

PDWAK 468

MINISTRY OF AGRICULTURE AND COOPERATIVES,
GOVERNMENT OF SWAZILAND

UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT

Report of a mid term evaluation of the research project:
"Changes in agricultural land use: institutional constraints
and opportunities"

Mbabane

21 November 1986.

Preface

The terms of reference of this mid term evaluation are presented in Appendix I. To undertake the evaluation on behalf of USAID Swaziland, Dr C. Mabbs-Zeno and Dr S. Turner visited Mbabane 9 - 22 November 1986. On another assignment in Madison, Dr Mabbs-Zeno was able to discuss the project with the Land Tenure Centre (LTC) of the University of Wisconsin before leaving for Swaziland. On arrival in Swaziland, Mabbs-Zeno and Turner suggested that the exercise be a collaborative effort between USAID and Government. This led to the nomination of Ms C. Magongo as representative of the Ministry of Agriculture and Cooperatives on the evaluation team. The report which follows is the joint effort of the three members of the team.

During the evaluation, we have discussed the project with members of the research team, project research consultants, staff of USAID/Swaziland and officers of the Ministry of Agriculture and Cooperatives (MOAC) and other Ministries. Staff of other projects and of the University of Swaziland have been consulted. Our draft report was discussed at meetings with the USAID mission and with MOAC. We have briefed the project team fully on our observations.

This land use research project is one of the activities initiated under the MOAC Cropping Systems Research and Extension Training Project, currently being implemented with USAID support. The projects are administered separately, however, and the one evaluated here is being implemented under a separate contract with the LTC of the University of Wisconsin.

The project consists of a central effort, called the Swazi Nation Land Survey; four sub-studies; and two background papers. Production of the background papers was arranged after original project design. For simplicity of reference, the background papers are also described as 'sub-studies' in our report. The sub-studies and background papers were contracted to various researchers and will be reported individually on various dates. They will all be completed before the central effort is reported, and their findings will be used to support the central effort.

The project focuses on land tenure institutions and practices which affect land owned by the King in trust for the people of Swaziland, termed Swazi Nation Land (SNL). This constitutes about 60% of the land area and is generally managed through traditional institutions. Some SNL is also managed directly by the national government in the form of state farms, government offices, etc. The other major tenure category in Swaziland is freehold, much of which is owned by multinational corporations or foreigners.

We are grateful for the cooperation of all those officers of the Government of Swaziland and USAID, members of the project research team and reference group, and staff of other projects who are listed in Appendix II.

C. Mabbs-Zeno
C. Magongo
S. Turner

Mbabane

21 November 1986.

Contents

| | | <u>Page</u> |
|--------------|--|-------------|
| | Preface | 2 |
| 1 | Summary | 5 |
| 2 | Project purpose, role and applications | 8 |
| | 2.1 Purpose and role of the project | 8 |
| | 2.2 Research design | 9 |
| | 2.3 Sub-studies | 10 |
| 3 | Methodology | 12 |
| | 3.1 SNL Survey | 12 |
| | 3.2 Case studies | 13 |
| | 3.3 Sub-studies | 16 |
| | 3.4 Reporting | 16 |
| 4 | Management and personnel | 18 |
| | 4.1 Supervision | 18 |
| | 4.2 Staff availability | 19 |
| | 4.3 Staff responsibilities | 21 |
| 5 | Logistics | 23 |
| 6 | Work plan | 24 |
| Appendix I | Terms of reference | 28 |
| Appendix II | Persons met | 30 |
| Appendix III | Land tenure problems and hypotheses: some suggestions | 31 |

Abbreviations

| | |
|-------|--|
| GOS | Government of Swaziland |
| LTC | Land Tenure Centre |
| MOAC | Ministry of Agriculture and Cooperatives |
| RDAP | Rural Development Areas Programme |
| SADCC | Southern African Development Coordination Conference |
| SAE | Senior Agricultural Economist |
| SNL | Swazi Nation Land |
| SSRU | Social Science Research Unit |
| USAID | United States Agency for International Development |

Rate of exchange, November 1986

E1.00 = US \$ 0.45

1. Summary

The research project titled Changes in Agricultural Land Use: Institutional Constraints and Opportunities has generally progressed well during the first half of its work. With minor adjustments in its completion date and no additional funding, the project should be able to provide considerable data and analysis on the institutions governing land tenure and on the impacts of feasible policy options. The cooperation between USAID, the Ministry of Agriculture and Cooperatives (MOAC) and the Land Tenure Centre (LTC) has generally been productive and each of these institutions remains fully committed to the project's goals.

Despite its general success, the project would benefit from several modifications which are discussed below. The most significant recommendation of the evaluation team on project organization suggests further formal specification of goals. The project has not yet listed specific hypotheses to be tested in the SNL survey, even though the first phase of that survey is complete and phase II is about to begin fieldwork. Formal specification of testable hypotheses and of the abstract problems they address should help assure complete and well balanced coverage of relevant topics in addition to facilitating communication of project research to people unfamiliar with land tenure issues in Swaziland.

The other major recommendation in this report is to reorganize the planned case studies. The present plan calls for the SNL survey team to complete 11 case studies as a supplement to the survey. This is likely to heavily tax the ability of enumerators and supervisors and to delay completion of the survey. In order to assure completion by December 1987, the case studies should be done through the University of Swaziland, if high quality of supervision and fieldwork can be assured. If such assurance is not feasible, the case studies should be omitted so that high quality is maintained in the balance of the project's work.

We now present a complete summary of our recommendations, which are discussed in the following sections of the report.

We recommend a clear appreciation of the contribution this research project can be expected to make. It should provide an accurate and broad ranging body of data about many land use issues and render USAID, MOAC and other technical agencies significantly better informed. However, complete and conclusive answers should not be expected on all points and policy recommendations are specifically beyond the scope of the project.

We recommend that the hypotheses which guide the project be more explicitly stated by the project team. The relationships of hypotheses to problems experienced in Swaziland should be identified and the relative importance of different lines of

enquiry should be decided formally.

We recommend that the terms of reference of the sub-studies be interpreted loosely with respect to the emphasis given to land tenure issues. The sub-studies should make every effort to investigate questions relating to land tenure, but their reports should not be distorted to give the impression that tenure questions are the most important issues they encountered if more important questions were answered.

We recommend that the study of progressive farmers shift its emphasis toward commercially orientated farmers who are active today as identified in phase I of the Swazi Nation Land (SNL) survey, the MOAC agricultural census, and the other sub-studies. Closer cooperation in the field between this sub-study and phase II of the SNL survey would allow efficient collection of additional data from commercially orientated farmers.

We recommend that the SNL survey simplify the questionnaire for phase II by removing most open-ended questions or by rewriting such questions in a multiple choice format. Although these changes would reduce the amount of information gathered, the constraints on time available in the field and for analysis require such limitations.

We recommend that the project consult with USAID and MOAC in preparation of a statement on rights to use data and on location of data processing for all output from the project.

We recommend that the currently planned approach to supplement the SNL survey with case studies be dropped, and that the Social Science Research Unit (SSRU) of the University of Swaziland be funded from the project to complete the case studies if it is able to identify a competent (preferably Swazi) supervisor and fieldworkers who can deal effectively with both rural people and social scientists. If this approach to case studies is adopted, a continuous reporting method should be used to reduce the lag between collection of data and its availability for analysis. We recommend that the case studies proceed only if satisfactory alternative arrangements of the kind suggested can be made.

We recommend that the project produce two final reports. First, there should be a report which summarizes the empirical findings of the project and outlines the land policy options which these findings suggest. This report should be translated into siSwati. A second, technical report, should present full details on the methods and findings of the SNL survey, together with background information on the purpose and activities of the project as a whole. This report would be in English only. Six additional reports will present the project sub-studies.

We recommend that if, after reviewing the project's reports, GOS decides to arrange seminar(s) to discuss them, any single seminar should be at maximum one week long.

We recommend that MOAC assist the LTC chief of party by agreeing to a schedule of at least two more reference group meetings prior to the project's final reporting, and making arrangements now with group members for their participation on the agreed dates. The chairman of the reference group should appoint a secretary and ensure that proceedings of future meetings are recorded. The LTC chief of party should report briefly each month on the progress and plans of the project to reference group members and other senior officers of appropriate Ministries.

We recommend that MOAC formalize Ms C. Mhlongo's participation as a resource person in the project and ensure her full involvement in all preparatory and training activities for each remaining stage of the work. We also recommend that the two field supervisors should not be sent on any further short courses in the remainder of the project.

We recommend that every effort now be made to clarify relationships and responsibilities so as to fully integrate the four senior team members in a partnership to implement the remaining project tasks. To assist in this clarification, MOAC management should reconfirm its understanding of the role of the two field supervisors in the project, indicating that they should be supervised by the Senior Agricultural Economist in consultation with the LTC chief of party. In order to cement a more integrated partnership between the four senior members of the team, they should hold short weekly meetings to review the last week's work and the coming week's tasks.

We recommend that savings from some sections of the project budget, such as transportation, be used to cover the hotel expenses and other field allowances which MOAC is unable to provide.

We recommend that phase II of the SNL survey begin in early January 1987, and that the project take advantage of savings of time resulting from changes in the case study plan to complete work in December 1987.

2. Project purpose, role and applications

2.1 Purpose and role of the project

In many African countries, the tenure and use of agricultural land are sensitive issues. Moreover, they are issues on which accurate information may be lacking. Their very sensitivity impedes their open and objective investigation. Lack of hard facts means that these land issues are instead discussed in terms of rumours and subjective impressions, which may in turn make the issues more controversial. Foreigners and modern sector analysts often argue that indigenous systems of communal tenure and management obstruct agricultural development and promote environmental degradation. Many Africans strongly defend these indigenous systems as a more equitable way of distributing production opportunities than any modern replacement. Some observers argue that evolutionary modification of traditional systems can provide all the mechanisms needed to support development initiatives, while access to land resources remains broadly available. Typically, none of these various arguments are adequately supported by empirical evidence.

In Swaziland, these problems are exacerbated by colonial history and by the disposition of authority over agricultural land among technical agencies of Government and the local government agencies of the chieftainship. The Ministry of Agriculture and Cooperatives (MOAC) plays the key role among the technical agencies; but the Ministry of Natural Resources and Energy and various legal authorities also have significant responsibilities. However, while agricultural development and resource management policies are at one level the responsibility of these technical agencies, the actual tenure, use and day to day management of agricultural resources on SNL are the responsibility of a very different branch of Government, the traditional authorities. Only a partial link between technical agencies and traditional Government authorities is provided by the Tinkhundla, a Ministry established for this purpose in Mbabane. Furthermore, the overall policy of the Swazi nation towards land tenure issues is formulated and enforced through Royal and chiefly channels. Ministries in Mbabane provide technical support services but perform a subordinate role in land policy formulation.

It is in this context that the role of this research project should be considered. Recognizing that the debate on agricultural land use policy in Swaziland was inadequately informed by empirical data, MOAC decided to take the lead by designing this fact-finding project in collaboration with the University of Wisconsin Land Tenure Centre (LTC) and arranging for its implementation by a joint MOAC/LTC team with joint funding by MOAC and the United States Agency for International Development (USAID).

There are many areas of uncertainty about agricultural land tenure and use in Swaziland. Changing patterns of land use are perceived; so are new pressures on resources; environmental degradation; evolving attitudes among farmers and authorities about individual and communal rights; and many other issues which may demand policy attention but about which arguments currently outweigh hard facts. In turn, there is debate about the extent to which traditional tenure and management remain appropriate to these changing circumstances, and how far and fast current practice should be changed.

We recommend a clarification of these areas of enquiry in section 2.2 below. Here, we recommend a clear appreciation of the contribution this research project can be expected to make. It should provide an accurate and broad ranging body of data about many agricultural land use issues and render USAID, MOAC and other technical agencies significantly better informed. Complete and conclusive answers should not be expected on all points, however. Much more research will remain to be done; the present project can be expected to suggest the priorities.

While it should outline policy options on the basis of its objective enquiries, the project should not draft or formulate policy. Nor should it make recommendations about the policy options it outlines, beyond making technical comments on their implementation and implications. In designing the project, MOAC and USAID considered that it would be a cautious first step on behalf of the technical agencies of the Government of Swaziland (GOS) towards the broad and open review of the issues which they believed more and more necessary. It was thus designed as a partial input to begin opening up a broader process, and to respond only to the partial authority of these technical agencies in land matters. The great sensitivity and complexity of these subjects in Swaziland was felt to preclude much involvement of the traditional authorities at this delicate, early stage. Nevertheless, it was felt important that GOS should fully mandate the investigation and take responsibility for it through implementation by MOAC, rather than by the possible alternative of a University of Swaziland team.

2.2. Research design

In assessing how well this land use research project is achieving its goals, we found the statement of goals to be vague. In the initial project paper, dated 6 March 1985, the purposes of the project are not presented as testable hypotheses. The overall objective is given as providing "a body of data which clarifies issues and [posing] alternative courses of action" on land tenure institutions for GOS and USAID. Four major issues are then cited for investigation in the Swazi Nation Land Survey, but these are only a small part of the range of issues eventually addressed by the survey. The four sub-studies described in this initial project paper are individually justified without any rationale demonstrating how these components contribute to a

complete treatment of relevant issues.

The lack of formality and detail in expressing project objectives has hampered the subsequent research by allowing significant areas to go without adequate investigation and by allowing scarce project resources to be spent on issues outside the main area of concern. Fortunately these deficiencies were limited because the project designers and participants communicated effectively through less formal channels, resulting in a widely shared concept on the scope of research and the issues essential to those objectives. Even though the project is already committed to particular research questions, a theoretical, formal description of land tenure issues to be addressed by the project might facilitate the remaining data gathering, analysis and dissemination of findings.

We recommend that the hypotheses which guide the project be more explicitly stated. In Appendix III, a number of hypotheses which seem to be in use by the project are listed. The relationships among these hypotheses are brought out by situating them in a field of problem statements. The field is itself arranged in a hierarchy from abstract, widely acknowledged problems to concrete problems which policy programmes may address. A more complete treatment of problems and hypotheses by the project team is recommended.

2.3. Sub-studies

The selection of sub-studies by the project is difficult to justify in the context of this review of the problems facing Swaziland. The sub-studies do not constitute a set of investigations which encompass the land tenure hypotheses. In contrast, the case studies were specifically designed to fill gaps left by the SNL survey. Indeed, the linkage to land tenure is relatively weak for the progressive farmer study and the irrigation study. Significant gaps suggested by the list in Appendix III include investigation of absentee owners and allottees, and of the effects of changing tenure from freehold to SNL or from SNL to urban uses.

It is not surprising that the project designers did not anticipate the best areas for intensive study - after all, the project was motivated by the paucity of information. Several of the expected findings were not confirmed by the research, resulting in unbalanced coverage of tenure issues. For example, smallholder irrigation schemes were found to be far less common than anticipated, while other production schemes were found to be far more common.

In recognition of this experience, we recommend that the terms of reference of the sub-studies be interpreted loosely with respect to the emphasis given to land tenure issues. The sub-studies should make every effort to investigate questions relating to land tenure, but their reports should not be

distorted to give the impression that tenure questions are the most important issues they encountered if more important questions were answered. With one exception, each sub-study thus far represents a high standard of research effort which stands on its own. We caution against too strong a commitment to a plan which present knowledge demonstrates was never a complete and consistent treatment of land tenure issues.

The Progressive Farmer Experience study attempts to investigate farmers orientated towards commercial production. It planned to combine the study of farmers with such orientation in the past to those studied in the present, presumably via the SNL survey. This seems a worthwhile interest, but the component of contacting past 'progressive' farmers contributes much less to the understanding of current land tenure issues than do the assignments of the other sub-studies. We recommend that the population under study by Bruce Flory be expanded to include current commercially orientated farmers on SNL as identified in the SNL survey, the MOAC agricultural census, and the other sub-studies. Much secondary data is available from these sources, reducing the fieldwork requirements of expanding coverage. A focus on the hypothesis that current land tenure institutions constrain commercial production rather than on the experience of a programme which ended 15 years ago might be more useful to policy analysis.

The study of Institutional Factors in Smallholder Irrigation was originally designed to identify elements in the experience of approximately 200 schemes which suggest useful precedents for rural development. Neither the terms of reference for the sub-study nor the project plan denote a heavy emphasis on tenure issues, although a recent LTC review of the sub-study draft report indicated that land tenure should be emphasized more. Since the study was undertaken under reasonable but false assumptions about irrigation and since the findings of greatest importance to rural development were not actually land tenure issues, the emphasis in the draft reported at a seminar on 19 November 1986 seems fully appropriate.

The study of Tenure Arrangements on Production Schemes faced a problem similar to that of the smallholder irrigation study in attempting to research a sector which has never been adequately described. By investigating a wider range of schemes, however, this study encounters more tenure arrangements which allow comparison. The final report on this study might, therefore, be more heavily weighted toward tenure issues, but the descriptive material should also be fully presented.

The study on Land Use of Individual Tenure Farmers has proven to have one of the stronger justifications for intensive investigation. It considers Swazis who are not included in the SNL survey by virtue of their possession of freehold title to arable land. The inclusion of this topic strengthens the coverage of the overall project although this sub-study does not consider all issues relevant to land tenure on non-SNL agricultural land.

The background paper on Legal Aspects of Land Tenure in Swaziland was completed before our evaluation, so no recommendations are appropriate. It provides an excellent review of land laws, in accordance with its terms of reference. However, in focusing on SNL, the paper leaves out laws governing urban use even though urban encroachment may make some of these laws relevant to SNL policy. The project should consider investigating legal aspects of the urbanization of SNL.

The background paper on Land Dispute Management in Swaziland appears to address important topics. We were unable to meet with the researcher and have only her outline to review. We concur with LTC comments on that outline that introductory material may have been overemphasized in it, but that the research appears to be progressing properly.

3. Methodology

3.1. SNL Survey

The SNL survey was split into two phases and a set of case studies. Phase I was accomplished with proper operating procedures, including review of survey questions, training of enumerators, pretesting, and securing cooperation of local authorities. The field notations were checked by supervisors and, occasionally, redone. Data entry onto the computer was done with one keyboard operator and one reader working together in short time shifts, resulting in accurate transcription. The computer was programmed in DBASE to present a model close to the original survey instrument, further facilitating accurate entry. All this indicates that the data from phase I is of high quality.

The survey for phase II was not finalized by the time of this evaluation, but the current draft is very long. We discussed the style of questions in detail with Dr Marquardt and expect the final draft will be easier to administer than was phase I. Some reduction in length is also possible through restyling, but substantial changes will be required to shorten it to useable length. We recommend that most open-ended questions be either simplified into a multiple choice format or deleted. Either of these changes will reduce the amount of information gathered, but the saving in field time and analytical time will make these changes worthwhile. The high standard of data quality set in phase I cannot be continued if phase II is overly ambitious.

The processing of data has not yet begun, but a problem has been identified. Various officials at USAID, MOAC and LTC have different opinions about how much processing ought to occur in Swaziland. All agree that most data analysis will take place in

Swaziland; but precisely how much, if any, may be accomplished at the LTC in Wisconsin or elsewhere is not a shared concept. We expect that a careful delineation of rights to the data, both for analysis now and in the future, could easily find acceptance by all parties. But without this delineation, significant misunderstanding could arise. We recommend that the project consult with USAID and MOAC in preparation of a statement on rights to use data and location of data processing for all output from the project.

3.2 Case studies

Since the project was designed, the team have introduced a major new element in proposing that the SNL questionnaire survey be supplemented by more intensive case studies. It was felt that the two single-visit questionnaires could not gain adequate in-depth information on community management of agricultural land or on social phenomena like leadership, decision making and attitudes to commercial production which are central to the overall enquiry. It was therefore proposed that the four most skilled enumerators from the questionnaire survey team undertake 11 case studies, one in each of the sample survey cells. Each case study would cover a chief's area that included an enumeration area where data was collected in the sample survey. Each case study would be undertaken over four weeks by one enumerator. With one week staggered starts, the whole exercise would take 14 weeks. It was planned that the case studies would begin as phase II of the SNL questionnaire survey was nearing completion, which, on latest estimates, suggests it would begin in late March 1987. It was assumed that the LTC chief of party would take primary responsibility for supervising them, as they would be considerably more complex than the homestead level questionnaire surveys.

We agree that the case studies could offer a valuable supplement to the other information collected by the project. The SNL sample survey questionnaires cannot offer complete insight into the role and attitudes of local leaders and institutions in agricultural land use, or the status and functioning of practices like range management, arable land allocation, resettlement and fencing. But these qualitative areas of enquiry are a considerable challenge. The case studies should be done well if they are to be done at all, and it is not clear that the project has the resources for this.

Although the project's enumerators have so far done a commendable job, they would not be fully suited to the case studies proposed. As Swazis, they could be expected to be sensitive to the forces and personalities at work in community resource management. But with their relatively low level of education, they could not be expected to be able to organise their enquiries or their analysis in the manner which this project would require. Although this is not an academic project or an American project, some familiarity with the methods and

idiom of Western academic social science research would be needed by the field workers on these case studies. Furthermore, they would need to be able to discuss the complex social issues involved in English with the LTC chief of party. The enumerators could not be expected to perform these tasks successfully.

The supervision of such case studies would also be a major challenge. The issues to be considered, the persons, institutions and practices to be studied and the research methods to be used would all need to be carefully considered by the supervisor and intensively discussed in field worker training. Once the studies were under way, each field worker would need to be visited every three or four days. During supervision visits, the notes kept by the investigator should be reviewed and discussed, the issues analysed and probed and the next few days' work planned out. Administrative and logistical burdens would be considerable, with field workers in several places at any one time and forward arrangements to be made to introduce case studies, arrange accommodation, etc. Done properly, supervision of the case studies proposed would be a full time job. Even assuming that other project tasks can be more fully covered by other members of the team than has been the case to date, the LTC chief of party cannot realistically be expected to supervise the exercise on this scale.

We therefore recommend that the currently planned approach to the case studies be dropped, and that the project's remaining consultancy funds (originally intended, and already partly used, for short term support from LTC) be used to employ a case study supervisor through the Social Science Research Unit (SSRU) of the University of Swaziland. Ideally, this should be a capable Swazi lecturer at the University. If the only obstacle to this were the duration of the case study exercise, it would be appropriate to shorten it by up to 30% to permit the lecturer's participation. (The temptation to shorten the exercise but maintain the same number of case studies by increasing the number taking place simultaneously should be avoided. Having more than five field workers in action at the same time would inevitably reduce the quality of supervision to unacceptable levels.) If no University lecturer is available, the SSRU could employ a consultant from outside the University to supervise the exercise.

The project team and the SSRU should give careful consideration to the employment of four or five students as field workers for the case studies. This would imply carrying out the exercise during the University long vacation: probably for a maximum of ten weeks starting on 1 June 1987. This timing would not pose major problems for the project schedule. Students would be preferable to the existing enumerators in that they would have some familiarity with the approaches and concepts on which the case studies would depend, and would presumably be more fluent in the English language discussions that would be required. We understand that SSRU would be required to pay them E13.50 per day, plus E4.00 field allowance. This would not pose a major budgetary problem for the project. However, students - like most

enumerators - pose the problem of age in discussions with rural people. Many respondents - particularly community leaders - may be reluctant to hold serious discussions on major resource management issues with young people. Furthermore, students may pose a problem which does not arise with enumerators. Some would be reluctant to spend their vacation living and working in rural communities. Some might decide to take this vacation job, and then have second thoughts after a week or two in the field. Some would not be adequately familiar with the idiom and etiquette of rural life. Without this familiarity they could do more harm than good, and the project could not afford to have to deal with students disaffected with their perceived hardships or in any way disdainful of the people they are researching. If students are to be used, they would have to be very carefully screened by the SSRU and only the most mature individuals selected.

SSRU might be able to locate a small number of appropriate students for the exercise. It might also be able to identify alternative field workers - unemployed recent graduates, for instance. However, such individuals would have to be paid at least twice as much as enumerators or students. This is probably not possible for the project.

If this alternative approach to the case studies is adopted, We recommend that a continuous reporting method be used. The LTC chief of party should schedule weekly meetings with the case study supervisor and debrief him on the previous week's findings by the case study team. This would permit the chief of party to learn from the exercise as it is taking place and incorporate its findings in his other analysis and report writing. He could also react to the team's findings and forward suggestions for further work through these weekly meetings with the supervisor. If, on completion of the exercise, the supervisor has academic interests in writing a report on aspects of the issues researched, this could be negotiated with MOAC.

We recommend that the case studies only proceed if satisfactory alternative arrangements of the kind suggested can be made. It would be better to use existing project resources to complete other project tasks well than to detract from those tasks to do the case studies inadequately. Given that the case studies should be done well if they are to be done at all, it is clear that they should only be attempted through the SSRU if MOAC and the project team are satisfied that the supervisor and students proposed by SSRU are of an adequate calibre.

If the case studies proceed, the project team, in collaboration with the case study supervisor, should carefully list the core subjects to be covered in each study, and the methods to be used. These lists would form the basis of training material for field workers. Persons to be interviewed would include the chief; the indvuna; imisumphe members; Bandlancane members; other senior persons connected with the chief's administration; members of farmer's associations or other relevant groups; other prominent citizens such as church leaders

or teachers; and local Rural Development Areas Programme (RDAP) and other MOAC personnel. Issues to be covered would include: (a) local land allocation practice and experience, including significant disputes, land abandonment, land confiscation, and fencing; (b) current range management and grazing rotation practice, and perceptions of grazing pressure; (c) community responses to soil erosion and other major resource management issues; (d) analysis of the role and functioning of each type of leader and institution relevant to resource management; (e) experience, if any, with resettlement or other land use planning activities; (f) relations between traditional leadership and representatives of MOAC; (g) local attitudes to commercial production on SNL; and (h) experience with any local agricultural development projects or schemes. These lists of interviews and issues would have to be standardized and prioritized to ensure consistency of coverage from one case study to the next. At the same time, flexibility should be maintained in supervision so that interesting issues can be followed up in more depth and lines of enquiry which prove unproductive in particular communities are not pursued.

3.3. Sub-studies

The Progressive Farmer Experience Study had difficulties in identifying members of the population it intended to study because the list of farmers in the programme was lost just prior to the responsible LTC researcher's arrival in Swaziland. After a tedious review of records, the list was reconstructed. Recent efforts to locate individuals on the list tentatively confirm that the survey can be completed. If this study is examining how land tenure institutions constrain commercially orientated farmers on SNL, the progressive farmer survey will be inadequate. Existing data could contribute greatly with information on more recent experience. Another possibility is to identify farmers with large holdings of land who will be interviewed in phase II of the SNL survey and to accompany that interview. This would reduce the task of finding individuals in the field and might save on field expenses or ease field logistics by doing some surveys simultaneously. We recommend closer coordination in the field between this sub-study and the SNL survey.

3.4. Reporting

We anticipate that the reported findings of this project will lead to a lengthy period of discussion within GOS and ultimately, perhaps, the whole nation. On receipt of the project's reports, MOAC is likely to undertake an internal review and consult with other Ministries before deciding upon publication and possible broader discussion. This broader discussion might take many forms, over an extended period, and involve both the traditional authorities and the general public; but decisions on this are likely to be taken some time after project termination.

We recommend that the project produce two final reports. First, there should be a report which summarizes the empirical findings of the project overall and outlines the land policy options which these findings suggest. It should present a summary of the SNL survey, including the findings of the proposed case studies if these are carried out. It should also include a summary of the results of the six sub-studies, each of which will also be the subject of a separate report. Secondly, there should be a longer technical report which presents full details on the methodology and findings of the SNL survey, together with background information on the purpose and activities of the project as a whole.

We recommend that arrangements be made as soon as possible for the translation of the first report into siSwati in the final quarter of 1987. While the first report would be published in both English and siSwati, the second, technical report and the sub-study reports would be published in English only. Publication of all reports in either language will of course be subject to GOS clearance.

The project plan envisaged that one seminar lasting two weeks would be arranged for presentation and discussion of the research findings. We understand that no decision will be made on these discussions until GOS has reviewed the project's reports. If the project team are to participate in these discussions before they disband on termination in December 1987, GOS review will have to be prompt in order for the necessary arrangements for the discussions to be made before that date. Should this timing appear impracticable, MOAC might wish to approach USAID for funding to permit the LTC chief of party and perhaps other resource persons from LTC to return to Swaziland for a seminar at a later date.

While the project's findings and outline of policy options will undoubtedly require extended and thorough discussion, we recommend that if a seminar is held it be considerably shorter than two weeks. Uninterrupted discussion would be hard to maintain at useful levels for that length of time, and it seems unlikely that the senior personnel who should be involved could make themselves available for that long - even if, as is envisaged, the seminar is held at a secluded location away from Mbabane. We suggest that one week would be an outside limit for a single seminar. It might of course be decided to hold more than one seminar, covering different aspects of the subject or arranged for different groups.

4. Management and personnel

4.1. Supervision

Project design envisaged three modes of technical supervision. On behalf of MOAC, the Senior Agricultural Economist was to supervise the research. On behalf of LTC, this function would be performed by Dr Bruce, then Africa Programme Coordinator and now Director of LTC. In addition, a general review function would be performed by the project reference group.

The then Senior Agricultural Economist (SAE) was seconded to SADCC in August 1985, as the project was starting, and did not attend the preparatory training programme at the LTC as had been planned. His absence led to a long period of uncertainty for the project. It was not anticipated that the post would take as long to be filled again as has been the case, and during the unexpectedly lengthy period until the arrival in post of the current SAE on 1 October 1986, the LTC chief of party has had to deal on an ad hoc basis with more senior officers for administrative purposes. The LTC chief of party, of course, has no administrative authority within the Ministry. The next senior officer to whom he could turn was the Director of Research and Planning, but during her frequent absences on official duty he has often had to consult higher, with the Under Secretary (Development) and the Deputy Permanent Secretary. We comment further on supervisory responsibilities in section 4.3 below.

There has been more continuity with supervisory arrangements at LTC. Dr Bruce visited the project in October 1985 and in February and September 1986 and has provided adequate backstopping to the LTC chief of party.

It took longer than expected to constitute the project reference group and arrange a meeting. Although the group did finally meet in January 1986 and review the draft of the SNL survey first phase questionnaire, it has not been active since. A second meeting was held on 20 November 1986 to review the SNL survey second phase questionnaire. Attendance was very poor.

Membership of the group has not been as envisaged in the project paper. In early discussions at MOAC, it was decided not to invite representation from the Ministries of Education and Interior. A representative of the Ministry of Finance was appointed, and members of MOAC's Cropping Systems research project have also participated. Other membership has been as planned: MOAC, the Ministry of Natural Resources and Energy, Tinkhundla, the Ministry of Justice, the Central Statistical Office and the University (SSRU and College of Agriculture).

Considering the rarity of reference group meetings, the interministerial review and briefing function cannot be considered to have been performed adequately. We recommend that

MOAC and the LTC chief of party agree to a schedule of at least two more reference group meetings prior to the project's final reporting, and make arrangements now with group members for their participation on the agreed dates. MOAC should then issue reminders and circulate papers for these meetings well in advance.

No minutes were kept of the first reference group meeting. We recommend that the chairman of the group appoint a secretary and ensure that the proceedings of future meetings are recorded.

Even if at least two more interim reference group meetings are scheduled, there can be no guarantee that they will be fully attended. Nor would full attendance ensure adequate awareness among GOS agencies of the findings and activities of the project. Therefore, we recommend that the project draft a short monthly report on its progress and plans, and that this report be circulated by MOAC to reference group members and other senior officers of relevant Ministries. Comments on the report should be invited from recipients, who should also be asked to propose additional meetings of the reference group if they feel they are necessary.

4.2. Staff availability

We have noted that the long vacancy in the post of Senior Agricultural Economist was a handicap for the project. The appointment of Mr S. Hlophe to the post should significantly enhance project performance (see section 4.3 below). However, it should not be expected that he will be able to make a major part of his time available for the project, despite the interest he has expressed in it. He will have a wide range of other duties to perform in the Ministry, and during the balance of this project will be particularly heavily loaded by the need to orientate himself to the Ministry's planning and budgetary procedures. He can therefore be expected to play an active supporting, review and administrative role rather than be involved from day to day in fieldwork or analysis.

The two field supervisors nominated for full time participation in the project by MOAC were Ms N. Dlamini (Economist in the Economic Planning and Analysis Section) and Ms F. Mdluli (Rural Sociologist in the same section). These officers' four work years contribution was a big commitment by the Ministry. They have both been in post since project inception, and attended the training programme at LTC in the absence of the SAE.

Both officers' participation has been hampered by health problems, however. This has had a particularly serious effect on project fieldwork, which has been substantially delayed. The Ministry arranged for another economist from the Economic Planning and Analysis Section, Ms K. Mhlongo, to undertake some field supervision instead of her colleagues. Despite the fact

that she had not participated in project preparation or training activities (except for a computer training course), Ms Mhlongo was able to make a very useful contribution to field supervision without which phase I of the SNL survey would have been further delayed.

MOAC has subtracted three work months of the supervisors' input by sending Ms Dlamini on a three month course in the U.K., from which she is due to return in December 1986. We have been informed by the Ministry that, despite the problems experienced to date over their availability, Ms Dlamini and Ms Mdluli remain the appointed full time field supervisors for the remainder of the project. We understand that it is not possible to be fully confident that these officers' health will permit their total involvement in remaining field work. The Ministry intends that, if health problems again prevent participation by either officer, Ms Mhlongo will be directed to perform their duties once more.

In these circumstances, we recommend that the Ministry formalize Ms Mhlongo's participation as a resource person in the project and ensure her full involvement in all preparatory and training activities for each remaining stage of the work. She should, for instance, participate in enumerator training for the SNL survey second phase and in all further planning and training for data entry and analysis. If she is then called upon to take any direct responsibility for such tasks, she will be fully prepared to do so.

We recommend also that the two field supervisors should not be sent on any further short courses in the remainder of the project. If the full team is now able to ensure that the project keeps to its revised schedule, the possible departure of Ms Dlamini for further studies in September 1987 will prevent her participation in final reporting, but she will at least have contributed to and gained experience in field survey and data analysis and will have had the opportunity to draft a contribution to the report before she leaves.

Experience with enumerator availability has also diverged from original expectations. The original intention was that six enumerators would be made available from MOAC establishment and that the project would employ two more. In fact, turnover among enumerators appears to be high. A number left the group of MOAC employed enumerators assigned to the project for higher paying jobs or further studies. Delays by MOAC in filling the vacancies led to the project directly hiring three extra enumerators and exceeding its budget for this item. MOAC has now made six people available again for the SNL survey second phase. Enumerator availability has not been a major constraint on the rate of project performance, but LTC costs have been unexpectedly high and the turnover has damaged the continuity of the project team. This has meant additional training loads and the unfamiliarity of some phase II enumerators with the experience of phase I.

The availability of researchers for the sub-studies associated with the project does not appear to have been a constraint. With the assistance of the SSRU, consultants were identified before the project began. An additional researcher was identified to produce a background paper on legal aspects of land tenure in Swaziland. The graduate student to be provided by LTC for one of the special studies was also available on time, although in fact he already holds a PhD and is not a dissertator as originally envisaged. (This has not adversely affected the project budget.) One other researcher already studying traditional law in Swaziland was also engaged to produce a paper about land disputes, based on fieldwork she had already done.

It is regrettable that none of the project's affiliated researchers (as opposed to full time MOAC participants) are Swazis. (It was anticipated that the 'graduate student' to be provided by LTC would be an American.) The project succeeded in involving the SSRU in the selection of researchers for the sub-studies, and the SSRU is earning an overhead on some of these researchers. Although we recognize that very few Swazi scholars are readily available for consultancy work on the scale entailed in this project, we suggest that it might have been possible to do more to involve at least some Swazis in the sub-studies. Implementation of the proposed case studies through the SSRU (see section 3.2 above) might offer the project another chance to rectify this situation.

4.3. Staff responsibilities

We noted above that project performance has been impaired by the vacancy in the SAE post and by health problems for the two supervisors. It has also been retarded by confusion over responsibilities and relationships within the project team. While the assumption presumably was that the LTC chief of party, the SAE and the two field supervisors would work together as a team, some of the nuances and implications of the relationships among the positions occupied by these four individuals may not have been adequately considered and spelled out in advance. Project design, as set out in the project paper dated 6 March 1985, certainly did not go into enough detail on some of these points.

Referring to Dr M. Marquardt as 'LTC chief of party' (the standard USAID term) may not be helpful in this context. With the exception of brief visits by Dr Bruce and other LTC resource persons, the only other member of the LTC 'party' is Dr B Flory, one of the sub-study researchers. The project paper referred to Dr Marquardt's position in parentheses as 'principal field investigator'. While he was expected to coordinate the professional work of the project, he was expected to do this in partnership with the SAE. As a professional coordinator but occupying no position in the MOAC establishment, Dr Marquardt has no formal authority over his MOAC colleagues on the project team; this authority was to be provided by his counterpart, the SAE.

who in fact did not exist for the first year of project operations. While the project paper may give the impression that the LTC chief of party is fully responsible for the performance of the project, the administrative relationships mean that this is not so.

In the circumstances, it is not surprising that misunderstandings and some bad feeling arose between the three remaining senior members of the team over the extent to which one was expected to lead and the others to follow. It is also possible that the two field supervisors, both of whom occupy relatively senior positions in the Ministry and one of whom holds a Master's degree, may feel that their career interests are not best served by a full two year assignment to a single research project in which they perceive professional responsibility to lie mainly with other team members while the bulk of the routine tasks fall to them - despite the offer apparently made to them at the outset that they could use their involvement in the project as a foundation for further degree work which LTC would help arrange.

It is clear that ill feeling about the responsibilities and authority relationships of senior team members has impaired performance in the first year of this project. Rather than apportion any blame for these problems, we recommend that additional effort now be made to clarify relationships and responsibilities and commit the four senior team members to a fully integrated partnership in implementing the remaining project tasks. The presence of the SAE in the team should be a great help in this regard, since there can be no ambiguity about his relationship to his MOAC colleagues.

MOAC has already confirmed to us that, unless there are further health problems, the two field supervisors will participate fully in the field supervision and data entry of phase II of the SNL survey and that they will participate fully in analysis of SNL survey material. However, we recommend that MOAC management, in turn, reconfirm this understanding to the four senior members of the project team, indicating that the field supervisors should undertake these tasks under the formal supervision of the SAE and in full professional consultation with both the SAE and the LTC chief of party. Further, we recommend that by the end of February 1987, the team agree, in consultation with the reference group and MOAC authorities, what the final project reporting format should be (see section 3.4), and then agree among themselves what contributions each will make to these reports. Finally, we recommend that, in order to cement a more integrated partnership between the four senior members of the team, they hold short weekly meetings to review the last week's work and the coming week's tasks. This should help enhance mutual consultation and awareness of each other's views.

5. Logistics

Two potential constraints on timely project completion due to incomplete supply of equipment were cited by LTC in Dr Bruce's memorandum to USAID of 12 September 1986. In addition, several potential constraints arose from financing fieldwork. If the adjustments currently planned are implemented, none of these problems is likely to persist.

Via the project implementation letter of 27 March 1985 from USAID to MOAC, GOS agreed to assign a vehicle to the project in order to supplement the two vehicles to be purchased by the project. MOAC, however, did not provide a vehicle during the first year of the project. It does not expect to be able to provide one during the remainder of the project. The reason for this was explained to us by officials of the Ministry as shortage of funds and poor repair of existing vehicles. The Ministry's responsibility to provide a third vehicle was effectively met through provision of petrol and maintenance on the two vehicles used thus far by the project. The savings in funds from the budget the project had anticipated using for these costs should be sufficient to pay for rental of a third vehicle in the second half of the project when it is needed for fieldwork in the progressive farmer sub-study.

The implementation letter also specifies that two computers would be assigned to the project. One of these arrived on schedule, but the other has not arrived yet. It is expected immediately. Some delay in the project was experienced during the data entry period of the first phase survey. However, the major need for the second computer is for entering and processing data from the progressive farmer survey. Since that survey has also been delayed, the temporary computer shortage was not a major problem.

Several expenses in the field were not fully anticipated. Apparently due to payments made to interviewees in a previous survey, many interviewees expected payment for their time in this survey. No such payments were made, although some resentment may be met as the second phase returns to some of the same individuals with even larger demands on their time. Since MOAC does not regard such payments as standard survey procedure, we do not recommend making them, but the enumerator training should include discussion on gaining the support of interviewees by demonstrating the usefulness of the project in dealing with problems they may have experienced.

Some unexpected expenses were met informally. For example, in many locations, the enumerators were guided by a runner from the chief. These people sometimes expected to be paid. About E3.00 per day was given for such help. This amount was borrowed from project funds and later paid back by MOAC. Effectively an informal imprest fund was set up to cover the cost of runners, in addition to lunches in the field. The management of these costs

was apparently effective and should be expanded when the need arises to provide timely compensation for expenses incurred by field workers, regardless of the ultimate source of funds.

Certain field expenses showed the potential to create tension between the enumerators working directly for the project and those working directly for MOAC because the burden of payment was borne unevenly. At some stages, enumerators paid by the project were in the field, earning extra money, while the enumerators paid by MOAC had returned to Mbabane. On the other hand, Ministry enumerators are permanent employees and were not laid off, like those temporarily hired by the project, at times when the project had no work for them to do.

The enumerators who returned to Mbabane each night did so because MOAC funds had been exhausted for their per diem and for the more substantial cost of hotel accommodation of field supervisors. If the supervisors are able to meet their planned commitments away from Mbabane in full during remaining survey work, the total cost of their hotel accommodation could exceed \$3,000. Even the hotel expenses incurred by the field supervisors during phase I of the SNL survey quickly exceeded their section of the Ministry's budget for the year. We recommend that savings from some sections of the project budget, such as transportation, be used to cover the hotel expenses and other field allowances which MOAC is unable to provide.

6. Work plan

The original plan for completion of the project was September 1987. Dr Bruce's memorandum of 12 September 1986 provides a work timetable which assumes that the phase II SNL survey will begin in November 1986 and that the project will terminate in December 1987. This would also include time for the SNL case studies. Although the original plan for completion of the project was September 1987, an extension to December would not require additional funding. Problems would arise if the project is allowed to extend beyond December 1987, as has been informally suggested. More funds would then be needed.

The Progressive Farmer Experience study has been delayed, and is now due to start in late November 1986, finishing in July 1987. However, this does not pose any problems for the project.

The LTC chief of party has suggested an adjustment to the work plan proposed by Dr Bruce, so that phase II of the SNL survey would begin in January 1987 and the project would finish in March 1988. The times allowed for the various activities in this latest suggested time horizon appear to us to allow some economies. As discussed in section 3.2 above, we suggest that a

different arrangement be made for the proposed case studies, so that they do not constitute a load on the existing project team. Existing project funds can be reallocated in such a way that the case studies are completed in time to permit project termination as envisaged by Dr Bruce, and realism is maintained as to the distribution of other project loads among members of the team. The additional expenses that would be incurred by extension of the project into 1988 can thereby be avoided.

We recommend that phase II of the SNL survey begin in early January 1987, as proposed by Dr Marquardt, and that the project completes in December 1987. This implies adjusting the dates of the individual activities as shown in the table below.

Table 1. Work plan: earlier suggestions, progress to date and evaluators' recommendation

Note: timings are approximate and not all activities are shown.

| | Original plan (summary) | Progress to date |
|-----------|---|--|
| 1985 Aug | Preparation with MOAC researchers at LTC | Preparation in Madison as scheduled (no SAE) |
| Sep | LTC team arrives in Mbabane | |
| Oct | Design, translation, field testing of SNL Survey instrument | |
| Nov | SNL Survey fieldwork begins | |
| Dec | Progressive Farmer Study begins | |
| ----- Jan | Preliminary analysis, refinement of methods | |
| Feb | Fieldwork continues... | |
| Mar | | |
| Apr | | |
| 1986 May | | |
| Jun | | Progressive Farmer Study researcher arrived |
| Jul | | |
| Aug | All sub-studies complete except Progressive Farmer Study | SNL Survey phase I ended P.F. Study design... Data entry.... |
| Sep | Mid-project evaluation SNL Survey fieldwork complete | Data cleaning.... |
| Oct | R&R LTC chief of party | Design of SNL Survey phase II questionnaire |

Table 1 (cont.)

| | | Original plan | Revision Sept. '86 | Suggestion Nov. '86 | Evaluators' recommendation |
|------|-----|------------------------------------|------------------------|------------------------|-------------------------------|
| 1986 | Nov | Prog. Fm. study complete | | | |
| | Dec | | SNL survey phase II | | |
| | Jan | | | Training | Training |
| | Feb | | | | SNL survey phase II |
| | Mar | | | SNL survey phase II | |
| | Apr | SNL Survey analysis | Data entry | | |
| | May | complete; draft repts. | | | Data entry |
| | Jun | Seminar | Data analysis | Data entry | |
| 1987 | Jul | | | | Data analysis |
| | Aug | Final repts. LTC COP departs | Report writing | Data analysis | Case stud- ies |
| | Sep | | | | Report writing |
| | Oct | | | | |
| | Nov | | Finalization | Report writing | Finalization |
| | Dec | | | | |
| | Jan | | | | |
| 1988 | Feb | | | Finalization | |
| | Mar | | | | |

Appendix_I

Evaluation terms of reference

1. The objectives of the mid-term evaluation are: first, to evaluate the progress made to date under the project; second, to identify any improvements which might usefully be made in ongoing research activities; and third, to consider the project's tentative plans for data analysis, the options paper and other reporting, and to identify any appropriate improvements.
2. In fulfillment of these objectives, the evaluators shall, with such division of labour as may be agreed upon with the Agricultural Development Officer and LTC's chief of party, proceed to:
 - A. Evaluate work to date on phase I of the Swazi Nation Land Survey, plans and field research instruments for phase II of the survey, and plans for data analysis and reporting of data from both phases.
 - B. Evaluate work to date on six special studies commissioned by the project, including survey instruments and such reports as are completed or in draft, and suggest any useful changes in current planning as regards these studies.
 - C. Evaluate project plans for several case studies of SNL communities, suggest any useful alterations in those plans, in particular the substantive coverage and methodology to be used in those studies.
 - D. Evaluate the extent to which the several pieces of research set out in (A)-(C) above constitute adequate coverage of policy-relevant issues, and, to the extent they do not, suggest any important gaps in information which require attention.
 - E. Review the individual components for the purpose of evaluating their sufficiency as the basis for the subsequent development of policy options.
 - F. Confirm with senior MCAC staff re: the elaboration of major policy issues of direct and immediate concern.
3. The evaluators shall also assess the general progress under the project, identifying causes of any delays or less than satisfactory performance, and suggest means of removing or alleviating them.
4. The evaluators shall, after initial discussions with relevant USAID staff and the LTC chief of party, proceed with interviews with relevant officials and staff of the Ministry of Agriculture and Cooperatives; the Social Science Research Unit, University of Swaziland; relevant staff of USAID's Cropping

Systems Research Project; members of the project's reference group; and such researchers under contract for special studies as may be available.

5. Prior to their departure from Swaziland, the evaluators shall provide USAID/Swaziland with a report embodying their conclusions and recommendations.

Appendix II

Persons met

| | |
|---------------|--|
| F. Buckham | Deputy Permanent Secretary, MOAC |
| N. Cohen | Regional Economist, USAID |
| N. Dlamini | Director of Research and Planning, MOAC |
| S. Dlamini | Enumerator |
| J. Fisher | Adviser to Minister of Agriculture and Cooperatives, Cropping Systems Research Project |
| B. Flory | LTC researcher |
| K. Hayes | Chief of Party, Cropping Systems Research Project |
| R. Hitchcock | Community Development Section, MOAC |
| S. Hlophe | Senior Agricultural Economist, MOAC |
| D. Joe | Enumerator |
| H. Johnson | Acting Director, USAID |
| J. Johnson | Evaluation Officer, USAID |
| R. Levin | Consultant |
| M. Marquardt | LTC Chief of Party |
| E. Martella | Agricultural Development Officer, USAID |
| S. Mbelu | Regional Secretary, Tinkhundla |
| F. Mdluli | Rural Sociologist, MOAC |
| K. Mhlongo | Agricultural Economist, MOAC |
| M. Ngwenya | Senior Agricultural Officer, MOAC |
| N. Nkambule | Director, Land Use Planning Section, MOAC |
| A. Reed | Acting Deputy Director, USAID |
| J. Testerink | Acting Director, Social Science Research Unit, University of Swaziland |
| V. Thomo | Enumerator |
| R. Thwala | Under Secretary (Development), MOAC |
| F. de Vletter | Consultant |

Appendix III

Land tenure problems and hypotheses: some suggestions

We suggest the format below as an incomplete example of the way in which specification of problems and hypotheses may help to systematize the project's approach to data collection, analysis and presentation. Further examples of hypotheses have been discussed with the project team.

- I. Inefficiency in production
 - A. Inadequate levels of investment
 1. Poor access to credit
hypothesis: inability to transfer use rights constrains access to credit.
 2. Infrequent construction of terraces, irrigation ditches and buildings
hypothesis: insecure tenure (resettlement) is a disincentive to agricultural investment.
 - B. Misallocation of resources
 1. Overgrazing
hypothesis: shared rights to grazing are an incentive to overgraze.
 2. Shortened cropping season
hypothesis: traditional use of fields for common grazing limits cropping cycle.
 3. Water wastage
hypothesis: unconstrained rights to water use allow upstream users to reduce flow beyond an efficient level.
 4. Excessive fallowing
hypothesis: absentee owners or allottees are less interested and able to fully use their land.
 - C. Failure to improve technology
hypothesis: the fragmentation of holdings constrains adoption of efficient technology.
hypothesis: traditional leaders maintain existing technology out of inherent conservatism.
hypothesis: some smallholder irrigation schemes provide viable models of improved technology under current land law.
hypothesis: ambitious farmers are limited by traditional rules for land allocation.
hypothesis: efficient farmers are constrained from borrowing land by existing tenure institutions.

- II. Inequity
 - A. Gender bias
 - B. Racial bias
 - C. Landlessness

- III. Inflexibility of traditional institutions in face of changing demands for land
 - A. Population increase
 - B. Urban uses
 - C. Improved technology
 - D. Increased government services

- IV. National security
 - A. Improving balance of payments
 - B. Food self sufficiency