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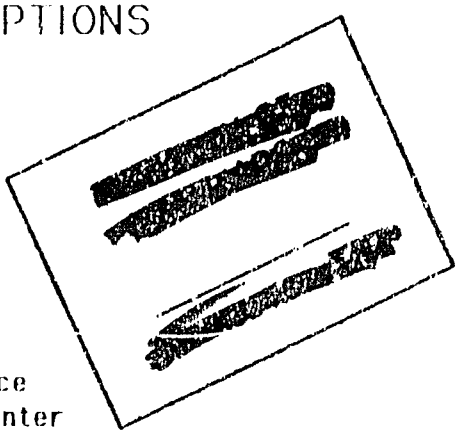
INSTITUTIONAL CONSTRAINTS AND OPPORTUNITIES

SUMMARY OF RESEARCH FINDINGS AND POLICY OPTIONS



BY

John W. Bruce
Land Tenure center
University of Wisconsin

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Preface

This [redacted] report presents the summary findings of the Changes in Agricultural Land Use: Institutional Constraints and Opportunities Project and Land Tenure Policy Options. This study was funded by the USAID-Swaziland Cropping Systems Research and Extension Training Project.

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The opinions and conclusions expressed in the report and the policy options suggested solely reflect those of the author and are not to be construed to reflect those of the Ministry of Agriculture and Cooperatives Swaziland, the University of Wisconsin-Land Tenure Center, nor the United States Agency for International Development.

I. INTRODUCTION TO THE RESEARCH PROJECT

While a number of African countries such as Kenya and Tanzania have opted for dramatic reforms of their customary systems of land tenure, Swaziland has so far elected to retain its customary system largely unaltered. In doing so, it seek to conserve traditional values such as access to land for all Swazis nationals. However, a number of commentators (Holleman, 1964:339-341; Hughes, 1972; Whittington and Daniel, 1969; Maina and Stricker, 1971; Magagula, 1982; and Tate and Lyle, 1982) have suggested that certain aspects of the system may be constraining agricultural development.

The discussions of this question have relied heavily upon A.J.B. Hughes' study, Land Tenure, Land Rights and Local Communities in Swaziland, based on data gathered twenty years ago. That information is dated, and while Hughes perceived a number of possible problems with the land tenure system, he was unable to adequately assess their importance. His study was only very modestly quantitative; his survey data was used primarily for descriptive purposes and was gathered in a few non-randomly selected localities which could not be assumed to be representative of Swaziland. Since then, some useful data has become available through the Central Statistics Office's. Swazi Nation Land surveys and Agricultural Censuses, as well as though a number of studies which, while not focused on land tenure, have touched upon it (Magagula, 1978; Sibisi, 1981; de Vletter, 1983; Testerink, 1984 and 1987; and Low, 1987). But there has been no thorough examination of the question.

On September 1985, the Research and Planning Division of the Ministry of Agriculture and Cooperatives (MOAC) launched a major research project to clarify these issues. The thirty-month program of research has been funded in part by the United States Agency for International Development (USAID), and technical assistance has been provided by the Land Tenure Center (LTC) of the University of Wisconsin. The research has been carried out by the resident LTC researchers, their MOAC colleagues, and local researchers recruited through the Social Science Research Unit (SSRU) of the University of Swaziland. Because so many ministries policies were potentially affected by the results of the research, an inter-ministerial Reference Group was established by MOAC to review from time to time the progress of the project and initial research results. The staffing and organization of the project is reviewed more fully in Annex 1.

The objective of the research has been to generate a body of representative data on land tenure and agricultural development, on the basis of which the impact of the customary land tenure system on agricultural development could be tested through statistical analysis. In order to produce research with clear policy relevance, several steps have been necessary:

1. Basic facts about the system have needed to be confirmed and quantified through field research, rather than relying on dated information.

2. Hypothesis have had to be developed, drawing upon those basic facts and the concerns of policy makers in government, and confirmed by the comparative experience with land tenure in other African countries.

3. These hypothesis have had to be tested through field research to establish whether the hypothesized constraints are in fact constraints.

4. When some degree of constraint has been found, three questions have had to be answered:

   a. Are all farmers constrained thereby, or only particular groups of farmers?

   b. Is the constraint counterbalanced by benefits due to the same characteristics of the tenure system, and if so, what is the balance of benefits and costs in changing those characteristics?

   c. Are there other constraints which are more immediate and stronger, so that tenure change alone would have little impact?

5. The research has had to assess whether the tenure system is evolving satisfactorily to meet challenges posed by new economic opportunities, or major reform intervention are necessary.

6. It had to be examined whether there were models of tenure change within the current system, and opportunities posed by the structure of the system and its institutions, of which policy-makers could take advantage in planning tenure change.

7. Finally, drawing up the above information and in light of the comparative experience with land tenure reform, policy options for government have been developed.

The research program developed by MOAC and LTC has explored these issues through research at several levels. First, a national sample survey of farm homesteads on Swazi Nation Land was carried out to obtain for the first time data which would allow their situation to be related to their productivity. This is the Swazi Nation Land Tenure Survey by Mark Marquardt (referred to hereinafter as the SNL Tenure Survey). Hypothesis have been tested with regard both in farmers generally and particular groups of farmers (such as "commercial farmers" and "female headed households"), to determine whether a problem which may be insignificant for farmers as a whole may be services for a particular group. Those farmers who have seriously sought to achieve marketable surpluses and their problems were of particular interest, and it was thought--correctly, in reprospect--that in the national random sample survey too few of these might be present to permit adequate analysis of their situation. A separate study was therefore carried out of farmers who had essayed commercial production, with a sample drawn from

the membership lists of the now defunct Advanced Farmers Program of MOAC. This is Land Tenure and Other Constraints to Commercial Agriculture on Swazi Nation Land: a Survey of Swaziland's Advanced Farmers by Bruce Flory (hereinafter, Advanced Farmers Survey). There were also certain issues of concern, for instance common property management issues associated with pasture management, which could not be examined adequately through a sample survey. A third study sought to meet this need: Case Studies of Land Tenure Issues in Swazi Nation Land Communities, by Tsenjiwe Dlamini, not yet completed at this writing (hereinafter referred to as the SNL Communities Study). All three of these studies were conducted by LTC and staff of the Research and Planning Division of MOAC, and they have had in common, but address from different angles several key concerns: security of tenure and its impact on investment, subdivision and fragmentation, access to land for expansion of cultivation, land as collateral and farmer access to credit, communal grazing of crop residues and its impact on agricultural innovation, and communal pasture management.

In addition, five more narrowly focused "special studies" were contracted with local researchers recruited through SSRU. Two of these studies drew upon research already completed, but focused upon issues of concern to the project. The first is a background review of the statutory law relating to land and agricultural development in Swaziland: Legal Aspects of Land Tenure in Swaziland by Alice Armstrong (hereinafter, the Legal Study). The second is a micro-study of land disputes and their management in a relatively developed area of the Middleveld, identifying trouble spots in the land tenure system: Customary Land Disputes and their Management, by Laurel Rose (hereinafter, the Disputes Study). The third special study specifically examined the ability of the customary land tenure system to meet the challenges of technical innovation and consequent new economic opportunities. Smallholder irrigation was selected for study based upon indications (Hughes, 1972: 232-234; and Tate and Lyle, 1982) that this was a situation in which tenure might be problematic. This is Innovations and Adaptation: a Study of Land Tenure and Smallholder Irrigation Schemes in Swaziland, by Fion de Vletter (hereinafter, the Smallholder Irrigation Study). The fourth special study was Land Tenure Arrangements in Agricultural Development Projects on Swazi Nation Land, by Richard Levin (hereinafter the Project Tenure Study). It was hoped that tenure innovation in these projects on Swazi Nation Land, whether on farmer reserve land or repurchased land, might provide models for future change. The fifth is A Study of Individual Tenure Farms in Swazi Ownership, by Margo Russell (hereinafter the ITL Farm Survey), which seeks to understand how access to land within an alternative tenure system for some Swazis has affected SNL development.

This Policy Options Paper draws together and summarizes the findings of these studies, then develops and examines in their light severe policy options open to government for the development of the land tenure system. This paper is to provide the basis for a Policy Seminar with MOAC and other government officials in May, 1988.

II. SUMMARY OF RESEARCH FINDINGS

In the summary which follows, the findings from the several reports have been consolidated with regard to each of a number of hypothesized problems with the customary tenure system. In each case, the section ends with a delineation of the needs which have been identified.

A. SECURITY OF TENURE

Capital accumulation in agriculture is an accreturiary process, taking place through incremental investments of labor, cash surplus and credit in the holding over a long period of time. A farmer will not make long-term investments in the holding unless the farmer is secure in his expectation of reaping the benefits of his investment. If land can be arbitrarily taken from the farmer, and especially if the development of the land increases the likelihood that it will be taken, insecurity of tenure will discourage investment in the holding. Commentators have be concerned about two possible sources of insecurity of tenure in Swaziland. The first is the exercise of the chief's power of banishment, which in some cases has been said to be used by chiefs to punish successful commercial farmers who have aroused their jealousy. The second is concern over the possibility of resettlement. A third source which may be of growing importance is suggested by the Land Dispute Study (Rose, 1987) i.e., the growing inability to obtain quick and consistent decisions of land disputes, as land values rise rapidly and the frequency and seriousness of those disputes increase.

As regards banishment, Holleman (1964: 339-41) and Hughes (1972: 148-149) raised this issue and regular reports of banishment in the daily press (Russell, 1985, 1985:32) keep it alive. The archtypical story in this regard concerns a prosperous farmer who, having excited chiefly jealousy, is accused of neglecting traditional obligations such as tribute labor. This can lead to escalating demands by the chief, a growing sense on the part of the community that the commercial farmer should be carrying a larger share of the community obligations but is not doing so, and finally, that his success is explicable only by witchcraft. An escalating dispute leads to banishment. This is not just a matter of chiefs, but of traditional community attitudes, in particular a radical egalitarianism which condemns success which sets one apart from one's fellows. Magagula (1982:132) found clear indications of this attitude; 50% of the respondents in his sample in Rural Development Areas agreed with the statement that if you become exceptionally rich and successful, your neighbors would bewitch you.

Everyone has heard of such cases, and the researchers had several reported to them in the course of the research. (e.g., Flory, 1987: 16; Rose, 1987: 48,49). But given that such stories are repeated over and over again, it had not been possible prior to this research project to estimate their frequency and what kind of dampening effect they have upon agriculture.

The SNL Land Tenure Survey found that nearly 30% of the homesteads no longer held some land that they had once held, but less than 5% had lost it through the action of a chief. Asked whether they knew of cases of banishment in their chieftainships in the past five years, 17% of respondents knew of banishments in their chieftainships (Marquardt, 1987: 12). In the Advanced Farmer Survey, 28% of respondents knew of banishments in their chieftainships (Flory, 1989:15). How many of these cases, however, were attributable to chiefly jealosy of prosperity due to commercial farming Given the nature of this question, one does not expect frank, reliable answers. On the other hand, where a different, specific reason is given for the banishment, one can assume fairly confidently that such jealosy was not the cause. In the case of the SNL Land Tenure Survey, only a few cases ("serious crimes") can be excluded on this basis. In general, respondents were reluctant to discuss the causes. In the Advanced Farmer Survey, in which a much smaller sample (47) was used and there was more extended interaction with the respondents, clearer indications were obtained. Of twelve cases of banishment, one was motivated by jealosy of success in commercial agriculture, five were clearly for other reasons, while six involved witchcraft and unspecified disagreements, which might or might not have involved jealosy over success in commercial agriculture (Flory, 1987: 16-17).

Resettlement was an important element in the early RDA program, especially in what are referred to as the high-intensity RDAs. The objectives were primarily to move homesteads to good agricultural land and for terracing, rather than consolidation (Funnel and Patrick, 1982; Huntings Technical Services, 1983: Annexes E and F). Magagula (1978:156) found that roughly a third of affected farmers felt that they had received better land as a result of the reallocation, while roughtly a third felt they had received poorer land. The Land Dispute Study found resettlement was a fertile source of land disputes (Rose, 1987: 44-46).

While the absolute numbers of these cases appear to be very small, Flory was convinced in the course of his research that they were nonetheless a cause for serious concern to those in his Advanced Farmer Study (Flory, 1987: 18, 42, 47).
It was found that 34% of respondent had already had their areas done, and about a third of these had had their homestead or fields moved. Future settlement did not seem to be a major source of concern. When the 34% who are not concerned because their areas have already been done are added to those who do not expect resettlement to take place in their area, over 90% are not concerned.

Finally, the Land Disputes Study (Rose, 1987: 60-62) indicates that land disputes and their settlement are an increasing problem. Rules have been evolving unevenly because different demands are being made by new land uses and land values in different parts of the country, with growing confusion as to what the rules are. The structures for land dispute management has been altered in ways that have led to confusion

over the responsibilities of different levels of the despute management hierarchy, leading to confusion as to where people must go to have a dispute settled and how appeals should proceed.

A related issue, which can best be dealt with in this context, is tribute labor. It is related to the experience of commercial farmers with their chiefs because it is one of the key obligations which some commercial farmers are accused of having neglected.

The SNL Tenure Survey found that tribute labor was provided to the chief by over 95% and for the King by 77% of the homesteads. Most of this labour in both cases was provided for weeding and harvesting. The Advanced Farmer Survey pursued this topic in more detail. It was found that the traditional requirement that the chief's land be plowed first were no longer common, though these could be constraints in areas where still practised. It was found that 91.5% of the farmers contributed labor to the chiefs, and in most chiefdoms assistance with plowing was significant as well as assistance with weeding and harvest. This may reflect the fact that this group of respondents had significantly more draft power than most farmers. Almost three-quarters of the advanced farmers were required to do other tasks for the chief beyond work in the fields. A majority of the homestead would just send one member when labor was called for, but the number of labor days involved is large. The average advanced farmer donated 62.4 working days of labor per year to the chief and king. While these figures might suggest a problem for advanced farmers, a majority said it was not a burden and almost two-thirds of those who contribute said that it did not affect their own farm work. This may be due in part to only one family member being sent for such labor in most cases, so that key operations do not need to stop entirely. (There were indications that total suspension of farm work for funerals were a greater problem).

But the third which did say that their work was affected is not insignificant. These homesteads hired significantly more labor than others, which tends to confirm that, as might be expected, homesteads with a labor constraint are more disadvantaged by the labor obligation. The magnitude of the problem is likely to be somewhat greater than the survey indicates, given the natural reluctance of farmers to complain about tribute labor. It may also be to some extent localized, in that obligation to the chiefs, or at least enforced obligations, appeared to differ significantly from one chieftaincy to another.

To summarize, the absolute number of cases of banishment is quite low, and less than half--probably considerably less than half--involve an element of jealosy of success in commercial farming. Such cases do, however, take place, and Flory concludes that they generate significant insecurity among commercial producers. Moreover, it was realized in the course of the research project that the chiefs' power to fine, which the research projects, did not measure, may play a more significant role than banishment.

There did not appear to be any widespread expectation of future settlement among commercial farmers, and so only quite limited insecurity is being created by that factor. A newer source of insecurity, and one which may grow in the future if remedial action is not taken, is ineffective despute settlement. Finally, while tribute labor was not generally considered a major constraint, a significant minority of advanced farmers, particularly those facing labor constraints, considered that their farming was adversely affected by the demands it placed on their labor supply.

Several needs have emerged from the research. There would appear to be a need to alter popular attitudes toward success in agriculture, affirming that it is quite as acceptable to exceed in that area of endeavour as in any other. There is a need for a clear policy of protecting successful farmers from harassment. An important element in this process may be the clearer definition and standardization across chieftaincies of tribute labor obligations and either general monetarization of these obligations or an option provided to labor - poor households to provide them in cash. It may also be useful to clarify policy on future resettlement. Finally, there appears to be a need for more authoritative statement on some points of customary law, confirming the evolution in its rules which have occurred over the past generation, and the creation of more expeditious procedures and clearer lines of authority in dispute settlement. These needs will be considered under each tenure reform option.

B. SUBDIVISION AND FRAGMENTATION OF HOLDINGS

One of the concerns frequently expressed with respect to customary land tenure system is that they may promote excessive subdivision and fragmentation. Subdivision is used here for the process by which the land of a parental household is broken into smaller holdings for inheriting households through inheritance. The subdivision of land over generations into smaller and smaller operated units has given rise to considerable concern about preservation of viable units for cultivation. The underlying assumption is that as an economy develops, its labor force specializes, some in agriculture and some out of agriculture, and that land should not continue to be subdivided among all the next generation but should go to those with a full-time commitment to agriculture. The remedies generally proposed are alteration of inheritance laws and specification by law of minimum holding size.

Rubin (1965) describes the Swazi customary law of inheritance. The eldest son of each house in a polygamous household or the eldest son of a man who has only one wife, will receive the major portion of any estate left by the father. Provision will be made by the eldest son for younger sons (in each case) to a lesser extent. There will be a major heir (inkosana) selected by the family council (lusendvo), and in addition to now constituting the head of the homestead, he will inherit any land his father had not allocated to particular

wives. Widows do not inherit, but have a right to use land and livestock which descend to her eldest son, provided she continues to live with him. Daughters do not, as a rule, inherit.

Such legal descriptions make division seem rather automatic and mechanical. Rubin, for instance, was told that a man cannot, by dispositions made in his lifetime or by will affect the rights of his heirs. If this is the formal position, it is certainly not what happens in practice nor does it reflect the common understanding. Magagula (1978: 126-127) found that 87.4% of his informants felt that a landholder could distribute land at the time of death. Of those who said that this was possible, 68.6% indicated that it could be given to children and another 22% considered it could also be given to other close relatives. In fact the rate of subdivision will depend upon dispositions before the father's death and negotiations among the heirs. The research project sought for the first time a sense of the frequency and impact of subdivision.

The SNL Tenure Survey found that 56.7% of respondents said that they had inherited their father's entire holding. Of those who had shared the inheritance with others, two-thirds said it had been divided with brothers. In the Advanced Farmer Survey, one-third of the respondents had not shared with others, while two-thirds had done so. The parental homestead's land is often being divided at inheritance, which is hardly surprising. The SNL Tenure Survey found, by comparing distribution of estates at various distances in the past, that the number of cases in which more than one heir shares in the inheritance is not increasing. The Advanced Farm Survey found that smaller field sizes are not resulting, with field sizes remarkably constant at two hectares. When the homesteads land, which may consist of several fields, is divided among heirs, it appears that those fields are being distributed among her is but not themselves divided. Moreover, in those cases in which subdivision took place, this has not resulted in average field and total holding sizes smaller than those in which subdivision did not take place, suggesting that subdivision may take place primarily in the cases of larger holdings, when it is less damaging. In addition, in the analysis of land acquisition patterns of groups of particular concern, it was found that both commercial farmers and agriculturally dependent households were more likely to have inherited land than others.

None of these findings suggest an inheritance system operating automatically, chopping up land into ever smaller operating units. Those involved seem to exercise a good deal of control over the process and to be able to adjust it to their needs. There are, however, indications that this process is increasingly conflictual. The Land Disputes Study (Rose, 1987: 33-36) found that disputes over inheritance, usually between brothers, were common. Such disputes appear to have been exacerbated in recent years by land and resource shortages. Such disputes may be a cost of the flexibility observed in the inheritance patterns, which do not provide equal shares for everyone.

A second concern is fragmentation. Fragmentation refers to a situation in which a homestead's land consists of several non-contiguous pieces, with the property of others between them. It tends to be related to subdivision, in that when subdivision has resulted in very small pieces of land, a homestead will need to hold several pieces in order to have enough to cultivate. Fragmentation is a policy concern because it can lead to inefficiencies in the use of scarce resources (labor and capital items such as plow oxen and tractors) and less intensive utilization of land. Such costs of fragmentation are affected by the number of parcels and the distance between them. On the other hand, it sometimes allows homesteads to spread their risks by taking advantage of different soil types and rainfall, permitting a wider range of crops to be planted. It is often a natural if not an ideal consequence of the efforts of more entrepreneural farmers to expand their cultivation. Where it is considered that fragmentation is having harmful impacts, remedies usually include compulsory consolidation and efforts to decrease subdivision. (The research project attempted to assess the causes and impact of fragmentation).

The Advanced Farmer Survey showed that most fragmentation originates in acquisition of more than one piece of land through inheritance and allocation, rather than through land borrowing, as might have been expected in the case of this more entrepreneural group. A third of fragmentation had their origins in a farmer wanting more land and only being able to obtain it at some distance. Borrowed fields are considerably farther away from the residence (60% are more than 2 kilometres away) than other fields. Of those with fragmented holdings, 60% said that it posed no problem, while 40% responded that it was a problem. Those who declared that it was not a problem noted several advantages: access to land in different ecological zones, or to land which can be irrigated, or, in two cases, to Individual Tenure Land under a tenure system which they preferred.

The SNL Tenure Survey attempted explore the dynamics of fragmentation somewhat differently. Subdivision, while not dramatic, does appear to be having an effect on fragmentation. Younger households were found to need more pieces of land to obtain a particular hectarage than older household heads. It is worth noting that in the analysis of how tenure problems affected particular groups, the number of holdings at considerable distances from the homestead was not greater for commercial farmers, who thus appear to be able to get the extra land they need nearby. It was greater, however, for homesteads which, while not commercialized, have an exclusive dependence on agriculture.

It was hypothesized that, due to inefficiencies inherent in fragmentation, fragmented holdings would have a higher percentage of fields fallow than non-fragmented holdings. This did not prove to be the case, seriously undermining the case that fragmentation is causing less effective land use.

Given the findings above, it is difficult to make a case that fragmentation, at present levels and under present conditions, is a critical problem. Its impact is not at a level

which demands the costly procedure of compulsory consoldiation of holdings. It may be worthwhile, on the other hand, to ask what can be done to minimize fragmentation in the long run. The need, it would seem, is to minimize subdivision and thereby limit future fragmentation. The one need that may arguably be said to emerge from this analysis is a need to reinforce elements in the system of inheritance which permit those involved to minimize subdivision. Those elements would appear to include the father's power to distribute land before his death and the strong role of the principal heir.

C. ACCESS TO LAND FOR EXPANSION OF CULTIVATION

When MOAC and LTC began planning this project, one of the concerns voiced by some Swazis was that there was good land out of cultivation in spite of the need for greater production of food and other crops. This was expressed in terms of a dichotomy between "rural residents", who desire their livelihood primarily from wage employment in Swaziland or abroad and who are only marginally interested in cultivation, and "farmers" who derive all or most of their livelihood from farming and have an interest in expanding and intensifying cultivation. The implication was that the former were holding more arable land than they were interested in using, while the latter are constrained by small landholdings.

The research project sought to test this model, and work out the implications in terms of need and mechanisms to redistribute land to achieve more intensive land use. The project hypothesized that if such a contrast existed between those with more and those with less land than they could use, it might be a dynamic situation in which a single homestead might be in each position at some point in a homestead cycle which sees its labor supply change with work in wage employment.

In the SNL Tenure Survey about a fifth of the homesteads indicated that they held land which they considered arable but had not been cleared. About half cited a shortage of money, labor or equipment, less than 4% indicated that they already had enough land to farm. A sixth of the homesteads (37) indicated that they had land which had been cleared, but was not presently being used.

The Survey utilized proportion of cultivatable land not being farmed as the key indicator, and related it to a household cycle, a modified version of that utilized by Low (1987). Unused land, it was found, is associated with stages in the household cycle, confirming the basic hypothesis. Use of the cycle model proved useful in explaining land out of cultivation and pinpointing the conditions under which it most often occurs. There proved to be a clear relationship between the percentage of land fallow and the homestead labor supply. It was found that homesteads with large numbers of adults had a lower percentage of household land. Human labor is not the only factor, however. Homesteads with larger numbers of cattle (and presumably more draft power) had a lower percentage of their land fallow. Perhaps

most revealing, homesteads with older household heads had a higher percentage of land fallow. This appears to be associated with the point in the homestead cycle at which a mature homestead, having acquired land over its lifetime and having enjoyed the labor of adult children, loses that labor to wage employment but still has not yet dissolved its holdings through distributions to the new homesteads which will eventually be founded by those children.

Land borrowing is the mechanism which might be expected to facilitate the land between land-short and land-surplus homesteads. Given that those statuses are themselves temporary (related to particular stages in the homestead cycle), a temporary means of transfer would be appropriate. A loan of land (kuboleka) is recognized under Swazi customary law. Rubin states that no rent is payable for such a loan and the borrower may be evicted at any time, though he will be allowed to reap any crops which have been planted (Rubin, 1965:93). Sibisi in her Keen Farmer Study (Sibisi, 1969: 49-50) provides an analysis of the exchange of benefits which provides a basis for lending. The borrower of course gets to raise more crops, but is also not accused of building up too large a permanent holding, and gets the lender to watch over the field to prevent livestock damage. The lender often gets his retained land plowed by the borrower, and sometimes a few bags of produce from the borrowed, and sometimes a few bags of produce from the borrowed land. He also cannot be accused of holding land idle. The loaned land is improved by any manure or fertilizer applied to it by the borrower.

The incidence of land borrowing is in fact remarkably low. The 226 homesteads in the SNL Tenure Survey held 400 pieces of land, of which only 13 (3%) were borrowed. There is evidence which suggests (but does not clearly establish) that levels of borrowing have declined in the recent past. The Central Statistics Office's 1971/72 Annual Survey of SNL showed between 7 and 10% of parcels borrowed, the rate varying between regions CSO's 1980/81 Annual Survey of SNL showed between 2 % and 3% of parcels borrowed, or roughly the same as our 1986/87 SNL Tenure Survey. However, one would anticipate a significant fluctuation in levels of borrowing from year to year, depending upon whether there are adequate rains and we have too few points to be certain. The SNL Tenure Survey does show that borrowing is associated with some groups more than others. Female headed homesteads--whose heads tend to be widows, and are labor and draft power deficit--loan out land more often than others. Commercial farmers were more active than others in both the borrowing and lending of land, suggesting they may be seeking short term advantages by altering the composition of their holdings. And of those in the Advanced Farmer Survey, 19% were currently borrowing land, substantially higher than the 6.7% which had borrowed land at any point in the past five years.

Why is borrowing and lending not taking place on a larger scale? There would seem to be two possibilities. First, the demand is not there: there are not people seeking to borrow land.

Second, there may be risks involved in lending out land which, given that remuneration may be fairly token, is drying up the supply side.

Is the demand there? Over 40% of the homesteads interviewed in the SNL Tenure Survey indicated that they were looking for more land, and 15% said that they had made specific attempts to obtain more land and failed. This was particularly notable with respect to homesteads in the expansion phase, which were more often looking for additional land, more often willing to look further afield for land, had more often tried and failed to get land and more often had expressed the opinion that allocations had become smaller. In the Advanced Farmer Survey, 32% said they were looking for more land and 13% said they had made attempts to get land which had failed--though they had also had their successes (Flory, 1987:12).

These are less than satisfactory indications of demand, however, since they represent demand for land for whatever purpose (e.g. hoarding) while only demand for land for immediate expansion of cultivation translates into a demand for borrowed land. In both the SNL Tenure Survey and the Advanced Farmer Survey (Flory, 1987:12), supplementary allocations from the chief were a more important source of additional land than borrowing. Demand, then, would seem not to be very strong.

There is also considerable evidence, however, that land borrowing is fraught with risks, especially for the lender, which may discourage the practice. In the SNL Tenure Survey, only 4 of the 37 homesteads who said they had cleared land not being used were loaning it out. When asked why the land had not been lent, nearly 50% of the 37 responded that they did not want to make enemies. Asked the specific problems facing borrowers, those in the whole sample specify problems referred to the continuing need to borrow land (17.5%) conflicts with the owner (12.8%) and the owner wanting the land back (18.1%). On problems from the viewpoint of the lender, 40.3% cited refusal by the borrower to return the land. Only 10% of the respondents said that they had actually experienced these problems. In the Advanced Farmer Survey, 15% of the farmers who borrowed land said that they had problems with the lender becoming jealous or acting unfairly, but on the whole few problems were reported. Flory contrasts this with the experience in pretesting the questionnaire, in which three of eight farmers interviewed cited services problems with borrowing, especially in reclaiming the land lent. The Land Disputes Study (Rose, 1987:37) notes land borrowing as an occasion for disputes.

To summarize, the presence of good land out of cultivation does appear to be related to fluctuations in homestead labor supply over the homestead cycle. This suggests that the need, at least in the short term, is not so much for a permanent shift of land between homesteads as it is for mechanisms to allow land not used for the time being by one homestead to shift to another for that period. At the moment, the demand for land tc borrow does not appear to be strong. This may be partly a result of relatively poor income opportunities in agriculture, partly to

opportunities to increase production through intensification on existing holdings, and partly due to additional land still being available through chiefs' allocations in some areas. But it also seems clear that the development of such short-term land transactions is being discouraged by risks to lenders, especially the risk of difficulty in regaining possession of the land.

There appears to be a need to develop more adequate mechanisms for land to shift between homesteads in response to changes in their labor supply. On a national level, the impact of such improved mechanisms might be very modest, but they would be likely to have a significant impact in certain areas where demand for land is greatest.

D. LAND AS COLLATERAL FOR LOANS

This was not identified as a major concern at the outset of the project, but has since been raised by the Ministry. The Project could not conduct research directly upon use of SNL as collateral for loans, because no such arrangements exist. The use of land as collateral for loans implies its alienability--it must be possible to sell it in order to recoup the loan--and sales of land are contrary to Swazi customary law. A number of studies have noted this as a constraint on credit to farmers on SNL (Holleman, 1964:339-341; and JASPA, 1977:42). (Others have argued that "Since land cannot be pledged, its occupants are spared the temptation of indebtedness ... the weak are protected from landlessness" : Russell, 1985:34). If collateral is required for lending, or its absence increases interest rates, the SNL farmers are at a potential disadvantage by comparison to farmers on ITL, who can mortgage their land. How far is that potential disadvantage a real disadvantage, and to what extent are SNL farmers deprived of credit and capital-constrained as a result? Credit is certainly not the SNL farmers only one principal route to capital. Very considerable amounts of capital flow into the rural sector and into agriculture through remittance from wage labor, and Testerink (1984: 14-16) concluded that commercial farmers are not capital-constrained). There are a number of recent studies which have examined credit and capital constraints in considerable detail, and it is useful to review their results.

First, while a number of credit programs have required collateral, most have been content with collateral in cattle. Others have required no collateral. The Agricultural Advisory Credit Scheme (AACS) from the Swazi Development Bank (SDB) has been the single largest lender to SNL homesteads lending to about 10% of SNL homesteads. It has required collateral, which has generally been provided though the hypothecation of cattle, or sometimes implements or assets. These loans have generally been for seasonal inputs and services, with only small amounts loaned in cash (Guma and Simelane, 1982: 43-44). The SDB does loan against ITL, as do Barclays and Standard Bank. Such loans are available not only for ITL development but for ITL purchase, with a 30% downpayment usually required. SDB capital is available without normal forms of collateral in the form of funds on-lent through Cotona and Cassallee to their growers, at relatively high interest rates, secured only by the anticipated crops. Loans have

been made on a similar basis by the Chinese Maize Project. Barclays and Standard do "good faith" lending without collateral to established big farmers with credit records. These are primarily large operators on ITL. The Peoples Participation Scheme funded by FAO is a group lending scheme under which no collateral is required, but most of the groups who have applied for a loan have been unable to meet the program's requirement of a deposit of 15% of the value of the loan. There is no "informal" lending sector, reported because such lending is illegal, even if no interest is charged.

The unsecured loans to farmers through processors such as Cotona and Cassallee appear to have worked quite well, though they have serious limitations. They are limited to particular groups of producers, of course; they also involve a rate of interest which is higher than that on other SDB lending; and most important, they are essentially loans for inputs against crops not for long-term investment in agriculture. Where loans to SNL farmers are secured, as under AACS, they are usually secured by cattle.

How adequate is this security as an alternative to land? Sibisi (1969:35) notes that her "keen farmers" complained about the low value of cattle as collateral. SDB officials say that the bank now uses a security valuation of 150%, recently lending E200/head against cattle more than one year old. The experience with such lending is that foreclosure against cattle has generally not been practical. It is generally impossible for the bank to check to ensure that the cattle belong to the borrower and are not sisa'd to him. It is difficult to prosecute for fraud and difficult to get court officials to seize when only a few cattle are involved, since remuneration for them is a percentage of the value of the cattle seized.

Does the restriction of collateral to cattle place at a credit disadvantage those who do not have cattle? Guma and Simelane (1982:49:53) raise the question and note that the average cattle holdings of credit - using farmers are larger than those of noncredit using farmers, suggesting that "herd size does effectively ration credit", but note as well that the differences are statistically insignificant. If such rationing exists, it may not be inappropriate since greater commercial production and larger herd size are directly related in the SNL Tenure Survey, confirming a similar finding by Testerink (1984:14-16).

The Guma and Simelane study of small farmer credit (1982) is the major field study of credit. They found that 38.6% of coop society members used credit, and 4.3% of non-members. Only 17% of all borrowing in their sample was unsecured, though in the case of the crop societies 40% was unsecured. The most common form of collateral was cattle (64%). Of the credit-using farmers, 45% cited cattle as the preferred form of collateral while 8.5% cited land. The credit was used heavily on inputs and tractor hire. Credit financed nonrecurrent expenditure involved 28% expenditures: 62 for fencing, 14 for irrigation equipment, and 9 for buildings. Another study; by MOAC-MEU in the Mahlangatsha RDA in 1979, found that non-commercial farmers borrowed much of the

loans (44% of credit-using maize farmers sold no crops) and used the cheap credit primarily for labor - saving inputs, repaying their loans from wage remittances. Larger borrowers, particularly cotton growers, were more dependent on agricultural income and could not depend upon alternative sources of income to pay back loans (de Vletter, 1984).

Does lack of collateral inhibit the credit market? Probably not, for large, proven farmers. For Guma and Simelane's smallholders, of the 17.5% who had sought, but failed to obtain credit, only 7.9% offered reasons and of these, 23% cited lack of collateral. Of these samples, 40% of those not borrowing money or needing credit in the previous three years claimed they did not need loans, while another 40% said they would prefer to do without loans.

De Vletter, reviewing the evidence on credit (1984:16-17), concluded that, while largely due to remittance income, part-time farmers were not constrained by lack of credit, commercial farmers and, especially those aspiring to become full-time commercial farmers, faced serious credit constraints.

The data from the Advanced Farmer Survey does not support such a broad statement. Of the Advanced Farmers, 75% reported that they borrowed. Of the borrowers, 86% took out seasonal loans for seed, fertilizer and other inputs, while 23% borrowed for farm equipment. Eighty-three percent borrowed through the SDB; there was only one loan from a cooperative and one loan through the People's Participation Project (PPP). Cattle were the collateral of choice (89%) but one farmer used his car and two others used both cattle and wages. Of those who had never borrowed, only one said lack of collateral was the reason. Half of those who never borrowed said they had no need of borrowing. Thirty percent had at some time been denied a loan, and half the failed attempts to borrow were attributed to lack of collateral. Most of those who were denied, were successful in obtaining credit on another occasion.

This would seem to suggest that the Advanced Farmers have fairly broad access to credit utilizing collateral other than land. What remains unclear, however, is the adequacy of access to credit for major, long-term investments, for non-recurrent expenditures. Land collateral has traditionally been used in other economies to finance such expensive investments, which cannot be recovered over one or two years, such as investments in the holding: fencing, farm buildings, wells, farm roads, and irrigation works. We lack a study on the incidence or economics of such investment in Swaziland. Without it, it is impossible to conclude whether such investment is sound in relation to other opportunities for capital; whether the need for capital for this purpose is being met through savings from wage employment; and whether a lack of collateral, if this exists, is a constraint.

While this conclusion is indefinite, it is worth noting that the use of land as collateral for loans would require quite substantial changes in the land tenure system. It implies freehold or a very long-term (40 years or more), freely

marketable leasehold, and implies it on a large scale, large enough to create an effective land market on which such land could be sold to recoup unpaid loans.

E. FARMER CONTROL OVER PRODUCTION DECISIONS

Customary patterns of livestock management include the grazing as commons the crop residues on farmers' fields. There has been concern that this practice is interfering with a set of desirable innovations in agriculture: winter plowing, harvesting of crop residues, and double cropping, which may include hybrid varieties. Fencing has been viewed as a key innovation which, by securing the farmer exclusive control over his fields, makes possible these innovations. Concern over the grazing practice, and opposition to fencing which interferes with such grazing, has been expressed by a number of commentators (McDaniel, 1964: 236-49; and Hughes, 1972: 225-226). The research project sought to assess the nature and extent of the problems posed by these grazing practices and opposition to fencing.

Grazing Crop Residues

Because most of the innovations of concern have been thought to be affected by the timing of the grazing of residues, the research focused on the factors affecting that timing. This includes the role of the chief, who to some extent controls that timing.

Cattle movement off the fields in the spring determines the earliest dates that a farmer can begin plowing. Nearly 80% of the farmers in the SNL Tenure Survey said that the chief announces when the cattle have to be off the fields in the spring. In 57.9% of the cases this meant immediate removal, while another 19.9% indicated that there was a set time limit for removal. Nearly one third of the farmers indicated that they would have plowed earlier if an earlier date had been set. While 64.6% of the respondents indicated that the chief makes an announcement when the cattle are permitted to return to the fields in the fall, over 50% indicated that return was not immediate, but that a time limit was given. Only 13.3% of homesteads cut and stored crop residues, and four-fifths of these indicated that their neighbors did not mind it. Over a third of the homesteads practice winter plowing, most commonly to plow in the remaining crop stover or to take advantage of the first rains. (Marquardt: 198817)

The Advanced Farmer Survey found that in 70% of the respondents' areas, the chief set a date for the removal of the cattle in the spring. The deadline varied widely, from July to December, though in a majority of cases it was in September or October. Of the Advanced Farmers from areas where the chief set a date, 87.9% claimed they would have plowed earlier if the chief had set the date earlier. Nearly 50% of these farmers said that they had begun some plowing before the cattle removal date. Winter plowing is delayed, but only in some cases, and is not prevented. As for the opening of fields for grazing by cattle, in

55% of the areas of the respondents the chief does not announce a date at all. Where such dates are set, only 4.3% of respondents said that it was too early.

While there is some evidence that the dates set by chiefs for removal of animals delays winter plowing to some extent, there appear to be little problem with dates for return to the fields.

Fencing

Fencing has been accepted as an innovation which, by securing the farmer exclusive control over his fields, makes possible agricultural innovations. Opposition by chiefs and conservative communities to fencing as assertion of individual control over a community resource has been noted, and attributed in part to the association of fencing with the much-resented concession- experience. (McDaniel, 1964:236-49; and Hughes, 1972:225-226). There had been indications, however, that fencing had gained fairly broad acceptance. Magagula in his RDA survey (1978:137) found that over 70% of his respondents favored fencing of cropland. Sibisi found that 29 out of her 80 keen farmers had fenced all their fields and another 6 had fenced their main field. She concluded "This does not mean that the traditional system as such has changed, just that concessions have in effect been made to these parts in certain homesteads," and suggested that those who used all their own stover might be expected not to allow their animals to graze the commons. (Sibisi, 1969:54-56).

It is obvious to the casual observer that a good deal of fencing is going on in the rural areas. The research project set out to understand the role of fencing, chiefly and community attitudes toward fencing, and changing perceptions of the acceptability of fencing under customary law. The last issue was particularly interesting as an indicator of the customary tenure system to evolve to permit new technologies and practices.

Flory found that 94% of his Advanced Farmers had done some fencing, and over half of them had fenced in their entirely holding or had every field fenced. Sixty-seven percent of all fields were fenced, while 95% of irrigated fields were fenced. The reasons given for fencing were somewhat surprising. It appears to be done primarily to prevent crop damage during the regular cropping season, and to be not so closely related to winter plowing or other innovation as expected. Winter plowing was done late in the winter after livestock had already browsed over the fields. Of those who fence, 57% opened their gates for communal grazing of stover and the 43% who did not do so did not feel any serious disapproval as a result. Of those who fenced, 40.9% consulted their neighbors and 45.5% sought permission from their chief. (Flory, 1987:22-27).

In the larger SNL Tenure Survey (Marquardt, 1988:19), it was found that 60% of the homesteads had part of their homestead fenced. As among the Advanced Farmers protection of summer crops again appears to be the main reason for fencing, while boundary demarcation was mentioned by less than 10% of the homesteads.

Those who had not fenced explained this as due primarily to a shortage of money and materials; community opposition was hardly mentioned. Most homesteads did not consult their neighbors (75.4%) nor did they feel that their chief needed to be consulted (79.7%). The respondents rated their communities' attitude toward fencing as favorable (56.6%), or non-complaining (30.1%) and only 3.5% indicated serious opposition. Whatever residue of community opposition to fencing may still exist, it appears to be ineffective in preventing fencing, community attitudes reported by a respondent bore no relationship to whether he had or had not fenced.

It proved possible to relate fencing to innovations in some cases, but not in others. Contrary to expectations, those who fence were no more likely to winter plow than those who do not. On the other hand, farmers who fence are more likely (27.2% vs 16.7%) to harvest or plow under their crop residues. It was also found that 18% of those farmers who fenced practiced some farming outside the normal cropping season. (Marquardt, 1988:). Both the Advanced Farmer Survey (Flory 1987:27-28, 44) and the SNL Tenure Survey (Marquardt, 1988:27) leave us with a paradox: there seems to be no negative correlation between fencing and crop disputes, as would be expected.

The chief's attitude as might be expected proved a significant factor with respect to fencing. None of the Advanced Farmers considered that their chief opposed fencing, and 45% of their chiefs had all or part of their own holding fenced. (Flory, 1987: 23). In the SNL Tenure Survey 40% had all or part of their holding fenced. In that survey there was a positive correlation between chiefs' fencing and fencing generally. Where their chief fenced, 72.3% of respondents had fenced, and where he had not, only 55.2% had fenced. There is also a positive correlation between whether the respondent has fenced and whether his neighbors have fenced. One factor unrelated to custom was found to affect whether respondents fenced or not; fencing was less likely to exist if the area had fenced grazing, an alternative approach to preventing crop damage, (Marquardt, 1988:27).

There does, however, appear to be some residual resentment of fencing. In the SNL Tenure Survey, 21% of those who fenced had sometimes reported problems of intentional damage to fences. The Land Disputes Study provides an important insight: disputes over fencing today are not disputes which challenge the right to fence but disputes which challenge the location of the fence, i.e., boundary disputes. A certain amount of conflict will continue to be associated with fencing even after fencing is fully accepted in principle (Rose, 1987:42).

Both the SNL Tenure Survey (Marquardt, 1988: 30) and the Advanced Farmer Survey (Flory, 1987: 44) conclude that there remains little effective community and chiefly opposition to fencing. It is possibly a valid local concern, within a particular chiefdom, but is not a serious issue at a material level. The extent of fencing and of changes in attitude make it clear that what is involved is not, as Sibisi observed in 1969, "an exception" being made for certain farmers and limited areas.

it is rather a matter of custom having changed, in the face of a strong historical counterforce (the concession experience), to accomodate new agriculture practices.

The only need with respect to fencing is perhaps a need to confirm the evolution in custom which has already taken place, in order to eliminate problems even on a local level. (There is also a research need--to understand why fencing is more effective in preventing crop damage). There appears to be a need to encourage earlier removal of livestock from the cultivated areas, but this can only be developed further in light of a fuller understanding of alternative pasture possibilities. This will hinge upon information from the community case studies, not yet written up. Finally, there are indications that indefinite boundaries, if not a serious problem to date, may emerge as one in the future.

F. SNL TENURE: THE RESPONSE TO IRRIGATION

Smallholder irrigation on SNL has been growing in recent years, and its importance has recently been re-emphasized (Funnell, 1986). The 1983/84 Agriculture Census (Phase I: 3) shows that 3.58% of homesteads are engaged in furrow irrigation. There has been doubt as to whether the customary land tenure system could accomodate such a major change of land use. Concerns have focused on the role of the chiefs and questioned their willingness to tolerate the prosperity and influences which would accrue to their subjects if irrigation were successful. There have also been questions of whether the necessary levels of cooperation between plot holders and the necessary discipline for an irrigation scheme could be attained. Hughes (1972:232) reviewed critically the experience with an irrigation scheme in the Lomati Valley, the potential of which was never realized due to conflicting notions of how land should be allocated there. Daniel (1966) has written critically, as had Whittington and Dnaiel (1969:455). more recently, Tate and Lyle (1982) reviewed the experience with land tenure issues in several SNL irrigation schemes, reached very negative conclusions, and recommended leasehold tenure on the Vuvulane model for future development.

This seemed to be a problematic area, and to present a somewhat different set of problems than those confronted in the fencing context. One of the special studies, by Fion de Vletter of SSRU, was focused on these problems, as a case study of the reaction of the tenure system to demands created by a new technology, irrigation. The picture which emerges from an extended, systematic review of twenty-five smallholder schemes was considerably more favorable than that pointed by earlier reports.

The Tate and Lyle report (1982) had seen irrigators as exciting the jealosy of chiefs, who would see irrigators as "minor kings in their own right". Hammett (1970) had been less critical, appreciating that there was considerable diversity in chiefs' reactions, but he too was concerned about lack of skills to superintend a system which cut across traditional rights and obligations and to enforce new and different rules.

The de Vletter study found that in virtually all schemes a management committee had been given autonomous powers to deal with the day to day running of the schemes. Chiefs were members of seven of the schemes, but not one committee included a chief. Chiefs have nonetheless played an important role. The chief's approval is a prerequisite for any scheme. He often (but not always) chooses the site and is responsible for allocating plots. In at least five cases, the chief played an initiating role and, in all but 8, pursued the necessary and often frustrating steps for establishing an irrigation scheme, e.g., obtaining official clearance, water rights, etc. After the scheme was set up, chiefs generally pursued a laissez-faire policy, with the committee left free to make general rules and enforce discipline for more mundane misdemeanors. Committees organize work groups, absence from which results in fines, maintain bank accounts, borrow money, and tend to turn to the chief in only one difficult situation - eviction.

The Tate and Lyle report (1982) had been concerned that eviction from schemes within the traditional tenure framework would be difficult. In fact, sixteen of the schemes had made provision for eviction. While it was clearly difficult to move beyond fines as a disciplinary tool, five schemes had in fact evicted members, in two cases for leaving the land uncultivated, and in one case for refusing to participate in work on channels. It is clear, in fact, that access to land in the schemes is not viewed as entirely a matter of customary tenure, and that it is accepted that somewhat different rules apply. There is some ambiguity as to whether on the irrigator's death the plot is regarded as part of his estate or belonging to the scheme. The future use of the plot tends to be settled by the family in discussions with the management committee. Only the Zakhe scheme has a predominance of second-generation members and most successors are eldest sons, though often the plot is farmed for a long period by the deceased wife.

Flexibility in membership--and thus access to land--was a striking feature of some of the schemes. In government initiated schemes, membership has tended to be on a first-come, first-served basis; in others, allocation has been by the chief. While in a majority of cases membership is by homestead or household, in some case there was membership by individuals and in these cases instances of women and bachelor members was found. Even outsiders to the community were admitted in some cases. Women in particular had more formal involvement then anticipated. In 15 schemes there were women members (some widows who had succeded to their husband's memberships) and two were composed entirely of women. Of the 22 operational schemes, 19 had women sitting on their committees, with a ratio of women to men of 1:3 or 1:2. Where allocations were made to homesteads, wives were often elected as committee members dispite the presence of male household head. These latter were often preoccupied with rainfed crops such as cotton in the lowveld, while wives concentrated on production of vegetables.

De Vletter also found the schemes more effective producers than anticipated. Hansen (1978) and the RDAP 1982 Annual Report had indicated that only 50% of the land was in use in such schemes. De Vletter found only six schemes with significant amounts of land unused, and ten schemes had provision for the landing of plots among members to ensure they were kept in use. De Vletter concludes that these smallholder schemes have a good deal to offer, and are a viable alternative to larger scale operations on the Vuvulane model.

Two problems do emerge from his study, however. First, the issue of inclusion of outsiders in a scheme seems particularly controversial, likely to engender disputes and likely to be ultimately resolved against outsider participation. Second, it became clear that when a serious dispute did arise, one serious enough so that it could not be settled by the chief, it was not dealt with effectively by higher authorities. The case of "schemes that did fail, or became temporarily inactive pending decisions, are the result of involvement of higher authorities who are forced to grapple with issues for which there are no obvious solutions in customary law and practice."

De Vletter identifies several needs:

1. a need for all schemes to have written constitutions which set out rights and obligations clearly;
2. a need to affirm that access to a scheme plot is not a right but a privilege, conditioned upon fulfillment of certain obligations and subject to withdrawal if those obligations are not met;
3. a need to affirm a policy of openness on such schemes to groups disadvantaged in access to land under the customary tenure system: women, in their own right, unmarried men, and some outsiders, especially those with training in agricultural such as graduates of the School of Appropriate Farming Technology; and
4. a need to have clear policies promoting schemes of this nature and the means for prompt and sustaining settlement by higher authorities of such disputes as do arise.

G. COMMUNAL TENURE IN PASTURE

Until the results of the Community Case Studies are available, one can only indicate some of the dimensions of the problem. On a theoretical level, the problem arises from SNL livestock being grazed on a communal basis, the land not under cultivation constituting a commons. In the absence of effective community control on grazing, this gives rise to what has been called the "tragedy of the commons" (Hardin, 1968). Even if overgrazing and environmental degradition are evident (often they are not), the individual herd manager will have no incentive to reduce his herd size nor reduce their impact on the grazing because his isolated action will not redound to his benefit, as would be the case with individually owned pasture. If such individual restraint is exercised on a commons, it only makes more grass available for others' cattle. Restraint must apply to

all, through community regulation of pasture use, in order to be effective in a commons context. Where environmental degradation is occurring through overgrazing on a commons, it may be addressed either through the creation of an effective system of community property management or through individualization of the pasture.

There has been serious concern about overgrazing on SNL pastures, though commentators urge different degrees of urgency. Spaargaren (1977) pointed an alarming picture, while the relevant Annex D to the Huntings RDA Evaluation (1982) is somewhat less pessimistic. In fact, our ability to estimate "carrying capacity" accurately is still quite limited, and such estimations fairly subjective. There does seem a basis for concern, however, in Fowler's findings (1981) that calving percentages were down and extraction rated down since 1967. The calving rate appears to have dropped 10% in 1970-81, due to reduced nutritional intake. Fowler estimated that Swaziland then had the highest stocking density in Africa, at 6.4 acres per beast.

Offtake is low partly because livestock are an excellent investment. In 1982, Mercy (1983) calculated the real return from investment in cattle was 27% against a real loss in a commercial savings bank, given inflation. Doran, Low and Kemp (1979) found an increase relationship between sales and prices as well as rainfall. If cattle are sold only to meet urgent expenditure needs, then fewer will need to be sold when prices are high. For many of those with smaller herds, herds maintained primarily for draft power, the impact of price shifts will be small.

There has never been a serious study of community management of pasture on community rights in pasture in Swaziland. What little information is available in existing reports gives no evidence of even minimal pasture control. The traditional herd management units is the homestead, though animals in the herd may be individually owned by different members of the homestead. The herd management pattern is one of herding more closely superintended, usually by children, during the cropping season, more freely at other times. Cattle are grazed within a few miles of the homestead and brought back each day. All grazing stock are kraaled every night. There are no long distance grazing patterns involving summer and winter pastures. This is however a certain amount of sisa arrangements, the purpose of which may be to place some animals in another ecological zone for a season.

The SNL Tenure Survey attempted to gain some basic data on pasture management practices by asking respondents several questions about how pasture was managed in their chiefdom. Over 80% of respondents indicated that the area they grazed was not grazed by cattle from other runner areas either in the summer or winter. Nearly 90% said that it was not grazed by cattle from other chiefs areas in summer or winter. In both cases outsider use seems to vary very slightly--by a percentage point--higher in summer that in winter. More than half the respondents indicated that it did not bother them if outsiders grazed their cattle in their grazing area. The communities of 17.7% of respondents had a fenced-in grazing area, and in well over half the cases this had

been fenced as part of the RDA program. The survey confirms the utilization of one grazing area year-round and, in five-sixths of the cases, returns to the kraal every night. Efforts to define the grazing areas were not successful. An attempt to relate grazing areas to dip tank areas only found confirmation from half the respondents.

Over half the respondents considered that there was enough grass for their cattle throughout the year and less than half said that they had perceived a decline in the quality of the grazing. Of those who considered there was a shortage, most identified it primarily with summer grazing. Of those who answered a question about the cause of the declining (only 47 out of 226), most blamed "too many cattle" or "cattle from other chiefdoms". Questions as to what might be done about the decline produced few answers were well spread over several proposed solutions, with only "rotational grazing" and (surprisingly) "restrict use to community cattle" gaining no support.

The SNL Survey also attempted to discover relationships between grazing patterns and various household characteristics. For the most part, the results indicate a remarkable uniformity. Larger herds were returned to the kraal at night as frequently as smaller herds. Smaller herds grazed no closer to the homestead than larger herds. Limitations on grazing by outsiders bore no relationship to perceptions of overgrazing. And size of herd did not affect use of fenced grazing. The one positive correlation noted is that individuals are less likely to fence their individual holdings if fenced grazing exists in the community, suggested that fenced grazing is perceived as effective in controlling crop damage.

One area in which we remain in the dark is the very basic question of how the appropriate area of grazing for a homestead is stock is defined. Is there a discrete area of pasture controlled by a group to which that homestead belongs, or is it a free-for-all in which convenience and need are the only determinants of where stock graze. The SNL Tenure Survey provides suggestions that the latter is not the case, but patterns of community management cannot be adequately explored through a sample survey. This was the primary reason for inclusion of the community case studies in the research program, and it is hoped that when these have been written up they will provide some insights into thse issues.

On the basis of information available at this time, there appears to be a remarkable lack of community control over grazing, and every reason to be concerned that SNL grazing will correspond to the "tragedy of the commons" scenario. This suggests a need for either individualization or the creation of effective common property management, a part of a more general strategy to control grazing.

H. THE ALTERNATIVE TENURE SYSTEMS: ITL AND "PROJECT" TENURE LAND

Swazis with capital--enough at least for a 30% downpayment in most case--have the option of purchasing Individual Tenure Land. One of the special studies commissioned by the project was a Study of Individual Tenure Farms in Swazi Ownership (Russell, 1987). The focus of the research project is on SNL, but it was considered important to determine the extent to which Swazi farmers, if they were experiencing frustration on SNL, sought to shift their operations to ITL. For example, among the 47 advanced farmers surveyed by Flory, two had purchased ITL. Both these fields were over 20 kms away from their other land. (Flory 1987:10-11). How common was this pattern? How often did SNL farmers break ties with SNL entirely when they purchased ITL, in which case they would have shown up in a sample of SNL homesteads?

The Swazi Ownership report indicates that these are not common patterns. Working with Land Registry records, Russell found that 30.5% of the holdings, totalling 77,582 ha or 11.6% of ITL land, were now in private Swazi hands. The average size of these holdings is 73 ha, about half of the size of other holdings. While 64.4% of the holdings are under 5 ha, 20.1% are in the 5-100 ha range and 15.5% are in the 100-1,000+ ha range. Some owners have more than one holdings. There are 86 individuals who have average total ownership of 530 ha, or over one-half the total land in Swazi ownership. Of total ownership, 14.3% is by women, the average size of women's holding is half that for men.

A sample of thirty 1 ha or larger holdings indicated several characteristics of the holders. Seventy-four percent of the holdings had been purchased since 1974. Forty-seven percent had been purchased as developed holdings, while 23% were bought a pure bush and 30% had a few facilities. Forty-two percent of the purchases had borrowed money from banks to make the purchase, while 50% had paid cash and 8% had an instalment arrangement with the seller. At the time of purchase, very few of the purchases were full-time farmers. Most were salaried workers in the Civil Service (33%), employed in the private sector (21%), migrant workers and other wage laborers (21%); others were in medical practice (12%), royal family affairs (8%) and self-employed (5%). Some were, however, already engaged in agriculture to some extent, and 10% indicated that commercial cropping of cotton was the major avenue through which they were able to accumulate sufficient money to purchase farms.

The reasons for purchasing the land were complex and cannot be clearly ranked, but they listed:

- inadequacy of arable land on SNL--a desire to obtain larger holdings both with a view toward commercial operation and with a view to providing land for the family.
- inadequacy of grazing on SNL--though they continue to use SNL for grazing also.
- stiffing of incentive on SNL.
- property development and speculation
- retirement.

Plans for commercial operation were often not realized. Several of the holdings sampled were agriculturally inactive at the time of the sample, and a third of the holdings who farmed said they did not produce for sale. Of the land used, 17.2% is in crops and timber, 82.4% in grazing/fallow. Cattle were run on over 90% of the holdings, maize grown on 60%; most holdings are not highly specialized. There were however 17% of the holders who had dairy cattle, apparently keeping them on freehold to keep them separate from other cattle. Of the holders, 14% earn no income from agriculture; 59% more than half their income; 41% more than half their income and 10% all their income.

There is little in the above figures to suggest that SNL farmers are shifting into free hold as an alternative to SNL. What stand out, in fact, is that these freeholders are deeply involved with agriculture in SNL. Well over half of the freeholders have a house on SNL, and about half of them now head this homestead, though they are commonly resident elsewhere. Nearly half still cultivate SNL and of these, half still rely to a significant extent on SNL, typically to produce the family's maize supply. These freeholders had a 60% incidence of polygamy, and a common pattern is for a first wife to be with the husband's family on SNL while subsequent wives are on the ITL holding. The freeholders retain their allegiences to the chief of their home area and 94% of the freeholders said they paid tribute to their chief.

Nor does acquisition of freehold necessarily mean that one has no contact with the local chief where the freehold is located. While other factors influence this, one major factor is squatters, whose relationships with Swazi owners tend to be problematic. The Farmdwellers Act of 1967 protects the pattern established during the Protectorate when Swazis lived on white-owned farms and provided labor in return for the use of land. While the absence of squatters was a major factor in the selection of land for purchase, a third of the purchasers acquired land with some squatters, while 20% (with a mean of 1.7 squatters) said that they had no problem with their squatters, 13% (with a mean of 9.5 squatters) said that there were difficulties. Swazi owners complained that they faced higher expectations than the former owners, and themselves had ambigious feelings about their roles. Though the number of squatters' cattle is supposed to be strictly controlled, some will bring in additional livestock if not carefully superintended. At worst, situations of tension and sabotage develop. When disputes arise over matters such as this, the freeholder has only the local

chief to whom to turn. The squatters may already have khonta'd to the chief, and a freeholder may require a new squatter to do so, as a vehicle of social control.

All the freeholders in fact had active links with the local chiefs, and they do favors for him. The relationship are complex. Often the nearby SNL community feels it should have gotte the land through the repurchase program. Chiefs may tend to see landowners as a source of land for their squatters, a competing source of land, and indeed there is similar dynamic of labor for land involved in the chief-subject and owner-squatter relationships. Some owners themselves were uneasy about their status. While most defended the land as their private property, some appear to accept that, ultimately, it belonged to the Nation and fell under the local chief's authority. Hughes noted (1972:235) that some ITL farms purchased by Swazis had become indistinguishable, so far as patterns of cultivation and settlment are concerned, from neighboring chiefdoms. The Russell study makes clear that those dynamics are still operating today, but also suggests that the result described by Hughes is only taking place in a minority of cases.

"Project" Tenure

The planners of the research program were acutely aware that a great deal of tenurial experimentation is taking place in connection with a variety of agricultural projects. Some of these projects are on SNL where customary tenure patterns are well established, but many are on freehold farms repurchased for the Swazi nation. These repurchased lands are SNL, but little has simply been returned to chiefly administration. It has been given to MOAC, Tisuka or Tibiyo to administer. A very small amount has been resettled by smallholders. Where this has been done, no special tenure arrangement have generally been made and the land has come back under customary tenure. This has sometimes cause difficulties in that where those resettled in an area came from different chieftainships, they retain their allegiencies to their former chiefs and there is no authority to handle either local initiatives for development and services or disputes between farmers owing allegience to different chiefs.

A much larger amount of this land has formed the basis for creation of a state and parastatal agricultural sector, with large scale project and enterprises either directly operated by MOAC, Tibiyo or Tisuka, or leased by them to foreign firms. The research project commissioned a study of land tenure in these project by Dr Richard Levin of SSRU: Land Tenure Arrangements on Agricultural Production Schemes (Levin, 1987).

On SNL where customary tenure patterns have been well developed, innovation has taken the form of seeking models of agricultural development consistent with the customary tenure patterns. Mayiwane Maize is a Taiwan-supported MOAC project. The land utilized comes from existing homestead allocations, with members selected by RDA management and staff on the basis of previous performance. Membership is on an individual basis, so women can join, and in fact a majority of the twenty-nine members

are women. Each member commits a hectare to the project, and more than one member from a household may join if there is another hectare to commit. They continue to farm the hectare, but a package of inputs and services is provided by the project. If a member dies, the family may retain the membership, designating the successor to the hectare. The scheme is demonstrating high productivity on SNL. Although a number of chiefs areas are involved, there have been no difficulties. The hectare-level participation level may be less threatening that experiments creating larger-scale operations.

The Fuyani Poultry Coop is again on SNL under customary tenure. The site was allocated by a chief who selected an open, unoccupied piece of land previously allocated as grazing land, and allocated those who had formerly grazed on this land another piece of land. Membership is open to anyone local, even those from nearby chiefdoms, involves a joining fee, and is managed by an elected committee. Almost all the members are women. The poultry farm is managed cooperatively. Its experience with outsider membership has been smooth and suggests that this may be problematic only when land under a project is allocated to individual outsiders.

The Magwanyane Sugar Project, again on customary SNL, owes its existence to local initiatives, but received very substantial assistance from MOAC. MOAC officials help the community plan the project, organize an association, arrange a loan for pump and pipes, and constructed a storage reservoir. The chief allocated a 40 hectare area to the committee, joining himself and, when the land was allocated to members, received a plot. Some of the land had been used as pasture while some parts of it had been farmed. Some of those who farmed there joined the scheme. The scheme has grown and now has 35 members and 100 ha, a 54 ha sugarcane block and individual holdings for vegetable production. Membership is individual, with husbands and wives counted as separate members. While part-time farmers are not allowed, hiring labor is permitted. There is some absenteeism, but the chief is an absentee. He maintains an active role, setting all major decisions of the scheme's governing committee.

Finally, there is the outgrower/contract farming model. It resembles the Mayiwane Maize Scheme model, except that it is operated by a private firm. The Cassallee Tobaccc Project is an example. It was piloted through leasing 120 ha of repurchased ITL from Tibiyo and Tisuka but now purchases primarily from SNL farmers. Levin notes that where a processing element is involved in the operation, it may need to be based on ITL or repurchased ITL leased to the operator. He also notes that even with this cash crop, successful outgrowers are quite limited in their ability to improve their incomes because they have difficulty expanding their scale of production.

We now turn to operations which are based entirely on repurchased ITL, which is now SNL but SNL not under customary administration. As noted earlier, this land has provided a base for a state and parastatal agricultural sector. After repurchase, the land is turned over to MOAC, and it has in turn given part of

the land to Tibiyo and Tisuka for administration. Some operations on this land are run directly by MOAC, Tibiyo or Tisuka, while in other cases the land has been leased to firms.

MOAC operates six breeding ranches, three sisa ranches and three fattening ranches. The Nyonyane sia Ranch was studied by Levin as an example of the state ranch model. The sisa ranches' purpose is to improve livestock performance through cross breeding. Cattle can be kept there for E2/beast/month. Levin reported an access problem for small herd owners, for whom it is not worthwhile to transport a few beasts to the ranch. Most users are large herd owners. Cattle can be sent on to a fattening ranch for sale, but this is not frequent. The owners of the livestock have no role in management of the ranch.

There are cases, however, in which repurchased land is farmed by smallholders. Where this is the case, tenure has been an important issue and often a subject of controversy between farmers and the scheme. Levin notes that the Amanzimnyama Maize and Bean farm has made land available to twenty smallholders but is operated essentially as an MOAC-run state farm. He concludes that the farm would be better operated if the farmers were given more secure tenure, but notes that this seems to be considered incompatible with its status as SNL land.

Some projects, however, have moved in this direction. The Mphetseni Pineapple Settlement was established by MOAC on 250 ha of repurchased land, which was leased to the Pineapple Settlement Company (PAC) which manages the scheme. The 250 ha was divided into 27 farms of about 9 ha each. The farmers were selected from good farmers from all over Swaziland. Each was given a lease, has access to an equipment pool, and could borrow from the scheme. Harvesting was done cooperatively, with required marketing through the scheme. The farmers borrowed heavily and accumulated great debts, requiring a government backout scheme. In 1981, government withdrew from the scheme, liquidating the PSC and leaving management of the scheme in the hands of a farmers' association. The association markets through and has had access to input credit through Swazican.

The original plan for the scheme was that scheme members were to purchase their plots after twelve years. This has not materialized, although twelve of the farmers have met the conditions for purchase. The Ministry has been reluctant to go ahead with the sale, though at the time of the study the purchases were said to be going through. If so, it will be the only instance where repurchase SNL has been resold to private owners, and seems to run contrary to policy in other similar situations.

The case of Vuvulane Irrigated Farms (VIF) is also instructive. Though it was initiated on freehold land, it later became SNL. VIF was established on freehold by the Commonwealth Development Corporation (CDC) in 1962. By 1973, 223 Swazi farmers had leased holdings averaging 4.5 ha, and by 1982 there were 263 farms with farm sizes between 3.2 - 6.5 ha. The leases require farmers to devote 70% of their land to sugar, which is processed

and marketed by the scheme. The terms of the lease were a major point of contention. The early leases were indefinite in duration. The issues of inheritance on the death of a lessee and compensation on cancellation of a tenancy were hotly contested.

New leases which went into force in 1975 were for twenty years, with rent renegotiable after ten years. The leases placed important restrictions on land use, and left the Corporation to name a successor on death of the tenant, subject to compensation to the tenants family for approved improvements to the holding. In 1982, CDC handed legal title for the land over to the Swaziland National Agricultural Development Corporation (SNADC). The land became SNL and was leased to the farmers on a twenty-year renewable and inheritable basis. In a situation of declining earnings from sugar, the tenants have challenged the appropriateness of their being required to pay rent on SNL. Growing dissatisfaction led to appointment of a Commission of Inquiry in 1985. Although its work has been completed, its recommendations have not been made public. In 1986, ownership was transferred to Tibiyo. This failed to bring calm as fourteen tenants were evicted for rent default. Their appeals to the King have, however, recently resulted in their reinstatement in the scheme.

Conclusions

The projects based on SNL held by farmers under customary tenure offer several lessons for the planning of tenure reform initiatives. First, the ability of the chiefs to reallocate land to a scheme, putting together a block of land on which new activities can be concentrated, is a major advantage of the customary system. It is especially helpful when a new land use configuration is necessary, as in the case of an irrigation scheme or a cooperative effort such as a poultry farm. Where activities do not involve allocation of individual holdings, as in the case of the poultry farm, it will be easier to organize membership across the boundaries of chieftainships.

Second, where project activities do take place on customary holdings, outgrower contract farming models seem to have special potential for working "around" the customary tenure system. They can deal with individuals and designated areas of land and are an effective channel for extension, inputs and credit. They also appear to offer possibilities for quality control utilizing selective access to inputs and credit, rather than eviction. Their limitation may lie in the difficulty of the efficient producers they encourage obtaining more land. This may be a problem in the case of certain cash crops, if scale poses advantages, but not where, as with maize at Mayiwane, the production strategy is one of broad-based intensification of production on existing holdings. In such a case, the possibility of a jealous reaction by neighbors and chiefs to increasing commercialization would appear to be eliminated.

Third, it is clear that on repurchased ITL, government has had considerable difficulty in arriving at a satisfactory tenure formula for smallholder farming. Where the land has not been

"projectized", with specific tenure arrangements, the land has shifted into customary tenure. When tenure has been specified for particular projects, the results have not been very satisfactory. In some cases little security of tenure has been provided and tenure is inferior to that under customary rules. In cases where a lease model has been used on SNL, tenants have resisted special conditions such as rent, arguing that this is inappropriate on SNL. The outcome of the Vuvulane dispute over eviction for non-payment of rent in reinstatement of the defaulters raises serious questions the viability of the leasehold model, undermining arguments such as those made in Tate and Lyle (1982) that formal leases provide better control than the authority of chiefs. The tendency would seem to be for the lease arrangement to evolve even closer to freehold in terms of the lessee's freedom of action, while maintaining the legal foundation of the lease in ownership of the land by the Swazi people. The experience at Mphetseni Pineapple Settlement illustrate a reluctance to take the final step toward freehold (unless the sales mooted there have now taken place).

I. An Evaluation of the Research Findings

While several important needs have been identified through the research, there have also been a number of areas in which the operation of the customary land tenure system was expected to present problems but does not appear to do so, at least under current conditions. In some cases, this is explicable in terms of the hypothesized constraint having been based on incorrect assumptions as where customary practice was found to have evolved. In other cases, however, the research verified a condition which might well be expected to operate as a constraint. The SNL farmers however, did not perceive it as a serious constraint. By themselves, such perceptions are not conclusive. Often a constraint is a "give-in' within the farmers' world view and so he will not think of it as a "problem". More important, it was not possible in these instances to establish a statistically significant relationship between the presence of the apparent constraint and the indicators chosen to measure its hypothesized negative impact. Where significant relationships have been established, as when we focused on a group such as commercial producers who seemed more likely to be affected, they have often not been very strong.

Our sense is that we have been researching a situation in which potential land tenure constraints have a limited impact because there are other, more significant factors limiting growth of agricultural production, in particular the low profitability of agriculture under current circumstances. Where this is the case, a reduction of the constraint will often not produce an increase in production because it cannot increase incentives sufficiently to overcome these other limitations.

The research finding are consistent with a body of analysis on opportunity costs of labor in agriculture in Swaziland which originates with Low (1982). The analysis has been very useful in explaining the disappointing impact of many of the initiatives under the RDA Program. Utilizing a labor allocation model, Low

demonstrated that returns to labor were much higher in wage employment than in agriculture. When wage employment opportunities exist, the most effective laborers in the homestead will seek wage employment, leaving a thin labor force to grow subsistence maize and tend livestock. Low also showed, however, that because of the large gap between the cost of maize, it is quite important that the homestead have enough labor in farming to produce a major portion of its subsistence requirements. RDAP facilitated access to tractor plowing, to increase area cultivated, and hybrid maize, to increase production per unit of land. The reaction of the homesteads, given the higher returns to labor outside agriculture, was to use these hybrid maize to intensify production on the same land area or even to reduce it, maintaining production constant, and to use tractor-plowing to reduce amounts of labor in agriculture, freeing it for more lucrative employment.

What our research suggests is that while it is worthwhile and indeed important to address some of the problems confirmed or discovered in the course of the research, it would be wrong to see land tenure as the bottleneck in SNL agriculture, at least under present conditions.

The phrase, "under present conditions", is important here. Our findings are based on the existing relatively low returns to labor in agriculture. In the future, if that situation were to alter through either improvement in market conditions or through elimination of other employment opportunities, some of these "non-binding" constraints could rapidly become binding, and require urgent action. The implication of this for the selection among the policy options which follow, we believe, is that while some choices of basic direction should be made and steps taken to address these issues, options which are relatively low cost should be chosen if possible.

III. LAND TENURE POLICY OPTIONS

From the outset of the project, MOAC officials have emphasized that in addition to findings from the field research, they were interested in the experience of other countries with tenure reform, especially the experience of other African countries. A paper by John W. Bruce, "Land Tenure Reform and Agricultural Development in Africa: a Review of Recent Experience", has already been read and discussed in seminars in MOAC and with the Interministerial Project Reference Group.

We feel this approach is legitimate. The choice among land policies must be influenced by agricultural development objectives, and it is with those objectives that this research project has primarily been concerned. There are other factors influencing land policies, however. One of these is stability: security in subsistence opportunities for the Swazi rural population is secured by customary access to land for all citizens. Another is the extraordinary uncertain political economy of Southern Africa. Our concern that has been voiced repeatedly about access to land concerns the prospect of Swazi

workers being barred from South Africa and suddenly needing to find opportunities in Swaziland, many of them in agriculture. Factors such as these will influence land policy, as well as agricultural development concerns, and the weight these factors are given will depend upon value judgements and estimates of probabilities that Swazi policy makers must make for themselves. This project has sought to inform their discussions. They have also asked that at the conclusion of this project they be provided not with a set of recommendations, but with a set of policy options among which they may choose.

In the remainder of this report, several models of land tenure policy (the policy options) are discussed in terms of their relevance to the needs identified in the research and the approaches which might be taken to their implementation in Swaziland. These options are to be reviewed and discussed in a land tenure policy seminar, the final step in this research project.

Four basic options are covered here. Some, as will be seen, involve sub-options. The basic options are: a) the freehold model, implying individualization of tenure; b) the collective model, implying cooperativization of production; c) the state leasehold model, implying a shift of land administration into the hands of government development administrators; and d) incremental reform of the customary tenure system without altering its basic nature. The options are applied first to arable land, then to grazing land. They are treated separately because they are different modes of land use and have different tenure requirements, it being quite usual for a tenure system to have arable land under the tenure regime and pasture under another.

A. The Freehold Model: Individualization of Tenure

"Individualization" will mean somewhat different things in different contexts, but at least in the African context the consistent element in all programs of individualization is a reduction of community controls over land use and distribution, enhancing the rights of the individual landholder/farmer. The term is not felicitous, in that it incorrectly suggests that indigenous tenure of farmland is not to a significant extent already "individual". But it accurately indicates the direction in which the balance shifts. Individualization may come about as the spontaneous, evolutionary response of an indigenous tenure system to pressures exerted by a market economy. It may equally be initiated, or seen through and consolidated, by a tenure reform.

Many western analysts discussing the future of indigenous tenure systems assume explicitly or implicitly that they will develop in the direction of private individual ownership, whether by evolution or forced march. In the absence of a firm policy decision to the contrary, this will presumably be the trend in countries with private enterprise economies. If the economic forces of society are organized along those lines, a compatible

form of property will tend to develop. It may not resemble private individual ownership on the western model in all respects, but there will be a strong family resemblance.

Many commentators see this as natural and positive. Individualization is seen as the remedy to the concerns about customary tenure systems noted earlier in this paper. It is the creation of a property from which will mesh more easily with the other economic institutions of emerging private enterprise economies, a property form which allows land to be treated as a commodity. Individualization, however, takes a variety of forms. Tenure may be individualized on a sporadic, parcel-by-parcel basis (at the option or the holder of a particular parcel), or on a systematic, compulsory basis.

The best documented African experience in individualization of land tenure is the systematic, compulsory individualization of land tenure of Kenya, where a sustained effort over a quarter century has registered in private individual ownership most good farmland (and much other land) throughout the country. It was seen by those who initiated it as consolidating changes in Kikuyu indigenous tenure which had been underway for some time. It was explicitly intended to foster the emergence of an African yeoman farmer class, with holdings on a scale which would be "commercially viable", in the interests of political stability. This reform has been implemented through a field operation aimed at the systematic, compulsory conversion of all indigenous titles. The program's greatest strength has perhaps been its clear perception that tenure reform is not simply a matter of changing land law, but a matter of changing and establishing facts on the ground. Rights have been adjudicated, owners determined and registered, parcels surveyed, and fragmented holdings consolidated. This has been done at little overt cost to the land owner, but considerable cost to the country. The newly individualized titles have been registered under a system which confers great security of tenure because it gives the register entry conclusive legal effect. The system is designed to facilitate land transactions by provision of single forms which permit transfers in the registry offices.

The program has been expensive, but effective in that tenure has been individualized over great areas. The 1960s, the early post-reform period in Central Kenya, was a prosperous time for smallholder agriculture. Some authors have claimed a casual connection; others dispute it. It is difficult to know how much of the success to attribute to the reform, as distinct from all the other new government programs underway in the immediate post-independence period. These included the lifting of restrictions on the growing of important cash crops by African farmers and new access to credit and extension by those farmers.

Some problems with the Kenyan reform have, however, emerged through recent studies. First, the owner's new ability to sell the land "out from under" his wife and children has reduced the economic security of many families. Second, some landlessness is being generated by operation of the land market. This was anticipated, but wage employment has not expanded as rapidly as

anticipated and so has not absorbed the landless as hoped. Third, in areas not well located for market opportunities, land sales are not passing land to potential commercial producers but to those who are buying it as a long-term investment.

How would a individualization model be implemented in Swaziland? Two important points should be made at the outset. The first is that holding of arable land is already an individual proposition under Swazi custom. The individual landholder has rights in the land, though these are much less extensive than those of a freeholder. Second, an important part of the legal infrastructure for a freehold system is already in place in Swaziland. Its historical legacy of a dual tenure system means that there is a Survey Act, a Land Registry Act, and functioning Land Registry Office. The substantive law governing freehold is also in place, the Roman-Dutch law of immoveable property received from South Afria.

If the Kenya model were adopted, it would be necessary to enact a law to govern the process of adjudication and demarcation of individual holdings. Then existing holdings in the areas under customary tenure could be systematically demarcated and registered as individually owned. At a rough estimate, if donor funding were secured to allow a major effort, the whole of Swaziland could propably be registered within five to ten years. All the privately held land in Swaziland would then appear on the register as privately owned. Government or Crown property would be shown as owned by the Government or Crown.

Alternatively, registration could be done on the sporadic, voluntary model. Under this model a farmer who felt a need for freehold tenure because of his plans to develop his land would have a right to apply for such a title. His holding would be surveyed, demarcated and registered, based on his own evidence and that of the chief and neighbors. Again, legislation would be required to provide the legal basis for this process. The holding would then be registered in individual ownership, joining the areas of freehold already owned by Swazi. Under this voluntary model, the applicant for the title usually bears some of the cost of these procedures, though those costs are often subsidized. The result would be a patchwork in which gradually more and more holdings would be converted. Based on the comparative experience, this would be a very gradual process because holders would probably apply only when they were anxious to sell, mortgage, lease, or make a major investment in their land.

How would a program of individualization of tenure respond to the particular needs noted in the research project? As regards security of tenure, one of the problems which was identified was ineffective despute settlement. Individualization would shift the settlement of disputes over the land into the common law court system. We are not in a position to compare the cost, expeditiousness, and consistency of dispute settlements under the two systems. Our experience elsewhere would lead us to suspect that the common law despute settlement system is more costly, more consistent, and not necessarily more expeditious. In so far as any ambiguities in customary law exist which result in

insecurity and therefore require clarification, these would become moot. A new body of law, the Roman Dutch common law, would apply to the land. It is a more specific and rigorously stated body of law, and would not have a comparable level of ambiguity. It is not entirely clear what impact a conversion to freehold would have on inheritance law, since at the moment it is not the tenure of the land but the life style of the deceased which determines the rules of inheritance applying to the land.

In terms of protecting commercializing farmers from community or chiefly harrassment, it would break land ownership out of the traditional social system and increase security. There is a connection between individualization of tenure and clarification and monetarization of tribute obligations, the two having historically been associated in the evolution of other tenure systems. Even in a freehold system, however, land can be confiscated for failure to pay taxes. A need to clarify resettlement policy was also noted. The primary relevance of a conversion to freehold here is that since market value of land would be established and compensation required for the taking of land by government, resettlement could become a more expensive undertaking.

A key feature of a movement to freehold tenure would be the development of a land market. This would be relevant to two concerns. First, the research found a need for more adequate mechanisms for land to shift between homesteads as their labor endowments changed. A land market would achieve this, especially given what we know about the homestead cycle, which indicates that those seeking to expand and intensify cultivation would, because of prior income from wage employment, have the money to purchase or rent land. In the eventuality of opportunities for employment abroad being suddenly cut off, a land market would provide a mechnisms for those seeking land to acquire it. (The alternative mechanisms, of course, would be reallocations by chiefs and sharing by relatives).

A second relevance of the development of a land market is that it would allow land to be used as collateral for loans. This is a development of importance, because by allowing part of the value of land to be converted to investment capital it can increase the amount of locally generated capital available for investment in agriculture (though of course it does not by itself guarantee that it would be invested there, if better returns could be obtained elsewhere). A land market is also a mechanism which may permit consolidation of fragmented holdings through transactions - if indeed such consolidation makes economic sense. Finally, a land market is impersonal and would provide new access to land for those currently disadvantaged, such as women or unmarried men, providing of course that they had the funds to purchase land.

As regards farmer control of production systems, a key feature of individual ownership is the right to exclude. Fencing would obviously be allowed (as in practice it is now) and the problems revealed by the Dispute Study with indefinite boundaries would be resolved by survey and demarcation.

On the other hand, individualization could raise certain problems in the irrigation scheme context and in the context of any projects which require cooperation among a group of farmers. So far, such projects have relied heavily on the chiefs' authority to obtain land for the scheme and the chiefs' power to take back land as the ultimate sanction for failure to comply with rules of operation of the scheme. Alternative means of enforcement, based on a contractual commitment to obey scheme rules in return for access to water from the scheme's pump, might be attempted.

A conversion to freehold would meet or assist in most of the needs identified. This is not surprising; the constraints identified are constraints on agricultural development and freehold is a tenure system whose underlying assumptions give high priority to land development. It also, however, increases possibilities for landlessness and removes the major elements in the economic "glue" that now holds together the traditional social system and hierarchy. The question would appear to be whether the same development needs can be met as adequately under other tenure models. In consideration of freehold as an option, the research results would appear to favor a voluntary conversion model, because only relatively few commercial farmers have a serious need for the tenure change at this time, and the cost of such an approach are much lower. This would, however, reduce the impact of a land market. Such markets achieve their objectives better if they are larger.

B. The Cooperativization of Production Model

Cooperative production has been seriously pursued through tenure reform by two African nations, Tanzania and Ethiopia. Tanzania has characterized its venture in cooperative production as "African socialism," Ethiopia as scientific socialism. The Tanzanian experiment was motivated by several factors. One was a belief in mechanization and the belief that the most effective way to utilize this technology was through tractor pools farming large units of land. More important, however, was the desire to cut off the trend which could be observed toward increasing extremes of wealth and poverty a trend which involved the evolution of some customary systems toward individual ownership, with the emergence of land sales. The more strictly Marxist program in Ethiopia reflects similar attitudes but is even more attached to mechanization and economies of scale as a condition for effective mechanization, attachment based in Marx's labor theory of value.

In both Ethiopia and Tanzania the programme has been compulsory, implemented by a enthusiastic party cadres. In both cases, new local institutions have been created to manage cooperative production, rather than utilizing traditional institutions. In fact, in both cases the replacement of traditional leadership institutions with new institutions (in Tanzania the Ujama village, in Ethiopia, the peasants' association) has been a conscious objective of the reform program. Such cooperativization of production experiments in Africa, especially in Tanzania, have optimistically believed that

African customary practices and tenure provide a special aptitude for cooperative production. There are traditions of community management of natural resources in African societies, and tradition of common labor on fields within a family. But the effectiveness of cooperation production at family level does not appear to be easily transferable to larger social groupings.

Such cooperative production efforts are associated with state ownership of land, and in Ethiopia and Tanzania there have not been clear tenure rights even for the production comperatives. They have simply been given the land to use so long as it appears appropriate. There is no question that the peasant associations in Ethiopia and the Ujava village in Tanzania have been a serious failure in production terms. Productivity, by virtually any standard, has been considerably lower than on land farmed by individual household, even though those households were themselves operating under poor tenure security. The answer lies in part in incorrect assumptions about the basic model. Large scale operations do in theory allow more effective use of machinery but the management problems associated with large scale operations, particularly government-managed operations, mean that it is usually used less efficiently. In addition, if there have been heavy labor investments in agriculture by farm households, they are usually lost. The households tend to minimize the labor going into cooperative farming and devote as much of their labor to other activities from which the economic return accrue directly to them. In addition, because such cooperation production units are often required to use state inputs supply and product marketing channels, the units fall victim to the inefficiencies of those operations as well as their own. On the other hand, the proponents of the model argue that it has maintained egalitarian income distribution and prevented the social conflict which may come with the growth of different economic classes.

As a production model, however, it has recently been abandoned in a number of countries in which it had been thought successful, such as mainland China. Tanzania too is now moving toward the creation of clearer tenure through a state leasehold system, with villages given 99-year leases and the villages then subleasing the land to farm households for 33 years.

How would a program of cooperativization of production respond to the particular needs noted in the research project? It would not so much respond to them as to alter the situation so dramatically that they would become irrelevant. The research project has been on tenure issue faced by farm homesteads, and this model eliminates the homestead farm. For example, the farmer's security of tenure become irrelevant because he ceases to have tenure. One must instead confront quite a different issue, the non-tenure issue of how adequate records of labor can be kept and labor rewarded by the collective well enough to maintain its flow. The issues of fragmentation and subdivision obviously loose their meaning where the land is farmed collectively, as do issues of access to land for particular groups of farmers, or of use of land as collateral for loans, or of exclusive farmer control over production decisions. The only

areas of the research which can shed some light on prospects for a system so different are the examination of tribute labor and some of the experiences with project tenure.

The system of tribute labor supports a system of farming the chiefs' and King's fields which is partially a system of collective production. It does appear to manage fairly effectively to organize collective labor at seasons of peak labor demand. It differs from a cooperative farming operation in that the participants provide only a relatively small portion of their time to the cooperative effort and rely primarily on their own holdings for food production. The research did not examine the relative productivity of chiefs' fields as opposed to other fields, which may have been an oversight. One would suspect that for maize, efficiency may not be very high. On the other hand, there are particular crops which are more effectively grown on a large scale and it is worth considering whether this model for mobilizing labor could be used in such a context. It is notable that the experiments with cooperative farming in Africa to date have attempted to institutionalize the new approach to production through new institutions which are part of the machinery of government. There has been little or no serious pursuit of a strategy which instead relies upon better-rooted traditional institutions and their customary means of social control. The disciplinary role played by the chiefs in smallholder irrigation schemes (though these do not involve collective production) suggests that a similar role might be viable to collective production situations.

None of the studies of the production scheme tenure arrangements, was on this model, though some did involve cooperative production. One example was the Fuyani Poultry Cooperative, a case in which the justification for a cooperative production approach was access to facilities for raising the chickens that could not have been afforded on an individual basis. Though the amount of land involved is very small, one potential advantage of project for group use of land has already been noted: they may be able to more readily accept participation of those (unmarried, people from other chiefdoms) whose participation could be a source of conflict where individual allocations of land are involved. Though the chief was instrumented in providing the land for the project, it is run by a committee of members rather than the chief.

Another model in which something resembling cooperative production takes place are the MOAC ranches or repurchased ITL. These involve the pooling resources of individual homesteads for management, again to obtain access to facilities which would otherwise not be available. They are not, however, real cooperative production efforts. Government not only manages but provides all the labor for the operation on a wage basis. Traditional leadership is not involved in the process.

he customary land tenure system does appear to offer one resource which might make labor discipline more easy to maintain under this model, and this is the authority of the chiefs. It could be appropriately used in the specialized situation where a case for cooperative production could be made.

C. The State Leasehold Model

Post- independence Africa saw a rash of national legislation declaring all or most land owned by the State. In most countries, such as Guinea, Sudan, Mali, Nigeria, Cameroon, Burkina Faso, Zaire, Uganda, Somalia, and Zambia, all land was in theory affected. The nationalization was intended to provide a basis for a new state leasehold system of tenure, with farmers now holding their land by virtue of lease (or sometimes "permits to occupy") from the State. In some cases, notably Sudan and Senegal, very limited freehold land already registered was exempted from the nationalization and so leaseholds were to be instituted only in areas under indigenous tenures.

What is the basis of the popularity of this reform model? In fact, it has diverse bases, and their importance varies from country to country. One objective of a state leasehold system is to provide the farmer with more secure land tenure. It may also involve provision of a title which can be used to secure agricultural credit. In this respect the institution of a state leasehold system may be considered a species of individualization and accepts many of the critiques of indigenous tenure systems by advocates of freehold.

A leasehold system is commonly argued to be more consistent with indigenous tenure models which recognize a tribal or other community interest in land. The state is seen as the successor to the tribe, exercising its former land allocation perogatives. Where the state consists of a single tribe or ethnic group and the chief or king of the group is the head of state--as in Swaziland--the lease may simply be a new legal instrument based upon a tradition of social ownership of land.

The State leasehold has been considered a tenure option preferably to full private ownership by African countries with a moderate socialist political orientation. They have been anxious to affirm the dominant role of the state in the allocation of productive resources, but have at the same time embraced the smallholder operation as the primary production unit, either rejecting state and cooperative farming or practicing them in only limited areas. The state is the owner and allocator of land (the lessor) and the land is farmed by individual households, as lessees. The lease is usually used to create a direct tenure relationship between the state and the farmer, depriving traditional authorities of their traditional role in land administration.

If leasehold systems may serve quite different ends in different situations, they also affect cultivators very differently from country to country. In many cases they may provide greater tenure security, but not if the state agency

which inisters them is more inefficient and corrupt than traditional land administrators, or if the leasehold term is too short. In addition, terms and conditions are sometime attached to the lease which so constrain the farmer--such as requirements that particular crops be cultivated, or high rents--that some farmers feel that a leasehold worsens their position.

The most important local experience with a state leasehold system has been in Lesotho, where it was instituted under the 1979 Land Act. In Lesotho, as in Swaziland, there is a tradition of social ownership of all land based in the customary law, and as in Swaziland, a single figure, the king, is head of both the state of Lesotho and the Basotho nation.

In 1979, the government introduced a reform aimed at diluting chiefly control of land and beginning to replace it with a state leasehold system. The reform applied in both urban and rural areas. In Maseru it was applied on a systematic basis, but in the rural areas it is to be applied sporadically and voluntarily, at the request of the farmer. If a farmer considers he would be better off with a long-term lease than with his customary allocation, he can apply to the Commissioner of Lands in th i istry of Interior for a lease. The lease is a lease from the Commissioner, and establishes a direct tenure link between the government and the farmer, leaving the chief out of the picture. There are also privisions for systematic, compulsory use of the leasehold systems in agricultural development project areas, but these have not as far been utilized. In the vast majority of cases in which farmers continue with the customary allocations, the land is administered by elected committees chaired by chiefs, which have the power to make decisions by majority vote and overrule the chief. In practice, chiefs appear to have dominated these committees in most cases.

Because of the major effort required to survey and demarcate holdings in Maseru to begin to issue leases for them, and the extensive agricultural and pasture areas that exist few resources have been available for implementation of the leasehold provisions in the rural areas. A few farmers near Maseru have c e forward and obtained leases, usually where they have planned major construction on their holdings and have wished to borrow on the land. Banks have responded very well to the opportunity to loan against the leases, but there have been serious problems with implementation of the Act in Maseru. These have involved significant non-cooperation from the concerned chiefs, accusations by chiefs of land-grabbing by public officials, and accusations by public officials that chiefs have conspired in frauds. After the change of government in Maseru, a Commission of Inquiry into the operation of the Land Act was established. It has reported to government, but its report has not yet been made public. It is said to recommend a continuation of the present system, with certain modifications in the system and changes in implementation policies. It seems likely that implementation in the rural areas will remain on a very modest scale.

How would a system of leasehold tenure address the needs identified by the research project? So far as any problems with security of tenure are concerned, a new body of law, the Roman-Dutch law governing leaseholds, would come into play. However, because a leasehold is a very flexible legal institution, the degree of security provided would depend heavily upon the terms of the lease. Security of tenure will be greater if the lease is very long-term, if it is inheritable, if the rent is low, if the obligations placed on the leaseholder are fair, if the reasons for termination by government very limited, and if the lease is easily renewable when its initial tenure runs out. Leaseholds can be framed, it should be remembered, in such a way that they provide less security of tenure than the customary allocation. If the leasehold is marketable--this would need to be spelled out in the lease--then it would allow for movement of land between homesteads as their labor endowments changed. The market in such leaseholds would also provide a mechanism by which, if opportunities for employment abroad were cut off, those returning could acquire land to earn a living in agriculture. Rights of a leaseholder would be spelled out in the lease, and could include a right to fence and to exclude other's animals. The same applies to rights of inheritance, which could be specified in the lease.

Again, if the lease is so specified, the leaseholder could mortgage his lease to a bank to secure a loan. A long-term leasehold is recognized by banks as good security for a loan, so long as it is freely marketable and the leasehold is attractive to buyers. What is mortgaged is the remaining terms of the lease; for example, if a fifty year lease is mortgaged after it has been held for ten years, it is the remaining forty years of the lease that is the security. Banks treat the cash value of a very long-term lease, in the 50 to 100 year range, as roughly equivalent to that of ownership. A requirement of the government's consent to a mortgage is sometimes included in such leases, and this can be workable so long as it is not unreasonably and arbitrarily withheld. Such restrictions have been used to protect farmers from unsound projects that may result in loss of their land. But limitations on the sale of the lease by the bank to recover a defaulted loan destroy the value of the lease as collateral. As in the case of freehold a bank will not necessarily lend to a farmer just because he has a leasehold. It will also need to be convinced of his general "credit-worthiness" his reliability, his business sense, the soundness of the project for which he wants to borrow the money.

How could a system of state leasehold tenure be implemented in Swaziland? The legal basis for a leasehold system already exists in part. Land is already vested in the King as the representative of the nation, and this can provide the element of state ownership, as was done in Lesotho. There is a body of law received from South Africa governing the institution of leasehold. The Survey Act and the Land Registry Act can be utilized for survey and registration of leaseholds. But some legislation would be necessary, primarily to allow for the extension of this institution to SNL, either sporadically or systematically. A sporadic, voluntary introduction of leasehold

to SNL could be managed on a basis similar to that in Lesotho. A systematic, compulsory introduction could be managed to the process of adjudication, demarcation, and registration in a manner to similar to that in Kenya, but with a long-term leasehold registered instead of ownership.

There exists a proposal for a leasehold system in Swaziland, set out by Maina and Strieker in their 1971 paper "Customary Land Tenure and Modern Agriculture on Swazi National Land: A Programme of Partnership". They state the customary tenure system is the "principal reason for the disaffection of young Swazis from the rural areas," but argue that a freehold system would run contrary to Swazi culture values and result in land concentration and landlessness. They propose a systematic adjudication, dermacation and registration of land rights in each chief's area, with those farmers who requested leasehold being given it at that time. The leases would be for between fifty and one hundred years, have modest rents based on unimproved value, allow a successor to be nominated, and have limits on subdivision. The leases would be administered by a National Leasehold Authority, which would use local chiefs as its agents--though the exact relationship is not clear in the proposal. A leasehold credit scheme is proposed in which the National Leasehold Authority would guarantee bank loans to leaseholders. If the leaseholder defaulted and the Authority had to pay, the Authority would then recover the debt from the leaseholder (it is not clear exactly how) and would have the right to cancel the lease in the event of a "serious default".

Obviously many variations could be developed. There are, of course, leasehold systems in operation in Swaziland, the most important (and worrisome) body of experience coming from Vuvulane Irrigated Farms. The experience raises questions about the state leasehold approach. The content of the lease has been a continuing source of conflict between the scheme and the leaseholders. Three disputes have been extended and disruptive, as the leaseholders have sought tenure terms closer to the terms of SNL, such as elimination of rent and rights of inheritance. Much of their resentment has been directed at requirements respecting land use which are usually associated with large-scale irrigated operations and are important for maintenance of a coordinated plan of operation. The recent reinstatement of leaseholders who had earlier been evicted for refusal to pay rent raises questions of the ability of government to consistently enforce terms of leases.

The experience with leasehold systems in other countries raises several issues which deserve careful consideration. First, leases are sometimes encumbered with so many conditions and requirements that farmers will understandably prefer the customary allocation. The imposition of many conditions on land use through the lease, though these may seem important, are very difficult to enforce. Provisions limiting subdivision have been proved impossible to enforce in most cases, and vague requirements such as "good husbandry" often only serve to create uncertainty and reduce tenure security. Second, leases should not be viewed as revenue-producing devices. High rents will make leaseholds unattractive, while very low rents often cost more to

collect than they are worth. Third, leasehold administrators in government have in some countries proven inefficient and corrupt. a realistic assessment of the dangers must be made, careful controls planned. Fourth, there is a tendency to consistently and seriously underestimate the amount of work done by chiefs and others involved in customary land administration, and therefore to underestimate the costs of replacing them with a new system. While none of these problems are inevitable, they would need to be planned against carefully if Swaziland was to utilize the state leasehold option.

D. Incremental Reform of the Customary Tenure System

The reform models examined so far involve fairly dramatic departures from indigenous tenure systems. They tend to break the link between traditional social organization and land tenure. The alternative is to preserve the fundamental framework relating social control and tenure and to proceed through specific, narrowly focused reforms directed at problematic features of a tenure system. The approach reflects the viewpoint that indigenous tenure systems are not inherently incompatable with agricultural modernization and their defects can most cost-effectively be handed by a certain amount of creative adjustment, rather than more dramatic reforms. This approach looks to modest changes in tenure rules or land administration machinery to deal with tenure constraints. It retains a significant element of communit; control over land, a "communal" element.

The major attraction of this model of tenure change is its promise of relatively cost-effective reform with a minimum of social dislocation. This is not a simple conservative position, in that it accepts that tenure change is necessary and desirable, but seeks financial and social economies in change by building on existing institutional arrangements to the extent that is practical. It should be appreciated and the research projects findings demonstrate, that Swazi customary law has been evolving to meet new demands. Since the land tenure system exists within a developing private enterprise economy and cannot be isolated from it, it will tend to evolve in the direction of stronger individual rights in land. The rate of change may be rapid or slow but the direction of change will be fairly constant unless the economic system itself is changed. The choice is not between no change and change, but between the present gradual and uneven (as among localities) evolution, which, although its general direction may be satisfactory, is in the short term creating uncertainties for producers, and a greater degree of leadership and direction by national government and the monarchy in order to clarify and ease the changes.

One problem with this approach, and a barrier to it adoption in many countries, is that in multi-ethnic states it implies the continuation of tribal differences in land tenure. Multi-ethnic states intent on nation building have tended to opt for more radical reforms to attain a uniform national tenure system. They have been reluctant to continue to use traditional land administrations because they see these authority figures as a

threat to national unity. These problems do not exist in Swaziland because it is an ethnically quite homogenous state. The traditional authorities at local level appear for the most part to retain the respect of their people and have considerable authority.

There is little relevant experience from other countries upon which we can draw in planning such a reform. The 1968 Tribal Land Act in Botswana is the best known case of a tenure reform which retained many elements of the customary system. It was a modest reform in one sense; it left many of the substantive rules of customary tenure in effect and maintained a degree of tribal control over land tenure. In another sense, it was quite radical: it replaced the chiefs as land administrators with the land boards, whose secretaries are civil servants and which must take orders from the President through the Ministry of Local Government and Lands. In fact, the Land Bords have in practice had to rely to a significant degree on traditional headman to carry out their functions.

There are at least four levels of issues as to how such a reform might be implemented. The first concerns the particular modifications, clarifications and confirmation of evolving new patterns of customary law. What further adjustments are necessary to meet today's demands on the tenure system? The second level concerns the degree of formality to be introduced into the tenure system to achieve such adjustments, such as the use of written contracts, and other records of land rights. The third level concerns how such changes might be enacted, that is, how customary rules and policies would be changed and these changes communicated to farmers and others. The fourth and final level involves the issues of whether changes in the role of traditional land administrators would be useful in implementing the changes. Each set of issues is discussed below.

First, how might this model of gradual, incremental change be used to address the needs identified by the research project. As regards security of tenure, there are a number of items which are less a matter of change in customary rules than clarification of government policy. There is apparently only a very little insecurity being caused by concerns about future resettlement, but any plans for future resettlement, at least in the near future, should be clarified. There is a more important need to change attitudes on the social acceptability of success in commercial agriculture and the expansion of holdings that may imply. Here the communication of this policy would be as important as any particular changes in customary rules.

What particular changes might be introduced to ensure that commercial producers are not subjected to harrassment, even in the limited number of cases where this occurs now. First, of course, would be need for a clear statement from the highest authorities disapproving such behavior. Second, consideration should be given to providing a particularly expeditious means of review of fines or banishment by chiefs when a pattern of harrassment of a progressive farmer is claimed. A special position might be created with the responsibility of inquiring

into such cases and bring them to the attention of higher authorities. Third, the amounts of fees and labor owed as tribute to chiefs, might be standardized and specified on a national level. If it were considered that these duties should fall more heavily on the prosperous, this could be provided, but a ceiling could be set. In the evolution of other tenure systems, such as the English system of tenure, the transition from unspecified to specific obligations was a major step toward the independence of producers. A further step was the monetarization of the obligations, and it is interesting that the SNL Tenure Survey found that this is taking place to some extent already. It is appreciated that this is a complex issue because the occasions for tribute labor are also shows of social solidarity and have cultural value.

There is a further issue relating to insecurity of tenure - the ability of parties to a dispute over the use of land to obtain a quick and fair decision of the dispute. The Land Dispute Study indicated that this was sometime difficult, and it needs to be stressed that, however good the rules of land law may be, there will still be insecurity if the dispute settlement mechanisms do not work smoothly and reliably. Because this matter of dispute settlement goes beyond just land disputes, it cannot be dealt with simply as a land tenure matter. Consideration should be given to a separate review of the adequacy of customary dispute settlement mechanisms. One possibility which might be considered, and has been successfully pursued in other countries in Africa, is the creation of a customary law court system utilizing full-time, salaried judges, either chiefs or traditional law experts who have been given training in judicial procedures or legal professionals to decide cases with the assistance of a panel of "assessors" who are knowledgeable in Swazi customary law.

The issues of subdivision and fragmentation raise the question of whether customary rules of inheritance need to be altered. As suggested in the summary of the research findings, it did not appear that the rate of subdivision was a cause for much concern, nor were levels of fragmentation alarming. The rules of the traditional tenure system, and particularly the role of the principal heir, give the system the ability to adjust to growing land scarcity. If a change were to be considered, it might be to strengthen that role. It needs to be said that even if the customary rule that all Swazis have a <u>right</u> to land to farm is maintained, the combination of population growth and growing economic specialization will mean that over the years an increasing number of Swazis will not actually <u>hold</u> farmland. In the distribution of land among children realistic adjustments will be made by families to the fact that some children rely heavily on agriculture for their livelihood, while some others are in salaried employment and are unlikely to return to farming.

As for farmer control over production decisions, the issue of fencing and removal of livestock to permit early plowing and planting has been a concern. The custom appears to have already adjusted to accept fencing, though in a few particular localities it may still be an issue. It would be useful to confirm, by an

authoritative declaration, to evolution in custom, which has taken place. As to earlier removal of livestock from areas to be planted, this could perhaps better be handled through encouragement from high authorities rather than a firm rule. A firm rule presents problems because the ability to remove the livestock earlier depends upon the availability of pasture elsewhere, and must be coordinated with a strategy for use of pasture and, very possibly, with the introduction of alternative sources of feed, such as fodder production.

It was noted that there appear to be risks associated with borrowing and lending land which may discourage the practice, and that it was important that this mechanism for temporary transfer of use rights be able to function smoothly. What appears to be most needed is a clear policy that chiefs must assist lenders in obtaining the return of their land when the terms of the loan has expired. That need would have to be met through on authoritative instruction to chiefs on this point. A further need is for the terms of the loan, especially its duration, to be easily proveable. The use of witnesses might be encouraged, or even the use of simple contracts.

As regards access to land by groups, which are ineligible to hold land under customary law, such as unmarried men and women, a change in customary rules should be considered. It is not clear to us what legitimate function the customary rule serves and it may well have outlived any usefulness it once had. This need appears especially strong as regards trained agriculturists, such as graduates of the School of Appropriate Farm Technology. If an across the board change appears too radical, it might be introduted with respect to agricultural projects, such as irrigation schemes.

As regards such project contexts, and irrigation schemes in particular, it appears that there is a need to make it clear that a plot in such a scheme is not a right but a privilege, and to spell out clearly the terms and conditions of holding land. The leadership role of chiefs in creating such schemes could be utilized here. Model constitutions for such schemes could be made available and chiefs given training in the way in which such schemes can best be organized and what is required of the chiefs for such schemes to be successful.

One innovation which could be achieved under the freehold and leasehold reform models would be difficult under this model, and that is the use of the land use right as collateral for a loan. The customary right of use, is a sufficiently long-term and secure tenure to serve as collateral, but it is not readily transferable for its cash value. The steps which could need to be taken to render it so would appear to involve moving decisively away from the model.

There is a second level of issues referred to earlier, which concern the degree of formality it would be necessary or useful to introduce into the tenure system to achieve the above objectives. One approach would be to operate at the level of persuasion, utilizing the efforts of extension agents and means

such as training seminars for chiefs to encourage the desired changes of behavior. These would of course be useful under any scenario, but they are particularly appropriate in the incremental reform model. The second approach, which would appear to be advisable when the behavior encouraged goes contrary to customary rules, would be pronouncement from the highest levels of the traditional heirarchy of changes in certain customs. Such pronouncements may be needed to clarify situations in which the evolution of the customary system toward acceptance of innovative behavior is not complete, and is causing confusion as to what is and what is not permissible. A third approach is at a still higher level of formality, involving codification of the rules of customary land law modified as may be appropriate, in an authoritative text. There is, however, an important disadvantage to such a codification approach. It tends to freeze customary law and discourage its future evolution. Often such codification reflect a somewhat dated version of the customary rules, in part because they tend to be based on an exposition of customary rules by traditionalist legal experts rather than an analysis of current behavior.

There are other formalities which deserve consideration, formalities which will be helpful in keeping track of land matters and particularly in facilitating proof of land rights. Prices are rising rapidly on freehold land just beside SNL. The value of the SNL is rising as well, even though that value cannot be converted to cash. Competition for choice areas of SNL will become intense in more developed areas and disputes over such land will become more serious. This will of course be very uneven, while it is occuring already in some parts of the country, it is well in the future for other areas.

One formality which it might be useful to introduce to ease problems of proof would be simple form contracts for borrowing and lending, to be notarized by the chief and a copy retained by him. Records of land dispositions by the chief might be begun in the form of a simple chronological register in which allocations and resolution of disputes are recorded, with signatures or thumbprints of the parties concerned. A very simple method of land description, along the English system of "meets and bounds" could be developed and utilized in these documents, and could prevent or help resolve many disputes on boundaries. One of the indications of the Land Disputes Study is that boundary disputes are becoming more important, and this trend may be expected to grow. There are of course more elaborate formalities which might be utilized. The Maina and Strieker proposal for a leasehold system involved chiefs in the administration of leases, though the chiefs' relationship to the National Leasehold Authority which they also proposed was not clear. An alternative (without something resembling the authority, which seems to imply a civil service-run system of land administration), would be for the tenure of the customary grant to be incorporated in a simple "certificate of customary right" with a sketch plan or, if the grantee wanted to pay for it, a survey plan attached. These could be done on a farmer demand basis initially, to see if land holders do feel they serve a useful purpose. A modest fee might be charged for provision of such a certificate.

The third level of issue concern how changes in customary law might be enacted and how those changes could be communicated to chiefs, farmers and others. These are questions of which those much more knowledgeable than ourselves about the working of the mornarchy and government will need to resolve. What we imagine, correctly or incorrectly, is that there exist mechanisms for a Ministry to make recommendations which, however, they may be routed, can reach those who have the authority to declare or give official recognition to modifications in customary law. Our vague references to mechanism such as "the highest levels of traditional authority" in earlier parts of this section of the paper are vague because we do not have a clear sense of the dynamics of policy making in an area such as this. There is a further issue, which concerns how these policies and desired changes of behavior might be communicated. We can think of a variety of ways: through a royal speech, through the Tinkhundla system, through training sessions for chiefs, or through some combination of these, but the Ministry will have a better sense of what is effective and appropriate.

Finally, are there any changes which need to occur with respect to the role of chiefs as land administrators? As land administration becomes more complex (as it necessarily will as development proceeds) what resources are needed to help them carry out their duties effectively? Training is an obvious answer, especially if policies are decided upon which ask chiefs to carry out new functions. If those policies involved a greater level of formality, a chief might well require an adjunct, such as an executive secretary for land matters, who has more formal education and possibly training in matters of land administration. Finally, it needs to be recognised that as land becomes more valuable, disputes more serious, and land administration duties more arduous, it is necessary that the work of land administration and land dispute resolution be adequately compensated. The temptations to corrupt practices will increase with time, and to have an increasingly valuable resource managed by underpaid administrators invites the problems which have brought traditional land administration into discredit in many parts of Africa.

IV. PASTURE MANAGEMENT

The discussion of pasture management options is less clearly defined than that of arable agriculture. Pasture management in communal tenure systems is primarily discussed within the context of the tragedy of the commons literature (Hardin, 1968). The individual makes decisions on his utilization of the graining commons, much as he would on his arable land. His returns are maximised by grazing as many animals as possible. Unfortunately this is the objective of every individual in the area. This is not a problems as long as cattle populations are now and the grazing area is plentiful. As the cattle population increases and the grazing area declines in size, often as a result of increasing utilization of land for arable agricultural production, increased pressure is put upon the grazing resource.

It still remains to each individual's advantage to maximise his utilization of the pasture. But this leads to the destruction of the pasture. If it to the disadvantage of an individual to destock in hopes of improving the grazing pasture, because that will simply make more grazing available to his neighbours.

Traditional pasture management in Swaziland fits the pattern outlined above. Pending analysis of the findings of the community case study research, we can only summarize what we know from the survey findings. Cattle are brought back to the homestead on a daily basis, which indicates that the grazing land utilized by the homestead must be fairly close by. The level of crop damage disputes correlates with this daily movement of livestock. Individuals with larger herds were more likely to identify a declining quality in the communal pasture. This understandable as an individual with 20 animals would have a harder time finding adequate pasture for his animals in the lands surrounding the arable field than the individual with only 5 animals. While the homesteads were asked if they had noticed a decline in the amount of grass over the years, it is not clear whether this should be interpreted to mean a decline in the quality of grazing in a particular area or a decline in the total area of land available. The grazing areas, while they may be fairly well defined in the community, do not appear to be restricted to the community's cattle.

The policy options which present themselves as possible solutions to this issue are not as clearly defined as those for arable agricultural lands and hence more difficult to place in the context of the four alternatives proposed for arable lands. Tenure alternatives for grazing land to a significant extent are determined on the basis of herd management practices. Presently the grazing land is treated as a communal resource to be utilized by all members of the community. Management of that resource presently appears to nearly nonexistent. However, a number of factors must be addressed in changing the management practices for the grazing land the livestock are managed will dictate.

It is, however, important to understand the role that livestock play in the agricultural enterprise before considering management alternatives. The survey clearly indicates a close relationship between livestock and the arable agricultural enterprise. Cattle are held for draught power, manure, milk and meat and only to a lesser extent for status/investment purposes. The commonly utilized draught team for ploughing is 6 animals. To be assured of having six oxen an individual homestead will have to have a herd of approximately 20 animals. The agricultural census data appears to support this as homesteads ploughing excluseively with oxen have an average herd size of 20 animals. Given the reliance an on animal draught power, destocking, which is commonly proposed as a solution to the declining pasture, must be seen in the context of the homestead's ability to maintain a draught team. If the herd size required to supply a team of 6 oxen is 20 animals, the homestead will not be interested in a destocking programme until its herd has reached that minimum size. It is interesting to note that further analysis of the

agricultural census data appears to indicate that homesteads ploughing exclusively with tractors have an average herd size of only 16 animals.

Destocking also becomes difficult when one considers the ownership of animals in the homestead. The livestock control by a given homestead are rarely, if ever, owned by one individual is that homestead. Not only are there the traditional sisa arrangements whereby cattle owned by one individual are held and managed by another in a different homestead, but individuals within the homestead have rights to their own individual cattle which make up the homestead's herd. We have seen this to be closely tied to the life cycle of the homestead.

Three possible alternatives suggest themselves as policy options for existing pasture land: individualization of tenure, mixed farming, and communal pasture.

Individualization of tenure is seen as a mechnism to limit the deterioration of pasture. By making land available to an individual, it is to his advantage to maximise his utilization of that resource. However, as he is the only one using the lnd it is to his advantage to control the stocking rates to maintain the quality of grazing, if the land is over grazed it is he alone who suffers.

Individualization of tenure requires the ability to discretely define the pasture land as separate from arable agricultural land. This could be accomplished through a zoning activity, whereby land is specifically designated for arable agriculture and that land of lower arable potential is designated for pasture. When the land has been so defined, it can then be broken into individual units. Such an undertaking would require detailed land use planning to define the areas of land to be designated for particular land use. Land could be made available to individuals or groups on either a freehold or leasehold basis.

If all of the land is so defined management of the pasture land becomes the responsibility of the individual or group who has access to each portion of land. If there is still some communal pasture left over, it becomes difficult to control the cattle movement between the individualized pieces of land and the communal pasture, i.e. the individual who has gained access to his own piece of land could have the best of both worlds, retaining access to the communal land, but also having access to his own pasture land onto which he has exclusive action.

Most recently such an approach has been implemented in Botswana through the Tribal Grazing Land Policy. Communal pasutre land was designated for the programme, individual ranches were demarcated and made available to individuals or groups on a leasehold basis. The existence of extensive land permitted the development of such a large scale undertaking. A number of issues have arisen which question the success of the programme. A major objective of the programme was to make grazing land available to large cattle owners, and, in encouraging them to take up the ranches, provide a mechanism to destock the communal areas. Such

destocking has not taken place as these owners often continue to maintain herds in both locations. The ability of the leasing authority to dictate and enforce the terms of the lease have presented problems similar to those discussed earlier in terms of arable land leases: rental payments, development requirements, etc.

The mixed farming option is a mechnism to integrate arable agriculture and pasture management. In a sense there is a mixed farming system presently in existence, as cattle are used in the arable agricultural enterprise for draught power, and later feed on the crop residue and to a letter extent manure the fields.

Two possible directions might be taken in the continuance of a mixed farming approach to pasture management. Continued use of the communal pasture could be maintained supplemented by fodder production on the arable land. We have seen little evidence of intentional utilization of crops residue for livestock feed. The returns to fodder production might not be readily perceived by the individual farmer given the general perceptions that there appears to be enough grazing at present. Setting aside land for fodder production would require the ability of the individual farmer to restrict access to the fodder which he has produced. The acceptance of fencing would permit this ability to be exercised. As an intermediate step fodder grasses could be introduced into the grass strips which exist in nearly all fields. Existing land will not have to be taken out of production, however, the quality of grazing in and around the homestead land would be improved.

Alternatively, additional land could be made available to the homestead bu cutting land out of the communal pasture to create larger individual land holdings which would include grazing land. How the land is divided becomes a question for the community. Division of the grazing land into increased allocation. However, extension of existing allocations to include some of the grazing land may be difficult in those areas where land has become short. A resettlement activity such as that implemented in the RDA programme may be necessary.

Communal pasture management is a logical alternative when discrete areas of pasture are associated with particular groups of people. The successful communal grazing systems which do exist (e.g. the Swiss grazing commons, that of the Outer Hebrides, etc.) are successful because both the grazing area are clearly defined. The most significant experience of a communal grazing programme in the African context has been that of the group ranching programme in Kenya. Ranches were defined as clearly as possible on the basis of traditional dry and wet season grazing areas. Groups were defined primarily on the basis of previous use of those areas. A number of problems presented themselves in the ability to define an ecologically sound land area that included both dry and west season grazing areas, given the encroachment of arable agriculture into the dry season areas, as well as in the ability of the group, once formed to be able to manage its grazing land.

A number of possibilities exist within the Swazi context for such a communal management system to be developed. Given the exiting strong role of traditional authority at the local level, defining a group, and creating a communally based management mechnism may not be that difficult. Similarly, defining the grazing area associated with that group may be on the basis of existing divisions between chieftaincies, or with the chieftancy. Once the area and group has been defined one has the ability to exclude others from the utilization of the pasture.

Once the group and area has been defined the grazing area can be managed by that group. The maintenance of the grazing area through the control of stock numbers becomes economically advantageous to each individual in the group. A number of mechnisms can be established to push the costs of keeping cattle in the grazing area back to the individual such as grazing fees, dipping gees, etc. Outsiders' cattle could still be grazed in the area, but for an appropriate fee.

How the grazing area will generally define how the group is defined. Both will determine how the grazing area is administered. The smaller the group the easier it is to bring pressure on individuals within the group to fulfill their obligations to the group. Larger groups become more difficult to manage and control. Local management committed could be established much the same as management committees on the irrigation schemes or agricultural production schemes.

ANNEX 1
ORGANIZATION AND STAFFING OF THE PROJECT

The project has been based with the Planning and Research Division of the Ministry of Agriculture and Cooperatives, headed by Ms. Nomathemba Dlamini. It was planned that immediate supervision of the project would be by the Senior Agricultural Economist in the Division. In the planning phase of the project, the incumbent in this post, Mr. E.V. Dlamini, was active in establishing research objectives and in the planning of the organization of the project. Unfortunately, he was seconded to SADECC before LTC staff arrived in the country. The post was only filled eight months prior to the original conclusion of the project. The new incumbent, Mr Sam Hlophe, assisted in the planning of the data analysis.

The project was managed on a day to day basis by Dr. Mark Marquardt, LTC's Chief of Party and Principal Investigator. In the absence of a senior agricultural economist, he reported directly to the head of the division. Dr. Marquardt was responsible for 1) overal coordination and supervision of the entire research program and management of its logistical needs; 2) direct conduct and reporting of the SNL Tenure Study; and 3) management of all USAID-provided project funds. The LTC also provided the services of Dr. Bruce Flory, who in 15 months in country carried out the Advanced Farmer Survey. Professor John W. Bruce, Director of the LTC, provided LTC supervision through five trips to Swaziland over the thirty-month life of the project. Assistance with particular aspects of the project was provided by several University of Wisconsin faculty members on consulting assignments with the project. Assistance in survey design was provided by Professor Aaron C. Johnson and Dr. John Rowe, and in data analysis by Professors Don Kanel and Richard Barrows.

The Planning and Research Division of MOAC assigned various staffers to work with the project from time to time. Two of these, Ms. Funekile Mdluli (rural sociologist) and Ms. Nomsa Dlamini (economist) spent a month at the Land Tenure Center at the outset of the project, participating in the refinement of issues to be researched, initial design of survey instruments, and discussion of field research methods. They later assisted in translation and pretesting of questionnaires and enumerator training. Later in the project, Ms. Tsenjiwe Dlamini supervised data collection from the second survey and the case studies of SNL communities, and is currently writing that report. Mr. Basil Maphalala also supervised data collection for the second survey and assisted with data cleaning. The project also employed the services of two drivers and eleven enumerators, six employees of the Ministry and five hired by LTC with USAID funds.

An interministerial Project Reference Group was established to ensure broad awareness of the project, its objectives, and findings, to facilitate cooperation with other ministries and units of government; and to ensure the relevance of the research to government concerns and objectives. Agencies participating in

the reference group, in addition to MOAC and its Research Station - Malkerns, were the Central Statistics Office, Tinkhundla, the Ministries of Justice, Education, Economic Planning, Interior, Foreign Affairs, and Natural Resources, the Central Rural Development Board, the Social Science Research Unit and University of Swaziland - Luyengo. The reference group met six times over the life of the project to review research plans, be briefed on research progress, and to review preliminary findings. In addition, a Project Reference Group was established within MOAC during the second year of the project. Membership included heads of divisions and regional agricultural staff.

The LTC presence in MOAC terminates at the end of January, 1988. All the specialized studies and the Advanced Farmer Survey have been reviewed in the Ministry, commented upon, and final drafts prepared on the basis of those comments. The SNL Tenure Survey and the Policy Options Paper are being submitted at the end of January, for review and comments by March 15, 1988. The authors will prepare final versions on the basis of these comments, which final drafts should reach the Ministry by April 15, 1988. The Ministry's Information Section has assumed responsibility of publication of the reports. The project will conclude with a Policy Seminar, tentatively scheduled for late May, 1989. Arrangements for the seminar are being made by the SSRU.