include ARD information in LAPIS reports.

The present lack of ARD work plans and annual reports supports the above contention that for the past six years, ARD and ARC have been synonymous; ARD has had little identity apart from LAPIS. And this does not augur well for sustainability.

9.2.2.3.4. The Soils Laboratory:

The Agricultural Research Soils Laboratory, located on ARD's Maseru station, "is the only soils laboratory in the country capable of providing soil and plant-testing services" (Loomis 1992a: 34). LAPIS has strongly supported this laboratory, which, among other things, has played a key role in analyzing the country's acid soils for the purpose of liming. Until January, 1991, LAPIS funded a long-term TA in soils to run the laboratory and train Basotho in soil and plant analysis. LAPIS has gradually reduced its support to the laboratory over the past year, anticipating that GOL would increasingly cover its maintenance costs. USAID commissioned an evaluation of the lab's status in February, 1992 (see Badamchian 1992); the report, however, does not address the issue of sustainability.

ARD expended M 3,291 ($1,184 U.S.) on the lab in 1991 to purchase chemicals, maintain equipment, and finance membership in ISAQC. LAPIS likewise contributed M 1,266 for supplies. (The lab also has access to a project vehicle to facilitate field work.) (Badamchian 1992: 6). Badamchian estimates that the lab collected only M 300 in user fees in 1990 (the exact figure is not known because the fees enter a general MOA fund and lose their identity). "Not only are these funds not sufficient to operate the laboratory, but they were returned to the Treasury and were not available to the Soils Laboratory" (Badamchian 1992: 7). Badamchian recommends that the fees be raised to a par with those in RSA, "and that a revolving account be established to support the Laboratory operation" (Badamchian 1992: 7).

Badamchian also noted malfunctioning equipment in need of repair at a cost of M 1,500, and recommended the purchase of a spectrophotometer and a pH meter. Quotations on these last two items from RSA suppliers totaled M 10,060 ($3,493 U.S.). The quotations "were submitted to the LAPIS ARD Team Leader" (Badamchian 1992: 14). Badamchian likewise advised that chemicals and glassware, in the amount of M 3,322, be procured "to enable the Laboratory to function properly for the next 12 months" (Badamchian 1992: 15).

One long-time observer estimates that without donor support, the lab may be sustainable at a very low level - meaning a substantial reduction in the present number of samples analyzed

per unit time. Another observer, noting that GOL does not appreciate the value of agricul-tural research and that the Maseru station does not have GOL backing, predicts that the laboratory will quickly run out of chemicals and supplies without donor support. According to the Badamchian report, this is already happening. Again, the prospects for sustainability do not look good.

9.2.3. Linkages:

9.2.3.1. Agricultural Extension:

The basic structure of extension, down to the district level, was discussed above. Each of Lesotho's ten districts has a District Extension Office, and each district divides into Areas (each with a Supervisor), which in turn divide into Subareas. Extension agents serve these Areas and Subareas, and reside at least within the Areas, some-times within the Subareas. As already noted, it has not been easy to get Supervisors and extensionists to function as generalists rather than specialists.

A lack of mobility seriously constrains extension in Lesotho. Agents had horses before independence, but today lack the resources to maintain a horse. Extension is said to have only five motorbikes per district, so most agents move by foot. It was not within the LAPIS mandate to alleviate this constraint.

As noted in Section 8.2.1. above, LAPIS created a Training and Communication Coordinating Committee (T/CCC), one of whose primary functions has been the training of extensionists. Short courses, which involved ARC/ARD personnel as trainers and covered ARC-generated technologies, originally occured quarterly, and then only three times per year before suspending operations last year. As already noted, LAPIS prepared the *Production Guidelines* for extensionists. These have been widely distributed to DAOs, DEOs, and SMSs as well as to LAC and to personnel from other projects.

Communications between research and extension, notwithstanding that each is an administrative division within the same Department of Field Services, have been universally recognized as ineffective (decentralization is often cited as the culprit). The DEO in one major agricultural district was not aware of technical information coming from ARD, but had heard that SWACAP (an IFAD-funded project to develop extension-training centers in the districts) was providing such information. This points to the role of projects (rather than ARD) as purveyors of information to extension. What the particular DEO did not know

was that SWACAP had requested the LAPIS *Production Guidelines* to achieve its mandate. The conclusion is that one project generates technical information, while another conveys it to extension. Prospects for the sustainability of any research-extension scheme are not encouraging under such a scenario, depending too much on chance and not enough on planning.

Lesotho's extension function, and how it relates to research, is further complicated by the presence of the Departments of Crop Services and Livestock Services. The SMSs at the district level work for these departments (but, again, are subject to the authority of the DAOs). According to one observer, the function of these departments is to convey technical information to farmers, but by working mostly through extension agents (and training them). That information, at least in part, comes from ARD. It passes, that is, from one division - Research - within the Department of Field Services to another department - Crops or Livestock - and then cycles back to another division - Extension - within the Department of Field Services. This is an exceedingly cumbrous arrangement.

As implied by the above organizational structure, there is a problem of coordination among the functions of the Departments of Crop Services and Livestock Services. At the district level in particular, there is a great deal of role confusion - a confusion that those working with PIC (which is mounted through the two departments) have especially been able to appreciate.

Under an ideal scheme for relating agricultural research to farmer requirements, the farmer, extension agent and researcher form a mutually reinforcing triangle, constantly passing necessary information around the loop. Under the present scheme, however, extensionists, and sometimes SMSs as well, often tend to stand between researchers and farmers in such a way as to distance them from each other. A few Basotho researchers - and even some expatriate advisors - arguing that they learn all they need to know about farmers and their needs from extension agents, have supported this arrangement, which is not a viable one for making technologies appropriate. This "distance" from farmers may explain the limited knowledge that researchers sometimes display about real-farm conditions.

ARC/ARD have engaged directly in extension through on-farm demonstrations and field days (see Annex 14). These activities, occuring after technologies have been developed, seem to account for most of the farmer contact. Selection of participating farmers, or "lead" farmers, has fallen largely to

the DAOs. These farmers have been described as "progressive," meaning usually that they enjoy some degree of commercial mentality and access to resources. To the extent that such farmers are representitive only of their own type, there is likely to be a limitation on the scope of the "demonstration effect", which may thus be of little benefit to the lower-resource farmer.

9.2.3.2. Other Linkages:

Since ARC and ARD have been virtually synonymous over the past six years, it is often hard to know whether external entities have linked to the former or to the latter. For the same reason, the sustainability of any purported "linkage" becomes problematic.

ARD has had links (frequently established through SADCC) with several of the IARCS, often for the purpose of testing varieties. These IARCS include ISNAR, CIAT (which is paying the salary of an ARD bean technician), ICRISAT (now paying the salary of a sorghum technician), CIMMYT (maize research), ILCA (livestock research), CIP (evaluation of potato seed production), and AVRDC (evaluation of tomatoes and leafy greens). The IARCS have supplied some equipment and have financed Basotho participation in short courses and seminars. Most of these IARCS have been attracted to Lesotho since the arrival of LAPIS, which has facilitated Basotho participation in IARC programs by providing general support (including training) to the division.

There have also been links at the regional level. Already discussed have been ARD's links with MULPOC (for hybrid maize demonstrations). And through the division's links with SARCCUS and the Bethelehem Small Grain Centre, the Tugela variety of wheat was introduced to Lesotho. Through LAPIS, ARD has forged links with RSA institutions such as the Animal and Dairy Sciences Research Institute in Pretoria and Glen College, near Bloomfontein. Labs at both institutions have conducted analyses of ARD livestock research material. Interaction between Basotho researchers and personnel at these institutions is said to be increas-ing, as is also Basotho attendance at conferences in RSA, where they meet livestock researchers there.

ARC has also linked with other donor projects. Already mentioned has been CIDA's use of ARC's work with fodder crops, and SWACAP's use of the *Production Guidelines*. There have also been formal linkages with LISP, SWACO, GTZ, PLENTY and Matalile. In addition, there has been a lot of informal and ad hoc

information exchange between LAPIS advisors and personnel from other projects.

9.3. Summary, Conclusions, and Recommendations:

9.3.1. Summary and Conclusions:

LAPIS as a "project" has entailed the "targeting" of national and international funds, including advisors and equipment, on the GOL bureaucracy and the country's rural milieu in order to achieve certain goals and objectives. It is important to realize that the "project" has been the dynamic interaction of this bureaucracy, the rural milieu, and donor assistance (USAID and the LAPIS advisors). The project's results, or "Outputs," constitute the final sum of this interaction - and not merely the sum of donor forces acting alone upon a pliable and passive object.

Lesotho has not been, fundamentally, an "agricultural" country for many years - certainly not in the sense that other African countries are agricultural. GOL estimates that migrant-worker earnings from RSA in 1977-78 were R 234 million, R 118 million of which was sent home as remittances. Lesotho's GDP for the same period was R 176 million (Ferguson 1990: 112). Remittances were thus 67 percent of GDP. By one estimate from the late 1970s, 70 percent of rural household income derived from wage labor in RSA, while only 6 percent derived from domestic crop production (Van der Wiel 1977; quoted, Ferguson 1990: 112).

This was the setting on the eve of the LAPIS project design in 1984 - a difficult one for any agricultural project. Designers, it seems in retrospect, only dimly apprehended the compelling constraints - small landholdings, limited agricultural land relative to population, a degraded resource base, climatic adversity - that made (and make) Lesotho's economy that of a labor reserve rather than of an agricultural society. Project-anticipated increases in income and employment through the production of "high-value horticultural crops and livestock" were unrealistic. Those farmers with sufficient access to the resources (land, capital, water, labor and personal attitudes) required to produce high-value horticultural crops were too limited in number and would need too much assistance for the project to achieve such increases within the short span of six years.

This lack of realism in the project design, was only addressed - and then incompletely - at the time of project

realignment. Even then, the problem was not fully recognized for what it was, a matter of an extremely long term approach to a highly intractable problem. Several advisors were uncomfortable in 1989, when the "realignment" process began, and pressed USAID for changes in project objectives that would direct LAPIS away from the "small" farmer and toward the "commercial" one. Project documentation suggests that these advisors felt the problem to be one of farmer "scale". USAID resisted these pressures, yet did not formally define "small farmer". It was only through a tacit USAID/LAPIS understanding, reflected in 3.4. above, that the issue was finally resolved.

Closely related to this issue - and still largely unresolved - was that of FSR, an approach to research that the evaluation team feels LAPIS should have followed to a greater degree than they did. The idea in the original project design was that LAPIS would focus on the small farmer using the FSR approach, the two being woven together in the scheme of things. As already observed, neither LAPIS nor any other cost-effective program could have achieved the intended income and employment gains by working with the truly limited-resource farmer, but this does not mean that either the concept of working with the smallest viable farmer or that of using FSR to guide research for that farmer should be abandoned. That issue aside, the LAPIS TA team appeared to have had little faith and limited experience in FSR. This was probably fortunate in one sense, for when LAPIS began, ARD lacked the capacity to mount an FSR program, with its requirement of station-backed on-farm research (and thus high researcher mobility). It lacks that capacity today - or, without substantial donor assistance, the capacity to mount any other program.

Notwithstanding the above, one often hears it said that FSR is not appropriate for Lesotho, that FSR has been tried and has "failed" because FSRP "failed." This is a most unfortunate conclusion, especially in light of the fact that ARD at present has little in the way of a viable mechanism to make technologies appropriate for farmers.

Unfortunately, there seems to be little in the way of formal USAID documentation (beyond the Project Paper) directing the LAPIS team to follow or not to follow the FSR approach. PIL No. 29 (May 7 1990), the wrap-up document of project realignment, recognizes the problem of unrealistic project goals and seeks to resolves it by scaling down project outputs and changing the EOPS. Whereas the Logical Framework "Objectively Verifiable Indicator" for ARC in the original LAPIS design was "4,000 Basotho farmer households using improved research packages," the

PIL-amended indicator reads that "At least 1,000 Basotho farmer households are participating in field days and demonstrations of research packages . . ." (USAID 1989c). But PIL No. 29 went much beyond a scaling down of numbers, it effectively absolved ARC of any responsibility for farmer use of technologies (for impacts at the farm level, that is). Farmers now had only to: "participate in field days and demonstrations."

Despite the LAPIS mandate to focus on high-value horticultural crops, ARC's major achievements have been on the agronomic side - which probably says something about the needs of rural Lesotho. These achievements, which are substantial (and may ultimately prove to be the most sustainable part of the project), include the successful adaptation and promotion of pinto beans as well as of an improved wheat variety (Tugela). The LAPIS Production Guidelines compile for an extension audience a welter of useful technical information on crop, livestock, and fruit production. Much commendable effort has gone into developing these guides, which must be counted as an important LAPIS contribution - though how to get the technologies to farmers, and how to adapt them to the conditions of actual farmer groups (still a research function), remains unresolved.

Even though since about 1989 ARC has focused more on crops than on livestock, notable research contributions (in collaboration with ARD's agronomy section) have included "fodder-flow" research on oats, lucerne, and fodder sorghums for use in dairy production. CIDA is already promoting some of the technologies from this research among its dairy farmers. Research on lamb fattening also holds promise. (Much livestock research has been conducted under the LAPIS Range-Management Program, which does not fall within the purview of this evaluation.)

As mandated by the project overall, and especially since the realignment, considerable ARC effort has gone into institutional strengthening. And agricultural research is indeed on a stronger footing now than it was when LAPIS began, e.g., more Basotho trained, a greater awareness of ARD's existence within GOL. But it must be questioned to what degree the return on these efforts has justified their costs. Without donor support, ARD will be unable remotely to maintain the LAPIS level of activity. And given GOL's financial stringencies coupled with an apparent lack of committment to research, there is little indication that ARD can even minimally address Lesotho's research needs. GOL's failure to provide ARD with a viable career development scheme is especially unfortunate, for the division supports several well-trained and dedicated Basotho. Given the

increasing opportunities elsewhere, ARD stands to loose its best talent.

A few well-intended efforts to strengthen institutions have been misdirected. The LAPIS-inspired scheme to foster interdisciplinary research as well as to make technologies appropriate to farmers has not been successful. At present, ARD has no viable mechanism to make technologies appropriate. Whether it would have had such a mechanism had LAPIS followed the FSR approach is academic but dubious, given ARD's limited staff and GOL's apparently low commitment to research. One can only conclude that if FSRP did most of its research on farms and little on the stations, LAPIS has done the inverse and has operated largely without farmer input, except for on-farm demonstrations.

The need for some mechanism to reach even more limited-resource farmers than have previously been targetted may become more acute as Lesotho's population expands, through natural increase in the long term, and (unemployed) returnees from RSA in the near term. If these returnees turn to agriculture, things could become "tight" indeed. Under the constraints cited throughout this chapter, the "technological space" within which agricultural research can maneuver could become increasingly small, so that only with a good knowledge of existing farming systems (practices, opportunities, constraints) will researchers be able, if then, to leverage production gains. FSR is a mechanism for locating those leverage points, if they exist.

9.3.2. Recommendations:

In general terms, one might suggest some future directions if agricultural research in Lesotho is to improve the quality of life of rural dwellers. First, researchers need to have a much better knowledge of current farmer practices and farmer reasons for doing (or not doing) things. And since women do much of the farming, this means a better understanding of the role of women. Researchers need to understand farmer constraints and opportunities, and then use that knowledge to locate points of leverage on *current* farming systems. Researchers need this knowledge regardless of the economic level of their farmer clientele. And they must gain it first hand rather than rely solely on an extension service to provide it. In livestock, for example, researchers need to know more about farmer motivation as regards the owning and managing of livestock, and they need to know more about the actual dynamics of livestock populations at the farm level.

This need for knowledge at the farm level becomes all the more important if research is to respond to the needs of Lesotho's lower-resource farmers, a group that may now be expanding as the changing structure of RSA mining renders many Basotho redundant. Employment opportunities in RSA may further decline as changes now underway there lead that country to respond to the needs of its own economically marginal peoples in the homelands and elsewhere. Small plots, climatic adversity, and declining access to capital may increasingly characterize the Basotho farmer. Farmers facing these conditions are not an easy clientele for any research institution to reach, for the "technological space" within which research can work is extremely limited.

To address the needs of such a clientele, technologies will need to be "low tech" in character; they will need to exploit the latitude (often small) for improving current cultivation or husbandry practices (at current input levels). In the crops area, new varieties that address current constraints, yet are compatible with the totality of farmer practices (including dietary preferences) and capacities, can give great relief. The recent work with pinto beans appears to be an example of this type of research intervention. In the livestock area, research should continue to refine technology on the use of feedlots for lambs and cattle - technology consistent with an increasing understanding of current farmer motivations and husbandry practices. And the "fodder-flow" work for dairy production should continue. Research should also continue on smaller species like chickens; almost every Basotho household has a few chickens.

Research does not have to direct all of its efforts toward limited-resource farmers. Farmers with greater access to resources also need support. But many technologies will not be appropriate for both groups; technologies cannot be developed in the abstract, but rather must be generated for specific client groups.

With three or four distinctive agroecological zones, Lesotho needs an agricultural research function. The scope and quality of that function will ultimately depend on the GOL's commitment to support it, including to finance it. For whatever reason, there is scant evidence of such a commitment at present.

LAPIS EVALUATION REPORT

ANNEX 01

LAPIS EVALUATION REPORT

ANNEX 02

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PP RUEHC
DE RUEHRU #1780/01 164 **
ZNR UUUUU ZZH
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FM AMEMBASSY MASERU
TO SECSTATE WASHDC PRIORITY 6960
BT
UNCLAS MASERU 01780

CLASS: UNCLASSIFIED
CHRGE: AID 06/11/90
APPRV: A/DIR: JHMEADOWC
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CLEAR: A/DIR: JHMEADOW
DISTR: AID3 CHGE ECON

AIDAC

FOR AFR/DP EMMY SIMMONS AND AFR/TR/ANR TOM HOBGOOD

E.O. 12356 N/A
SUBJECT: RURAL CREDIT IMPACT EVALUATIONS

REF: SIMMONS/REINTSMA MEMO OF APRIL 19

1. REF MEMO REQUESTED COMMENTS ON THE LESOTHO PORTION OF THE RURAL CREDIT IMPACT EVALUATION. THE REQUEST WAS MAINLY FOR COMMENTS ON THE COUNTRY STUDY BUT ALSO WANTED TO KNOW IF THE SYNTHESIS REFLECTS THE IMPORTANT LESSONS FROM THE STUDY. COMMENTS IN PARA 3 AND 4 BELOW ARE ON BOTH THE STUDY AND THE SYNTHESIS REPORT, AND PARA TWO PROVIDES A BRIEF UPDATE OF DEVELOPMENTS SINCE THE REPORT WAS CARRIED OUT. NO COMMENTS ARE PROVIDED ON THE APPENDICES.

2. UPDATE. THERE HAVE BEEN SIGNIFICANT DEVELOPMENTS SINCE THE COUNTRY STUDY WAS UNDERTAKEN. FOLLOWING THE EXPOSURE OF SERIOUS WEAKNESSES IN THE CREDIT UNION ACTIVITIES, A MAJOR ATTEMPT WAS MADE TO REVISE PAST APPROACHES, AND CONTINUED SUPPORT TO THE LESOTHO COOPERATIVE CREDIT UNION LEAGUE [LCCUL] BY USAID AND CUNA/WOCCU WAS MADE CONDITIONAL UPON A RESTRUCTURING OF THE ORGANIZATION AND ITS APPROACHES. SPECIFIC CONDITIONALITY WAS DESIGNED TO ACCOMPLISH THIS. BY EARLY 1990, IT BECAME APPARENT THAT THE RESTRUCTURING WAS NOT PROCEEDING AS PLANNED. THE FOREMOST PROBLEM APPEARS TO BE A FIRM COMMITMENT TO THE STATUS QUO ON THE PART OF THE MANAGEMENT OF THE MOVEMENT. AS A RESULT, USAID AND CUNA/WOCCU HAVE WITHDRAWN ALL SUPPORT TO LCCUL. WE CONTINUE TO MONITOR CREDIT UNION DEVELOPMENTS, HOWEVER, IN THE HOPE THAT A DEMOCRATIZATION OF THE MOVEMENT WILL EVENTUALLY LEAD TO FUNDAMENTAL CHANGES.
IN THE MEANTIME, USAID HAS CARRIED OUT A COMPREHENSIVE STUDY OF RURAL FINANCIAL MARKETS IN LESOTHO [COPIES ARE BEING POUCHED TO YOU]. AS WELL AS PROVIDING AN EXCELLENT ANALYSIS OF THE OVERALL SITUATION, THE STUDY HAS IDENTIFIED SOME POTENTIAL INTERVENTIONS THAT WOULD TAKE ACCOUNT OF PAST LESSONS LEARNED IN LESOTHO AND ELSEWHERE. WE ARE CURRENTLY ENGAGED IN A DIALOGUE WITH THE LESOTHO AGRICULTURAL DEVELOPMENT BANK, WHICH MAY LEAD TO AN ASSISTANCE PACKAGE THROUGH ONE OF OUR FY 92 NEW STARTS IN AGRICULTURE.

3. COUNTRY STUDY: OVERALL COMMENTS. THE FACTS ABOUT

THE CREDIT UNION INSTITUTIONAL STRENGTHS AND WEAKNESSES ARE ACCURATE SO FAR AS WE CAN DETERMINE. THE CREDIT UNIONS EXAMINED IN THIS STUDY ARE ALL CONSIDERED TO BE ACTIVE ONES. SINCE MANY REGISTERED CREDIT UNIONS IN LESOTHO ARE NOT ACTIVE, THE SAMPLE MAY, IF ANYTHING, CONTAIN A POSITIVE BIAS TOWARD THE CREDIT UNION MOVEMENT AS A WHOLE. WHILE THE LANGUAGE IN THE FIRST DRAFT REPORT WAS PROVOCATIVE, EARLIER FEELINGS THAT THE REPORT WAS BIASED AGAINST THE CREDIT UNION MOVEMENT HAVE NOT PROVEN TO BE THE CASE. OVERALL WE BELIEVE THE REPORT TO BE FACTUAL AND THE MAIN CONCLUSIONS ARE SOUND.

SPECIFIC COMMENTS. THE REPORT DOES NOT GIVE A CLEAR PICTURE OF THE SIZE AND STRENGTH OF THE AVERAGE CREDIT UNION. HAD THE FOLLOWING INFORMATION BEEN INCLUDED IT WOULD HAVE STRENGTHENED THE REPORT.

- AVERAGE SAVINGS PER MEMBER - - M 114
- AVERAGE ORIGINAL LOAN AMOUNT PER BORROWER M 201
- AVERAGE CURRENT LOAN BALANCE PER BORROWER M 164

- AVERAGE AGE OF MEMBERS - - - 47
- MALE - - - - 28 PCT
- FEMALE - - - - 72 PCT

- LOANS TO SAVINGS RATIO - - - 87 PCT
- TOTAL DELINQUENT LOANS - - - 34 PCT
- DELINQUENT, UNSECURED LOANS - - 14 PCT

LOANS IN THE ABOVE EXAMPLE WERE NOT CONSIDERED DELINQUENT UNLESS THERE HAD BEEN NO ACTIVITY ON ANY ACCOUNT OF THE MEMBER FOR OVER ONE YEAR AND NO LOAN ACTIVITY FOR OVER TWO YEARS. THIS IS OBVIOUSLY A LOOSE DEFINITION OF DELINQUENCY, AND DEMONSTRATES THAT CREDIT UNIONS FACE SUBSTANTIAL EXPOSURE TO LOAN LOSSES. SINCE THERE ARE NO RESERVES TO DRAW UPON, RURAL MEMBERS' SAVINGS ARE DANGEROUSLY EXPOSED.

ESTIMATES IN THE REPORTS ARE THAT THERE WERE 36 ACTIVE CREDIT UNIONS AT THE END OF THE LCCUL PROJECT AGAINST A TARGET OF 90. IN FACT, THE FIGURE IS PROBABLY CLOSER TO

25 ACTIVE CREDIT UNIONS. AND EVEN THESE MAY TURN OUT TO BE VIABLE ONLY IF LOCAL MANAGEMENT CAN BE IMPROVED.

THE REPORT CITES THE MISGUIDED DEVELOPMENT EFFORTS OF VARIOUS PROJECTS, ESPECIALLY PRODUCTIVE CREDIT PROJECTS, IN UNDERMINING THE DEVELOPMENT OF THE CREDIT UNION SYSTEM. WHILE THIS HAS BEEN A MAJOR DISTORTION IN THE DEVELOPMENT OF THE CREDIT UNION SYSTEM, IT IS NOT THE WHOLE PROBLEM. THE HISTORY OF THE DEVELOPMENT OF THE CREDIT UNION SYSTEM IN LESOTHO HAS BEEN TOP-DOWN AND THE DEMOCRATIC PROCESS HAS NOT BEEN EFFECTIVE. MANY MEMBERS HAVE NOT FELT OWNERSHIP OF THEIR ORGANIZATIONS AND AS A RESULT, IN MANY CASES, A SMALL LOCAL ELITE HAVE MANAGED TO SECURE CONTROL OVER THE LOCAL ORGANIZATIONS. IN SOME CASES, THESE SAME INDIVIDUALS HAVE TAKEN OUT LOANS AND NOT REPAID THEM, MAKING IT DIFFICULT FOR CREDIT UNIONS TO COLLECT LOANS FROM ORDINARY MEMBERS. THIS PROBLEM EXISTS AT ALL LEVELS OF THE CREDIT UNION SYSTEM. THE PROBLEM IS FURTHER EXACERBATED BY DIFFICULTIES IN ENFORCING LEGISLATION INTENDED TO PROTECT MEMBERS FROM SUCH ABUSES.

ANOTHER MAJOR FACTOR IN THE MALDEVELOPMENT OF THE CREDIT UNION SYSTEM HAS TO DO WITH INTEREST RATES. THIS IS NOT ADEQUATELY TREATED IN THE REPORT. THE LCCUL PAYS CREDIT UNIONS NEGATIVE REAL RATES OF ABOUT 5 PCT ON THEIR DEPOSITS AND CREDIT UNIONS IN TURN PAY ONLY A TOKEN 1 PCT OR 2 PCT DIVIDEND (INTEREST) ON THEIR MEMBER SAVINGS. THE MARGIN BETWEEN THE AMOUNT PAID TO CREDIT UNIONS BY THE LCCUL AND THE AMOUNT RECEIVED FROM INVESTMENT IN BANKS IS ABOUT 10 PCT. LOANS TO CREDIT UNIONS ARE MADE AT 15 PCT. ANNUAL INFLATION AVERAGES 15.5 PCT. RECENT EFFORTS TO MOVE TOWARD MARKET BASED RATES HAVE BEEN OPPOSED BY MANAGEMENT. THIS RATE POLICY HAS CAUSED A STAGNATION OF SAVINGS AND HAS UNDERMINED THE VIABILITY OF THE WHOLE CREDIT UNION SYSTEM.

ALTHOUGH THE LCCUL PROJECT WAS NOT UNDER STUDY THE CONSULTANTS USED DATA FROM THIS PROJECT TO ILLUSTRATE THE IMPACT OF PRODUCTIVE CREDIT IN BROADER TERMS. WE BELIEVE THAT THE OVERALL PERCEPTIONS OF THE INSTITUTIONAL IMPACTS OF THIS ARE CORRECT. IF ANYTHING, AGAIN THE REPORT IS CAREFUL NOT TO OVERSTATE THE POOR CONDITION OF THESE LOANS OR THE IMPACT AT THE LOCAL LEVEL. THERE IS STILL WIDESPREAD FRUSTRATION AMONGST CREDIT UNION MEMBERS ABOUT THE MANNER IN WHICH PRODUCTIVE CREDIT HAS BEEN DISBURSED. ESTIMATES OF LOAN DELINQUENCY MADE BY THE CONSULTANTS ARE CONSERVATIVE. THE REPORT CITES THE CREDIT ADVISOR'S REPORT (1988) AS SHOWING A 30 PCT DELINQUENCY RATE ON IRRIGATION LOANS MADE SINCE 1986. IN FACT, ALMOST ALL OF THE IRRIGATION LOANS HAD GOTTEN LARGER EVERY YEAR SINCE 1986, AND MOST WERE WELL OVER ONE YEAR BEHIND SCHEDULE. IT IS PROBABLE THAT THE CREDIT UNIONS DID NOT FEEL LIABLE TO THE LCCUL FOR THESE LOANS, AND MANY OF THEM MAY NEVER BE COLLECTED. FROM THE BEGINNING THESE LOANS WERE KNOWN TO BE DONOR FUNDED AND ALTHOUGH CALLED LOANS THEY WERE OFTEN PERCEIVED AS GRANTS AND TREATED ACCORDINGLY BY ALL PARTIES IN THE CREDIT UNION SYSTEM.

OVERALL THE COUNTRY STUDY MAKES A STRONG CASE FOR RECONSIDERING THE STRATEGY OF USING FINANCIAL INTERMEDIARIES AS PASS THROUGH INSTITUTIONS TO DELIVER PRODUCTIVE CREDIT TO SPECIFIC TARGET GROUPS. THE LESOTHO CREDIT UNION SYSTEM PROVIDES MUCH EVIDENCE TO SUPPORT THIS POSITION. THE REPORT DEBUNKS PREVIOUS STUDIES THAT HAVE MISSED THE POINT AND NOT UNDERSTOOD THE PROCESS OF THE DEVELOPMENT OF FINANCIAL MARKETS. IN RETROSPECT, THE STUDY WAS PERHAPS A LITTLE HARSH ON THE ROLE OF THE DONOR AND COULD HAVE PRESENTED A MOR\ BALANCED PICTURE BY SHOWING THE OVERALL MALAISE OF THE CREDIT UNION SYSTEM IN A BROADER CONTEXT. FOR YEARS THE INSTITUTIONAL CAPABILITIES OF THE CREDIT UNION SYSTEM HAD BEEN MISJUDGED AND DEVELOPMENT EFFORTS HAD GONE ASTRAY BECAUSE OF THIS AND OTHER ERRONEOUS ASSUMPTIONS ABOUT RURAL FINANCE.

4. SYNTHESIS REPORT: THIS REPORT IS WELL DONE AND NEEDS LITTLE REVISION. HOWEVER, IT COULD BE STRENGTHENED BY INCLUDING THE FOLLOWING POINTS.

- SEVERAL TIMES THE REPORT REFERS TO A FARMER'S LACK OF LIQUIDITY AS A CONSTRAINT AS OPPOSED TO A LACK OF CREDIT. WHILE WE AGREE THAT LIQUIDITY IS THE PROBLEM

MORE THAN LACK OF CREDIT PER SE, PERHAPS A BETTER WAY OF EXPRESSING THE POINT WOULD BE TO NOTE THAT FARMERS LACK THE ABILITY TO MANAGE THEIR LIQUIDITY OVER THE AGRICULTURAL CYCLE. THE PAPER CLARIFIES THIS SOMEWHAT WHEN DESCRIBING THE NEEL FOR SAVINGS SERVICES BUT THIS MIGHT BE MISINTERPRETED BY SOME READERS.

- THE COUNTRY STUDY DEMONSTRATES THAT THE CREDIT UNION SYSTEM ACTUALLY CONTRACTED RATHER THAN EXPANDED DURING THE PROJECT; THIS DOES NOT COME OUT IN THE SYNTHESIS.

- THE COUNTRY STUDY BRINGS OUT AN IMPORTANT POINT ABOUT THE HEALTHY DEVELOPMENT OF A FINANCIAL INTERMEDIARY, THAT BEING THE FLOW OF RESOURCES FROM THE PERIPHERY TO THE CENTER AND THEN BACK TO THE PERIPHERY CAN OCCUR ONLY WHERE SOLID INVESTMENTS CAN BE MADE IN ENTERPRISES THAT WILL GENERATE SUFFICIENT CASH FLOW TO REPAY THE LOAN PLUS INTEREST. THE AUTHORS POINT OUT THAT PRODUCTIVE CREDIT TO TARGET GROUPS FORCES CASH BACK THROUGH THE SYSTEM AGAINST THE NATURAL FLOW OF THE INSTITUTION. THE SYNTHESIS MAKES THE POINT ABOUT THE NEED FOR MARKETS DEVELOPMENT TO BE DEMAND LED, BUT THE ABOVE ILLUSTRATION MIGHT BE USEFUL.

A PARTICULARLY STRONG POINT IN THE SYNTHESIS IS THE NEED FOR CREDIT TO BE REAL AND THAT IT SHOULD NOT BE A GRANT UNDER THE GUISE OF A LOAN. THIS UNDERMINES CREDIT DISCIPLINE AND SENDS THE WRONG SIGNALS TO THE MARKET. THE COUNTRY STUDY ILLUSTRATES THE POINT BY INFERRING THAT LOCAL CREDIT UNIONS MAY IN FACT HAVE NEVER CONSIDERED LCCUL ON-LENDING OF DONOR FUNDS AS A REAL LIABILITY. THE CREDIT UNION SYSTEM HAS A LONG EXPERIENCE WITH DONOR PROJECTS AND TENDS TO OPERATE BY THE RULE THAT DONOR LIABILITIES ARE ONLY REAL AS LONG AS THE PROJECT IS ACTIVE; AT THE END OF PROJECT THERE IS NO ENFORCEMENT OF OR ACCOUNTABILITY FOR THE LIABILITY AND HENCE NO REASON TO COLLECT THE LOAN. IT IS APPARENT THAT THE LCCUL HAS TREATED THE SFPC AND LAPIS CREDIT IN THIS MANNER AND MAY ACTUALLY HAVE CONSIDERED THE DISPENSATION OF THESE LOANS AS A (PATRONAGE) GRANT MECHANISM.

OVERALL THE SYNTHESIS IS AN IMPORTANT REPORT THAT SHOULD BE REQUIRED READING FOR ALL PROJECT PLANNERS CONSIDERING CREDIT RELATED PROJECTS. JETER

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LAPIS EVALUATION REPORT

ANNEX 03