

PWABF-250

SECURITY OF TENURE IN AFRICA

**A Presentation to the Agency for International Development:
Findings of a Program of Comparative Research and
Their Policy and Programmatic Implications**

Agenda and Briefing Papers

**Land Tenure Center
University of Wisconsin-Madison
Madison, Wisconsin**

**Washington, DC
19-20 April 1990**

INTRODUCTION

The several studies summarized briefly here were for the most part carried out under the Land Tenure Center's program of comparative research on security of tenure and land registration initiatives in Africa. Preliminary evidence from a few countries seemed to suggest that the impacts of such programs might vary greatly, both as between different groups of registered holders in the same locale, and as between locales with different pre-titling tenure situations and different economic environments. The development of solid policy and programming of tenure initiatives by governments and development agencies seemed to require more careful distinguishing of these situations. In what circumstances are such initiatives appropriate and timely?

The research was carried out under LTC's Cooperative Agreement (ACCESS I) with the Office of Rural and Institutional Development of AID's Bureau of Science and Technology. It has involved a year or more of fieldwork in Somalia, Senegal, Uganda and Kenya, short-term work in other countries, and an extensive literature review. For this presentation these studies are supplemented by other LTC research in the concerned countries, one from Uganda, the other from Senegal. (A full list of the studies presented is annexed.) The cases studied involve registration situations which range from rough record-keeping by local land committees through voluntary formal land registration to formal, compulsory registration of all holdings; across tenure situations ranging from unwritten use permits through state leasehold rights to freehold; and across agricultural development contexts ranging from stagnation to vitality. In each case the pattern runs roughly Senegal-Somalia-Uganda-Kenya, the order of the presentations. More specifically:

- The Senegal studies explore the impact of Senegal's ongoing land tenure reform, which places farmers' security of title in the hands of local committees and stresses regular use as the basis for rights to land. One study, in the economically depressed Peanut Basin, also examines the experience with limited amounts of freehold registered prior to 1964. The other, a study from Bakel, examines tenure issues in a more economically viable irrigated agriculture.
- The Somalia studies compare landholders with and without long-term leasehold titles from the state to holdings of relatively high value in the Jubba and Shabelle Valleys. In more remote Jubba, land grabbing is proceeding through the leasehold registration system in anticipation of irrigation development, while in the Shabelle the study focuses on an older irrigation scheme awaiting rehabilitation.
- In Uganda, one study examines the effects of the conversion of smallholders from customary tenure to freehold under a pilot land registration scheme at Rujumbura in Kigezi District in 1958-1962. A second study considers the impact of diverse tenures--mailo (freehold), customary tenure and tenancies--on investment and land use in Buganda.

- The Kenya study is sited near Njoro in the former White Highlands, where land was distributed to or purchased by Kenyans after independence. It examines the impact of varying tenure status in an area with a diversified and vigorous agriculture and an active land market.

In all the cases studied, there has been state intervention, the stated purpose of which was to increase security of tenure. These have been experiments, and it is in the light of this experience that future proposals for titling programs must be evaluated rather than solely in terms of a potential indicated by theory. In the end, the experience suggests modifications to our theoretical models, more rigorous statement of their assumptions, and an understanding of how far these assumptions apply in the cases which concern us.

Funding for the research was provided by AID's Africa Bureau from Strategic Studies funds and by the Bureau of Science and Technology. In addition, the Bakel study in Senegal was funded by USAID/Senegal; that in Buganda in Uganda was co-funded by the World Bank and USAID/Uganda; that in Kenya was funded in part by the University of Wisconsin's Office of International Agricultural Programs; and the Africa Bureau funding for the Somalia research was very substantially supplemented by USAID/Somalia. The Land Tenure Center appreciates the interest and support of many in AID/Washington, including David Atwood, Michael Yates and Gloria Steele in the Bureau of Science and Technology; Pat Fleuret, Gerald Cashin and Curt Reintsma in Africa Bureau; and Joan Atherton in PPC; in USAID/Somalia, Ray Carpenter, Roger Garner and Michael Fuchs-Carsch; in USAID/Uganda, Ken Lyvers; and in USAID/Kenya, David Lundberg.

**John W. Bruce, Project Coordinator
Security of Tenure/Land Registration**

AGENDA

Thursday, April 19

**Diplomat Room, The State Plaza Hotel
2117 E Street, NW**

Morning

Moderator: Richard Cobb

- 9:00 **Welcome: Joan Atherton**
- 9:05 **Background: Gloria Steele**
- 9:15 **The Issues: John Bruce**
- 9:25 **The State of Knowledge: Carol Dickerman**
- 9:45 **Senegal: Peter Bloch**
- 10:15 **Comments: John Lewis, Emmy Simmons**
- 10:25 **Coffee Break**
- 10:40 **Somalia: Michael Roth**
- 11:10 **Comments: Benoit Blarel, Michael Fuchs-Carsch**
- 11:25 **Discussion**
- 11:50 **Closing: Richard Cobb**
- 12:00 **Break for Lunch**

Afternoon

Moderator: David Lundberg

- 1:30 **Uganda: Richard Barrows**
- 2:00 **Comments: Peter Hazel, Michael Yates**
- 2:15 **Kenya: Michael Carter**
- 2:45 **Comments: Parker Shipton, Don Harrison**
- 3:00 **Coffee Break**
- 3:15 **Panel: Cross-cutting insights from the studies.**
Richard Barrows, Michael Carter, Carol Dickerman, Michael Roth
- 4:00 **Comment: Jerry Wolgin**
- 4:15 **Discussion**
- 4:45 **Closing: David Lundberg**

Friday, April 20

1408 New State

Moderator: John Westley

9:00 Opening: Tom Hobgood
9:10 Review of Thursday's Conclusions: John Bruce
9:20 Panel: Policy and Program Implications of the Findings
 Richard Barrows, Michael Carter, Carol Dickerman, Michael
 Roth
10:00 Summing Up: John Bruce
10:10 Comments: Richard Cobb, E.L. Saiers, John Westley
10:20 Discussion
10:50 Closing: John Westley

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Insights from the Review of the Literature
Carol Dickerman

The literature review served several related purposes: to identify those countries and areas in Africa which projects to strengthen security of tenure (largely through land registration programs) had been undertaken; to learn what follow-up studies had shown about the results of these projects; and to highlight issues and approaches to research for our own field studies.

Motivations for registration of land have changed significantly from the colonial period. In the years up to about 1960, British colonial governments undertook to register landholdings as individual freehold for the purposes of re-establishing economic and political stability in such countries as the Sudan, Uganda, Southern Rhodesia (now Zimbabwe), and Kenya. Only modest areas in each country were affected. Since independence, however, national governments have undertaken land registration programs for rather different ends: to establish a single, uniform system of national land tenure; to resolve problems of under- and unutilized landholdings and land concentration; and to centralize political authority by diminishing the allocation rights of local, customary authorities. Registration programs have been instituted under such diverse regimes as those of Senegal, Kenya, Somalia, Nigeria, Malawi, and Idi Amin's Uganda. The granting of individual freehold title has not been seen as the only appropriate end of registration. Rather, registration has often been the vehicle for creating and recording leasehold titles and rights of occupancy from the state, and for titling land to groups as well as individuals.

The largest body of literature by far describing the implementation of registration and analyzing its results comes from Kenya, with substantial literatures also available for

Uganda and Zimbabwe. Follow-up studies provide rich insights into the effects of land registration. Although there is general consensus that registered smallholders have proven very productive farmers, there is also evidence that other expectations of registration have not been fulfilled.

1. **Security of Tenure and Land Markets.** Studies from Kenya suggest that registration of title by itself may not always increase significantly a farmer's security of tenure or enhance a smallholder's access to credit. Benefits of titling appear to be unevenly distributed, with some farmers more able to take advantage of title than others. Land markets remain constrained in important respects; they produce increased land concentration in some circumstances, and reduce it in others. Production in the short or inter-mediate term is often not the motivation behind purchases, but rather social security considerations and the potential profits from appreciation in value.

2. **Land Disputes.** Although rising incidences of land disputes often provide a motivation for registration, the evidence on whether registration actually diminishes disputes over the long term is mixed. A decline in disputes following registration may only be temporary, and registration may engender new kinds of disputes: instead of quarrelling over boundaries, the most common subject of dispute on customary holdings, suits over actual ownership may become more prevalent.

3. **Intra-Household Impacts.** Registration has often been the vehicle for extinguishing subsidiary, derived rights to land of women and junior male household members while granting the head of household the title and thus the right to mortgage or sell the land without the consent of other family members.

4. **Failure to Maintain Land Records.** In Kenya, Uganda and elsewhere, successions and other transfers of title have gone unregistered, resulting in records that are increasingly unreliable, with negative impacts on land markets, numbers of disputes and access to credit.

Despite these difficulties, there have been important gains in areas where registration has been undertaken. A major goal of registration is an increase in agricultural productivity, and Kenya's registered smallholders are the most productive farmers in the country. Registration in Kenya is generally regarded as very successful, both by planners and beneficiaries. And in central Uganda and other situations of initially skewed land distribution, a very active land market over the years has resulted in a more even distribution of land.

The review highlighted a number of issues for further investigation, avenues that earlier studies had not adequately explored. One of the most important was the relationship between investment and registration; another was the need to analyze patterns of "progressiveness" among farmers. Further, little field research had been done in some of the oldest registered areas of Africa, or outside of Anglophone African countries, or in programs of voluntary rather than compulsory registration. The review underscored the need for research in these areas and pointed toward a pattern of country and research site selection which would capture the considerable diversity of experience.

Senegal: Peanut Basin and Bakel Studies
Peter Bloch

The Research Opportunity

Senegal's National Domain Law of 1964, as complemented by the administrative reform of 1972, eliminated the possibility of individual acquisition of land title. Land allocation authority was shifted from traditional chiefs to elected rural councils, and security of use rights guaranteed by the latter. Three types of landholders exist today: (1) those who registered their land before the implementation of the Law and continue to own it in full private ownership; (2) those who have only customary access rights or property claims; and (3) those who have been allocated land by rural councils. The investigation of differences in the behavior of these three groups was a significant research opportunity.

Research Design

In the Peanut Basin study by Elise H. Golan, the study zone contained only eleven registered parcels of agricultural land, and none of them were "typical" farms on other dimensions. After examining the mixed experience with these eleven parcels, the study explores the relationship between perceived tenure security and land management practices via analysis of sample survey data from two Peanut-Basin villages affected in varying degrees by the Law, and via construction of village Social Accounting Matrices (SAMs).

The Bakel study is included because it sheds some light on the security issue in a situation where productive (irrigated) land is scarcer than (rainfed) land in the Peanut Basin and where Rural Councils have become more important in land allocation and in guaranteeing security. It focused on sociocultural and economic determinants of access to irrigated land under the National Domain Law. Irrigated perimeters provide

security of tenure in the sense that membership lists are maintained, and access is not at the discretion of customary landholding elites as is access to other productive land. The dynamics of access as perimeters expand and new ones are created were examined through sample surveys.

The Findings

In the Peanut Basin study, some of the eleven registered parcels had in the past had substantial investment in fruit trees, fences, etc., but the second generation did not maintain them. None of the original titleholders were typical farmers, but influential people of various kinds--village chiefs, marabouts, etc. Some parcels have been used to secure loans, and lost to foreclosures. The land has in a number of instances been the subject of prolonged dispute, with assertions of landgrabbing. A parcel has generally remained in the name of the original titleholder after his/her death, so the register is not a current, accurate indicator of land rights.

The village surveys of land under the new Law suggest that insecurity is not the binding constraint: in a situation of constrained access to capital, new technologies and inputs, it does not affect substantially investment behavior or management practices. It may, however, explain diversification into non-agricultural sources of income. Some farm managers (women, dependent men) were found to be less secure than others, but they cultivate more cash crops than secure managers.

Farmers expressed fear of losing land if lent out, due to provisions of the Law which make use the basis for rights to future use. This could reduce the potential for optimal land allocation, but village surveys show that compounds continue to lend and borrow land, with no evident decline in levels of activity.

In Bakel, the Rural Councils have begun to assert authority over land allocation, and two tendencies are apparent: first, they look after themselves (members who come

from traditional elites assign land to themselves and allies); second, they reserve land for disadvantaged groups (women, youth, etc.) once their own wants are satisfied. New elites are likely first commercial farmers, perhaps with tenants or hired labor rather than with modern techniques; members at disadvantaged groups may have secure access, but only to plots too small to feed families or "go commercial."

Implications for Policy and Programs

Insecurity is not a binding constraint in the Peanut Basin. With existing technologies at current profitability, registration is not an important need. When and if it becomes so, attention should be paid to security of all individual farm managers in the household, not just to that of household and its head.

The Bakel work presages an increasingly important role for Rural Councils as land becomes scarcer, thus more valuable. Rural development activities must deal with them directly rather than through central ministries. Security of use rights may be sufficient to induce investment, access to credit and commercial production, but inequality of access may reinforce existing social stratification and income disparities without concomitant technical modernization.

In general, Senegal's poor agricultural performance can more easily be explained by weather and poorly-conceived, overly-changeable policy on pricing, credit and input supply than by tenure insecurity. The customary tenure system in rainfed agriculture has provided reasonable security of tenure, at least for household heads. Investment is negligible, except in vegetable farming and in irrigated areas; and there the current institutions appear to provide sufficient security without more formal registration.

Somalia: Shabelle and Jubba Valley Studies
Michael Roth

Research Opportunity

Somalia's 1975 Land Law incorporated all land in the national domain and provided for registration of individual concessions. By 1988, 13,300 titles for concessions had been issued nationwide. A large proportion of these are in the more highly developed Shabelle river valley, but registration has become increasingly important in frontier zones such as the Jubba valley.

Research Design

Research was undertaken at the Shalambod irrigation zone on the Shabelle, a few hours from Mogadishu and undergoing rapid economic development; and a small village in the Middle Jubba, where registration by small farmers is insignificant, but land grabbing is occurring through the registration process. In the Shabelle, surveys were administered to 77 unregistered small holders, 36 registered small holders (less than 25 ha) and 35 registered large holders (more than 25 ha). In the Jubba study by Catherine Besteman, two groups were surveyed: 15 registered land holders using formal structured interviews; and 40 households, 3 registered, using both informal and intensive survey methods.

Research Findings

Government has provided a network of registry offices, but registration is left to individual choice. Due to low salaries, limited funds, and critical shortages of paper, fuel and equipment to run the registries, the supply of titles is curtailed. While registration is in principle free, applicants must pay the costs of site visits, surveys, maps, etc. The cost of title exceeds the annual incomes of most small holders. Poor knowledge of registry procedures is pervasive.

Under sporadic registration, self-selection biases are important in determining which households acquire title, and which parcels are titled. Those obtaining title in the Shabelle tend to hold or have held government positions, are better educated, have larger holdings, come from outside the area and/or are heavily engaged in non-farm activities. Registered parcels tend to be larger in size with better access to irrigation water.

Provisions in the Law that give all citizens the right to hold and register a concession have allowed "outsiders," often urbanites, to obtain land in rural areas. Sometimes displacement of existing land holders ensues, or land is taken which is viewed as a community reserve for future cultivation. Conflicts have been most intense in frontier areas. They were quite severe in the Shabelle from 1975 to the early 1980s, but most of the land is now taken and smallholders appear to be taking disputes to the courts. In the Jubba, such land appropriation is emerging as a serious source of conflict.

Problems of tenure security are particularly important for women. Under customary tenure in the Middle Jubba, women household heads (10 percent) have fewer and smaller land holdings. Wives rely on husbands for land, unmarried women on their fathers and brothers. In the Shabelle, a higher fraction of households have women heads (17 percent), but only 3 percent of registered household heads are women. Barriers to registration are posed by the convention of one name per concession, the tendency of women to refer decisions about land to men, and women's lack of awareness of land access and government bureaucracy.

With few exceptions, increased tenure security was listed as a major benefit of land registration. As already noted, however, the registration program has tended to threaten non-titled holders. During the research, farmers constantly called on researchers to assist them in registering their land. Empirical results of a land value regression model indicated a marginal value of title of 44.3 to 57.3 thousand shillings/parcel compared with inflation adjusted costs of 44.8 thousand shillings. These results suggest that no systematic

rationing by the registry is apparent, price seems to provide the main rationing mechanism, and high costs are primarily determining the low volume of registration activity.

Over 90 percent of farmers, registered and unregistered, stated that registration does or would greatly increase their access to credit and incentives to invest. But only 6 percent of the small holder registered sample and 3 percent of the unregistered sample had borrowed money in 1987, and mostly from money lenders and traders rather than banks. Large farms tend to be registered and tend to invest heavily in land, but this partially reflects the organization and structure of plantation agriculture and their preferential access to inputs, investment technologies and commercial markets. A comparison of smallholder untitled and titled farms shows only modest differences in investment: equipment levelling (28.9 vs 47.4 percent); fencing (0.7 vs 2.6 percent), drainage (0.7 vs 0.0 percent) bunding (64.1 vs 81.6 percent), irrigation pumps or wells (0 vs 0 percent) and fruit trees (2.8 vs 13.2 percent). Fruit trees are highly correlated with land area and water access, making the effects of title difficult to isolate.

Policy and Program Implications

In June 1989, the Land Tenure Center in conjunction with the second phase of a World Bank Structural Adjustment program, assisted the Ministry of Agriculture (MOA) in the design of land policy reforms. An Action Plan was formulated recommending the following legislative and administrative changes:

1. Make usufructuary rights the basis for determining concession rights, to strengthen the tenure security of existing landholders.
2. Replace sporadic land registration with systematic (involuntary) registration, to curb the use of land registration for land appropriation and to permit more efficient use of the MOA's scarce resources for registration.
3. Increase taxes on all land, registered and unregistered, to increase the costs of idle or unproductive holdings and to discourage land grabbing, but implement this on a progressive basis to avoid oppressing smallholders.

4. Grant concession holders exclusive rights of occupancy for an unlimited term (rather than the 50 years now stipulated); eliminate restrictions on the number of parcels held, and eliminate restrictions on transactions in and partitions of land.

While isolating titling impacts requires a more economically dynamic environment than was present here, it is clear that fundamental changes in land law may be necessary to increase tenure security and to make reforms in land administration effective.

Fundamental improvements in the market environment (access to credit, inputs, and investment technologies) will be required if farmers are to make optimal use of their increased tenure security from registration. Conversely, an improved market environment without tenure security runs the risk of inadequate incentives for investment, particularly in areas of rapid economic development (e.g., Shabelle) or in areas of rapid settlement (e.g., the Jubba).

**Uganda: The Rujumbura (Kigezi) and Buganda Studies
Richard Barrows**

The Research Opportunity

In Buganda in 1900 about 4,000 political notables were given holdings in what is virtually freehold tenure (known as mailo, because of the square mile size of the holdings) on 8,430 square miles of land. Customary users of the land became tenants of the new owners, tenant occupancy rights were recognized and owners' eviction rights constrained. In most areas, mailo was interspersed with holdings under customary tenure. An active market developed in mailo land and by 1967 mailo owners numbered over 167,000. Outside Buganda land continued under customary tenure except for scattered pilot registration projects such as one in 1958-1962 at Rujumbura in Kigezi in southwest Uganda, which registered over 6,600 parcels.

The Land Reform Decree of 1975 vested all title to land in the national government, transforming former customary holders and mailo owners into lessees of the state and changing tenants on mailo holdings into sub-lessees. The Decree was not widely implemented in rural areas and most farmers think of land tenure in pre-1975 terms, though a few large leases were granted to influential persons and customary holders displaced.

The research was undertaken because: (1) the government requested help in determining whether to repeal the Decree; and (2) the range of tenure types presented a quasi-experimental design for analyzing the effect of tenure on security of landholding, investment behavior and access to land. The Kigezi study examined the impact of the pilot individualization of tenure and registration project in a fairly uniformly smallholder

agriculture under customary tenure, while the Buganda study focused on Luwero and Masaka Districts, which exhibited a wide range of parcel and holding sizes and tenurial diversity.

Research Design

Both studies were joint efforts of LTC and Makerere University's Makerere Institute for Social Research (MISR). In the Buganda study a sample of 221 households in Luwero and Masaka Districts was surveyed, with at least thirty observations for each tenure type: land farmed by the mailo owner, mailo land farmed by a tenant, and land farmed under customary tenure. In the Kigezi study, samples were drawn from the pilot area (the parish of Rujumbura) where all holdings had been registered systematically, and from a similar, neighboring parish where only some parcels had subsequently been registered, on the initiative of the holders. In all, 338 households holding 194 registered and 273 unregistered parcels were interviewed in the Kigezi study.

Findings

Security of landholding varies by tenure in both Kigezi and Buganda studies. In Kigezi, security under customary tenure was quite high but even higher for registered parcels due to perceptions of fewer boundary and possession disputes. In Buganda, both sites showed mailo owners least secure; at one site customary holders were most secure and mailo tenants most secure at the other. All agreed government interventions posed the greatest threat.

Investment was related to tenure in both Kigezi and Buganda but in unexpected ways. In Kigezi the unregistered parcels had the highest capital/land ratio but the number of improvements was highest on parcels registered in the pilot scheme; however, important parcel characteristics also varied by tenure. In Buganda investment was highest under customary tenure at one site and under mailo owner tenure at the other.

The most progressive farmers (in terms of agricultural practices) had the highest investment at both sites but were mailo owners at one site and customary holders at the other.

The crucial variable in the Buganda research was the land market. At both sites, an active land market existed under customary tenure as well as under freehold and mailo tenure. In Kigezi the land market was not so important in land acquisition, but in Buganda the market was the crucial link between tenure, investment and land access. At both Buganda sites, progressive farmers were far more likely than others to have acquired their land through purchase. (The land market is also an important means of land acquisition for the poor and other groups.) But the market was most developed for mailo-owned land at one site and for customary holdings at the other site. Tenure is important in determining the level of land investment but the effect appears to operate more through the land market than through a casual connection between security of landholding and investment.

Policy Implications

Both the Kigezi and the Buganda studies strongly suggest there is no simple one-to-one relationship between land tenure and agricultural development. In Kigezi, registration improves security and market activity slightly but the effect on land investment is modest at best. In Buganda, the land market seems to provide the critical link between land tenure and different land use patterns.

Some policy implications are clear. The Land Reform Decree is likely to interfere with the modernization of agriculture because it replaces a market allocation process with a political allocation process for land. The market is the means by which the most progressive farmers acquire land; substituting political for market allocation will interfere most with those most likely to drive the process of agricultural development. Suppression

of the land market will also affect access to land by the poor who may have no alternative employment opportunity.

An important role for government is to support the land market and the evolution of land tenure, in part by improving the registration process. Efforts should focus on market transactions rather than transfers through inheritance, where rights may be much less subject to dispute. A better understanding of how tenure influences the development and functioning of a land market is the subject on pending research by LTC and MISR.

Recommendations for the reintroduction of freehold tenure and other measures to facilitate operation of the land market have been taken up by the Agricultural Secretariat, and are being forwarded to the Agricultural Policy Committee of the Ministry of Planning and National Development.

Kenya: The Njoro Study
Michael Carter

Research Opportunity

During British rule, pre-colonial tenure patterns in the highlands of Kenya's Central Rift Valley were completely erased because agriculture in the zone was restricted to white settlers. At independence, the large scale farming structure established by the British was left intact as settler farms were transferred to individuals, land buying companies and cooperatives. More recently, many of those large farms have been subdivided into small family holdings. The result is a variegated agrarian structure in an area characterized by a high degree of agricultural commercialization. A residual sector of large farms (hundreds of acres in size) coexist with a continuum of farm sizes which reaches down to holdings no greater than a single acre in size.

While all land in the area is registered in freehold, the vagaries sometimes associated with large farm subdivision and with the small farm settlement schemes in the zone have generated a range of legal tenure status in the small holder sector, with some units holding complete legal titles and others holding the land in legally more precarious tenure forms. It is this variability in both farm size (and therefore in market access) and tenure status which makes the Kenyan highlands a unique and important area to study for the economic impacts of tenure security.

Research Design

Agricultural production and household structure data were collected from a sample of 125 farms in Njoro Division of the highlands through a series of bi-weekly questionnaires administered over the 1985-86 crop year. Sampled farm units range in

size from an acre to over 40 acres. Just over half of the sampled farm units have legally secure, registered titles to their core farm area. Most of the remainder are owner-operated units whose owners lack full legal title, and a few units are composed of rented or borrowed land. In addition, 26 of the farm units operate additional plots which are under different tenure form than their core farm area.

Using this data, conventional techniques of regression analysis were used to identify the impact of legal tenure security while simultaneously controlling for other factors which might be expected to influence economic performance.

Findings

The standard argument for tenure reform centers on uncertainty's role in discouraging investment on land which is held without long term security. As suggested by the standard argument, land title which enhances ownership security may induce investment and productivity increases from the demand side, as farmers become more certain of reaping investment's benefits in the future. These are the Demand Side, Tenure Security Effects. Registered title may also induce investment from the supply side, by affording the producer better access to credit. These are the Supply Effects of Title.

A simple comparison of titled versus untitled farms shows that titled farms on average produce greater levels of net farm income per-acre. However, because titled and untitled farms can be expected to systematically differ in ways other than tenure status, this simple comparison is an untrustworthy measure of the pure effects of title on agricultural productivity. Further analysis reveals that the apparent productivity advantage of titled farms is the result of a spurious correlation between title status and market access. Labor and capital markets are imperfect in the study area, and the differential access to them results in systematic size and market-access related differences in cropping patterns and choice of farming technique. Potential Demand or Supply Effects of

land title on agricultural productivity are apparently swamped by these market access considerations.

Policy Implications

Efforts to enhance smallholder productivity via land tenure reform are likely to prove ineffective if conducted in a vacuum: title status appears to be less important in the determination of farm productivity than do other mediating factors such as access to markets, non-farm income, and wealth. Furthermore, in light of the relationship between these other factors and farm size, distributional effects of tenure reform programs warrant consideration along with efficiency effects.

Annex: Program Publication

General

- Dickerman, Carol W. Security of Tenure and Land Registration in Africa: Literature Review and Synthesis. Madison, Land Tenure Center Paper No. 137. December 1987.
- Barrows, Richard and Michael Roth. Land Tenure and Investment in African Agriculture: Theory and Evidence. Madison: Land Tenure Center Paper No. 135. July 1989.

Uganda

- Barrows, Richard and W. Kisamba-Mugerwa. Land Tenure, Access to Land, and Agricultural Development in Uganda. Madison: Land Tenure Center. 1990.
- Kisamba-Mugerwa, W., E.S.K. Muwanga-Zake and E. Khiddu-Makubuya. A Quarter Century of Individual Title: An Analysis of the Rujumbura Pilot Land Registration in Uganda and Its Impact on Smallholder Agriculture. Madison and Kampala: Makerere Institute for Social Research and the Land Tenure Center. October 1989.
- Makerere Institute of Social Research and the Land Tenure Center. Land Tenure and Agricultural Development in Uganda. Madison and Kampala: Land Tenure Center and Makerere Institute for Social Research. January 1989.

Kenya

- Carter, Michael R., Keith D. Wiebe and Benoit Blarel. Land Titles, Tenure Security and Agricultural Productivity: Theoretical Issues and an Econometric Analysis of Mediating Factors in Njoro Division, Kenya. Madison: Land Tenure Center. March 1990.

Senegal

- Golan, Elise H. Land Tenure Reform in Senegal: An Economic Study from the Peanut Basin. Madison: Land Tenure Center Research Paper No. 101. January 1990.
- Bloch, Peter. The Dynamics of Land Tenure on the Bakel Smallholder Irrigated Perimeters. Final Report of the Land Tenure Center Research Program. Madison: Land Tenure Center. November 1989.

Somalia

Besteman, Catherine. Land Tenure in the Middle Jubba: Customary Tenure and the Effect of Land Registration. Madison: Land Tenure Center. September 1989.

Roth, Michael and John Unruh. Land Title, Tenure Security and Household Differentiation in the Lower Shebelle Region, Somalia. Madison: Land Tenure Center. April 1990.