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*Evaluation*  
*CSU (Lesotho)*

Evaluation Report  
on the  
LESOTHO AGRICULTURAL SECTOR ANALYSIS  
PROJECT

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## I. HISTORY AND STATUS OF THE PROJECT

This project was designed in the summer of 1976, after extended discussions between AID and the Government of Lesotho (GOL). It was implemented as a joint effort between DS/AGR/ESP (then TAB), the USAID Mission in Maseru, and the Africa Bureau. The objectives and implementation plans were outlined in an Activity Paper prepared under DSB's Expanded Program of Economic Analysis for Agricultural and Rural Sector Planning and Policy Analysis (dated 18 August 1976), a Project Agreement between USAID/Maseru and the GOL (dated May 12, 1977 ) and a Cooperative Agreement with Colorado State University (dated 30 September 1976).

The purpose of the Lesotho Agricultural Sector Analysis Project (LASA) is to develop the capacity within the GOL to design, implement, and utilize sector analyses in development planning. Thus, this project is part of AID's worldwide effort to assist LDCs to improve their own capabilities for agricultural sector planning and policy analysis.

The instruments for achieving LASA's objective are training and technical assistance provided through a long-term relationship with Colorado State University (CSU).

The implementation of the project was divided into three phases. The first phase, scheduled for 10 months, was a start-up period in which CSU prepared for the project through library research, housing facilities for the CSU resident staff in Maseru were constructed, and two Basotho trainees began the on-campus portion of their M.S. programs. The purposes of the Phase I activities were to provide the infrastructure and background information for the CSU team and to begin staff development in GOL.

Phase II, programmed to end in January 1978, involved the preparation of:

- 1) a plan for the academic training of the Basotho participants;
- 2) an Agricultural Sector Review; and
- 3) a detailed scope of work for an Agricultural Sector Analysis (Phase III).

The termination of Phase II was delayed until June, 1978, just prior to this evaluation of the project.

The current Cooperative Agreement with CSU terminates August 31, 1980. Thus, somewhat more than two years remains for Phase III under the original project implementation plan.

The evaluation team visited Maseru June 21-23 to review the project. In addition, team members Whittle and Suttor participated in a workshop to discuss work plans for Phase III held June 26-27. Discussions were held with the CSU field team, GOL representatives, and the CSU on-campus Project Director. The review was conducted in an atmosphere of friendly and frank discussion, for which the team expresses its sincere appreciation to the GOL and CSU participants.

## II. DISCUSSION OF ISSUES

### A. Project Implementation Schedule

Concern has been expressed that the project is behind schedule due to the late arrival of the CSU team in Lesotho, the delay in completing the sector review, and the difficulty of the GOL in providing staff resources.

While the project is somewhat behind schedule, the team concluded that this is not a serious problem. The original implementation schedule was overly optimistic. Sufficient time remains in the original period to complete the objectives of the first three phases of the project.

## B. The Agricultural Sector Review (ASR)

The purpose of the ASR was to provide an assessment of the agricultural sector, based on existing data, containing "specific recommendations on strategy and programs relating to the immediate needs of the GOL and AID and other donors" This review was also considered to be an effective way to introduce the CSU staff to Lesotho and to develop working relationships between the CSU team and then Basotho counterparts.

A draft document was completed in June 1978, largely by the CSU team. Although the GOL had agreed to assign six planning officers to work on the review, staff shortages in the Planning Unit severely limited the actual participation of the GOL personnel.

The review is a useful compilation of information on the agricultural sector and an interesting discussion of some of the main developmental issues. However, it explicitly avoids recommendations on priority programs and projects on the grounds that such recommendations are only possible following the completion of the Phase III sector analysis.

The team feels it is unfortunate that the sector review came to be regarded as a formal contractual commitment that impeded other activities and competed for the extremely scarce GOL staff time. We feel that a review of the type originally outlined could well serve both the purpose of orienting the CSU team and assisting the GOL and donor agencies in identifying priority projects. The existing document does not address the latter issue, although such program decisions are constantly being made both by the GOL and donors.

We were concerned that the concept of the review was that it would be conducted outside the Planning Unit of the Ministry of Agriculture (MOA). We feel this is why the GOL came to regard it as an AID activity competitive with the regular duties of its restricted staff of agricultural planners. We see little justification for the review if it was not given high priority by the GOL as work for the Planning Unit.

At this point in time, we see two alternatives. The first is to leave the document in its present form for use as background. The second is to complete it by adding a final chapter on priorities for policies, programs and projects and issue it as a Planning Unit publication. We favor the latter alternative, but it presupposes a willingness on the part of the GOL to use staff resources for this purpose.

C. Graduate Training for Basotho Staff

The project includes U.S. training for eight Basothos. Two have completed M.S. level course work at CSU and returned to the country, five are now in the U.S., and one other nomination remains to be made. Training at the M.S. level is programmed for seven; while one participant will complete a B.S. degree. Of the eight trainees, six will come from the MOA and one each from the Bureau of Statistics and the Central Planning Commission.

Among the issues in training, the most critical is the difficulty that the Basotho participants have in completing their thesis research once they return to the country. Neither of the two trainees that have returned has been able to work on research for his/her thesis in competition with regular full-time duties. This has led both CSU and

GOL to reluctantly conclude that the period for training in the U.S. should extend to completion of the student's thesis research.

We understand the problem but feel that other possibilities should be explored before in-country research by M.S. candidates is discarded. Assigning returning students to research positions in the Planning Unit for a period of time seems to us to be a possible solution. We think it would also be helpful to send the students back to the U.S. for 8-12 weeks to complete their thesis following a period of in-country research.

We note with approval that one trainee is attending a university other than CSU. We would suggest that other trainees also be sent to other universities to avoid having the bulk of the staff in the Planning Unit trained at a single U.S. institution.

Additional training to what is now programmed will be needed. Ultimately, a few Basotho should be trained at the Ph.D. level. Also, strengthening of undergraduate preparation at the National University (NUL) and the use of M.S. programs in Africa (e.g., Kenya, Nigeria) should be explored.

One innovative idea in the project was to teach graduate-level CSU courses in Maseru. The experience thus far is not promising. The main problems are the preparation of the students and the student's lack of time to devote to the courses in competition with their jobs. We conclude that it would be more efficient to concentrate in-country training on informal remedial courses designed to prepare the students for graduate study abroad.

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#### D. In-Service Training Courses

The project provides for a series of in-country training courses to be offered to improve the capability of Basotho agricultural planners. Some courses have been given; others are planned. We feel these courses are important and deserve somewhat more priority than they seem to be getting. We believe a systematic offering of courses should be developed, taking into account the needs expressed by the agencies of the GOL. The courses should be formally structured and participation from throughout the GOL invited. Evaluations should be held at the end of each course and a follow-up evaluation after a year to obtain student feedback on their usefulness, and feedback for suggestions for improvements.

#### E. Phase III: The Agricultural Sector Analysis

Plans for analytical work on the agricultural sector are proceeding well. A copy of the scope of work for the next two years is appended to this report. We recommend that the work be more specifically directed to priority policy issues and that simple small-scale models consistent with the capacities of the Basotho staff and data availability in the country be utilized.

### III. MODIFICATIONS OF THE PROJECT DURING JULY 1978 THROUGH AUGUST 1980.

#### A. Improving National Capacity for Sector Planning and Policy Analysis

At times, we felt that the completion of a sector analysis has become the focus of the project. We believe that the proper focus is on an improved institutional structure and better trained Basotho to carry out their own planning and policy analysis work.

In this connection, we do not view construction and use of a sector model (or models) as the sole element of sector analysis. A model used to analyze selected policy issues may represent a sector study. But sector analysis is a continuous process that builds analytical capacity for repeated application to policy problems. To us, "sector planning and policy analysis" more nearly embodies what we mean by "sector analysis".

We believe it is time for this project to address these broader issues in collaboration with the GOL. We recommend that a comprehensive approach for strengthening planning and policy analysis capabilities in the GOL be developed. As a minimum, this plan should address the organization, functions and staffing of the Planning Unit of the MOA and its linkages to other agencies, such as the Central Planning Commission, the Bureau of Statistics, and the technical divisions of the MOA.

We do not feel that "sector analysis" is something apart from the normal work of the Planning Unit and to which its staff is assigned apart from their normal duties. Rather, sector analysis should be viewed as an integral part of the Unit's responsibilities. Conceptualization of the "outputs" of the unit in terms of plans (medium-term, annual), budgets, policy studies, and project analysis is needed as a basis for organizing and staffing the Unit.

Information and data systems also need more systematic attention. Similarly, the dissemination of the Unit's outputs through published and unpublished channels should be increased.

## B. CSU's Role

We recommend that CSU adopt the strengthening of the GOL's capabilities for sector planning and policy analysis as its central mission, in line with the recommendation above. This would mean to us that the Chief of Party would view the Chief Planning Officer of MOA as his principal counterpart. Beyond that, the team would assist the Planning Unit in carrying out its functions and in developing its linkages with other agencies in the GOL that 1) use its results (e.g., the Minister and Permanent Secretary of Agriculture, the Central Planning Commission); 2) supply technical and economic data (e.g., other divisions of the MOA, Bureau of Statistics); and 3) supply staff (e.g., NUL). The team's research, training and information dissemination activities should be organized to make a maximum contribution to this overall goal. As such, the LASA Team would lose much of its identity in favor of collaborative efforts in and through the Planning Unit.

## C. Preparation of the Third Five-Year Plan

A new medium-term development plan will be prepared in 1978-79 and take effect in 1980. Preparation of the Agricultural Sector Plan will soon become a major activity for the Planning Unit. We believe that the CSU Team should view its support for this plan preparation as a major activity for Phase III of the project. This support might well begin with a critical review of the preparation and implementation of the current plan, an assessment of the sector's performance, diagnosis of the major constraints, and an identification of priorities for policies, programs and projects. In this way, the plan preparation would build on the sector review and the analytical work to be done in Phase III.

#### IV. CONTINUATION OF THE PROJECT AFTER 1980

Building capacity is a long-term task that is not completed in a discrete 4-year period. This was recognized in the original cooperative agreement that identified a long-term relationship between CSU and the GOL as a major objective. It is not too early to begin to plan for this continuing relationship. Since DSB is unlikely to be able to continue to fund a country-specific project, the Africa Bureau and USAID Mission will have to assume funding responsibility.

It is perhaps too early to say definitely what direction the project should take after 1980. Additional training will clearly be needed, both in-service and graduate-level. Short-term visits by CSU faculty to assist on specific research and policy issues might largely substitute for the resident long-term staff. Up-grading the undergraduate preparation of the planning staff at NUL might become a priority. Improving data and information systems is certain to be important. DSB should work closely with the Bureau/Mission and CSU to determine what type of continuing activities are needed and how they can best be implemented.

SCOPE OF WORK  
Lesotho Agricultural Sector Analysis

The overall objective of LASA is an improvement in the capacity of the Government of Lesotho for agricultural planning and policy formation. Two approaches are necessary simultaneously. First, the quality of the analytical foundation on which policy making rests must be improved. Second, the decision making process needs to be improved to elicit as well as utilize better analyses and inputs from a wider audience, including more explicitly farmer needs.

The analytical base in Lesotho is only marginally useful to policy makers today; consequently it is not routinely employed in a systematic, quantitative fashion. Field research has frequently used poor, or at least unconvincing, methodology. Those studies that have been done are often not related to each other and usually not related to policy issues in a direct fashion. Knowledge of the Basotho farmer remains an accumulation of bits and pieces, several of which are inconsistent with each other. A wholistic depiction remains to be consolidated.

One contributing factor is the inadequacy of the data base. Lesotho's statistical system is still in its infancy. In the past, analysts have been frustrated frequently by various statistical inadequacies. As a result much previous planning has been based on impressions, conventional wisdoms and guesses. Analysts have perhaps over reacted, declining to use available data when in fact some of it is more useful than currently believed. More

rigorous analyses could have been done with available data. And data availability is changing with each year's accumulation of statistics and with each new project baseline study. While major pieces are still missing and will have to be obtained, a sufficient nucleus exists to support a concentrated integrative analytical effort at the present time.

In the absence of a meaningful analytical foundation, policy formation and planning has tended to be an *ad hoc* process. Decisions rest frequently on impressionistic perceptions, which without data are hard to convey, still harder to test for accuracy. The absence of analysis has left Lesotho with a poorly specified framework for planning which erodes the Government's ability to precisely determine and control the thrust of development activities. The absence of an interactive decision process robs Lesotho of the benefits of cross fertilization of ideas and of the potential impact of bringing a broader range of ideas to bear on a given problem.

These then are the felt needs to which LASA is attempting to contribute solutions. Our basic approach during Phase III is to develop an interactive analytical process among Basotho agricultural planners that, supported with rigorous analytical tools, can meet the Government's needs for better long range planning and better policy formation in daily operations.

Sector analysis is therefore seen as including both a process and one or more analytical models. The primary objective, the sector analysis process, will be embodied in a core team of individuals drawn from the Planning Unit, with associated members from the technical divisions of the Ministry of Agriculture, from Central Planning and possibly the Bureau of Statistics. The Sector Analysis Team (S.A.T.) will utilize various analytical techniques including some formal modeling of components of the agricultural sector. Development, testing and application of these techniques to policy and program

issues of the Ministry is seen as a principle means of integrating the SAT and of sustaining cooperation within it. Both dimensions, the process and the model, must develop simultaneously.

The various ideas and concepts that led to the proposed structure of Phase III and the scope of work are summarized in the sections below.

### I. The Sector Analysis Team

Currently the Planning Unit is characterized by individuals working alone on areas of their own responsibility. Coordination, cross-project comparative evaluation and the interaction of more than one point of view are often missing in the analyses produced. Sector analysis by its nature cannot be achieved in this fashion. The broader perspective, the relationship of various dimensions of the sector in which different individuals might be specialized and the interplay of a wide range of alternatives are all necessary parts of sector analysis.

- (1) Sector analysis therefore requires a team process.
- (2) The productivity of sector analysis will be directly related to the degree of effective interaction within the team, to the existence of a team spirit and to a feeling by the team that what they have to offer through sector analysis is significant, perhaps even the core of agricultural policy and planning support.
- (3) The ability of the SAT to generate useful inputs will be a direct function of team member's skill with the various analytical tools and methods and their detailed knowledge of the full capacity of whatever analytical models are developed. This strongly suggests that the team which will eventually apply sector analysis in their daily work be involved from the outset in the construction of the associated models.

- (4) Investigations during Phase II, the ASR, showed that both micro and macro perspectives lead to useful insights concerning the agricultural sector. Both will be used simultaneously, each will serve as a cross check for the other. The SAT should include at least one person each with a strong facility with micro and macro level analysis.
- (5) The social dimension is important throughout Lesotho's agriculture. This importance is accentuated by relatively low monetization levels of village transactions, the Basotho land tenure system, the several roles of livestock in the rural household and other factors. The SAT requires a member who can integrate these dimensions into the analysis.

We therefore propose to begin with a Sector Analysis Team composed as follows:

1. Sector Analysis Team Leader to be an agricultural economist with a facility in micro-analyses.
2. Planning Officer (Macro-Economics) to be an economist or agricultural economist with a facility in macro-analyses.
3. Planning Officer (Farmer Behavior) to be a person skilled in analyzing human behavior, especially at the farm management level. Training or experience in rural sociology, agricultural economics or behavioral research would be advantageous.

This group is proposed as the core SAT, each devoting the majority of his time to the activity. Each of the above is a Mosotho and all are professional staff members of the Planning Unit, Ministry of Agriculture. The CSU team will work closely with all but with some loose specialization as follows:

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Jerry Eckert - micro-analyses, farm management behavior and rural labor

Ken Leathers - macro-analyses, farm economics

Gene Wilken - behavioral, resource and spatial analyses.

To this group will eventually be added team members with concentrations on the affairs of key technical divisions of the Ministry of Agriculture. One might expect representatives from Livestock, Crops and Conservation Divisions as a minimum. The exact nature of their administrative and organizational affiliations has yet to be worked out. The important point is that these team members will form the communicative bridge between LASA and the technical divisions enabling LASA to respond to specific needs of the divisions and bring the skills and information of the divisions into the sector analysis process.

Close relationships with Central Planning and with the Bureau of Statistics are considered essential. One possibility is to identify an additional team member from each organization. This and other possible forms of collaboration should be discussed and finalized within the next 90 days.

The Sector Analysis Team will be responsible to the Chief Planning Officer, and through her to the Deputy Permanent Secretary (Technical), Ministry of Agriculture and to the Permanent Secretary, Central Planning and Development Office.

## II. The Sector Analysis Model

Analytical models are abstract quantitative depictions of natural, economic or other types of systems. While we do not, at this time, feel we can or should produce an exhaustive model of the type Michigan State developed for either Nigeria or Korea, we do consider some modeling essential to sector analysis in Lesotho. An attempt to develop an analytical model of the agricultural sector and/or portions of it is expected to yield the following benefits:

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- (1) Quantitative understanding of agriculture, farmers and rural households is too meager at present to support policy making adequately. An accurate analytical foundation is needed urgently, especially given the growing complexity and size of agricultural development efforts.
- (2) Cooperation while developing the model(s) should serve to coalesce the SAT into an interactive unit with a high productivity.
- (3) The need for technical information to support a model will, of necessity, strengthen relationships with the technical divisions of the Ministry of Agriculture, permitting a sector analysis process to emerge that meets their needs.
- (4) Modelling draws attention to functional and deterministic linkages between sectors, subsectors and outside influences. In so doing it broadens the frame of reference brought to bear on individual problems.
- (5) One or more well developed analytical models will permit the sector analysis effort to provide policy makers better input to their decisions than available elsewhere. For this reason, it is expected that users will increasingly turn to the SAT for assistance, a development which will enhance the sense of importance and contribution shared by team members.
- (6) Finally an effective model can continue to serve as an integrating mechanism, sustaining the sector analysis process after the departure of the CSU team.

For the above reasons we have chosen to concentrate on developing a sector analysis model during the first year of Phase III. Since such an analysis/research effort can be broken down into specific types of work with

specific time sequences more easily than can the development of a more generalized decision process, the model seems the logical component to pace our work during the next few months. The sector analysis process remains first priority, however, with the result that each step in the development of the various analytical tools must contribute directly to a needed dimension of the final process.

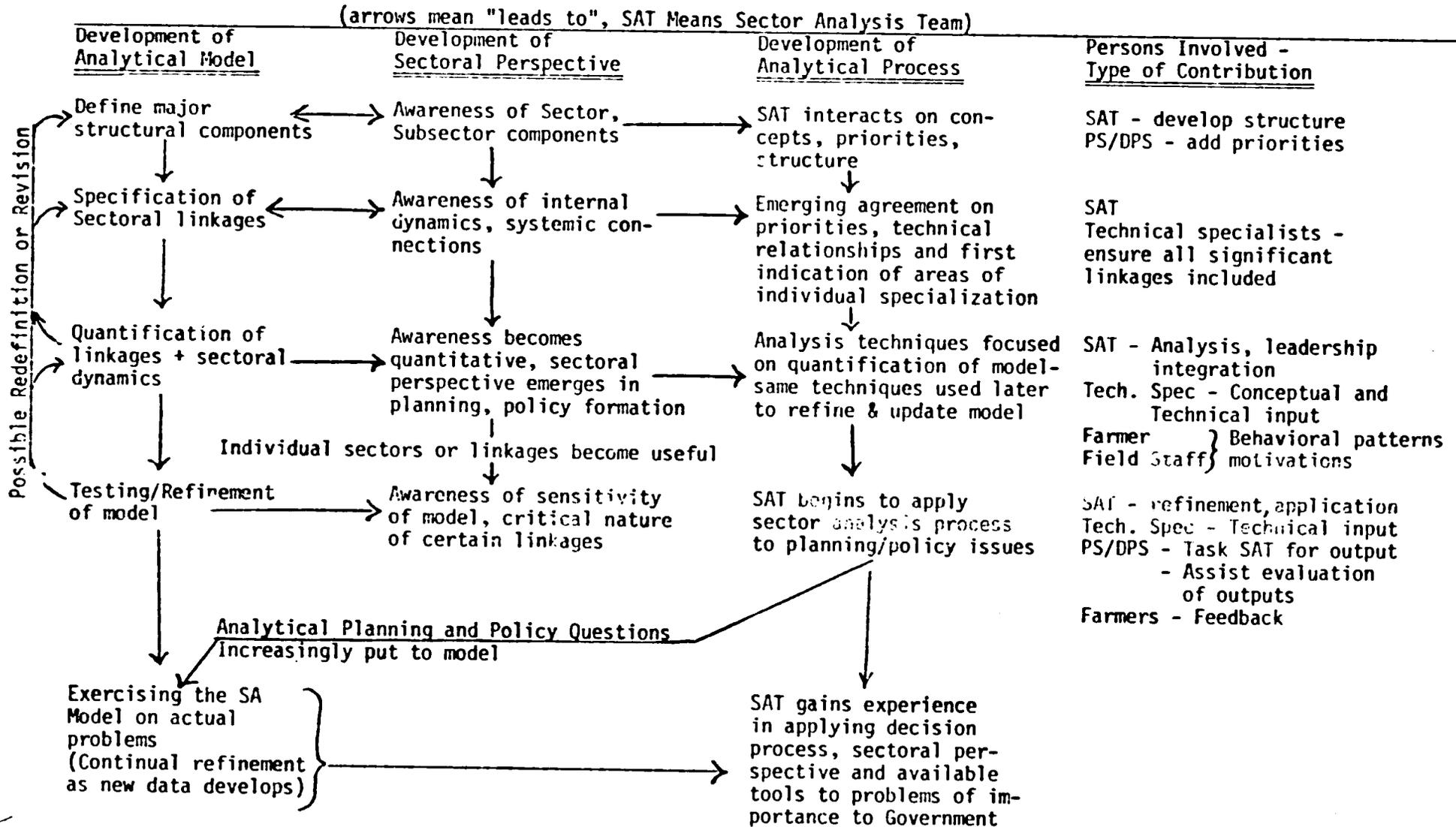
For example, determining the components of a model exposes the SAT to the full range of factors influencing agriculture. It also permits interaction with the Ministry leadership to determine priorities and questions of policy importance. Quantification of the model will teach research methods and analytical tools to the SAT while developing close working relationships with technical staff in the divisions. Testing and refinement of the model(s) will provide experience in doing analysis and evaluation at the sectoral and intersectoral level. Figure 1 depicts this parallel development process.

As mentioned earlier, both the micro- and macro-viewpoints are useful points of departure. For a start we will attempt to develop the following models.

1. At the micro-level, a model of farm management behavior, with two principle parts focused on a) crops and b) livestock. While farm budgets and costs of production are a logical first step, it seems possible to develop a linear program to portray crop management decisions. Many of the necessary technical coefficients are unknown, however, and survey work will be needed during the coming growing season. We have proposed to develop a major farm management behavior survey cooperatively with BASP and Farming Systems to meet the needs of all three projects for information on cropping system management decisions. Modeling the livestock sub-system will be

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**Figure 1. Steps Leading Toward Establishing an Interactive Process of Sector Analysis**



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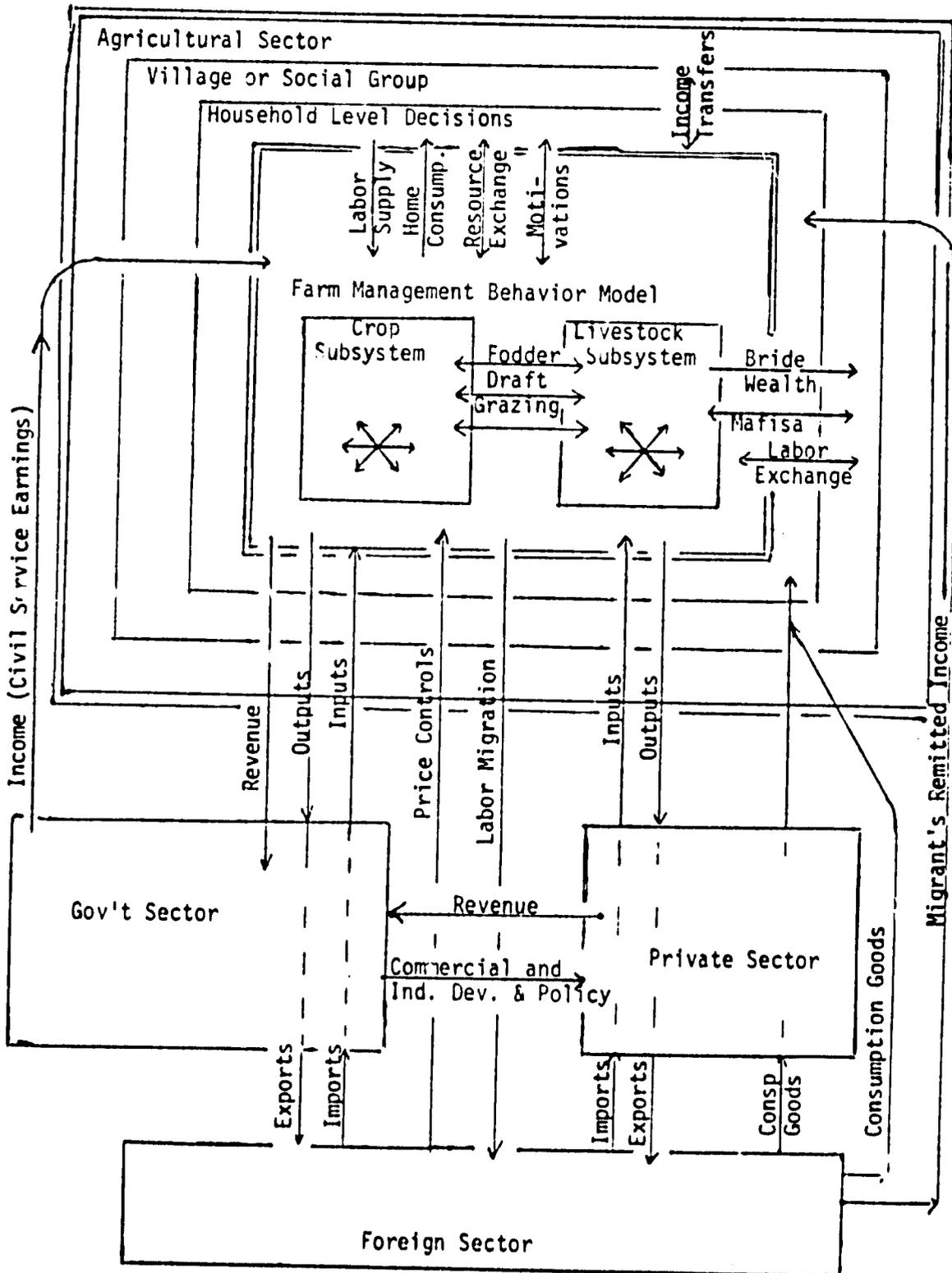
done first, at least insofar as available data permit, because of the current interest in livestock imports, range deterioration and related topics. Whether or not a field investigations of livestock husbandry practices is needed will be addressed subsequently.

2. At the macro-level, our first effort will be a simple input-output model of the agricultural sector, focussed on trade in agricultural commodities and factors of production, including labor migration.
3. Two related efforts are underway at present using aggregate data to estimate the effects of rainfall on crop output and livestock trade. In addition, a survey is in process to obtain a preliminary assessment of farmer's perceptions of climatic risk and their risk avoidance strategies. Further work is planned with the Research Station to model the effects of measured variability in climate, particularly the probability of mid-season droughts on crop output. All of these several dimensions will combine into a fairly thorough investigation of the elements of climate and risk as a component of the crop management model.

Figure II shows a very preliminary conceptual structure of what might eventually result. The farm management behavior model and the agricultural sector model are the principle components. Between the two lie two levels of human interaction and decision making, the household and the social system. Both provide important constraints to individual action as well as constituting assets in other dimensions. The government is important, particularly for its input and product marketing services. And given the enclave nature of Lesotho's economy, the dominance of migration among employment options and migrants earnings among income sources, the foreign sector is of unusual significance.

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Figure 2. Possible Structural Organization of a Sector Analysis Model (SAM)



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### III. The Sector Analysis Process

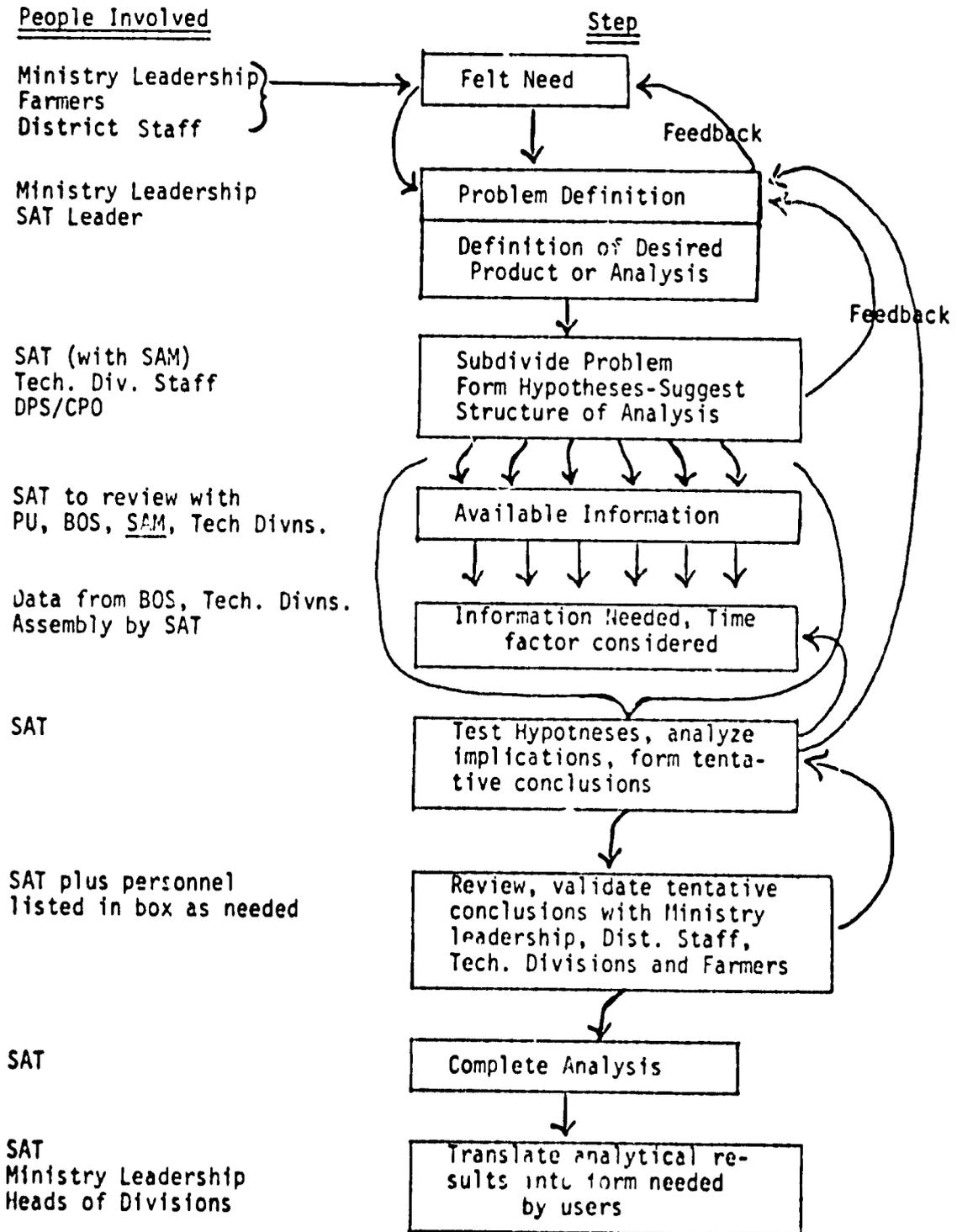
Our ultimate objective is an analytical process providing evaluations of alternatives or analyses of implications to decision makers. We would like this process to produce better answers than are now available and, in fact, expect it to excel over alternative methods that could be developed. To do so the sector analysis process must be:

- a. systematic, in terms of a series of steps,
- b. interactive, including active input from all sources concerned with a specific topic,
- c. multidisciplinary,
- d. rigorous, in analytical techniques,
- e. supported by an improved data system,
- f. capable of relatively quick response,
- g. farmer oriented in its perspective.

The core SAT will provide the sustaining nucleus. All other members of the Planning Unit plus selected specialists of the technical divisions will be associated as the need arises. Once the basic tools are developed, a team approach will be used in applying the tools to specific questions. For each assignment at least one of the core team plus others as required by the topic will follow a process perhaps such as appears in Figure 3. This figure as it is currently drawn is simply a generalized version of the "scientific method". It is expected to evolve while in use to more explicitly identify components enhancing its responsiveness to the farmer and to the Ministry's leadership. Tailoring the products to fit Ministry's needs conceivably would necessitate more interactive loops between the SAT and policy makers while greater contact with farmers must be built in in order to be responsive to their needs and to sustain a farmer oriented perspective among SAT members.

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**Figure 3. Steps in Applying Sector Analysis to a Specific Question or Set of Questions**



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Necessary elements of team interaction and experience will be developed while building the analytical tools during the first year. The sectoral perspective and the importance of subcomponents begins with the specification of the conceptual model. An awareness by the Ministry leadership of the potential usefulness of sector analysis should begin as they are asked to respond to the completeness of the models with respect to coverage of policy areas.

Quantifying the models will provide intensive training in analytical techniques applied to Lesotho's data base. At the same time, SAT members will be developing close working relationships with specialists in the technical divisions both for data and for analytical insights. Some data will not be available. Consequently the SAT will be engaged in basic research on selected topics. Field survey experience during this period will contribute toward a farmer oriented perspective and, in the long run, to testing of "bottom-up" planning and communications processes.

As the data is assembled, team members will gain experience in computer data processing and modelling techniques which they will ultimately have to have to sustain and expand sector analysis in the post-LASA period. Integrating the models provides an opportunity to learn systems analysis, sensitivity analysis as well as a solid perception of the exact influences of each sectoral component.

As individual components become operational, the team will seek to apply them to existing issues and new problems as assigned. As each new portion of the model emerges, the workload of the SAT will shift increasingly toward application. During the final fifteen months of the project attention will also be given to means of increasing the responsiveness and relevance of the sector analysis process. Fine tuning of this nature cannot be done until the process is actually being applied.



Finally, an explicit phase-out of the CSU team from the position of co-leaders is programmed to be complete by the end of 1979. During the following eight months sector analysis leadership will rest solely with the Basotho; CSU will participate solely as resource persons participating within the team as directed.

#### IV. Training and Consultants

Note: Both of these components of the program are entirely supportive of the activities already discussed. Their final definition requires agreement on the activities and the sequencing associated with the model and the process. While preliminary "best guesses" are included in the flow chart of activities, they will be more fully specified during the LASA Review Meeting, June 21-23, 1978.

#### V. Activity Sequencing

Figure 4 gives a preliminary version of the proposed schedule of activities over the remaining 26 months of the LASA project. As noted above, timings for the first year are set largely by the modeling exercise with Sector Analysis Process activities sequenced accordingly. We have added a "local support" block to identify related but distinct activities that are essential if the LASA program is to proceed on schedule. Progress is underway in all three dimensions.

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