

PD-AAX-620

UNIVERSITY OF WISCONSIN
LAND TENURE CENTER WORKPLAN

July 1, 1987 - June 30, 1988

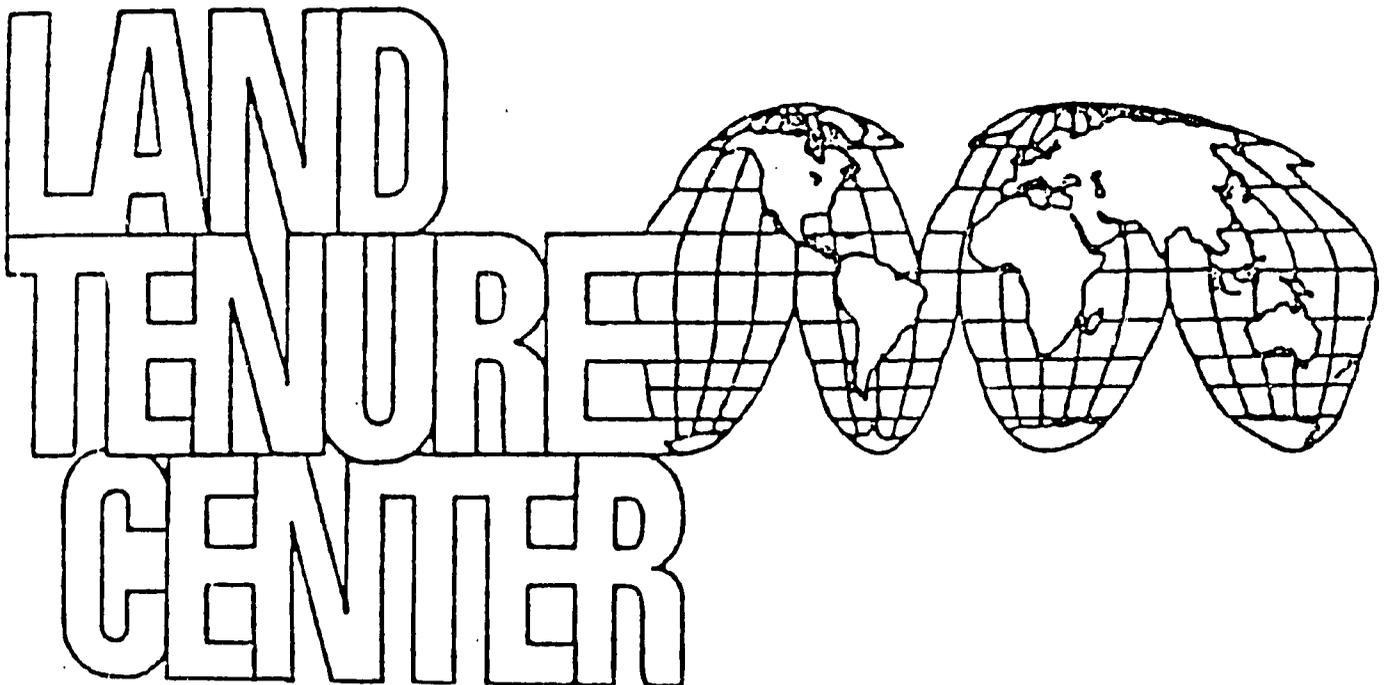


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LAND TENURE CENTER WORKPLAN

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I. INTRODUCTION/SUMMARY

This is the fourth annual workplan under the Cooperative Agreement (CA) between AID and the University of Wisconsin Land Tenure Center. The CA began in March of 1984 and is being extended to run through July 1989. It continues a project entitled "Research on Access to Land, Water and Natural Resources."

The amended Project emphasizes a cohesive program of research on several common themes. As in previous workplans, both narrative and budgetary materials are organized around these themes.

As the CA enters its fourth year, research under the various themes is at different stages of progress because of differences among the themes in research approach, and in the timing of receipt of funding for fieldwork. However, some conclusions are emerging and the emphasis on several lines of research is shifting from field efforts to analysis of data and synthesis of theoretical and policy implications. This introduction focuses on the emergent findings from ongoing research and on policy implications, rather than on specific project objectives and activities. There then follow tables which summarize the position under each theme.

A. RESEARCH IN AFRICA

LTC's research in Africa focuses on five interconnected themes: Land Tenure Issues in River Basin Development; Security of Tenure and Land Registration; Changing Traditional Land Tenure; Land Tenure Issues in Natural Resource Management (formerly the Marginal Lands theme); and Urban Land Tenure.

Research on changing traditional land tenure is intended to deepen understanding of the nature and variety of both evolutionary and planned change in indigenous land tenure systems, which are in flux in most of the continent. This flux creates uncertainty of expectations and insecurity of tenure, and has led many African governments to initiate land tenure reforms. The research theme on security of tenure and land registration is essentially evaluative of attempted reforms, including those involving the development of land markets. Such land tenure innovation has often taken place not generally but in particular development project contexts, and the third research theme examines the efficacy of various tenure models applied to irrigated land, in river basin development.

Under a theme on land tenure issues in natural resource management (formerly entitled marginal lands), LTC will examine the interrelationships between land rights and sound use of land and related resources. These interactions manifest themselves at several levels: common property management issues as regards resources such as pasture; on-farm tenure impacts on sound land use, including soil conservation and agro-forestry; and tenure strategies to relieve pressure upon and thus preserve forest resources and biological diversity.

1. Land Tenure Issues in River Basin Development

The Center's research on this subject has focused on smallholder irrigation development, notably the trade-offs that may emerge among security

of tenure, equity and efficiency concerns, and achievement of project production objectives. A number of policy directions have been established.

Results of investigations in seven countries suggest that there are viable alternatives to the usual patterns of state ownership and management found in donor-funded African irrigation schemes. Enhanced security of tenure is the critical element in such alternative approaches, but the interdependence implied by a common irrigation infrastructure, means that ways must be found to ensure farmer participation in maintenance of works and renewal of equipment. A transition period will generally be necessary, during which tenure security increases at the same time as management of the scheme, including input supply, marketing, crop choice, water scheduling and maintenance, is transferred from government or parastatal control to genuinely local organizations such as water users' associations and marketing cooperatives.

Decisions about the appropriate size of individual irrigated plots, and about who should have access to irrigated land, have not always been taken with sufficient care. Where equity considerations dominated in the allocation process, family holdings often fell below the size required to occupy the household's labor supply or to provide an adequate standard of living. In the absence of supplementary local sources of income, such plots are frequently neglected in favor of seasonal or multi-year migration by all or part of the family. Plots should be large enough to constitute a significant economic opportunity, and the tenure arrangements for the plots must be flexible enough to permit households to adjust their land holdings as their labor availability and production strategies change.

The selection of ploholders has also run into difficulty when national objectives conflict with local realities. The tension among the laudable

objectives of local participation in decision-making, respect for traditional land claims, and equity is illustrated by the resistance of traditional landholding elites to plot allocation based on equity; in several of the projects studied this has led to temporary or even permanent abandonment of irrigation. In most cases, it is likely that negotiation, combined with some degree of compensation, could have resolved these problems before they became so costly.

The impact of this research on AID policy and mission activities is becoming evident. The River Basin paper was distributed to missions by S&T and Africa Bureau in early 1986 and already the Mauritania, Somalia and Senegal missions have requested and are funding LTC fieldwork on river basin land tenure issues for project design. The paper has reinforced S&T's and Africa Bureau's efforts to sensitize the field missions in the arid and semi-arid zones to the importance of tenure arrangements in the design of irrigation and other river-basin development projects. A further effort at analysis of data from Zimbabwe is underway, and preliminary results suggest little difference in productivity as between larger and smaller irrigated farms, indicating that the tradeoff between equity and efficiency may be less severe than imagined.

2. Security of Tenure and Land Registration in Africa

Conventional wisdom out of the colonial era suggests that traditional African tenure systems do not provide sufficient security of tenure when major investment in land becomes feasible, and when land becomes a scarce and valuable good. The proposed solution has usually been to introduce Western tenure forms--individual freehold and leasehold with the necessary accompanying cadastral and registration systems.

The causes of tenure insecurity are diverse and may have more to do with deficiencies in administration or external pressures than with substantive rules of traditional tenure systems. In many cases changes in administrative structures may be less costly and more effective and durable than systematic individualization. Very little empirical evidence has been gathered as to the production effects of attempts to enhance security of tenure through registration and related processes. The preliminary evidence available suggests that titles to individual registered holdings, established at very considerable cost, often become clouded through failure to register successions. Even land sales often go unregistered. Evidence points to inadequacies in pre-project analysis and planning, particularly failure to relate specific measures to specific causes of insecurity. There also appear to have been serious overestimation of the relevance to most farmers of the new production strategies for which individualization of tenure was to pave the way, and hence the relevance of individual title itself. Unless care is taken, the process of titling individuals may reduce security of tenure for certain groups, especially women.

Such tenure reform may nonetheless be both appropriate and useful in certain circumstances. What is needed is an upsetting of easy assumptions and the honing of our conceptualizations and analytical tools to allow us to provide specific, cost-effective solutions for specific security of tenure problems, promoting evolution in appropriate directions rather than seeking simply to replicate at great cost western tenure institutions. LTC research is underway in Senegal, Somalia and Uganda. Out of that research should come both the enhanced perceptions and improved analytical tools necessary to more sophisticated policy analysis and more effective policy dialogue.

3. Changing Traditional Land Tenure

Two major activities have been completed under this theme--a paper on land tenure issues in project design in Africa and individual land tenure country profiles for each country in sub-Saharan Africa. The first paper provides a basic introduction to indigenous land tenure, and questions a variety of myths and misconceptions about African "communal" tenure. It establishes a typology of potentially negative interactions between tenure arrangements and particular project initiatives, and sets out a series of options and tools appropriate for dealing with such issues in the project context.

The second document, which describes the tenure situations in some 37 nations, suggests that countries with relatively good production records over the last twenty years have achieved them under remarkably diverse tenure arrangements, in which customary tenure figures prominently. Spontaneous "individualization" of land tenure, which in the sixties was anticipated on a large scale, has proceeded very gradually. The results of drastic tenure reform to date have been disappointing which suggests that customary land tenure will persist, but in gradually evolving forms. Two trends which are evident are decreasing size of operating units and an increase in the incidence and importance of "secondary" tenures, such as share-cropping.

Mission-funded research under this theme is underway or completed in Lesotho, Swaziland, and Zaire, and LTC has sought complementarities between country-level studies. Two sub-themes are being developed under the broad rubric of Changing Tenure: (1) land transactions under traditional tenure; and (2) regulation of grazing on non-arid commons. Contrary to what is often assumed, transactions in land have long taken place in many indigenous tenure systems in Africa, sometimes sales but if not sales then gifts, land-borrowing,

share-cropping and similar arrangements. LTC is examining ways in which developing land markets in Africa may be conditioned by this background and therefore display unexpected characteristics. This concept paper might serve as the basis for an independent research theme. The sub-theme on regulating grazing in the non-arid commons is building on research in Lesotho. Because small, discrete management units of pasture are possible in areas where aridity does not require long-distance movement, these non-arid areas offer the potential for developing workable institutional arrangements for management of common resources. Different households have different capabilities and advantages and there is a diversity of livestock management styles. This diversity significantly complicates commons management and LTC's research in Lesotho and Swaziland is probing these complexities to find more viable approaches to commons management. The paper prepared on this subject will help initiate a series of papers under the new Natural Resource Management Theme (see C below).

The policy impact of such research is only in part a product of substantive research results. It is as much a matter of communicating to national policy-makers the integrity of the research, the seriousness of the attempt to grapple with their tenure situation in all its particularity, that generates the necessary atmosphere for policy dialogue. In Lesotho in 1985, LTC staff organized an inter-ministerial workshop on implementation policy for the 1979 Land Act, and assisted in bridging deep policy divisions between the Ministry of the Interior and the Ministry of Agriculture. The LTC resident researcher in 1986 managed a similar workshop on grazing associations, which provided the forum for review and finalizing of proposed range management regulations. In 1987, LTC was able to return to participate in a workshop to initiate a National Commission to Review the Land Act, and for short-term

research to feed directly into the Commission's work. In Swaziland, LTC is contrary to many predictions now enjoying excellent cooperation from the Tinkundla, the national institution overseeing the traditional chieftainship structure. An interministerial reference group is overseeing the research and periodically reviews progress under the project. Such cooperation and regular interaction will be critical to receptivity of government to the recommendations which will be made on the basis of the research findings. The LTC anticipates important new opportunities both as regards research and policy dialogue as a result of Africa Bureau's grant last year for a two-year LTC Social Science Advisor for REDSO/WCA. The position should be filled by July 1987.

B. RESEARCH IN LATIN AMERICA AND THE CARIBBEAN

LTC research and training in Latin America and the Caribbean is organized around the following themes: Land Titling and Cadastral Systems; Tenure Issues in Natural Resource Management (formerly Marginal Lands); Land Markets; Adjustments in Agrarian Reform Sectors; and Evolving Agrarian Structures. There is a good deal of complementarity among these themes. The presence or absence of an adequate land titling and cadastral system, for instance, may affect the efficiency of land markets. Because titling efforts are usually designed, at least in part, to stimulate land markets, the potential impact of titling on the market will affect cost/benefit estimations for titling projects. Titling and land transfers often become salient issues in agrarian reform sectors some years after the initial push for reform, as when individuals involved in production cooperatives and settlement schemes wish to devise or transfer the land. Changing agrarian structures call for changes in policies on access and over the long run the operation of the land markets can alter a country's agrarian structure. Managing marginal land is often a

central problem in the reform sector, since much of the land made available for reforms is not particularly productive. Thus, while these themes are treated separately below, it should be remembered that they are inextricably interrelated.

1. Land Titling and Cadastral Systems

It is widely believed that holders of secure title to agricultural land in Latin America are more likely to make long-term investments, use credit, practice soil conservation, and adopt modern technology than are producers who do not own the land they possess. A major objective of this project is to gather empirical evidence on this assumption. A baseline study, two community case studies and a mid-point evaluation of the Small Farmer titling project in Honduras, (AID funded) have been carried out.

The mid-point evaluation of the titling project suggested that holders of new titles are more likely than non-holders to voluntarily pay assessed land taxes, but there appeared to be little evidence that distribution of titles had yet produced changes in use of credit, long-term investment, adoption of new technology or payment of land debts. The studies also made it clear that more parcels than expected are smaller than the legal limit of 5 has, and cannot be titled. One result of the research has been setting of new, more modest targets in terms of the number of properties affected, and a proposal for developing a group credit and technical assistance component for the titling project.

More importantly, the mid-project evaluation has led to a broader view of enhancing tenure security by improving the administrative agencies which define and protect ownership claims. The titling project is being re-designed to include a cadastral outreach component to promote more effective exchange of information between National Cadastre, Departmental Property Registries and

Municipal Cadastres. It is believed that better managed cadastral data and ownership records can significantly improve locally recognized claims of ownership and at the same time increase property tax revenues, especially at the municipal level, giving new vitality to local government.

LTC's work has also had an impact in AID and government initiatives in Panama, Ecuador and St. Lucia, where titling and registration efforts are underway or contemplated in the near future. In Panama, a study team provided the means and reasons for improving land titling procedures. In Ecuador, the importance of titling for small farmer development was demonstrated, and suggestions made for implementing a titling project. In St. Lucia, input was provided for the design of a novel land registration project, and in both St. Lucia and Ecuador LTC has designed long-term monitoring and evaluation projects. A comparative study of cadastres, land registries, and titling systems is underway, and will draw the attention of policy-makers and project designers to important considerations which have heretofore been largely neglected.

2. Land Markets

Research has been carried out under this theme in Ecuador and Honduras. Preliminary findings show that a major constraint to land transfers is the requirement that sellers secure authorization from the national land reform agency. In Ecuador, taxes on land transfers and on capital gains further impede the functioning of the land market. In addition to inhibiting transactions, these taxes also result in unreported and unregistered transfers, and in undervaluation of land. Consequently, land registries are badly out of date and land tax revenues are much lower than they might otherwise be.

The Penny Foundation in Guatemala and FEPP in Ecuador appear to have succeeded in overcoming some of these constraints, bringing about successful

land purchases by low-income campesinos. Key elements of their programs include acting as a broker between seller and buyer, thereby assuring the seller of payment; carrying out appraisals to assure buyers of the quality of the land; and providing technical assistance and credit to buyers. These apparent successes should, however, be interpreted with some caution given that these are very small pilot projects, with a great deal of monitoring and supervision. It would be difficult to achieve the same results on a large scale.

LTC's recent work on land markets, dating from the 1981 SOAP entitled "Interventions in Land Markets to Benefit the Rural Poor," by Peter Dorner and Bonnie Saliba, has raised levels of awareness of the importance of transactions in land and increased mission and national government interest in policies and projects which affect these transactions. Countries in which LTC has played a direct part in dealing with these issues include Guatemala, St. Lucia, Ecuador, Honduras, Jamaica and the Dominican Republic. Land market research will shortly be underway in Ecuador, St. Lucia, and possibly Guatemala.

Because of the interrelationship among land markets, land titling and land transactions in colonization projects and land reform areas, land market issues are also being addressed in the context of two other common themes. In addition to the on-farm productivity issues related to tenure security, the land titling research efforts in Honduras and St. Lucia propose to examine how the newly titled lands effect land markets in the project areas. The St. Lucia research will also look at the possibility that a more active land market will cause the land registry to become outdated because buyers fail to register sales.

The post-reform research effort in the Dominican Republic will explore the problems faced by agrarian reform beneficiaries attempting to deal in

land. Many of the beneficiarés have had provisional titles for 20 years and have been renting, selling and bequeathing property outside the legal system. These problems result from the lack of title and thus cause land market distortions and at the same time cause insecurity and other problems for beneficiarés of agrarian reform and land titling programs.

3. Post-Reform Adjustments in Tenure and Management

New systems created by land reforms have generally performed better in both economic and social terms than the systems they replaced. However, the benefits of land reforms have been very unevenly distributed; the relatively well off have benefitted the most. Rural populations have proven to be highly fragmented, with many divergent interests. Women have generally benefitted less than men. Landless workers have sometimes found themselves worse off than before. This has led to second generation problems, pressures to reform the reform and to include the excluded as well as to respond to changing economic and political challenges within the reformed sector of agriculture.

Production cooperatives have, by and large, not done as well as individual holdings. The cooperative model is attractive because it offers the chance to preserve economies of scale, to provide more sharing of risk among the members of the cooperative, to make better use of installed infrastructure; the cooperative may also be more amenable to mechanization and the utilization of scarce management talent. However, these potential advantages are often lost because of internal disputes and coordination problems. Internal production and investment decisions are often delayed and worker discipline is often lax. Where workers are also owners, the ambiguity of roles frequently translates into low labor productivity. There has often been great uncertainty as to what membership in a cooperative means. Can members sell land? Can they pass membership or land to heirs? Do debts

transfer to the next generation? In sum, the record of production cooperatives is unimpressive and the usual result is a mixed system, part collective, part private that tends to evolve toward individualization of holdings within some sort of service cooperative.

Work under the Post-Reform theme in the Dominican Republic found substantial evidence of these problems and trends, and has had a direct impact on national land policy. Case studies carried out in 1983 were presented at a National Agrarian Seminar attended by some 50 members of the Dominican Congress. The outcome was new legislation, finally passed in March of 1985, which did away with the rigid collective model and made way for "associative" production units. In these re-organized units, mostly in rice growing areas, individuals are assigned parcels on which they are responsible for planting, irrigation, weeding, etc. and from which they keep the profits. Operations such as tillage, spraying, canal maintenance and choice of variety, have remained with the cooperatives. These changes have gone a long way toward resolving the so-called "free-rider" problem, and have greatly simplified management while preserving important economies of scale. The GODR is now considering a proposal which would further modify the land reform model, allowing beneficiaries to hold definitive title to the land they work, but to transfer it only to heirs, other members of the cooperative, or others approved by the cooperative.

Comparative study of these issues has been underway in Honduras, Ecuador, and the Dominican Republic, and LTC has completed a draft guidelines paper on how land tenure affects policy and project design.

4. Agrarian Structure in Latin America

Research under this theme seeks to describe and explain the current structure of Latin America's agricultural sector. In particular it attempts

to document changes in that structure since it was described in the CIDA studies of the 1960s. The focus is on changes that are not regarded as the direct consequences of land reform policies. The following points have been put forward as working hypotheses:

1. Large farms are smaller than they were two decades ago, and more heavily capitalized.
2. Large farms are growing more higher-value crops than they were in 1970.
3. Large, unproductive estates are rarer now than they were in 1970.
4. The smallest farms are remaining more or less constant in size despite acute population pressure.

The land tenure structure is less simple--more variegated--than it was several decades ago. It is more possible to find a few poor peasants that have "made good" and progressed however archaic the agrarian structure was. However, there are also signs that many more have slipped down the socio-economic ladder than have progressed. Landlessness within agriculture is more frequent as is the proportion of total farm families living in poverty. It is also possible to show that there is more rural-rural and rural-international migration in search of jobs, and part-time farming is a more widespread phenomenon.

This project is constructing an agrarian structure simulation model which can be used to explore the economic forces and policy variables which shape the structure and performance of agriculture. The model will examine the relationship between agrarian structure, or the distribution of agricultural assets, and output, employment, and income distribution, and should be a useful tool in formulation and review of resource distribution policy at the macro level.

While this research is not yet sufficiently mature to have had traceable effects on the policies and programs of AID or host countries, it is policy-oriented and expected to have a useful policy impact.

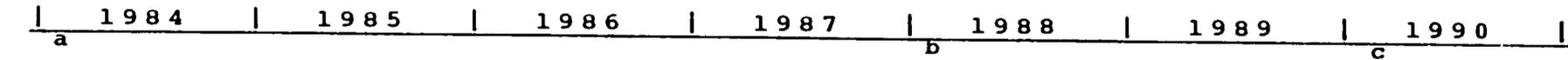
C. NEW DIRECTIONS: TENURE ISSUES IN NATURAL RESOURCE MANAGEMENT

The past year has seen the emergence of natural resource management as a research focus of growing concern to AID. Three years ago, a research theme on "marginal lands" was incorporated into the CA. LTC was able to initiate work in this area in a piecemeal way. In Africa a Ford Foundation grant made possible collaboration with the International Council for Research in Agroforestry in Nairobi. USAID/Lesotho funded two research initiatives through its Land Conservation and Range Development Project, one on common property management issues in grazing associations and one on socio-economic factors affecting farmer compliance with on-farm conservation plans. On the LAC side, LTC recently carried out a team consultancy on the relationship between environmental issues and land tenure for USAID/Haiti. The mission has now funded a six-month pilot research effort to feed into its Targeted Watershed Management Project, including design of a proposed long-term study.

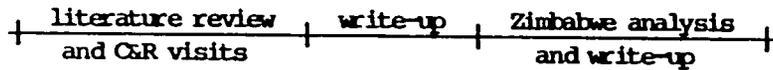
Now Africa Bureau is providing LTC with funding for two years of concentrated effort in this area--for networking, synthesis and research initiatives. Women's rights in trees has been a major thrust of LTC's work with ICRAF, and the new effort will deal with access and rights to not just land, but other critical resources as well, and examine how this differs based on gender and related socio-economic factors. The program which has been planned is detailed in the body of the workplan. As we enter the new workplan period, one of the questions which must be thought through is how best these natural resource management and environmental concerns can be addressed in LTC's Latin America and Caribbean program.

LITC-CA RESEARCH THEMES : AFRICA

A. LAND TENURE ISSUES IN RIVER BASIN DEVELOPMENT [Bloch]



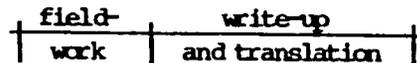
1. Africa Bureau Grant (Bloch and Riddell)



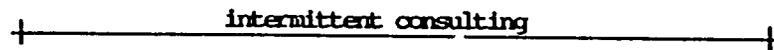
2. Mauritania (Training and Research) (Park)



3. Mauritania (Dirol) (Park)



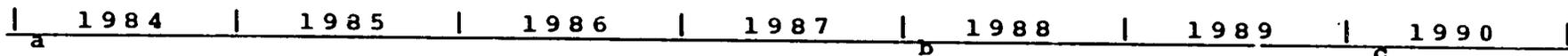
4. Somalia (JESS) (Riddell and Bloch)



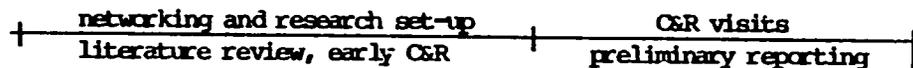
5. Senegal (Irrigation I) (Bloch)



B. SECURITY OF TENURE AND LAND REGISTRATION [Bruce]



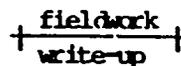
1. Africa Bureau Grant (Bruce, Dickerman, Roth)



2. Senegal (Bruce and Roth)



3. Uganda (Bruce)

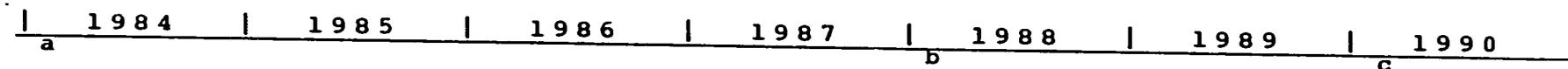


4. Somalia (Roth, Barrows)



Synthesis final reporting (1988-1990)

C. CHANGING TRADITIONAL TENURE [Bruce]



1. Africa Bureau (Bruce)



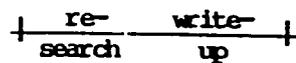
2. Country Land Tenure Profiles (Riddell, Dickerman)



3. Lesotho Research and Policy Dialogue (Lawry, Bruce)



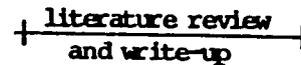
4. Zaire (Riddell)



5. Swaziland (Marquardt, Bruce)



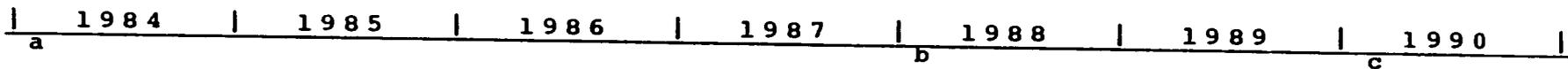
6. Sub-Theme Development Papers (Lawry and Roth)



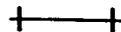
7. West Africa Social Science Advisor (?)



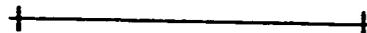
D. NATURAL RESOURCES MANAGEMENT [to be recruited]



1. Concept Paper



2. Literature Review/SOAP

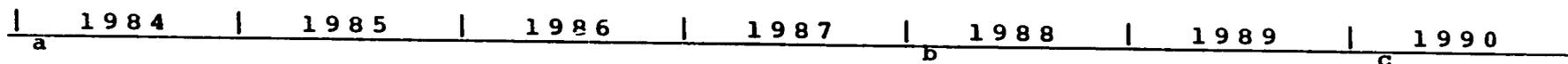


3. Field Activities

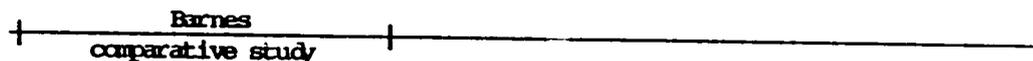


LIC-CA RESEARCH THEMES : LATIN AMERICA AND THE CARIBBEAN

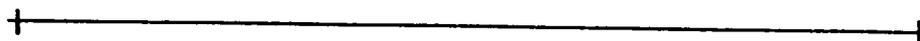
A. LAND TITLING AND CADASTRAL SYSTEMS [Stanfield]



1. LAC Regional (Stanfield)



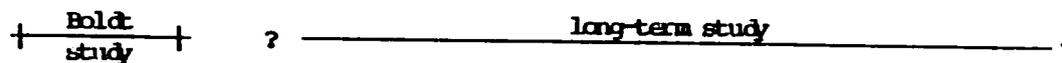
2. Honduras (Stanfield)



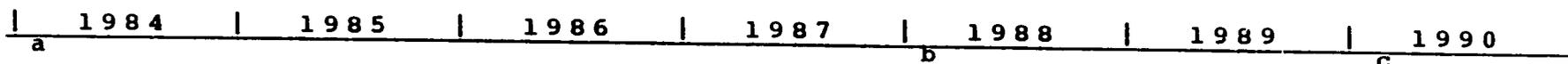
3. St. Lucia (Stanfield)



4. Ecuador (Stringer)



B. LAND MARKET [Stringer]



1. LAC Project (Stringer)



2. Ecuador (Stringer)



3. St. Lucia (Stanfield)

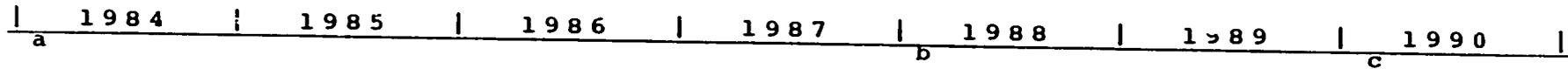


4. Guatemala (Stringer)

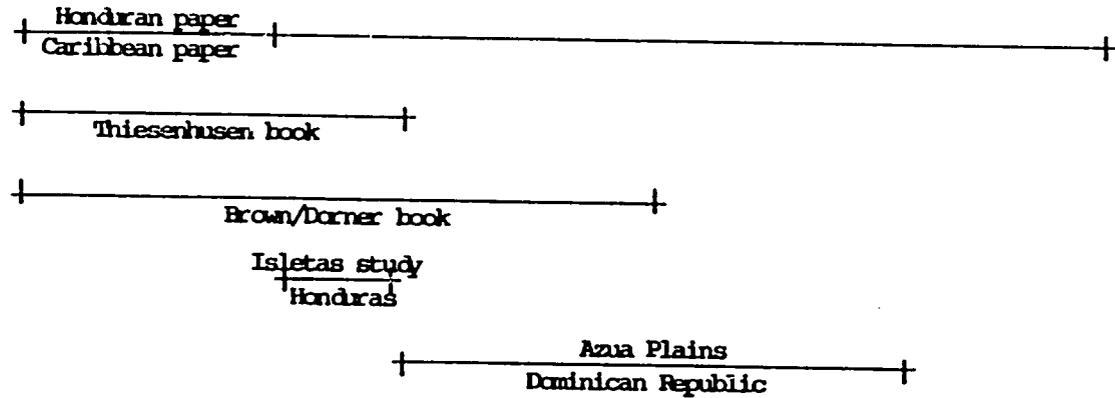


LIC-CA RESEARCH THEMES : LATIN AMERICA AND THE CARIBBEAN

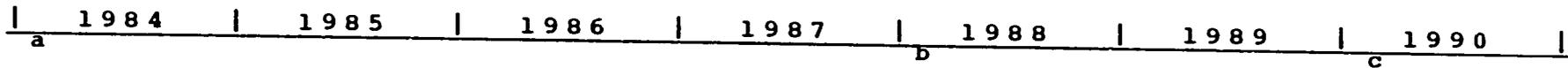
C. POSTREFORM ADJUSTMENTS [Stanfield, Stringer]



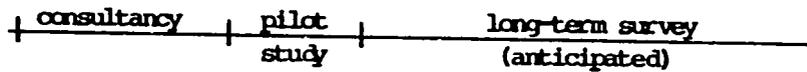
1. LAC Project (Stringer)



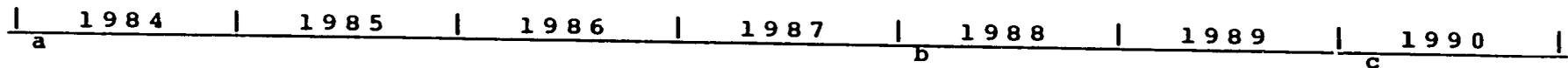
D. NATURAL RESOURCES MANAGEMENT [Stanfield]



1. Haiti (Bloch)



E. AGRARIAN STRUCTURE [Thiesenhusen, Carter]



1. PFC Project (Thiesenhusen, Carter)



a-b : 1984 through 1988 is original 4-year term of CA;
 a-c : 1984 through 1990 is 6-year term of CA, as amended.

() : core staff;
 [] : theme coordinator.

OUTPUTS BY THEME
Workplan Period: 1 July 1987 to 30 June 1988

I. AFRICA PROGRAM

A. Land Tenure Issues in River Basin Development

1. Park, Final Report, Mauritania Dirol Plan, July 1987.
2. Park, Final Report, Mauritania Tenure Project, July 1987.
3. Bloch, Paper on Size of Holding and Agricultural Performance in Irrigation Schemes in Zimbabwe, September 1987.
4. Riddell, Land Tenure Reconnaissance Report, Juba Valley, Somalia, October 1987.
5. Bloch, Bakel (Senegal) Baseline Survey Report, December 1987.

B. Security of Tenure and Land Registration

1. Bruce and Dickerman, Literature Review and Synthesis, September 1987.
2. Roth, Progress Report on Somalia Research, September 1987.
3. Mugerwa, Report on Uganda Research, March 1988.
4. Hardy, Report on Senegal Research, June 1988.
5. Bruce, Preliminary General Report, July 1988.
6. Bruce, C&R Reports on (1) BLS Countries, (2) Sudan, and (3) and (4) from among Ivory Coast, Seychelles, Tunisia.

C. Changing Traditional Land Tenure

1. Swaziland Reports (the following exist in draft but comments are awaited from GOS prior to publication):
 - a. Alice Armstrong, The Statutory Land Law of Swaziland - A Background Paper.
 - b. Fion de Vletter, Institutional Factors in Smallholder Irrigation on Swazi Nation Land.
 - c. Laurel Rose, Land Disputes and Customary Land Tenure Change.
 - d. Richard Levin, Land Tenure Arrangements on Agricultural Production Schemes.
 - e. Margo Russell, Land Use by Swazi Farmers on Title Deed Land.

(the following are to completed by December 1987):

 - f. Flory, The Progressive Farmer on Swazi Nation Land: Experience with Tenure and Other Institutional Factors.
 - g. Marquardt, Report on the Swazi Nation Land Tenure Survey.
 - h. Bruce and Marquardt, Land Tenure and Development: Options for Swaziland.
2. Roth, Concepts Paper on Land Transactions in Africa.

D. Tenure Issues in Natural Resource Management

1. Lawry and Bruce, Concept Paper, September 1987.
2. Two Occasional Papers before June 1988.

E. Urban Land Tenure

1. Dickerman, Urban Land Transactions in Bujumbura, Burundi, December 1987.

II. LAC PROGRAM

A. Land Titling and Cadastral Systems

1. St. Lucia Evaluation of the Land Registration and Titling Project
 - a. Herzberg and Deterville, Comparison of Previous and Present Procedures for Land Transactions, August 1987.
 - b. Herzberg, Deterville, Analysis of the Introduction of the New Property System, December 1987.
 - c. Stanfield, Stringer, Gomes, Critchlow, Finisterre, Barrow and Bonaparte, Report on the Results of the Baseline Evaluation of the LRTP, December 1987.
2. Seligson and Stringer, Design of Titling Project Evaluation in Ecuador, December 1987.
3. Stringer, Design of Study of Property Registeries in Guatemala, December 1987.
4. Stanfield, Expectations of Land Registration and Titling Projects in Latin America and the Caribbean, May 1988.
5. Barnes, Comparative Cadastral Systems (Ph.D. thesis), May 1988.

B. Land Markets

1. Stringer, Design of Land Market Study in Ecuador, December 1987.
2. Stringer, Impact of the LRTP in St. Lucia on Land Transactions, December 1987.
3. Stringer, Land Transfers and the Role of Land Purchase Programs in Rural Development, May 1988.
4. Dore, Historical Overview of Land Markets in the Dominican Republic Since 1920, May 1988.

C. Post Reform Adjustments

1. Thome, Smucker and Singer, Design of Law and Institutions Related to Rural Land in Haiti, August 1987.
2. Bloch, Lambert, Singer and Smucker, Publication of Land Tenure in Haiti, September 1987.
3. Jackson, Melmed and Noe Pino, Management Problems and Prospects of the Isletas Associative Enterprise in Honduras, November 1987.
4. Stanfield, Lastarria and Coles, Design of the Evaluation of the Small Farmers' Organizations in Honduras.
5. Thiesenhusen (editor), Searching for Agrarian Reform in Latin America, December 1987.

6. Bloch, Lambert and Smucker, Design of Land Tenure Policy Studies in Haiti, December 1987.
7. Dorner and Brown, Draft of Agrarian Reform and Development in Latin America: A Retrospective Analysis, May 1988.
8. Suarez, The Implications of Contract Farming for Agrarian Reform Beneficiaries in the Dominican Republic (thesis field work completed by May 1988).

D. Tenure Issues in Natural Resource Management

1. Steinbarger and McLain, Landholding/Land Use Patterns and the Willingness of Farmers to Adopt Land Resource Conservation and Upgrading Practices, May 1988.
2. Coles, Land Markets and Natural Resource Management in Honduras (Ph.D. thesis by May 1988).

E. Agrarian Structure

1. Carter and Thiesenhusen, Simulation Model of Relationship Between Agrarian Structure and Output, Employment and Income Distribution, July 1987.
2. Carter and Thiesenhusen, Literature Review Concerning Agrarian Structure and Output, Employment and Income Distribution, January 1988.
3. Carter and Thiesenhusen, Descriptive Static Model complete, March 1988.
4. Carter and Thiesenhusen, Final Simulation Model, August 1988.

F. LAC/DR/RD Tenure Security and Land Markets

1. Nelson, Peasant Organizations in Guatemala, October 1987.
2. Stringer, Herzberg and Deterville, St. Lucia Land Market, December 1987.
3. Stringer, et al., Analysis of Baseline Survey Concerning Markets in Land, December 1987.
4. Boldt, A Comparison of the Production Implications of Having a Title to Land in Ecuador (Ph.D. thesis), December 1987.
5. Thurner, Peasant Strategies for Acquiring Land, May 1988.
6. Stringer and Lambert, Design of Guatemala Study of Land Transfers, May 1988.
7. Schweigert, Baseline Study of the Penny Foundation and Analysis of Land Rentals in the South Coast of Guatemala, December 1987.
8. Barnes, Comparative Cadastral Systems (Ph.D. thesis), May 1988.
9. Coles, Land Resource Management and the Land Market in Honduras (Ph.D. thesis), field work finished by May 1988.
10. Schweigert, Land Tenure Issues in Agricultural Development Projects in Latin America, draft of conceptual portion, July 1987.
11. Schweigert, Land Tenure Issues in Agricultural Development Projects in Latin America, December 1987.

II. RESEARCH THEMES: AFRICA

LTC's research in Africa focuses on five interconnected themes: Land Tenure Issues in River Basin Development; Security of Tenure and Land Registration; Changing Traditional Land Tenure; Land Tenure Issues in Natural Resource Management; and Urban Land Tenure.

Research on changing traditional land tenure is intended to deepen understanding of the nature and variety of both evolutionary and planned change in indigenous land tenure systems, which are in flux in most of the continent. This flux creates uncertainty of expectations and insecurity of tenure, and has led many African governments to initiate land tenure reforms. The research theme on security of tenure and land registration is essentially evaluative of attempted reforms, including those involving the development of land markets. Such land tenure innovation has often taken place not generally but in particular development project contexts, and the third research theme examines the efficacy of various tenure models applied to irrigated land, in river basin development.

Under the theme on land tenure issues in natural resource management (formerly the marginal lands theme), reoriented in this past workplan period, LTC will examine the interrelationships between land rights and sound use of land and related resources. These interactions manifest themselves at several levels: common property management issues as regards resources such as pasture; on-farm tenure impacts on sound land use, including soil conservation and agro-forestry; and tenure strategies to relieve pressure upon and thus preserve forest resources and biological diversity.

In all the above theme research, the focus is on rural land. However, given the importance of land tenure models developed in urban areas, both in their own right and because of their effect on tenurial aspirations and innovation in rural areas, LTC is also developing a modest program of consulting and research under an urban land tenure theme.

Progress under these themes is discussed in the sections which follow.

A. Land Tenure Issues in River Basin Development

The Land Tenure Center's efforts in this area have been based upon an Africa Bureau-funded comparative research effort in several countries. They have also built upon a USAID/Mauritania-funded land tenure project which predates identification of this research theme but has focused on tenure issues in river basin development in that country.

1. Four-Year Strategy

This theme is the first for which LTC obtained substantial funding for comparative research under the present Cooperative Agreement. A total of \$160,000 from Africa Bureau's Special Studies funds was received by LTC in July 1984, the result of a proposal which was the product of extended discussion by LTC with representatives of S&T/RD, AFR/DP, and AFR/TR.

The objective was to increase AID's knowledge of land tenure options in river basin development and enhance AID's capabilities in this area. Africa Bureau had several regional and national river basin development projects in the planning or early implementation stage in Senegal, Somalia, Mauritania, Mali, Gambia and elsewhere. These projects were seen as the most immediate beneficiaries of this research. Because results of this research were seen as urgent, LTC adopted a research model which permitted relatively rapid gathering and synthesis of information. The project included: (1) visits by

the project coordinator to AID'S River Basin Development Office in Dakar and several concerned missions to clarify needs; (2) consultation and reconnaissance (C&R) visits by the project coordinator and two consultants to several African irrigation projects selected for their long experience with tenure issues; and (3) a policy-oriented report by the project coordinator synthesizing the results of a literature review and fieldwork under the project.

LTC's first introduction to tenure issues in river basin development in Africa came, however, through its Mauritania Land Tenure Project (625-0937). This was a USAID-funded training project with a research component. In June 1984, shortly after land tenure issues in river basin development were identified as a research theme under the then new cooperative agreement, irrigated areas in the Senegal river basin were selected for field research. The Mauritania project then became part of LTC's river basin theme effort and LTC sought to develop complementarities between the Mauritania project and the broader effort funded by Africa Bureau.

As these projects have contributed to AID's understanding of land tenure issues in river basin development, they have also enhanced LTC's capability to respond to USAIDs' needs in project design, monitoring and evaluation. The funding strategy pursued under this project has assumed that further research would be demand-driven, carried out at the request of, and funded by USAIDs. In the course of the 1986-87 workplan period, such opportunities have materialized in Mauritania, Senegal and Somalia.

2. Progress to Date

The Africa Bureau Project

The project began in July 1984, and was coordinated by Peter Bloch (Economics). This summer (1987) marks its effective conclusion as a discrete

project. It employed the services of two consultants: James Riddell (Anthropology), a long-term LTC associate whose specialization is African land tenure and who had consulted for LTC in Senegal, Mauritania, Mali, Niger and Cameroons; and Lucie Colvin Phillips (University of Maryland-Baltimore, Afro-American Studies), who had done research, including social soundness analysis for OMVS, under AID contracts in a number of countries of West Africa. All are competent in French. They were selected for their sense of the francophone African milieu of most of the intended beneficiary projects, and their sense of which experiences from other parts of Africa might be transferable to that milieu.

A check-list of issues to be investigated on C&R trips to prospective participating missions was prepared in mid-1984. Africa Bureau specifically requested recommendations and guidelines on:

1. Innovative ways that project designs can address the state ownership and management patterns usually found in irrigation schemes. LTC was asked to examine the desirability of pricing/marketing requirements, crop mix regulations, and farmer maintenance obligations, and their effect upon security of tenure; and to analyze feasible options which provide both tenure security and incentives for farmer maintenance of works and production.
2. How to determine the appropriate size of holding, taking into account equity, efficiency, dynamics (adjustments over time), as well as guidelines on subdivision, fragmentation, and their avoidance.
3. A variety of other design issues, including: (a) how to take account of local tenure at acceptable costs; (b) how to involve farmers in design of works and allocation of land in a cost effective way; (c) how to handle traditional land claims; (d) how pre-project surveys and information gathering can take account of, and define, tenure for projects; (e) how to decide who

should have access to newly irrigated land; (f) whether land rights should be transferable; and (g) how to ensure security of title.

In July and August 1984, Bloch visited the River Basin Development Office and the AID mission in Dakar, and AID missions in Bamako, Niamey, Nairobi, and Abidjan. On the same trip he spent ten days examining the land tenure in irrigation experience in Zimbabwe, and a local consultant was contracted. He also spent two weeks in January 1985 in Senegal and the Gambia. Riddell made a one-week visit to the Office du Niger irrigation schemes in Mali and spent two weeks at Mwea and other schemes in Kenya. Phillips made two trips of two weeks each, one to Madagascar and one to Sudan. In Sudan she visited areas north of Khartoum along the Nile River to investigate small-holder pump schemes. In November 1984 John Bruce (LTC Africa Program Coordinator) and David Atwood of S&T/RD visited Somalia to discuss the upcoming project in the Juba River Basin with AID staff and to encourage the mission to utilize the competence developed at LTC under this project.

Networking activities under this project have included contacts with relevant research institutions in England and France and collaborative efforts with the Bureau of Science and Technology's SARSA and Water Management Synthesis projects. In England, contacts were initiated with ODI's Irrigation Network. In France, LTC discussed mutual interests with the Office des Recherches Agronomiques Tropicales, the Office de la Recherche Scientifique et Technique d'Outre-Mer, and the Centre de Documentation. Networking visits were made to the Faculty of Law and Economics at the University of Dakar and its two research divisions, the Center for African Legislative Documentation and Research and the Center for Applied Economic Research; the Office du Niger in Bamako; the Institut des Recherches en Sciences Humaines of the University of Niamey; the Centre Ivoirien de Recherches Economiques et Sociales of the

University of Abidjan; and the Department of Land Management at the University of Zimbabwe. Collaborative efforts with local research institutions took place in connection with the C&R visits to Sudan (the Institute of Environmental Studies, University of Khartoum) and to Zimbabwe (the Department of Land Management, University of Zimbabwe).

A preliminary discussion paper was submitted in November 1984 and a review of progress was held with Africa and S&T Bureau staffers in Washington. In April 1985 Bloch, Riddell, Phillips, and Bruce gave presentations at the River Basin Development Workshop held in Washington. After receipt of comments from Africa Bureau and the Bureau of Science and Technology, a final version of the report was prepared. Delayed to permit inclusion of a Mauritanian chapter based on fieldwork there in the summer of 1985, the report was finalized and submitted to AID in 1986. It consists of a policy review and synthesis by the project coordinator, together with country reports on Kenya, Mali, Zimbabwe, Senegal, Sudan, Madagascar and Mauritania.

During discussions of the 1986-87 workplan, it was agreed that funds remaining in the project should be utilized for analysis of data on holding sizes and production from irrigation schemes in Zimbabwe. Professor Bloch and a research assistant carried out the analysis of the data on small-scale irrigation gathered as a result of the Africa Bureau-funded project. The principal goal of this effort was to investigate the relationship between the size of holdings and agricultural performance on irrigation schemes. Performance is defined both in terms of farm productivity (per hectare, per unit of input) and of marketed surplus. An analytical paper with both scholarly analysis and policy suggestions will be completed by September 1987. The results thus far, while not conclusive because of some major deficiencies of the data, suggest that there is little difference in

productivity as between larger and smaller irrigated farms, and that larger farms market a larger share of their output than do smaller ones. If borne out by further work, this would suggest that the tradeoff between efficiency and equity is less severe than is sometimes argued.

The Mauritania Project (Project No. 625-0937, with add-ons of \$480,379) was a training project with a research component developed to enhance GIRM capabilities to plan and implement land tenure reform. This project has also been substantially completed. LTC selected as project coordinator Thomas Park, a recent UW graduate with a Ph.D. in Anthropology and a M.S. in Agricultural Economics, who had done his dissertation research in southern Morocco and had fluent French and Arabic.

Four trainees nominated by the Ministry of Rural Development arrived in Madison in June 1983 to pursue degrees in rural sociology, land resources, law, and development administration. All made satisfactory progress both in English and in their substantive fields of study. In February 1985 the four trainees, Park and Glenn Rogers (project research assistant Ph.D. candidate in Agricultural Economics) traveled to Mauritania, where they conducted a six-month field research effort on land tenure issues in irrigated areas of the Boghé Plain and the Foug Gleita perimeter on the Gorgol Noir. Fieldwork was completed on schedule and Park, Rogers and three of the trainees returned to Madison in July 1985. (One trainee had already completed his master's program prior to the field research.)

The three trainees worked on the writeup of their research for their masters theses after their return to Madison. Two of the trainees had completed their degree work by May 1986. The fourth trainee completed all the requirements for two master's degrees, in agricultural economics and land resources, in September 1986. With their theses available, the project

coordinator was able to proceed with the final report to USAID and the Ministry of Rural Development. It has been completed, and it and the students' reports are awaiting translation into French. (Though the project documentation calls for translation of these reports, there is at the moment some doubt about USAID/Mauritania's interest in following through on this; see below.)

LTC has two major concerns about this project. The first concerns a need to reinstitute procedures for dissemination of research results in Mauritania and to get the research results into the national policy dialogue. Mauritania enacted a new land reform law in 1984, and the insights from the research could have an important impact on implementation. Plans and funding for two symposia were dropped from the project by the mission in 1983 during a period of conflict between the mission and the Ministry of Rural Development (unrelated to this project). In 1985 the Ministry requested that AID reinstate funding for one colloquium to be held in the summer of 1986. Funds remaining unspent under the project could have been used for this purpose. LTC supported this request, but it was not approved by USAID.

Bloch visited Nouakchott in January 1987 to reiterate LTC's support for the colloquium, but was told that the USAID intended to de-obligate all remaining funds because the project's purpose--the training of the students--had been completed. If the mission is firm in this decision, it would also prevent translation of the reports on the fieldwork into French, rendering the research inaccessible to all but a very few Mauritians. ST/RD recently queried USAID/Mauritania on this point, and a reply is awaited.

The second concern relates to employment of the trainees upon their return to Mauritania. The Ministry was obligated under the project to employ them, and has made every effort to do so. The Ministry established a Planning

Unit in 1986, employed one of the trainees in a new land tenure section in that Unit, and appointed him as head of the section. He operates under supervision of an FAO/UNDP technical advisor. The Unit has responsibility for Ministry efforts to implement the 1984 land reform legislation, but the Ministry has indicated to USAID that it does not have sufficient funds to guarantee the operation of the new cadre. It applied to USAID for local currency funding for a vehicle and field operating expenses, but USAID/Mauritania has declined the request. USAID has, however, promised to fund the 50 percent not covered by insurance to replace the project vehicle which was purchased by the project but destroyed in an accident at the outset of the 1985 field research. FAO has provided limited operating funds which may carry the one cadre through a pilot research program in a single area of the Senegal River Valley, but thereafter there are no funds in sight to meet operating costs. Changes in USAID staff and difficulties between the USAID and the Ministry of Rural Development have led to changed USAID priorities in this area and it seems likely that there will be no attempt to capitalize on this successful institution-building project.

Resultant USAID-Funded Initiatives

LTC researchers examined tenure issues in several river basin development projects in 1986-87, as a direct outcome of LTC's experience in this area gained under the Africa Bureau and Mauritania Projects.

Mauritania (Dirol Plain): In February 1986 LTC fielded a three-man team led by Thomas Park for a preliminary land tenure survey of the Dirol Plain in Somalia. This was funded through a USAID/Mauritania order for services under LTC's CROTA. The survey was part of the pre-PID activities for the proposed Mauritania River Valley Development Project. The LTC team (1) conducted a reconnaissance of the villages on and adjacent to the Plain to determine the

prevailing land tenure situation, identifying the various groups and classes who have land tenure rights on the Dirol Plain and the differing types of user rights which they enjoy; (2) assessed the effect of and potential constraints arising from current land tenure practices on water systems and their use, with particular attention to the types of systems under consideration for the MRVD Project; (3) assessed the potential impacts of the construction of water impoundment systems, as proposed in earlier consultant reports, on the land tenure situation and how the introduction of small-scale irrigation might affect the land tenure situation; (4) identified the location of walo cultivated by villages or major groups on a base map at a scale of 1:10,000, and identified on the base map the general locations and land area (hectarage) of cultivated land on the Dirol Plain and crops; and (5) provided basic minimum information on land tenure as required for compliance with GIRM legislation on land utilization and development.

The report recommended strategies to avoid or minimize land tenure problems and constraints which might impede the MRVD Project and the development of the Dirol Plain as a natural development unit. To this end, it identified leaders and decision-makers whom USAID and other project planners should be dealing with and procedures to be followed for ensuring resolution of tenure problems, and prepared a scope of work for mapping detailed, individual landholdings and the tenure system applicable to such holdings.

The fieldwork was completed on schedule and a preliminary report submitted before the team returned to the U.S. The final report and map were prepared and submitted to USAID/Mauritania in English and French in June 1986. The report was commented upon favorably by the USAID in cable traffic.

Somalia: In 1985 LTC was included in the successful bid by Associates for Rural Development (ARD) for USAID/Somalia's Juba Environmental and

Socioeconomic Studies (JESS) Project. Jim Riddell and Peter Bloch are serving as consultants to ARD's socioeconomic team. They each spent three weeks in Somalia in January-February 1986, consulting with the ARD resident team on Phase I (implementation planning) definition of issues and research ideas. Bloch participated in the Phase II workplan review in early April 1986, and both Bloch and Riddell helped to evaluate the questionnaires for in-depth socioeconomic data collection in November 1986. Riddell will return to Somalia for a two-month land tenure reconnaissance of the valley in June-July 1987, and Bloch is expected to participate in Phase III (data analysis and report-writing) in May 1988 if not sooner.

The participation of Bloch and Riddell in the JESS work has led to additional LTC work in Somalia. Bloch and Riddell identified existing land registration procedures as a major problem in the rational and equitable development of the Juba Valley, and proposed that ARD conduct research into the dynamics of land registration in the valley as part of the JESS project. In subsequent visits to Somalia by John Bruce, arrangements were made to conduct this work under LTC's Security of Tenure and Land Registration research theme. This work is discussed in detail below, under that theme.

Senegal: USAID/Senegal has funded a two and one-half year program of research by LTC in connection with USAID/Senegal's Irrigation and Water Management I Project. The research opportunity was identified and the research project negotiated by Bloch when he visited Senegal in connection with the Africa Bureau Project, and followed up on subsequent visits. He is coordinating the project on a half-time basis. The project is in Bakel, where AID is rehabilitating and extending the area of a set of small village irrigation perimeters first funded in 1977. The field research involves both pre-project study of land tenure on existing irrigated land and the monitoring

of interactions between project activities and land tenure arrangements as the project progresses. LTC is also to propose a land tenure model for a new medium-sized perimeter to be constructed under the project. The research program includes:

1. A baseline key-informant survey to develop profiles of land tenure arrangements on existing village perimeters and to describe the current situation of ownership and use on land proposed for extension of the perimeters.
2. An assessment of the dynamics of tenure arrangements over the time between the baseline and the end of the project.
3. Detailed case studies of several village perimeters by two graduate student field researchers, an anthropologist and an agricultural economist, over a period of one and one-half years.
4. Design of a monitoring instrument for the Government of Senegal to continue to collect information on land tenure changes as projects mature.
5. A study of land tenure on the proposed medium perimeter, with two components:
 - a. description of the pre-existing land tenure and land use situation on the perimeter site;
 - b. recommendations concerning the tenure system to be instituted on the perimeter once it is constructed.

The project is funded by USAID/Senegal at just under \$290,000. The fieldwork began in late December 1986 with a reconnaissance study of the project area by Peter Bloch, Marianne Bloch (UW School of Education, a specialist in household survey work), and Tidiane Ngaido, one of the four students trained under the Mauritania Project. They spent three weeks in

Senegal, two in the Bakel region, establishing local contacts and initiating a baseline key-informant survey. In addition, they conducted a census of the production-group membership of fourteen village perimeters, the data from which is being analyzed and will be used as input into the design of the long-term fieldwork. Professor Bloch also negotiated a collaborative arrangement with the Center for Applied Economic Research (CREA) of the Faculty of Juridical and Economic Sciences, University of Dakar. A junior faculty member, a native of the Bakel region, will conduct legal-institutional research in collaboration with the long-term field researchers, in the course of several visits to Bakel over the duration of the project. He may, depending on the outcome of discussions over details, be accompanied by one or more graduate students from the Faculty.

Bloch presented a paper on the results of the preliminary fieldwork on the project, entitled "The Dynamics of Land Tenure: The Case of the Bakel Small Irrigated Perimeters," at a conference on Research on Contemporary Senegal at the Johns Hopkins University School of Advanced International Studies in Washington in April 1987.

One of the two graduate students completed his coursework for the Ph.D. in anthropology in May 1986; the other student will complete her M.S. coursework in agricultural economics in December 1986. Both are spending the summer in Madison, working as research assistants with Professor Bloch to continue the analysis of the preliminary census data and to design the long-term research program.

3. Activities in the 1987-88 Workplan Period

The first few months of this workplan period will see the winding up of both the Mauritania project and, with completion of the analysis of the Zimbabwe data, the Africa Bureau Project. Effort will then be focused

primarily on on-going research initiatives in Senegal and Somalia, and secondarily on discussions with other USAIDs concerning needs they may have in this area.

In August 1987, Bloch and the two long-term field researchers will go to Senegal for the second field visit to Bakel. The anthropologist, David Miller, will begin his long-term research at that time, and will stay in the region for one year and perhaps several months longer, returning between August and December 1988. The second graduate student, Monica Sella, will not be ready to do her long-term field work until December, but will participate with Bloch in the second round of the baseline survey during the August trip as well as testing certain data-gathering methods for her long-term work. A report on the baseline survey should be completed by December 1987. Bloch will return to Senegal in December 1987 and January 1988 to help set up the second long-term researcher's work and to initiate the second year of longitudinal data collection based on the first year's census. Sometime during the workplan period, depending on the schedule of the contractor for the Irrigation and Water Management I project, Professor Bloch and a consultant will participate in the design of the medium-scale irrigated perimeter which AID will finance.

Jim Riddell's land tenure reconnaissance of the Juba Valley in Somalia will be completed in August, and a final report on his work should be available by December.

It is anticipated that Peter Bloch will make at least one trip during the workplan period to discuss prospective research opportunities with other USAIDs.

4. Concerns and Opportunities

The scenario of an initial Africa Bureau project for comparative work followed by country-specific activities funded by USAIDs appears to be playing out well. It is important to note the success--and success with relative ease--of the model utilized under this theme. The reception of the project by USAIDs was quite positive. This was in part because several saw their own projects and programs as potential direct beneficiaries; and in part because those who were not to benefit so directly were aware of the importance of river basin development in AID's programming and were being called upon to consent to relatively brief (two-week) visits. Of the follow-up activities to date, the Senegal Irrigation I involvement appears to offer the most significant research opportunity.

Thus far, work on this theme has produced a report on the Africa Bureau Project (final version in May 1986), a report on the land tenure reconnaissance of the Dirol Plain in Mauritania (July 1986), and a paper on the political economy of land tenure on the Bakel irrigated perimeters (April 1987). Early in the coming workplan period LTC will submit an analytical paper on the importance of plot sizes in Zimbabwe irrigation schemes (August 1987), and the substantial report on the Mauritania Project (August 1987). Later in the workplan period, it is anticipated that there will be a fieldwork report on pre-project land tenure patterns in the Juba Valley in Somalia (December 1987) and a report on the baseline survey findings in Bakel (December 1987).

LTC will continue to seek opportunities to provide assistance to USAIDs with project-related needs in this area. In the workplan review sessions, LTC would like to discuss whether there are other ways in which it should be seeking to make its findings and expertise in this area accessible.

B. Security of Tenure and Land Registration

1. Four-Year Strategy

In July 1985 the Land Tenure Center received \$182,500 from Africa Bureau's Special Studies funds for a research project on security of tenure and land registration. The project is an effort to move beyond immediate concerns of USAIDs into an area which is likely to become important to policy dialogue in the near future. To date such dialogue has focused on macro-economic policy issues, but when those issues have been addressed it is anticipated that dialogue will shift to other policy questions, land tenure prominent among them, affecting farm-level decisions.

How reliably can traditional tenure systems provide security of tenure in changing circumstances, when major investments in land become feasible and as land increasingly becomes a scarce and valuable good? Conventional wisdom out of the colonial period--and many commentators today--suggest that they cannot. The introduction of new tenure forms for farmers is seen as the solution. In fact, experimentation with land tenure arrangements has been common in post-independence Africa. Most of the reforms to date have involved the individualization of tenure, in the sense that traditional community land rights are eliminated and individual titles conferred by the state, based on national legislation. These reforms tend to fall into two broad categories: those involving the conferring of full ownership, and those in which the state holds ownership but confers use/occupancy or leasehold rights. There is considerable variety within the second category. Effective implementation of reforms on the ground has been less common than legislation of reforms, but there is still a significant body of experience which can now be assessed to determine the successes and failures of these experiments. There is growing

evidence that tenure reforms may not only produce consequences quite different in some respects from those intended, but may not be sustainable in certain circumstances.

A reassessment is timely. The fundamental objective of the project is to provide new evidence on the effects of attempts to enhance security of tenure through tenure reform and land registration. This includes the examination of the impact of such tenure reforms on productivity, both via their impact on security of tenure, and via land markets. The project is also examining the implementation and viability of such reform programs, including their sustainability. It compares the experience with different tenure reform models, and elaborates guidelines for USAID regarding the appropriateness of various approaches in particular circumstances. These guidelines have reference to economic and social preconditions for effective tenure reform and land registration, standards of timeliness, and possibilities for phasing.

The LTC research program under this theme has three levels: (1) a literature review and synthesis on major individualization reforms; (2) relatively brief (one to two week) Consultation and Reconnaissance (C&R) visits to several countries, resulting in five C&R reports; and (3) longer-term field studies in three countries with significant reform experiences.

The first of the five C&R reports, by Joy Green deals with Kenya and is based primarily on the considerable body of micro-studies of the impact of tenure individualization and land registration. This was recently published as LTC paper No. 129. The second will compare the situations in Swaziland, Lesotho and Botswana, based on LTC's recent activities in these countries. The third will examine the prototype experience of land registration along the Nile in the northern Sudan. The fourth and fifth will be based on C&R visits

by the project coordinator. Countries targeted for these visits are the Ivory Coast, Seychelles and Tunisia. The three longer-term field studies are being carried out in Senegal, Somalia and Uganda. Uganda provides a case of conversion of smallholders from customary tenure to freehold. The Somalia study is an opportunity to examine the impact of the conferring of long-term leasehold titles on individual holders with previously untitled plots of relatively high value (irrigated) land. The Senegal study explores the impact of Senegal's land tenure reform, which places security of title in the hands of local committees and stresses use as the basis for title, while at the same time comparing land use under this tenure with limited amounts of pre-1964 freehold and more recent long-term leaseholds.

The project coordinator is John Bruce, and he is authoring most of the C&R reports, the interim and final reports. Michael Roth, a post-doc in agricultural economics recruited specifically for this project, is supervising the long-term studies, devoting a large part of his time to the work in Somalia. Carol Dickerman is supervising the bibliographic and annotation work for the literature review and synthesis, and has been involved in the arrangements for the research in Senegal and Uganda.

There have been delays in initiation of field research for a variety of reasons, largely due to unforeseen conditions arising in USAID collaborating missions. The project output should now be available on the following schedule:

- Literature review and synthesis: September 1987.
- Five C&R reports: between December 1986 and July 1988.
- A preliminary report based on the items above and focusing on an evaluation of classic land registration situations: July 1988.
- Reporting on the field studies:
 - Uganda: March 1988
 - Senegal: June 1988
 - Somalia: December 1988

- A final report integrating the draft report and the material on which it is based with the results of the field studies, and providing policy recommendations and guidelines: January 1989.

2. Progress to Date

During 1985, LTC refined the issues and identified research opportunities under this theme in a preliminary review of key documentation and in networking activities with European institutions and researchers. In England Bruce met with Dr. Simon Coldham of SOAS, who has long experience with land registration in Kenya, and with Jeremy Lawrance, former land tenure advisor in the Ministry of Overseas Development and the principal authority on land registration programs in English-speaking Africa. He also went to Directorate of Overseas Surveys (DOS) headquarters in Southampton, where he initiated an exchange of library holdings. A similar exchange program was established with the Office International du Cadastre et du Regime Foncier in Apeldoorn, Netherlands, on a visit in March 1985. These networking activities have turned out to be critical to the attempt at literative review and synthesis, because it has become clear that there is a substantial fugitive literature on this topic.

Discussions have also taken place with representatives of S&T/RD, AFR/TR, and AFR/DP, and LTC and concerned AID staff consulted several times with IBRD staff concerned with registration issues. IBRD is developing a research program in the area of tenure security and land markets, and collaboration was initiated in 1985 when LTC had a research assistant review relevant AID project documentation for IBRD consultant Raymond Noronha, who was working on a background paper on African land tenure for the Bank. Coordination meetings have continued, and Gershon Feder and Shem Migot-Adholla of the Bank visited LTC in October of 1986. Feder presented his research on the economic effects of registration in Thailand and Migot-Adholla, who is supervising the Bank's

African research, familiarized himself with LTC and its research program. The Bank has now identified Ghana, Rwanda and Malawi as the countries in which it will do long-term research, and it also hopes to work with data from Burika Faso, collected by another project. Migot-Adholla and Bruce met in Nairobi in early April 1987, to review progress.

Networking, bibliographic work and annotations have proceeded satisfactorily. The work on the literature review and synthesis is being supervised by Carol Dickerman. The most problematic part of the research program has been the initiation of the two long-term studies. Considerable delays have occurred due to the need to obtain clearance from local USAIDs and to rely on local currency funds over which USAIDs do not have direct control. The initiation of the research has proved far more labor intensive and costly in terms of travel than was anticipated but ST and AFR provided relief in this regard through funding for a two-year post-doctoral position in agricultural economics, with travel funds. This was filled with Michael Roth (Ph.D., Agricultural Economics, Purdue) in August 1987, and he has assumed direct supervision of the long-term studies. Given the delays in initiation of the project in Somalia, AFR has recently agreed to provide funding for a third year for Roth.

In 1985-86, there were three visits to Sudan to arrange for in-depth research in registered areas along the Nile in the Northern Sudan. A collaborative relationship was established with the Institute for Environmental Studies, University of Khartoum. After the second visit, USAID/Khartoum accepted the research on the condition that extensive additional research unrelated to land registration be done in other regions of the country, and offered to provide local currency funding to supplement the AFR funds. The fall of the Nimeiry government in April 1985 caused a hiatus

in negotiations, and required reconstituting of government backing for the project. This was accomplished during a September 1985 visit by the project coordinator, together with elaboration of collaborative arrangements with the Institute of Environmental Studies at the University of Khartoum. Due to the deteriorating security situation in the Sudan and evacuation of USAID staff, it had by early 1986 become highly unlikely that this research could be initiated and even less likely that it could be carried to a successful conclusion. Subsequently, LTC has sought to replace Sudan with Somalia as the second country for in-depth research. Consequently its activities have been concentrated in Senegal and Somalia, and more recently, Uganda.

Senegal

Project coordinator Dr. John Bruce first discussed the project with the AID/Senegal in early 1985. LTC was encouraged to go ahead with two short-term visits, one by Bruce and Dickerman and another by Bloch, to determine whether Senegal provided the requisite opportunities for a comparative study of land holdings under differing tenure regimes. The area of commercialized peanut production around Kaolack appeared to offer good opportunities. Elise Hardy, a graduate student in the Agricultural Economics Department at the University of California-Berkeley, was selected for the Senegalese research. She is a former PCV Cameroon and has fluent French. She spent the spring and summer months in 1986 working on classes and her research proposal. Several weeks were spent at the Center before departing for Senegal in late August 1986.

Her research seeks to determine the relative advantages and disadvantages of various existing tenures of agricultural land in the rainfed farming sector. Tenures consist of complexities of specific rights and the analytical framework for the research proposes a disaggregation of each tenure into the specific rights that it provides (e.g., right of crop choice, right to sell,

right to mortgage, right to designate heirs). Each of these rights will be assessed according to its impact on production, commercialization, employment and food security. Each tenure type will be assessed overall as a complex of rights in terms of the same objectives. Statistically valid estimates of the impact of different land tenure arrangements on agricultural production and other variables will be made utilizing the partial least squares algorithm approach.

Hardy began her field research in September 1986, working as a stagiaire of the Institut Senegalais de Recherche Agricole (ISRA), based in its office in Kaolack. A multi-purpose, multi-visit household sample survey has been used to gather data on land rights and production decisions, as well as control data on environmental, social, and marketing variables affected by land tenure. Sample survey data has been supplemented by less formal research methods, including research in land records and other archival sources, and interviews with local officials, judges, traditional leaders and others particularly knowledgeable on land matters.

Tenure diversity has proven even greater than anticipated. At the planning phase, LTC was aware that there would be land administered by communautes rurales under the 1964 Land Reform Decree--though it was unclear how far the decree had affected customary holding patterns--and a small amount of land registered in full individual ownership in the pre-1964 period. Hardy discovered that there are in addition small amounts of land held in registered leasehold from the State, and land held by migrants on temporary use rights from those who hold under the 1964 Act. The amounts of land held on registered tenure (both owned and leased) is quite small and the location of these parcels has been difficult to ascertain. It has not been possible to use the land registry files as originally planned to help design the survey;

once it was clear that a systematic and thorough review of registry records was intended, permission to work with the registry files was withdrawn. Representations from both USAID and ISRA and a visit by Bruce and Roth failed to alter this situation. As a result it was not possible to use information on location of registered holdings to design a sample with a geographical coverage which would maximize on the number of registered holdings captured. Instead, Hardy is supplementing her sample survey by following-up individual cases of registered holdings of which she became aware during her preliminary examinations of survey and registry records or subsequently. It is anticipated that the number of registered holdings will be quite small. On the other hand, the 1964 reform decree appears to have affected farmer behavior. The impacts of the reform and the dynamics of intra-household landholding have emerged as important additional foci of the research.

Hardy completed her farm level field research in the Kaolack area in May 1987. She is spending June and July doing archival research and interviewing policy-makers in Dakar, gathering data on the motivations and intent of the 1964 decree and writing a brief end-of-project report for AID/Senegal. Data from the research in the Kaolack area will be integrated with information on land policy at the national level to produce a policy-relevant report which can serve to inform and focus future policy dialogue on this subject. Hardy will be returning to the U.S. in August 1987 to complete her report to LTC by the end of February 1988.

Somalia

In June 1986, LTC project coordinator John Bruce visited Somalia to discuss the prospects for in-depth research. The mission expressed interest in two research locations and agreed to make available supplementary dollars (\$66,140) and Somalia Shillings (So. Sh. 15,812,044) from its Policy

Initiative and Privatization (PIPS) Project. Michael Roth, a recent Ph.D. in agricultural economics from Purdue University, has since joined the LTC in August 1986. He has assumed supervision of the long term research by LTC researchers and collaborating local institutions under the project.

The field research is to be carried out by researchers in Somalia, one in the Juba river valley and one in the Lower Shebelli river valley. The research in the Juba valley is to be carried out in close collaboration with AID/Somalia's Juba Environmental and Socioeconomic (JESS) project. Peter Bloch and Jim Riddell of the LTC have already provided land tenure expertise to Associates in Rural Development (ARD), the prime contractor under that project. Besides meeting LTC research objectives, the research will fulfill data requirements and evaluate land tenure issues related to the proposed construction of the Bardera dam on the Juba river. The research in the Lower Shebelli, in addition to meeting LTC research objectives, is providing data for the project design phase of AID/Somalia's Genale Irrigation Rehabilitation Project.

Two LTC researchers have been selected and approved by the USAID. Catherine Besteman will be working on research for her Ph.D. dissertation in the Juba region. She is a Ph.D. candidate in Anthropology with concentrations on land tenure and economics, at the University of Arizona. She has worked for the Bureau of Applied Research in Anthropology at the University of Arizona and has gained fieldwork experience in Northern Portugal doing research on farming strategies. Jon Unruh has been selected for the research on the lower Shebelli. He has an M.S. in Land Resources from the University of Wisconsin with a specialization in ecological modelling. Jon has worked for the Institute for Environmental Studies at the University of Wisconsin and gained fieldwork experience in the Peruvian Amazon, where he did his thesis

research on the ecology of swidden-fallow. Both students have good computer skills and experience under trying conditions in the field.

Both Somalia research initiatives are located in areas where land values have increased due to irrigation, over a forty-year period in the Shebelli and only recently, with construction of the Bardera dam soon to be initiated, in the Juba. Land disputes and the phenomena of land grabbing have been observed to be rising in both areas. All land in Somalia belongs to the state. According to the 1975 Somalia Land Law, land cannot be bought, sold, leased or rented, although land transactions under customary tenure are common. Security of land title is available through 99-year leaseholds issued by the government. LTC research in January 1987 in the Shalambood area in the Lower Shebelli indicated that 16 percent of small farmers and nearly all large plantations hold individually registered title to at least part of their land holdings. A larger number of smallholders belong to cooperatives in whose name the land of members is registered. LTC does not yet have a clear sense of the extent of registered holdings in the Juba area, or their distribution in the valley, and the locality for the intensive research there has yet to be chosen.

The two Somalia research sites appear to offer good prospects for comparing farmers socio-economic behavior and agricultural performance under customary tenure arrangements and the state-preferred long-term leasehold. Because the two valleys are in very different stages of development, a comparative study examining such issues as land grabbing, title security, and government land registration under various population regimes and socio-economic strata should prove to be highly advantageous. The studies will:

- a. Examine the extent to which customary tenure and government leaseholds separately and jointly offer title security to land holders in the two sites.
- b. Explore the determining factors underlying demand for registered titles, evaluating why some farmers seek registered title and others do not. In particular the research will examine how the agricultural performance of these who have registered their land differs from those with parcels under unregistered title.
- c. Evaluate the extent to which registration is voluntary or determined by institutional forces, and the implications of each for the sustainability of registry records through registration of transactions over time.
- d. Establish costs and benefits of registering title to land, and assess the viability of Somali government schemes promoting land registration. Under what conditions can registration be expected to produce positive and sustained impacts? What role can and should voluntary registration play in a sustainable land registration system?

The study offers profitable opportunities for providing greater empirical rigor on the effects of land registration than is currently available in the literature. Economic modelling will be used to test current theories on the benefits of land registration. Such analyses should lead to a better understanding of farmer behavior under leasehold versus untitled tenure, and facilitate policy dialogue concerning whether and when formal land registration systems are effective in enhancing title security and agricultural production.

The research was originally scheduled to get underway in October 1986, but delays in access to local currency funds has considerably delayed the

arrival of the researchers in Somalia. Bruce and Roth travelled to Somalia in November 1986 to attempt to resolve administrative problems associated with the shillings budget. They were also able to make preparations for a study requested by USAID/Mogadishu for January 1987. USAID/Mogadishu needed to move forward with the project design for the Genale Irrigation Rehabilitation Project in February, but the LTC research, which was on the original schedule by that time to have evaluated land tenure and water management issues on the scheme, had not yet been able to begin. In order to provide the necessary analysis by February, Bruce and Roth spent a week in the project area and developed a SOW for a month-long study in January. USAID/Mogadishu provided an additional \$30,000 to carry out the study.

Michael Roth, LTC researcher Jon Unruh and consultant sociologist Dr. Harry Lemel left for Somalia in mid-January to carry out the intensive one-month research endeavor. The team was accompanied by Halima Ismail of the Department of Economics, Faculty of Agriculture, Ali Aideed from the Department of Land and Water Resources in the Ministry of Agriculture, and enumerators from the Academy of Science. Data collected and project recommendations were made on issues of: (1) security of land tenure, systems of land registration, and mechanisms for dispute resolution in the Shalamood scheme; (2) the economic size of land holdings and the willingness and ability of farmers to take advantage of economic opportunities posed by the scheme's rehabilitation; (3) the current system of water distribution, and effects of that allocation on agricultural productivity; and (4) damage to canals and irrigation infrastructure from livestock watering and grazing on the scheme. The research involved key-informant interviews and questionnaires given to a random sample of small farmers in the irrigation zone. Data collection and analysis were completed on time, and the draft report submitted to AID/Somalia

at the time of the team's departure in mid-February. A final version was submitted to the USAID on April 6. The report has been well received. The project design phase is not yet completed, but preliminary recommendations based on the LTC report call for systematic registration of holdings in the project area, and for a specialist in land registration and titling to work with the Land and Resources Division of the Ministry of Agriculture in its Genale office. The LTC has been requested by the USAID to provide a consultant for the specialist position.

Attention has now refocused on getting the long-term research in Shebelli and Juba Valleys underway. Roth, Unruh and Besteman traveled to Somalia in early May 1987 to initiate the long-term research program. There is continuing uncertainty as to when LTC will have access to the Somali shilling funds, but an offer by USAID/Somalia to advance local costs temporarily has permitted LTC to get the researchers into the field. The USAID estimates that one-half of the LTC's shilling funds will be available within two weeks of the arrival of the team, the second half six weeks after arrival. Roth will pay a second supervisory visit in August, accompanied by Dick Barrows (Agricultural Economics), who is collaborating with Roth on the research design. The field research phase will last for one year.

The LTC is also committed to providing USAID/Somalia with a broad land tenure profile of the Shebelli River Valley, in addition to the intensive study. LTC will experiment with a model for this exercise when Jim Riddell travels to Somalia in June 1987 under the JESS project. His two months of fieldwork will construct a broad land tenure profile of the middle Juba valley. Based on experience gathered in the this exercise, a similar land tenure profile of the Shebelli river valley would be constructed by collaborating staff of the Department of Land and Water Resources in the

Ministry of Agriculture and the Economics Department in the College of Agriculture of the Somalia National University.

Uganda

LTC had considered a small research initiative in Rwanda under this project, and Bruce made a preliminary visit there in July 1986. However, new opportunities in Uganda and the decision by IBRD to focus on Rwanda in its research have led LTC to shift its research interest to Uganda. The opportunities arose when Bruce and Dickerman visited Kampala in January and March 1987 for the World Bank, as consultants for a working group on land tenure in the Agricultural Bank of Uganda. In January they initiated discussions with the Makerere Institute for Social Research (MISR) at Makerere University and in April terms of reference for a study by University staff were agreed upon.

This will be a smaller effort than those in Senegal and Somalia, funded from anticipated savings in Somalia due to add-ons by the USAID for the research there. LTC will provide MISR with \$10,000 from this project for a study of the impact of a pilot smallholder land registration scheme which registered over 6,000 parcels at Ruzhumbura in Kigezi District in 1958-1962. A research team from MISR will spend two months in the research area during July-September 1987, conducting a study which will include a sample survey of landholders in both the pilot area and in a comparable control area, when registration was not carried out. The agreed-upon terms of reference for the study are as follows.

The study will include:

- a. A preliminary visit by the principal investigator to the research area to obtain the information necessary for questionnaire design and selection of a control area, and

b. Subsequent field research including:

- key informant and small group interviewing in the pilot scheme and control areas;
- a sample survey of not less than 60 households, evenly divided between the pilot scheme area and nearby control area; and
- a review of the freehold registry records for the pilot scheme area.

In the sample survey:

- a. The study area will consist of all or a part of the pilot scheme area and a control area.
- b. The control area will be an area of unregistered land selected so that farmers there are to the extent possible identical to those in the pilot scheme area in all respects other than registration of land.
- c. The sample of households will be selected by a suitable random method, and may be stratified if this seems advantageous to the principal investigator.
- d. The particular impacts on which data will be gathered include:
 - size (farmer-estimated) of parcels;
 - land distribution patterns;
 - land use patterns, in particular cultivation/pasture balance;
 - degree and nature of fragmentation of holdings (number of parcels per household);
 - incidence and manner of loss of household land other than through transactions;
 - extent and nature of, and motivation for, land transactions, including, sales, borrowing, leasing, sharecropping and any other relevant transactions;
 - incidence of cash crop production, in particular perennial crops;
 - extent of improvements on the holding (i.e., terracing, grass stripping, fencing and any other improvements relevant in the area);
 - inheritance patterns and extent of subdivision on inheritance;
 - farmer access to credit and terms and use of credit;
 - incidence, nature and seriousness of land disputes;
 - extent and terms of access to land by women.

The principal researcher has been invited to attend a World Bank land tenure research methodology workshop in Kigali, Rwanda, in late June. Bruce will visit Uganda at the commencement of the field research, in late July. Fieldwork is to be carried out in the months of August and September. A draft report is to be submitted by December 31, 1987, and final report is due two months after receipt by MISR of LTC comments on the draft report.

3. Activities in the 1987-88 Workplan Period

Elise Hardy will complete her fieldwork in Senegal and return to the United States at the end of the summer. Her report will become available during the second half of the workplan period. Provided that local currency funds become available as anticipated, LTC's two Somalia researchers will carry out and complete their field research by the end of the workplan period. Michael Roth and Dick Barrows will spend a total of four man-months in Somalia with them, over several trips. The research and reporting by MISR in Uganda should be completed before the end of the workplan period; John Bruce will visit Uganda in late July, at the outset of the field research, following attendance of the principal investigator at the research methodology workshop in Kigali. The long term field research under the project will hopefully be completed by the end of this plan period, with only reporting on the Somalia research to be completed.

In addition, the remaining C&R reports will be completed and submitted, as well as a preliminary report based on the items above and focusing on an evaluation of classic land registration situations. The final report on the project, based on all elements of the research program and providing policy recommendations and guidelines, will be completed during the following plan period, by January 1989.

4. Concerns and Opportunities

LTC's primary concern about this project has been the slowness with which negotiations with USAIDs have progressed for the long-term studies. While LTC was ultimately successful in obtaining the necessary USAID concurrences, almost two years were required and several trips were necessary in each case. LTC has had to adjust and add to research plans to meet USAID priorities, and in order to do so, has had to rely on local currency funds. This reliance has created long delays and considerable uncertainty, because host country governments rather than USAIDs ultimately control these funds. Start-up costs have been very high and although the resources necessary to proceed have been made available, the precedent is alarming and deserves further discussion.

C. Changing Traditional Land Tenure

1. Four-Year Strategy

This broadly framed theme has allowed LTC to meet the felt needs of USAID for research, and has provided the framework for LTC's most important policy dialogue activities to date, in Swaziland and Lesotho. LTC continues, however, to seek to develop complementarities among the various mission-funded research activities under this theme.

LTC has now completed two efforts requested by Africa Bureau under this theme: (1) a paper on tenure issues in agricultural project design; and (2) land tenure country profiles for Sub-Saharan Africa. It is currently engaged in hiring a social scientist who would strengthen social science analysis, including analysis of tenure issues, in AID's programs in West Africa. The Center is also involved in research funded by the USAIDs in Lesotho, Swaziland, and Zaire.

2. Progress to Date: Africa Bureau-Funded Activities

a. Africa Bureau Paper

Entitled "Land Tenure Issues in Project Design and Strategies for Agricultural Development in Africa," this paper was authored by John Bruce, then LTC's Africa Program Coordinator. The effort was funded by S&T and AFR. A full draft was submitted and reviewed in late 1984, and the final version was distributed to African USAID directors (the executive summary) and ADOs (the full text) in early 1986. The paper has been well received in AID/Washington and it is hoped that it will raise consciousness of land tenure issues in the USAIDs.

b. Land Tenure Country Profiles

This initiative was based on a suggestion by the Deputy Assistant Administrator of the Africa Bureau in 1984. Funding was received in early 1985 from AFR's Special Studies Fund. The primary objective was to provide AID with a compact description of the land tenure situation in each country in Sub-Saharan Africa. Depth of coverage varies from country to country in accordance with the importance of land tenure issues and availability of information. The briefest country coverage is only four pages, while others are ten pages long. Some profiles reflect LTC recent, first-hand experience in those countries, while others are the product of literature reviews. Where feasible, the profiles are accompanied by maps and geographic representations indicating geographic distribution, scale, etc., of basic tenure situations. Both recipients and non-recipients of AID's assistance in Sub-Saharan Africa have been included, on grounds that effective generalization would otherwise be difficult. The profiles employ a standard organization to facilitate comparisons, and are accompanied by two land tenure maps of Africa compiled by LTC on the basis of the profiles. One shows the de jure situation, the other

the de facto situation, and together they show clearly the major gap between law and practice in this area.

Jim Riddell and Carol Dickerman were the part-time project coordinators for the profiles effort. They were assisted by several research assistants and LTC staff members. Draft profiles were submitted to ST/RD and AFR/TR for review in July 1985. They were in turn passed on to the ADOs in relevant African USAIDs for comments; at the same time, LTC sent copies of the profiles to knowledgeable outside reviewers for comments. The profiles were revised in light of those comments and published in April 1986. This project is thus concluded.

c. West Africa Land Tenure and Social Soundness Advisor

As a result of Africa Bureau-funded work by the Land Tenure Center, a growing number of West African USAIDs as well as REDSO/WCA are trying to incorporate concern with land tenure into the pre-planning phase of programs and projects. Africa Bureau has provided LTC with a grant to recruit and hire a social science advisor to assist those USAIDs and REDSO/WCA in grappling with land tenure and related social science issues. The advisor will gather and synthesize existing research results, suggesting as yet unmet research needs and conducting research to address land tenure concerns relevant to AID's programs. He or she will also establish a West African land tenure research network and assist LTC, REDSO/WCA and REDSO/ESA in the planning and conduct of a workshop on African land tenure for African scholars who, to date, have been working in isolation on land tenure research and related social and institutional questions.

In March 1987, AID/Washington cabled to REDSO/WCA particulars of several candidates submitted by LTC. LTC will make an appointment on receipt of REDSO comments. LTC hopes that the position will be filled as of July 1, 1987. The

advisor may be based in African Bureau in Washington or in Abidjan, depending upon the candidate selected.

3. Progress to Date: USAID-Funded Activities

a. Lesotho

At the request of AID/Maseru, LTC conducted a Land Act Policy Seminar in April 1984. (This was funded by a mission add-on to the Cooperative Agreement of \$26,629.) The seminar was sponsored by the Planning Unit of the Ministry of Agriculture and the Lands and Surveys Division of the Ministry of the Interior. LTC participants (Bruce, Kanel and Lawry) presented papers at the seminar. Bruce remained on in Maseru after the seminar to edit the papers and the rapporteurs' summaries and to write a synthesis. These have since been published by the Ministry of Agriculture and LTC (LTC Paper No. 125). The ministries concerned and USAID/Maseru have commented positively on the seminar.

Partly as a result of the seminar, LTC placed a dissertation researcher with AID/Maseru's Land Conservation and Range Development Project. The researcher, Steve Lawry, began work for the project in September 1984. Lawry is a Ph.D. dissertator in the Land Resources Program at UW, and a long-term research assistant at LTC. He had had five years' previous experience in Africa (Lesotho, Botswana and Sudan). He served as a salaried social scientist with the project, based in Selabathebe (the site of a prototype grazing association). His principal objective was to analyze the problems posed for common property management by diverse household economic strategies. The research focused on the impact of different household resource endowments on participation in the grazing association. In February-March 1985, Brown and Bruce visited the research site and reviewed the research program with project staff, and in January 1986 there was a supervisory visit by Don Kanel, Lawry's major professor. In August 1986,

Lawry submitted his final report to the project and returned to Madison to write up his dissertation. LTC's contribution to this arrangement with AID/Maseru and the project has been the provision of advisory services and a research assistantship for Lawry on his return to Madison, to permit detailed analysis of data and full write-up of results. LTC plans to publish a research paper based on his study.

A second LTC-trained researcher has been placed with the Land Conservation and Range Development Project. The researcher is Jill Cantor, a former LTC research assistant and a recent M.S. in Land Resources from UW-Madison who has had field research experience with both ICRAF in Kenya and IITA in Ibadan. She arrived in Lesotho in June 1986 and is working with the Soil Conservation Department. Her fifteen-month research project focuses on the impact of a variety of socio-economic factors, including land tenure, on farmer compliance with on-farm soil conservation plans. She has completed the research and will complete her report in late 1987.

Both the above efforts have been especially useful to LTC for the experience they have provided in research on land tenure issues in natural resource management, now a new research theme.

LTC's on-going research involvement in Lesotho through the LCRD project has facilitated continuing LTC involvement in policy dialogue. In November 1986, the Government of Lesotho (GOL) established a high-level national commission to review Lesotho's land laws, and particularly the Land Act 1979. In view of LTC's previous experience with this legislation (i.e., the 1984 workshop on applying the Land Act to agriculture) GOL requested USAID/Lesotho to fund another workshop involving the participation of Bruce and Lawry. The purpose of this workshop, held in January 1987, was to brief the Land Policy Review Commission on existing legislation, to consider problems in its

implementation, and to set the agenda for the Commission's six month investigation. Lawry and Bruce presented papers at the workshop, held at Quthing January 27-30. Lawry remained in Lesotho until March 6, and undertook a study for the commission on transactions in cropland held under customary tenure. The study found considerable informal renting, leasing and sales of cropland taking place apart from legal procedures encoded in customary land law (which explicitly prohibits private sales) or the Land Act 1979 (which allows for sales of lease rights). Lawry's report made recommendations for regularizing sales of cropland by bringing them under the supervision of existing village-level Land Allocation Committees.

Further contributions by LTC to the work of the Commission are possible, but sensitivities to donor involvement in the policy process are high, and it is not clear whether these possibilities will materialize or what form they will take.

b. Swaziland

In mid-1985 USAID/Swaziland approved a two-year land tenure research project by LTC based in the Ministry of Agriculture and Cooperatives (MOAC). In May 1985 LTC received an add-on of \$300,000 to its Cooperative Agreement and in December 1985 a further add-on of \$152,105.

LTC project manager Mark Marquardt is based in the Planning and Research Division of MOAC. He coordinates a UW post-doctoral researcher, two Swazi counterparts from the division, and six enumerators, as well as several University of Swaziland staff working under research contracts. Marquardt is a former LTC research assistant, a recent graduate of LTC's Ph.D. in Development Program, and a former Commissioner of Lands in Botswana. He did his doctoral research on access to land in eastern Botswana under the new Tribal Land Board structures, which research was funded under USAID/Botswana's Rural Sector Grant.

The key research initiative by the Ministry is a traditional sector tenure/land use survey, which will examine: (1) fragmentation of holdings and its relative costs and benefits; (2) farmer versus community control over land management decisions; (3) farmland of good potential out-of-cultivation; and (4) use of pasture. This survey seeks in-depth land tenure information from informants in the 1984 agricultural census of Swaziland, and will relate land tenure and other household data. The survey utilizes cluster sampling techniques and a two-interview format, followed by case studies of community land management in selected areas.

The project is also funding separate, focused studies on several topics: the statutory land law of Swaziland; institutional factors in smallholder irrigation; tenure arrangements on state production schemes; land use by Swazi farmers holding land under individual tenure; disputes under customary tenure; and progressive farmer experience under customary tenure. The last of these is being carried out by an LTC post-doctoral researcher, the remainder through research contracts with local researchers associated with the Social Science Research Unit, University of Swaziland. The report on the national survey and these reports will provide the basis for a tenurial policy options paper for the Ministry and for an interministerial reference group established to monitor the project.

The project commenced in August 1985 with a one-month workshop, bringing two MOAC researchers to Madison for training sessions on land tenure issues, data gathering and analysis, and basic computer skills. Marquardt took up his post in Mbabane in September 1985. The sample frame was finalized and the questionnaire reviewed, translated, pre-tested and finalized. Enumerators have been recruited and trained. In this critical planning stage several LTC and UW staff visited Swaziland to consult with the project coordinator: Don

Kanel in early January, Cobe Johnson and John Rowe (who teach data gathering and analysis in developing countries at UW) in late January, and John Bruce in February 1986. In addition, the research design was reviewed in a seminar at the University of Swaziland and in an initial meeting of the Interministerial Reference Group.

Excellent cooperation from the Tinkundla (traditional authorities) permitted the research to begin in March 1986. The inauguration of a new king that April and a national population census that summer involved suspensions of fieldwork. Progress while in the field was quite satisfactory, but problems arose in the Ministry which made it difficult to spend time in the field. Ministry of Agriculture researchers, who were to share supervision of the field research with Marquardt, proved unable or unwilling to go into the field. The Ministry's Chief Agricultural Economist (Marquardt's counterpart) was seconded to SADEC at the inception of the project and not replaced for over a year, creating a supervision vacuum within the division. This has seriously delayed the survey work. Two months ago a new Chief Agricultural Economist was appointed, and more recently the two Ministry staff assigned to the project have been replaced by much more satisfactory field workers.

LTC selected the post-doctoral researcher to study progressive farmer experience. He is Bruce Flory, who has recently completed his Ph.D. (Agricultural Economics, UW) with a concentration in natural resource economics. He took up residence in Swaziland in June 1986, for a one-year study. The term of the research is being extended by two months, through June and July 1987, to permit satisfactory reporting and analysis. The studies through the SSRU have proceeded satisfactorily. The first study, a background paper on statutory land law, has been completed and will shortly be published as an LTC paper and as a project report in Swaziland. Satisfactory first

drafts on the reporting for all the other studies have been received, reviewed and are being revised by the authors. All are expected to be finalized by the end of August 1987.

A satisfactory mid-term evaluation of the project was completed by outside consultants in December 1986 and John Bruce made a January 1987 visit to the project to plan for the remainder of the project term and to initiate discussion of policy options with the USAID staff. At the request of USAID Bruce subsequently prepared and submitted a discussion paper on policy options for the project's interministerial reference group.

The project was to have been completed by the end of September 1987. Because of delays in the survey work the evaluation suggested USAID/Swaziland query whether a no-cost extension would be possible. It seemed unlikely. More recently, partly as a result of improved Ministry participation and apparently greater opportunities for policy impact, a funded extension appears to be a possibility.

c. Zaire

AID/Kinshasa in 1985 requested LTC assistance in connection with its new Area Food and Marketing Project in Central Bandundu Region. In November 1984, Bruce and David Atwood, ST/RD's project manager, visited Kinshasa to discuss a research effort. An open-ended program was agreed upon, with three initial steps: (1) an annotated bibliography of land tenure in Zaire; (2) a land law consultancy, and (3) a land tenure reconnaissance of the project area. The first is funded from S&T core funding for the Center, while the second and third, including write-up time, are funded through a \$35,000 add-on to the CA by AID/Kinshasa.

The land law consultancy was considered necessary to provide baseline legal information not only for the Bandundu project but also for a broad range

of AID/Kinshasa activities in the agricultural sector. Working with a Zairois counterpart lawyer, the consultant examined present land law, broadly defined to include (in addition to land law proper) administrative law relating to land, concerning the law governing the resolution of land disputes, inheritance of land, cadastre and registration of title, and land conservation. The consultancy was carried out in April 1985 by Dean Jeswald Salacuse of the Fletcher School of Law and Diplomacy, an authority in Zairois law. In addition to the work in Kinshasa, Dean Salacuse visited the project area to assess records on land disputes, registration and concessions, as a preliminary to the land tenure reconnaissance. His report and the annotated bibliography were submitted to AID/Kinshasa by LTC in June 1985.

The land tenure reconnaissance was carried out by Professor James Riddell (anthropology) in June-July 1985, focusing on social control of land distribution and use by traditional authorities; farmer access to and security of title in land; impact of the above on farmer innovation and investment in holdings; transfer of land through transactions and inheritance; extent and impact of concessions; extent and implications of land disputes; and implementation of land and conservation laws. His report was submitted to USAID/Zaire in May 1986.

The Africa Program Coordinator visited Kinshasa in June 1986, and there have been subsequent contacts, including a visit by the Project Officer in charge of the Central Bandundu Project to the LTC in December 1986. All three LTC reports were well received. The mission is interested in follow-up research in Central Bandundu, but this is roughly a year away. LTC published the research to date in April 1987, consolidating the three items in LTC Research Paper No. 92.

4. Sub-theme Development

In the case of this theme we are involved not so much in the pursuit of a long-term strategy as in efforts to plan for and extract comparative insights from diverse activities. Last year's workplan indicated that LTC had tentatively selected and proposed to AID two narrower sub-themes under this broad theme: (1) land transactions under indigenous tenure systems; and (2) the regulation of grazing on non-arid commons.

LTC has the opportunity to examine a variety of land transaction situations during the current CA: (1) under the Swazi Nation Land Survey and associated research in Swaziland; (2) in research for the Lesotho Land Act Commission; (3) in the context of LTC's research program under the Security of Tenure and Land Registration theme in Senegal, Somalia and Uganda; and (4) in connection with a research project being undertaken by UW's Office of International Programs in Kenya. A critical issue concerns the handling of traditional ("pre-market") land transactions. The paper would seek, through a review of the literature and such fragmentary new data as is available, to (1) examine conceptual perspectives on land transactions, (2) review research approaches and methodologies, (3) suggest the appropriate parameters for the study of land transactions, and (4) draw such tentative conclusions as are possible from available data. A concepts paper will be completed by the end of the 1987-88 workplan period by Dr. Michael Roth, the economist with the Security of Tenure and Land Registration Project. This effort is viewed as building toward a potential research theme in the future.

The sub-theme on regulating grazing in the non-arid commons has been planned to capitalize on the research recently completed by Steve Lawry in Lesotho. Prospects for an illuminating comparative report by Lawry appear excellent. It is particularly needed since most evaluative research to date

has focused on rangeland management problems of transhumant and nomadic producers who necessarily range widely, often across national boundaries, in low rainfall areas. LTC in 1983 completed a major review of land and resource management issues in such projects (Bennett, Lawry, Riddell, published by AID in 1986 as AID Evaluation Special Study No. 39). In the course of that exercise LTC became aware of the paucity of solid research on pasture management arrangements in village-based systems which involve commons but are characterized by more modest, if any, seasonal movement. These communal grazing systems present some of the same resource management problems as long distance transhumant systems, but because small, discrete management units of pasture are possible, they offer greater potential for developing workable local institutional solutions to management problems of common resources. These are usually mixed-farming communities, in which livestock have multi-purpose roles in the household economy. These roles are changing in response to new markets and to off-farm employment opportunities, with major impacts on resource use and management. Different households have different capabilities and advantages and develop a diversity of livestock management styles. This diversity significantly complicates commons management but the mechanisms of this process are not well understood and adequate means of coping with it have yet to be developed.

Beyond the Lesotho case, LTC has a modest opportunity to pursue this issue in connection with the Swazi Nation Lands Survey, in which pasture management is a research focus. LTC arranged for Lawry to visit the Swaziland project in August 1986 before returning to Madison. Lawry will by June 1988 prepare a paper which examines the grazing association/group ranch model from both theoretical and empirical standpoints, drawing on his own and other LTC research as well as published materials. This will constitute one of the

occasional papers under the Natural Resource Management and Conservation theme, discussed below.

5. Activities in the 1987-88 Workplan Period

The primary focus during this workplan period will be on bringing the Swaziland Project to a satisfactory conclusion. There have been delays in the project due to personnel difficulties in the Ministry, but lately there has been a significant improvement in both participation by Ministry staff and interest in project recommendations, on the part of Ministry officials. John Bruce will be spending a few weeks with the project staff in Swaziland this fall, working on the policy options paper.

Bruce and Lawry will continue to pursue possibilities for involvement in the policy process in Lesotho, but it is at the moment unclear to what extent these will materialize.

Roth will author a concepts paper on land transactions in Africa, and Lawry will begin work on his paper on grazing association/group ranching models in Africa.

D. Tenure Issues in Natural Resource Management

This is a recasting of a theme on marginal lands, which did not adequately address growing concern in African Bureau with the ecologically sound management of natural resources. Early in the CA period LTC initiated collaboration with the International Council for Research in Agroforestry in Nairobi. With Ford Foundation funding, this collaboration has produced an annotated bibliography, Trees and Tenure (1985) and the Proceedings of an International Workshop on Tenure and Agroforestry (forthcoming, August 1987). LTC plans continuing collaboration with ICRAF, and a planning meeting took place in Nairobi in early April 1987. LTC will be applying to Ford Foundation

for funding of socio-economic research on agro-forestry initiatives under ICRAF's AFRENA program in Southern Africa.

The new research theme on natural resource management and conservation will greatly expand LTC activity in this area, at the same time building upon its tree and tenure experience and its staff's research on pasture management and conservation in Southern Africa. By the fall of 1987 LTC hopes to receive a grant of \$500,000 from Africa Bureau, of which \$400,000 will be devoted to work under this theme. The funds are for two years of work in this area, nearly through the end of the CA as extended until March 1990.

1. Two-Year Strategy

The strategy for this theme is modelled on that under LTC's Land Tenure Issues in River Basin Development research theme. It relies upon a substantial Africa Bureau investment in staffing and start-up work to create a capability and generate a demand which permits work in this area to become demand driven, funded by USAIDs. It seeks on one hand to help orient USAIDs to the way in which tenure strategies can be used in resource management and conservation. Tenure arrangements promise to be a critical component of effective programs in this area because they offer one of the few effective mechanisms for increasing user incentives for sound land use. Most African governments have a very limited capability to enforce prescriptions concerning sound land use and conservation and so effective strategies must plan to alter economic incentive structures in ways which support compliance with new rules and regulations. Land tenure rules are one way to alter incentive structures.

A research coordinator for this theme will be recruited, and will be available for short-term consultancies with USAIDs as they attempt to think through these issues. As a tool for use on this process, Bruce and Lawry will initially produce a brief concepts paper which sets out types of interactions

between tenure and resource management. These include on-farm issues, where security of tenure on the farm may affect incentives for sound land use in the long term; the common property management issues which arise with respect to community pasture and forest; and the issue of how to plan and encourage land use patterns which relieve pressure on resources which must be preserved, such as natural forests with unique genetic endowments. Women's rights in trees has been a major thrust of LTC's work with ICRAF, and the new effort will deal with access and rights to not just land, but other critical resources as well, and examine how this differs based on gender and related socio-economic factors.

Following production of the concept paper, work under the theme will proceed on two parallel tracks. First, LTC will seek to capitalize on valuable research which has taken place in recent years. LTC will produce a mini-series of occasional papers based on primary research, and at the same time will develop a state-of-the-arts paper (SOAP), synthesizing existing knowledge into a statement useful to Africa Bureau and USAID staff in planning initiatives in the natural resources area. This SOAP should be completed by December 31, 1988.

Second, LTC will initiate modest research initiatives in two or three African countries utilizing funds provided in the Africa Bureau grant. These will be developed with reference to the geographical and substantive priorities set out in Africa Bureau's "Plan for Supporting Natural Resources Management in Sub-Saharan Africa." Emphasis will be placed on the development of collaborative research arrangements with local research institutions. LTC will also seek opportunities for USAID-funded research in this area. A few of the earliest research initiatives may produce preliminary results during the two years for which funding is now available, but the objective is to institute a program of research which will run beyond that period.

Funds have been included in the budget for a workshop, but its precise timing and role in the theme strategy have not been finally decided. One possibility under consideration is a workshop mid-term or late in the project which would bring together AID staff and staff of concerned environmental protection organizations to discuss preliminary findings and strategies.

2. Activities in the 1987-88 Workplan Period

Activities during the first half of the plan period (July-December 1987) will be fairly modest. During this period, a concept paper will be developed, setting out the major issues, and suggesting constructive ways of conceptualizing tenure strategies. The paper will be distributed in draft for comment among S&T and Africa Bureau staff. The possibility that it might be presented to the ADO Workshop in Nairobi in September 1987 has been mentioned, but no decision has been reached. The literature review for the SOAP will begin in September, as will networking with U.S. and overseas institutions. LTC will also be seeking to place in the field in Malawi a dissertation researcher, Lindi Nelson (Ph.D. candidate, Agricultural Economics, Cornell), who will carry out a case study of tree and tenure issues.

Activity will intensify during the second half of the plan period (January-June 1988) after the hiring of a full-time theme coordinator, in January. The coordinator will visit countries with promising research opportunities for discussions with local researchers and USAID staff. Work will begin on designing collaborative projects with local research institutions, though it is unlikely that actual field research activities will begin until early in the 1988-89 plan period. Work will continue on the SOAP, and the occasional papers series will be initiated.

3. Concerns and Opportunities

LTC anticipates a very positive response to the opportunities which this initiative will offer to USAIDs and host country research institutions. There

is, on the other hand, cause from some concern in that--unlike the river basin exercise--there will not be a generation of new "resource management" projects out of which downstream LTC activities can be funded. LTC will be seeking the funding for these activities from USAIDs' agricultural project funds, which are already under considerable pressure, and from local currency funds, which USAIDs cannot commit without the consent of the host country government. LTC looks forward to a fuller discussion of strategy in this regard at the workplan review.

E. Urban Land Tenure

Although this theme has not been funded by ST/RD beyond planning activities, LTC has been able to make several contacts in the past year that may result in research opportunities in this area in the near future. Carol Dickerman, a specialist in the economic history and development of African urban centers, has been the key LTC staffer pursuing these contacts. In December 1986, she attended a workshop in Washington, DC on USAID urban land strategy sponsored by the Office of Housing and Urban Programs (PRE/H). One of the results of this workshop is a draft Land Strategy Paper intended to highlight the importance of land issues and to identify objectives and principles for urban land development; copies of the paper have been circulated to the RHUDOs.

In February of this year Dr. Dickerman spent four weeks in Bujumbura, Burundi, during which she conducted an inquiry into the urban land market in the city. The cost of the trip was covered through a Fulbright-funded linking agreement between the University of Wisconsin and the Université du Burundi.

On a trip in April, Dickerman together with John Bruce visited USAID/Somalia. The head of the research program for the PIPS project had expressed an interest in LTC doing work on land tenure in Mogadishu. During

the visit Dickerman and Bruce were able to formulate and submit a proposal for a research project, including counterpart arrangements with a Somalia sociologist. The project would examine the relationship between land tenure and allocation of household resources, especially as regards housing construction, in three separate areas of the city. If funded, it will require approximately four months of Dickerman's time, including two months of research in Mogadishu. On the same trip, Dickerman and Bruce also visited the RHUDO in Nairobi as well as the offices of the United Nations Centre for Human Settlements (Habitat) and the Ford Foundation. RHUDO staff were receptive to LTC's interest in urban land tenure issues, and there may be an opportunity to work with the RHUDO in the fall on an evaluation of AID's site and service projects in Botswana.

III. RESEARCH THEMES: LATIN AMERICA AND THE CARIBBEAN

LTC research and training in Latin America and the Caribbean is organized around the following themes: Land Titling and Cadastral Systems; Tenure Issues in Natural Resource Management (formerly Marginal Lands); Land Markets; Adjustments in Agrarian Reform Sectors; and Evolving Agrarian Structures. There is a good deal of complementarity among these themes. The presence or absence of an adequate land titling and cadastral system, for instance, may affect the efficiency of land markets. Because titling efforts are usually designed, at least in part, to stimulate land markets, the potential impact of titling on the market will affect cost/benefit estimations for titling projects. Titling and land transfers often become salient issues in agrarian reform sectors some years after the initial push for reform, as when individuals involved in production cooperatives and settlement schemes wish to

devise or transfer the land. Changing agrarian structures call for changes in policies on access and over the long run the operation of the land markets can alter a country's agrarian structure. Managing marginal land is often a central problem in the reform sector, since much of the land made available for reforms is not particularly productive. Thus, while these themes are treated separately below, it should be remembered that they are inextricably interrelated.

The following section elaborates these research foci, and explores their inter- and intra-regional relationships.

In each research project, three types of products are envisioned: (1) written reports, monographs, theses and articles; (2) national and international seminars and workshops for the presentation of research findings and their policy implications; and (3) local research institutions better prepared and committed to addressing these and related issues in the future, from a policy perspective.

Inter-country comparisons will be emphasized at international seminars and enhanced by involving individuals with research and training experiences in areas in LTC's research efforts in countries and regions.

A. Land Titling and Cadastral Systems

1. Four Year Strategy

The four year strategy is to analyze the experiences of several countries to develop policy recommendations as well as historical and theoretical generalizations concerning: (1) how governments, communities and individuals have interacted to define and alter property rights to land; (2) how reliable cadastral systems are in terms of their accuracy, cost of maintenance, degree of use by different types of land holders; and (3) how the alterations of

property rights through expropriation, provisional and permanent titling in individual and group property systems have affected agricultural production and the distribution of the benefits derived from that production.

The individual, private holding of land is the dominant form of property in most of Latin America and the Caribbean. The institutional protection of that property form is usually well developed in law and in the establishment of agencies which protect private property rights, forming what is called a property system. Such a system, however, is conditioned by legal requirements of social function and public interest. In most countries, private property rights are subject to requirements that the property be used productively and in accord with land use regulations, labor codes, and other rules and laws.

In addition, private holdings often exist outside of the legal systems' norms for identifying and protecting private property rights. In Central America, for example, a large portion of agricultural land is privately used but not privately owned (e.g., the municipal lands planted by individual farmers to coffee in Honduras). In some countries, agrarian reforms of the past have resulted in the granting of usufruct rights to the reform beneficiaries, or some other form for assigning provisional rights to the land to the beneficiaries from the State. In other countries, collective private property forms have evolved outside of the formal legal system, such as family land in the Caribbean.

These historical conditions have produced situations of ownership insecurity where the possessors of land do not have the certain backing of the courts and police to protect their claims to ownership. This formal ambiguity of ownership inhibits capitalizing on the land, but also may protect the poor's rights to land.

There have been periodic attempts to address this problem of ownership insecurity by transforming usufruct into property rights, by adjudicating conflicting or unclear ownership claims, and by extending the concept of individual private property into areas where traditional, communal or family property prevailed. A typical situation is that of individuals who cultivate land to which they have no clear, state-sanctioned and recognized property claim. Individuals in such a situation are thought to derive fewer benefits from the land because they lack incentives to invest, accumulate capital and use purchased inputs. Generally, it is thought that they produce less than individuals who enjoy a secure title, they have greater trouble getting access to capital because lending institutions insist on titled property as guarantees for loans, and they have problems in getting a good price for land which prospective buyers may hesitate to purchase because of the lack of marketable title.

However, it is widely recognized that the State's efforts to clarify the ambiguities of ownership through the granting of secure titles can have undesirable effects. Grants to one individual may extinguish the claims of others, and deprive them of any right to use the land or claim any of the production. Women, small farmers, absent family members, poorer and less educated members of extended families or communities appear to be particularly vulnerable in "titling" programs. Secondly, title may encourage intensive land use, but if the land is ecologically fragile, titling may endanger the ecological balances. Finally, a clear title enables the holder to sell land. All too often newly titled owners find themselves under economic or other pressure to sell or mortgage their land to already privileged landowners bent on increasing the size of their holdings. One result can be concentration of land ownership on the one hand, and increased landlessness on the other.

Given the fundamental importance of programs which affect property rights to land, the LTC is committed to systematic inquiry into the structure of tenure and property systems, their interrelationships with land markets, and their impact on the distribution of rights to land and the agricultural surpluses. A central question is whether, or under what conditions, increasing the negotiability of land contributes to increased on-farm investment and production.

Also at issue is the long-term viability of the property rights conferred by titling projects. In instances where a complete cadastre is undertaken, and/or laws are introduced to register land rather than deeds, an important question is how people will relate to the cadastre or registry offices over time. Will the maps and registries be kept up-to-date? Will owners record their land transactions? Will new uses such as land use planning, determination of tax policies, etc., be found for the information gathered in the cadastre or in the registry? If so, are standards of accuracy adequate? These stability and integrity questions form the second major dimension of LTC's research agenda under this theme.

2. Progress to Date

a. Papers Prepared

The following papers were prepared concerning land titling and land cadasters during the 1985-86 workplan period:

David Stanfield, "Land Titling in Honduras: A Midpoint Evaluation of the Small Farmer Titling Project in Honduras."

Edgar Nesman and Mitchell Seligson, "Baseline Survey of the Honduran Small Farmer Titling Project: Descriptive Analysis of the 1895 Sample."

Edgar Nesman and Mitchell Seligson, "Encuesta de base del proyecto de titulación del pequeño agricultor Hondureño: análisis descriptivo de la muestra de 1985" (translation by Natalia Garcia-Pardo).

Edgar Nesman and Mitchell Seligson, "Un estudio inicial y descriptivo del proyecto de titulación de tierras: Comayagua, Honduras 1985" (summary by Guillermo Gonzalez).

David Stanfield, Bernard Darnell and Rutti Mitchell, "Land Tenure Patterns and Problems in Jamaica."

Mario Fandino, et al., "La titulación de la tierra y la estructura agraria en Colinas, Honduras."

Mario Fandino, et al., "Las implicaciones de proyecto de titulación de tierras para la estructura social rural en Quimistan, Honduras."

Becky J. Brown and Alexander Coles, "The Implications of Farming Systems Analysis for Land Titling in the Area of Quimistan, Santa Barbara, Honduras."

Joseph Thome, John Strasma, Mitchell Seligson, Santiago Moquete, Ricardo Zeledón, Virginia Lambert, David Atwood, "Land Tenure Security in Panama."

David Stanfield, Benito Ferreira, Leo Colón, Nelson Molano, "Estudio-sobre titulación de tierras de la reforma agraria Dominicana: caso de asociacione de parceleros 'asociativo' Santa Clara e 'individual' Padre Fantino, La Vega."

Randy Stringer, Pablo Rodriguez, Santiago Moquete, Alcibiades Martinez, Jesus de los Santos, "Estudio sobre titulación en el asentamiento Alexander Dothan, YSURA-AZUA."

Virginia Lambert, Luis Suarez, Carlos Dore, Leonidas Valenzuela, "Proyecto de titulación a los parceleros de la reforma agraria: el caso de la colonia Mencia."

David Stanfield, et al., "Resumen preliminar del estudio sobre la titulación de la tierra a los beneficiarios de la reforma agraria en la Republica Dominicana."

The following papers have been prepared concerning land titling and land cadasters during the 1986-87 workplan period:

David Stanfield, Carlos Dore, Pablo Rodriguez, Benito Ferreras, Virginia Lambert, Luis Suarez and Randy Stringer, "Evolving Property Relations in the Agrarian Reform of the Dominican Republic," presented to the Latin American Studies Association Meetings, Boston, October 1986.

David Stanfield, "Land Registration, Tenure Security and Agricultural Development," paper presented to the International Symposium on Land Registration, Tenure Reform and Land Information Systems in the Caribbean, St. Lucia, October 1986.

David Stanfield, Norman Singer, and Huntley Manhurtz, draft paper on Land Titling in Jamaica, presented to the Government of Jamaica as basis for a loan application from the IDB.

Rebecca McLain, "Land Documentation and Farmer Investments in Central Honduras," M.S. thesis for Land Resources, University of Wisconsin, 1986.

Miriam Urgiles, "Caracterizacion de la mujer campesina beneficiaria del Proyecto de Titulacion de Tierra, Departamento de Santa Barbara, Municipio de Quimistan, 1982-1985," postgraduate thesis for the Masters in Social Work, National Autonomous University of Honduras, Tegucigalpa, 1986.

Brown, B.J. and Alex Coles, "Cafe, cardamomo y agricultura de subsistencia: Un estudio de sistemas agricolas en la region de Quimistan, Honduras," Estudios Sociales Centro Americanos CSUCA, San Jose (Forthcoming).

Joe Thome (ed.), "Agrarian Land Titling," report prepared for USAID/Panama and the Ministry of Agrarian Development, by Santiago Moquete, Mitchell Seligson, John Strasma, Joseph Thome and Ricardo Zeledon, with participation by David Atwood and Virginia Lambert, 1986.

b. Increased Capability at UW and in the Network of Institutions Working on Land Titling and Cadastral Systems

The research activities during the past workplan period involved a variety of institutions. In Honduras researchers from the National Autonomous University of Honduras (Lily Caballero and Miriam Urgiles), the Autonomous University of Santo Domingo (Santiago Moquete), co-authored reports and participated in various phases of the research. From UW, Becky Brown from the Institute for Environmental Studies co-authored an article with Alex Coles, a Ph.D. candidate in the Land Resources program. Grenville Barnes of UW's Civil and Environmental Engineering Department completed his field research and initial draft of the Honduras section of his thesis.

In the research in the Dominican Republic, researchers from several institutions participated, including the Superior Agricultural Institute of the Catholic University of the DR (Benito Ferreira, Leo Colon, Jesus de los Santos), the Technological Institute of Santo Domingo (Pablo Rodriguez, Santiago Moquete, Carlos Dore), and the National Agrarian Institute (Nelson Molano, Alcibiades Martinez, Eduardo Valenzuela). Luis Suarez, a Ph.D. candidate in the Ph.D. in Development program at UW co-authored a paper presented at the October LASA conference.

The LTC continued to collaborate with the Center for Land Information Studies at UW in an interdisciplinary seminar on multipurpose cadasters and land information systems. Alan Vonderohe of UW's Department of Civil and Environmental Engineering co-authored the paper on Jamaica.

3. Activities in the 1987-88 Workplan Period

a. St. Lucia

The delay in the final approval of the proposed research in St. Lucia has moved the plan of research into the present workplan period.

Tenure Security and Agricultural Production. The land registration project is justified in St. Lucia largely on the basis of its expected production implications. The argument is that there exists at present substantial insecurity of access to land. An important reason for tenure insecurity is the "family land" phenomenon; an outgrowth of ambiguous inheritances over several generations. By systematically adjudicating competing family (or other) claims to land and leaving a clear owner identified for each land parcel, the project should reduce this insecurity.

Greater security of ownership should provide greater incentives to invest in the land and improve its productivity, either through the greater use of family resources (time and extra cash) or through improved access to institutional credit (which should result if banks can receive owned land as security for long-term loans).

There may also be less desirable results, namely difficulties arising from extinguishing claims of some family members and securing those of others. Part of the remittances to St. Lucia from workers in the U.S. and other countries may be related to the family land tradition which keeps people who are abroad tied to their relatives in St. Lucia. Family lands may operate as a form of social security by offering a place for refuge or retirement.

Family tenure may also be quite functional for avoiding uneconomic subdivisions and for holdings where property in trees is more important than property in land. The question is how to resolve some of the tenure insecurities of family land while keeping the potential benefits of that tenure form.

Transactions. Transactions in agricultural land are a fundamental characteristic of private property systems. Yet, economic theory and empirical evidence suggest that for a smoothly functioning land market to exist, several additional features are required. For example, there must be a substantial number of willing buyers and sellers, adequate financing, reasonable consistency in the size and quality of parcels and a titling and land transfer system capable of identifying and verifying ownership rights.

The new registration system in St. Lucia will undoubtedly affect the island's land markets by streamlining the land transfer process. At present, most researchers have concluded that family lands are shut out of St. Lucia's land market. Other studies have reached similar conclusions for other countries. This is because a parcel cannot be sold by the person in possession unless the signature of each co-owner is obtained. Thus, the land market becomes less active and is prone to informal transactions, including renting and sharecropping.

On the other hand, since the current land transfer process can be tedious and costly, even individual owners of parcels are likely to sell property informally. Consequently, without an organized research effort it is very difficult to determine exactly how active land markets really are under any tenure status. This is very unfortunate because understanding land transactions can provide valuable information about market imperfections and possible interventions to improve the market's performance.

One of the first research efforts in St. Lucia will be to provide a descriptive and analytical profile of the rural land markets throughout the country. The scope and structure of both formal and informal markets will be assessed in the four areas identified above in order to obtain information on the following issues: (1) which groups are buying and which are selling land; (2) if purchases are leading to consolidations or to subdivisions of properties; (3) how transactions are financed, for how long and at what interest rates; (4) where sellers of land go to if they are owner-operators; (5) if family members are resisting purchases by other co-owning relatives and if so why; (6) what the sizes of the most commonly traded parcels are; (7) how much of a problem speculation is and if new owners rent their land; and (8) if land values differ under different tenure types, etc.

These questions will be examined at different periods during the life of the research project to establish general trends in land markets and to isolate the effects of the land registration project from exogenous factors.

One of the most serious problems with rural land markets is the lack of basic information about how they operate. This information is needed to assist policy makers as well as project designers. This project provides a unique opportunity to examine a number of interrelated hypotheses which can provide this information. For example, will land markets become more efficient with the institutionalization of a modern land registration system? Will this modernization lead to, as is suggested in the literature, increased production as land is put to its most profitable and best use? Will the land-financing mechanism overcome other market and non-market barriers? How will the improved land transfer process affect land taxes and revenue generation?

Efforts are underway to secure funding for a follow-up study at least 4 years after the LRTP is finished to document how the situation has changed.

The Stability and Social Meaning of the Land Registration and Land Information Systems. The relative cost and sustainability of alternative land registration and information system technologies are important issues. The St. Lucia land registration project is using some of the more advanced land surveying techniques and boundary identification systems available at present. The experience in St. Lucia with these techniques and systems will be carefully analyzed for applicability to other countries.

Moreover, costs, problems and adaptations during the course of the project will be studied with an eye to how sustainable the system is over time. Do people accept and use the new land information system to identify boundaries? How does acceptance change over time? Do people use the system to document their transfers of land, particularly to heirs?

The St. Lucian people are being asked to change the way they have documented land ownership for centuries, and to accept new rules concerning how to protect ownership rights. How is this done? It seems probable that the manner in which the resurveying/retitling is carried out, the way project results are presented to the people, and the means provided for future access and interaction with the land records will be as critical as technical factors in determining long-term success or failure. Accordingly, communication methods analyzed in the project will also be studied.

The research effort in St. Lucia will provide insights into the impacts of modernizing land information systems in Third World countries as well as in industrialized nations. John Thornburg's Ph.D. dissertation will explore the effects of land registration on tenure security in the Caribbean, focussing on the role of family land in economic development of agricultural economies. Randy Stringer will explore the various issues outlined above concerning the evolving land market in St. Lucia. Steve Herzberg will analyze the

transaction procedures and costs, comparing the traditional deeds registration system with the new land parcel registration system. Mr. Herzberg will also analyze the process of legal change and reaction as initiated by the LRTP. A UWI team composed of Nick Liverpool, P.I. Gomes, Pat Emmanuel, Cristine Barrows, along with Didicus Jules and Veronica Dujon of NRDF, Micheline Critchlow (a recent Ph.D. from SUNY), Randy Stringer and David Stanfield will combine to help carry out four case studies of the effects of the LRTP on the ways people in St. Lucia deal in land and relate to the formal legal and administrative system governing property in that country. This team of people will also help carry out a sample survey of property owners to provide data to document the generality of the phenomena observed in the case studies with a special focus on gender, in conjunction with Susana Lastarria and Jane Knowles. Carol Dickerman will explore the effects of the LRTP on urbanizing land transfers and tenure security.

b. Registration and Access to Land

A number of countries in Latin America and the Caribbean are undertaking titling programs. In Honduras, titling is being implemented only in several provinces and is basically selling state/municipal lands to those families that have been farming them. In St. Lucia the entire island country has been surveyed and the parcels registered. Certificates of title are available upon request. It appears that the new property laws are dramatically changing customary and legal property rights. In the Dominican Republic and Peru, collective production cooperatives are being dismantled and the land is being parceled out to individual families. While in some cases some type of cooperative will continue to function, in others it will not.

In all these cases, individual property rights will be greatly increased. While countries are undergoing titling under very different

circumstances and conditions, the rationale for all the programs is the same: it is considered that documented individual title to land will increase tenure security and therefore increase productivity.

The LTC will be evaluating some of these programs with regard to the effectiveness of the titling process itself and the achievement of its objectives. This research will incorporate two aspects into titling evaluation projects:

1. changes in access to land as a result of titling;
2. changes in household labor allocation as a result of either (a) increased labor intensity on the farm, or (b) changes in the production process and organization.

The first aspect involves looking at who had access to the land and under what condition before titling, and how titling changes either access or conditions both for households and for members within households. The second aspect involves looking at the allocation of household labor. If titling increases productivity as expected, who in the household is investing more of his or her labor on the parcel? Or is the household allocating more labor off the parcel (in wage work, for example) in an attempt to raise capital for investment on the parcel? When the titling program is part of a broader process (such as the change from cooperative production to individual household production), how does this broader process affect labor allocation and labor intensity among the household members?

The St. Lucia project will test out the possibility of incorporating these themes into the other titling projects the LTC is involved in during the 1987-1988 work year.

c. Regional Comparison of Cadastral Systems

Funded primarily through the LAC/DR project, a Ph.D. dissertation is underway by Grenville Barnes from the Civil and Environmental Engineering

Department of UW to compare the cadastral investments and activities of land titling projects in St. Lucia, Honduras and Ecuador. The central thesis of this dissertation is that cadastral systems are designed to record de facto tenure situations and should consequently be flexible enough to take into account the dynamic nature of land tenure relationships. The objective of the study is to propose alternative cadastral systems with interlinking phases which will keep pace with changes in land tenure perceptions in developing countries and facilitate progressive development.

During this workplan period (by April 1988), David Stanfield will also complete a manuscript tentatively entitled "Expectations about the Effects of Increasing Ownership Security in Agricultural Development in Latin America and the Caribbean."

4. Concerns and Opportunities

a. Caribbean Comparative Studies

The St. Lucia project will provide the case and survey studies at one point in time, leaving to future developments the funding of the re-studies. This is a less than desirable situation, but is the best we could do with the time and financial limitations placed on us.

The cadastral comparisons should also be studied via an over-time comparative analysis. Information on the use of new registration systems in Caymans, Montserrat, Turks and Caicos, as well as data on costs of implementation, and costs of use would be very useful in order to compare with St. Lucia. This effort would help identify how other countries have handled the family lands problem as well as how stable the new land registration system has proven to be.

b. Ecuador

In collaboration with the University of Pittsburgh, there will be a study undertaken on the effects of the titling project in Ecuador, although it is

not clear at this point when it will begin. Funding arrangements have to be finalized, since much of the field costs will require local currency from the PL480 account in Ecuador.

c. Dominican Republic

The case studies concerning titling of agrarian reform lands have been completed, and policy recommendations made. Farmer pressures for titling are continuing. How the appropriate policies will be developed, however, is not clear. The Mission continues to be interested in the theme, but has placed its primary emphasis on commercial and credit assistance to agribusiness development. The land problem will probably surface again as plans for agricultural projects mature.

B. Land Markets

1. Four-Year Strategy

Land ownership and property rights are the foundation of agrarian societies. In Latin America and the Caribbean, transfers of farmland and land use rights are controlled and influenced by cultural, social, and legal structures which directly affect access to land, farm operations, agricultural production, and income distribution. While the recent USAID Policy Determination No. 13 stresses the potentially positive role of land markets on agricultural development, little is actually known about how to take advantage of land markets to promote rural development.

At present, several problems appear to be constraining efficient farmland market operations in Latin American and the Caribbean. The most obvious is the highly concentrated land ownership patterns which result in land market distortions. This monopolistic structure inhibits the formation of new, more efficient farms and causes inefficient use of land, capital and labor

resources. Despite many efforts and some good intentions, the breaking up of traditional landownership patterns through land reform has not been very successful in Latin and Caribbean countries.

A second problem is that the majority of landless and landpoor do not have access to the financial resources required to convert an economic desire into effective demand. This severely restricts their land market entry and limits their bargaining power. The majority of the rural population are incapable of participating in the land market. The most common successful policy and program intervention employed by industrialized countries has been the provision of long-term financing for farmland purchases which improves the access of young and landless farmers who want to establish themselves, or obtain enough land to become full-time commercial farmers. Currently, a great deal of interest exists in promoting such programs in the Latin American region. USAID in Guatemala has provided funding for a land purchase program through the Penny Foundation since 1984 and is developing a five-year extension of that program. Ecuador is also interested in developing a pilot land financing program to promote access to farmland by rural landless.

A third constraint is the complex, expensive, and excessively bureaucratic nature of the land transfer process in most countries. To obtain and register a legal title or deed means that both buyers and sellers are subjected to a series of time-consuming and expensive hurdles. In Ecuador, a major problem is obtaining the agrarian reform institute's authorization, a requirement for agricultural land transactions. In Honduras, this type of authorization is necessary for all farms less than 17 hectares in size. In addition, Honduran law requires a minimum of 5 hectares of contiguous property before a title may be issued, except for coffee properties.

Tenure insecurity also impedes land transactions. Some estimates suggest that overall about half of the rural properties in Ecuador have no registered titles. The proportion is similar or higher in many Central American countries. Without title, sellers may have to undervalue their properties to sell them, because new owners will also lack title and hence be unable to obtain production credit from most institutional lenders. In other cases, owners will underutilize their land, but not sell it because without negotiable title, they do not expect to get much for it. Titling projects are aimed at correcting this problem.

Other policies and procedures which inhibit land transactions are land transfer taxes and capital gains taxes. For instance, the capital gains tax on land sales has never been adjusted for inflation in Ecuador. The result has been that even very small transactions can mean a tax of 25 to 30 percent of the declared sales price. Beyond this, taxes on land sales in Ecuador include a transfer tax, a national defense tax, a potable water tax, a provincial tax, and various stamp taxes. Buyers and sellers must also pay legal expenses to notaries and lawyers. In practice, this leads most purchasers to agree to one "real" price for the transaction and another "declared price" for the taxes. In other cases, the transaction is never reported.

In many Caribbean countries, the traditional social custom is for heirs to receive a share of the whole farm. The farm continues to operate as a single unit instead of subdividing the farmland among the heirs. While this avoids the problems of subdividing parcels which are often already small, it still can cause other problems, some concerning the negotiability of the land because the signature of each co-owner is required. About one-third of the titles currently being issued by the new land titling project in St. Lucia are for family lands with an average of six owners per property.

Finally, a theoretical problem is posed for land market analysts by the variety of reasons why people hold land, other than for its productive commercial value. For example, people hold land for capital gains, or as an inflation hedge. Some hold land as savings or as an asset, still others simply for home consumption purposes. Many societies place special cultural emphasis on land. Owners find it difficult to part with land which has been in their family for generations.

This variety of market imperfections highlights the need to understand how land markets operate on a local level before attempting to intervene. The major aim of the LTC's long-term land market research is to assess how land markets operate in rural Latin America and the Caribbean and to provide policy guidance on how land market interventions may assist development efforts throughout the region.

The LAC/DR/RD Land Market and Tenure Security Project plans to fund land market studies in conjunction with the missions in Guatemala, St. Lucia and Ecuador. The studies will attempt to provide comparative information to increase our understanding of how land markets and land transfers are affecting land use and agricultural performance in various sites of these four countries. A case study approach will be used to assess the nature of land transfers and the social and economic implications of land market operations. The studies will focus on the types of buyers (first-time buyers, speculators, expansion buyers, etc.), the types of sellers (retiring, migrating, subdividing, raising cash, etc.), changes in land use after purchases, how land transfer and land taxes affect sales, the terms of financing arrangements, and other related issues.

2. Progress to Date

A concept paper, "Land Transfers and the Role of Land Purchase Programs in Rural Development," prepared by Randy Stringer, has been presented in

several forums during the past year including the North American Economics Association Meetings, the RDO Conference, and the OAS Conference in St. Lucia last October. In addition, Carlos Dore of the technological institute of Santo Domingo, prepared a paper presenting an historical overview of land markets in the Dominican Republic since the 1950s. Design efforts for land market research have been completed for both Ecuador, Guatemala, and St. Lucia. The Ecuador project, beginning in the summer of 1987, consists of several case studies in various regions of the country over a three-year period. In addition, the research will contribute to the design of a pilot land purchase program in Ecuador. In Guatemala, a five-year land transfer research project has been designed including an assessment of land sales, inheritances, and rental markets, especially on the south coast. Finally, the St. Lucia project will determine how the new land registration project is affecting land transactions on family lands, crown lands, and private lands through a series of case studies and survey work.

3. Activities in the 1987-88 Workplan Period

The activities during this workplan include implementation of studies in Guatemala, Ecuador and St. Lucia. With the collaboration of the Catholic University and three local research centers in Ecuador, the LTC will assess local land market operations in four to six highland communities, with a draft report prepared by June 1988. During the summer of 1987, Mark Thurner will begin research on a related project in Chimborazo, Ecuador, which will look at various peasant strategies for obtaining land both through legal channels and less formal mechanisms. A draft report will be prepared by March 1988. Tom Schweigert will begin a study of land sales and land rental markets in Guatemala as well as initiate the baseline survey methodology of the Penny Foundation project beneficiaries.

The St. Lucia study will also use a case study approach to determine how land market operations are evolving since the implementation of the new land registry. One important focus of this research is to determine whether new owners are willing to keep the new registry up to date by registering their transactions. This study will attempt to quantify the monetary and the opportunity costs of land sales in various regions of the island. The preliminary outline for the SOAP on land markets in Latin America and the Caribbean will be presented to AID during this workplan period.

4. Concerns and Opportunities

The LAC/DR/RD project allows for research in non-AID countries to provide a broader understanding of how land markets and land transfers are operating in those countries. The LTC still plans to explore the potential for collaboration with local research facilities in those countries.

C. Post-Reform Adjustments

1. Four-Year Strategy

While land reforms attract much attention when they are being debated and implemented, post-reform changes are subjected to much less scrutiny. Even radical changes (such as the virtual reversal of the Frei and Allende reforms by the Pinochet regime in Chile) tend not to be systematically analyzed. Research under this theme over the contract period will be addressed to the general question of what has happened to the major reforms of the early and mid-years of the twentieth century in Latin America. This research is a natural outgrowth and continuation of the Center's work in Bolivia, Honduras, Colombia, Chile, Venezuela, Ecuador, Costa Rica, Panama, Guatemala, El Salvador, Mexico, the Dominican Republic and Peru. The previous workplan outlined some potential research questions to be addressed under this theme:

1. What are the income effects of various types of agrarian reform?
2. What can be done to enhance income through different enterprise combinations or through improving production on ones already in operation?
3. What is the employment situation and is it being helped or deterred by the agrarian structure introduced as a result of the reform?
4. What are the agro-industry possibilities in light of the current agrarian reform program?
5. What aspects of the reform could be changed fairly easily for more results?
6. How are group farms working and is there a process of institutional evolution involved as collectives evolve into more individual enterprises?
7. How can capital formation be enhanced on agrarian reform farms?

Clearly the Center will not be able to adequately address all of these issues in all countries. As the work has progressed, it has become more sharply focused on the issues reflected in some rather than in others, especially (6) above. The strategy for the current workplan period is to continue to sharpen this focus, and to do comparative analyses of the economic and social causes and consequences in the post-reform period of increasing individualization. The opportunities for policy research on this issue are most salient presently in the Dominican Republic, Peru and Honduras.

The following issues emerged in a study carried out in the DR and give a sense of the broad range of issues which require attention. The study concerned the question of whether and how to issue definitive titles to agrarian reform beneficiaries, in group farm settlements as well as in individualized settlements. In group farm settlements, one question is

whether to issue a definitive title to each beneficiary for a particular piece of land, or issue a definitive title to the association, or to issue an individual title but reserve certain rights for the association in a title of "co-dominium." The community needs for assuring productive and cooperative members of the association may conflict with individual beneficiary desires for more extensive private property rights. Should, for example, the association approve transfers of land so that any new users of asentamiento land are acceptable to the association membership?

A second question is how to decide which associations receive titling attention of whatever type. The prevailing opinion is for the associations which have demonstrated a greater capacity for organization and administration as well as a past record of high productivity and fulfillment of financial obligations, be given a higher priority for titling. To do this ranking, however, would require substantial effort and political will.

On the settlements which were originally assigned relatively productive land in individual parcels, one issue is whether restrictions should be placed on the alienability of those parcels once they are titled. The fear is that the neighboring large landowners will find ways to acquire the land, possibly through loans and subsequent foreclosures, or through purchases or fraudulent legal actions. On the other hand, restrictions on sale or pledging the land as loan guarantees would deprive the beneficiaries of some of the substantial advantages of private property ownership.

Another issue on such individualized settlements is what to do about the transactions in land which have occurred outside of the law already, and the existence of fragmented holdings which resulted from emergency land distribution and assignment in previous years. There are many families without land who are pressuring the government for a parcel, and yet there are

beneficiaries who have accumulated more land than the agrarian reform legislation permits. Should the larger holders be titled the land they hold or should their holdings be reduced and the land assigned to others? In the cases of un-economic small plots, should an effort be made to consolidate holdings and re-organize them, especially in irrigated areas, so that farming would be simpler and more productive?

On both group and individualized settlements, there are some common questions about the privatization of holdings. One question is whether the titles issued should be in the name of the man and wife of the beneficiary household, or in the name of the family head, usually the man? What measures should be taken to protect the rights of women, especially in those cases where the couple is not legally married and yet have worked the land together?

A second general issue is how to maximize the ability of individual farmers to get access to credit, since in the cases of small holdings most private banks are not interested in small-scale loans, particularly in agriculture, with or without a mortgageable property. If the farmers cannot somehow assemble their credit needs into a "critical mass" of interest to the banks, having title to the land may not be of financial significance.

A third question has to do with the conditions of the transfer of ownership from the state to individuals: should the land be sold or donated? If sold, what should the terms of the sale be? Might a mortgage in favor of the state be appropriate in order to issue a definitive title? Who will bear the costs of carrying out the transfer (delineation, legal description, notarial and legal costs, title registration, etc.)?

A fourth question is to what extent should an effort to transfer ownership to a significant part of state lands be accompanied by an effort to modernize the entire system of private property transfers, including the out

of date cadastre and inadequate and costly land registration infrastructure? If this infrastructure and system is not modernized, then the costs of its maintenance will undoubtedly increase and it will be more difficult for smaller and poorer farmers to gain access. Should this occur, then in a generation or two most small farmers, even those benefitted by a government titling effort, may again become holders of land without legally recognized title.

Another aspect of the tendency for privatizing agrarian reform lands is the entrance of agro-industrial companies into activities of financing and providing technical assistance to reform beneficiaries. Many of the state efforts in the past to provide such services have been curtailed recently due to fiscal crises of one sort or another. However, as private companies have begun to fill the void, difficulties with production contracts, commercial relationships, community development projects, the payment for and maintenance of productive infrastructure such as irrigation networks, pricing of products and inputs, control over the marketing structures and other issues have become more salient. Collective bargaining structures have to be created where little experience has existed previously, as do skills for marketing and organization on the part of the reform beneficiaries. The companies have to learn to work with highly mobilized farmers who have long experience with dealing with governmental agencies but little experience with private sector negotiations. These issues have to be sorted out and resolved if this aspect of privatization is to work for even the medium term.

2. Progress to Date

Work in the Dominican Republic has yielded both a manuscript, tentatively titled "The Evolution of Property Rights in the Agrarian Reform of the Dominican Republic," by Stanfield et al., which will be published early in the

current workplan period. A book in Spanish, based on the same material, is about to be published in the DR through the Superior Agricultural Institute, reporting on the research and policy seminars there. The three major sections of the book are (1) Changing Models of Production Management in the Agrarian Reform, (2) Marginal Land and Agrarian Reform, and (3) Communication Channels and Management in the Agrarian Reform.

Other publications concerning post-reform adjustments have been completed in 1986 and 1987 which draw upon past LTC-sponsored research efforts, but which were not funded during the past year:

Carter, M.R. (1987). "Incentives and Risk Sharing in the Decollectivization of Agriculture." Oxford Economic Papers, forthcoming, 33 pp. in typescript.

Carter, M.R. and E. Alvarez (1987). "Changing Paths: The Decollectivization of Peruvian Agrarian Reform Agriculture," in W. Thiesenhusen (ed.), Searching for Agrarian Reform in Latin America (Allen and Unwin): forthcoming, 55 pp. in typescript.

Carter, M.R. (1987). "Risk as Medium of Peasant Differentiation in the Semi-Arid Tropics of West Africa," in C. Gladwin and K. Truman (eds.), Food and Farm: Current Debate and Policy (University Press of America): forthcoming, 40 pp. in typescript.

Carter, M.R. Review of Louis Putterman, Peasants, Collectives and Choice: Economic Theory and Tanzanias Village, in Journal of Development Economics, forthcoming.

Carter, M.R. (1987). "The Impact of Credit on Peasant Productivity and Differentiation in Nicaragua," UW Agricultural Economics Staff Paper 250 (revised); 39 pp in typescript. (Undergoing second round reviews at a refereed journal.)

Carter, M.R. (1987). "An Economic Model of the Evolution of Agrarian Structure in Latin America," 25 pp.

Susana Lastarria-Cornhiel (1987). Female-Headed Rural Households in El Salvador. Mimeo.

3. Activities in the 1987-88 Workplan Period

a. Current Status of Reforms

Thiesenhusen is editing a book, accepted for publication by Allen & Unwin (Winchester, MA), on Searching for Agrarian Reform in Latin America (see Table

of Contents below). It includes ten chapters, many drawn from the LTC's work in this area over the past ten years. Contracts with Allen Unwin are signed and the book will be published later this year. The following outline indicates the contents of this book:

Introduction: Searching for Agrarian Reform in Latin America,
William C. Thiesenusen

South America

Ecuador:

Agrarian Reform and Structural Change: Ecuador Since 1964,
José Vicente Zevallos

The Agrarian Transition in Highland Ecuador: From Semifeudalism to
Agrarian capitalism in Chimborazo,
Emil B. Haney, Jr., and Wava G. Haney

Minifundistas in Tungurahua, Ecuador: Survival on the Agricultural
Ladder,
Nancy R. Forster

Peru:

Agrarian Reforms of the 1960s and 1970s in Peru,
Susana Lastarria-Cornhiel

Changing Paths: The Decollectivization of Agrarian Reform
Agriculture in Costal Peru,
Michael R. Carter and Elena Alvarez

Chile:

Law, Conflict, and Change: Frei's Law and Allende's Agrarian Reform,
Joseph R. Thome

Radical Reformism in Chile: 1964-73,
Marion R. Brown

The Unraveling of Chile's Agrarian Reform, 1973-86,
Lovell S. Jarvis

Brazil:

The Politics of Brazil's Agrarian Reform in the New Republic,
Steven E. Sanderson

The Caribbean:

Agrarian Reform in the Dominican Republic,
J. David Stanfield

Reform Among the Smallholders: St. Lucia, Jamaica, and Implications
for the Caribbean,
John Bruce, Randy Stringer, David Stanfield

Central America

Honduras: Toward Conflict and Agrarian Reform,
Randy Stringer

The Role of Decentralization in the Recent Nicaraguan Agrarian Reform,
David Kaimowitz

Unfinished Business: Consolidating Land Reform in El Salvador,
John Strasma

Agrarian Reform in El Salvador,
Martin Diskin

Contrast and Congruence in the Agrarian Reforms of El Salvador and
Nicaragua,
Nola Reinhardt

Incomes on Some Agrarian Reform Asentamientos in Panama,
William C. Thiesenhusen

Mexico

Agrarian Reform in Mexico: Capitalism and the State,
Gerardo Otero

Conclusions: Searching for Agrarian Reform in Latin America,
William C. Thiesenhusen

b. Retrospective Analysis of Reform in Latin America

The S&T funded retrospective synthesis of land/agrarian reform research in Latin America, by Professors Marion Brown and Peter Dorner, will be expected to be in draft form by August of 1987, and to be submitted for publication early in 1988.

The project is proceeding along the lines of the following outline, which has undergone some modification during the current workplan period:

Outline

Agriarian Reform and Development in Latin America
a Retrospective Analysis

- I. Theoretical Justifications -- concepts, motivations, assumptions, ideological positions, political-economic realities underlying major reforms; bases for predicting and evaluating outcomes in the past and in the future.
- II. Expectations and Performance -- economic and social outcomes within the reform sector per se (collective vs. private holdings, etc); overall impacts (proportion of eligible beneficiaries affected, spread effects, inter sectoral linkages, etc.)
- III. Alternative and Complementary Measures -- Taxation of land, colonization, registration and titling, land markets, etc.
- IV. International Cooperation -- The role of external technical assistance in land reform;
- V. Conclusions -- Lessons for future reforms.

c. Field Studies

Two field efforts are planned. One is a study of the incentive structures and management system of the Isletas cooperative in Honduras in July-September. A second study is the planned Ph.D. thesis by Luis Suarez on contract farming in the Azua plain of the DR (funded by UW Ibero-American Studies), which builds on past LTC efforts.

D. Tenure Issues in Natural Resource Management

1. Four-Year Strategy

Two general issues provide the foci of this research:

a. Agrarian reforms, within a general context of agricultural modernization and population growth, have often produced programs for the settlement of people on previously little used lands. Such lands have typically been isolated, on the agricultural frontier, and/or in ecologically fragile environments (tropical rainforests or in the high altitude paramos of

the Andes). The question is, how can more intensive uses of the land be introduced in an economically viable way that is also ecologically sound? Preliminary plans for work on this issue have been proposed for the DR and Honduras.

b. Projects to transform marginal lands typically include soil conservation and reforestation activities, as well as irrigation along with other heavy investments, usually public, in infrastructure. Tenure-related problems usually arise in such projects. Claims to land prior to these investments as well as new interests which are attracted into such areas often produce conflicts over property rights. The production and marketing systems which result from such projects often founder on problems of organization of water users in the case of irrigation projects and maintenance of infrastructure, as well as on the problem of how to create a set of intermediary supply and marketing institutions which meet the needs of the producers. How can these problems be overcome? An inquiry into these issues will be done in Haiti, and a draft report prepared by March 1988.

USAID and other donors are also taking an ever-stronger interest in direct environmental interventions to preserve or reclaim marginal lands. Such interventions may also be confronted by the existence of a set of conflicting interests related to control and use of the land, and may have less success than expected if such interests are not recognized beforehand and taken into account.

2. Progress to Date

At the request of USAID/Haiti, LTC has become involved in the study of the relationship between environmental issues and land tenure. A team consisting of Peter Bloch, Norman Singer (University of Alabama School of Law) and Virginia Lambert visited Haiti for three weeks in September 1986, to

identify mission and Haitian concerns with and awareness of the importance of land tenure issues. They also conducted a comprehensive literature review and prepared agendas for research and policy dialogue. A draft report on their findings was sent to the Haiti mission in December 1986 for comments.

3. Activities in the 1987-88 Workplan Period

As a result of the 1986 study, LTC has been asked to conduct a pilot study of the relationship between landholding/land use patterns and willingness of farmers to adopt land resource conservation and upgrading practices. The pilot study will precede and feed into USAID's Targeted Watershed Management Project, and will develop methods and conduct initial tests of hypotheses in the project area, as a preliminary to a larger and more comprehensive survey which the mission may ask LTC to conduct later on. The six-month pilot study began in May 1987 and will continue into the new workplan period. It is being carried out under the supervision of Peter Bloch and a consultant anthropologist by two recent M.S. graduates in Land Resources, one of whom was a long-term research assistant at LTC and the other of whom participated in the literature review on Haitian land tenure.

The Haiti work is the major effort concerning fragile lands in the present workplan period. At the completion of the pilot study in October 1987, a report consisting of analysis of the case studies and proposed survey designs for the longer-term survey work will be written by Bloch and the researchers.

4. Concerns and Opportunities

The Haiti work could serve as a model for future efforts in the marginal/fragile lands theme. Many Caribbean islands (and some in the Indian Ocean as well) have problems of a nature similar to Haiti's: overpopulation, deforestation, and a large percentage of undivided family lands and unassigned

state lands. Mission and regional bureau interest in this type of work will be further explored in an attempt to expand resources available for this theme.

E. Agrarian Structure in Latin America

1. Four-Year Strategy

The objective of this research, done in collaboration with S&T and PPC, is to provide developing country policy makers and planners with a tool to better understand the relationship between agrarian structure and socioeconomic development. This, in turn, should allow decision makers to capitalize on positive and mitigate negative impacts attributable to changes in the agrarian structure when reforming policy or designing programs.

Since agricultural policies frequently respond to agrarian structure (credit tends to go to large farms, for example), agencies which administer credit and deliver other inputs can, if changes on structure are known, deliberately shape and adjust activities to whatever client groups the government desires. Conversely, agricultural policies such as incentives for production of certain commodities may lead to changes in the agrarian structure, and decision makers should be cognizant of the potential impact in setting policy.

The policy setting mechanisms, however, must operate within an agrarian structure in Latin America which provides the prism through which agricultural policy is refracted. Access to credit, inputs, and extension help, inter alia, has traditionally been easier for those who hold the bulk of the land. Those who hold the land are the elites in society, for land tenure structures in Latin America tend to reflect society's stratification.

This structure has been termed "bimodal" for most Latin American countries by Bruce Johnston, adapting T.W. Schultz's term to Latin America.

Bimodal policies are those that favor or accentuate the role of the large landholder in producing an agricultural surplus. This implies that the majority of Latin American farmers are excluded or shut off from these services and inputs, something that would be impossible to accomplish in a unimodal system, such as that in Japan.

The pattern of bimodality has been documented by Solon L. Barraclough and Arthur L. Domike ["Agrarian Structure in Seven Latin American Countries," Land Economics 42:4 (1966)], Peter Dorner [Land Reform and Economic Development (Baltimore: Penguin Books, 1972); Land Reform in Latin America: Issues and Cases, ed. Dorner (Madison: Published by Land Economics for the Land Tenure Center at the University of Wisconsin-Madison, 1971)], and Alain de Janvry [The Agrarian Question and Reformism in Latin America (Baltimore: Johns Hopkins University Press, 1981)]. That pattern is now changing in Latin America, and the purpose of this S&T and PPC project is to document how this change is occurring and how substantial it is. Some recent information has been gathered on this matter by the United Nations, Economic Commission on Latin America [CEPAL Review, no. 16, April 1982], and by Emiliano Ortega R. ["Campesinado y producción agrícola: la agricultura campesina en América Latina," Paper prepared for FAO/CEPAL Workshop, "Políticas y programas para aumentar la producción de la agricultura campesina en América Latina," held in Santiago, Chile; 1985]. The agricultural censuses, taken in most countries of Latin America in about 1980 or 1981, contain information which has not been adequately utilized on this matter. The current project will use the censuses for several countries in an attempt to determine what the situation was at the time of the 1980 census, establish a methodology that can be used in analyzing the 1990 census, and extrapolate trends to 2000.

The project will attempt to generate unique hypotheses on agrarian structure in Latin America but also to establish whether there is substance to a number of existing ones, such as:

- a. Large farms are becoming smaller and more capitalized.
- b. Large farms are growing more higher-value crops than they were in 1970.
- c. Smallest farms are remaining more or less constant in size despite increasing population pressure.
- d. Large, unproductive estates are rarer now than they were in 1970.

The strategy under this theme is to use secondary data to put together as comprehensive a picture as possible of the structure of Latin American agriculture, and vigorously analyze the data to examine the effect of alternative policy options on agrarian structure. Modest funds to supplement the CA have been secured from PPC and from the Graduate School of the University of Wisconsin-Madison.

While many LTC staff members are expected to be involved in this project, major responsibility will rest with Professors Michael Carter and William Thiesenhusen. It will involve obtaining both quantitative and qualitative materials from several Latin American countries, evaluating them, finding out what the tenure trends have been in the decade of the 1970s (for most countries, 1960, 1970, and 1980 data will be available), and projecting these trends to 2000, and then analyzing effects of policy options.

There are two main analytical components to the project. The first is the construction of an agrarian structure simulation model which can be used to explore the economic forces and policy variables which shape the structure and performance of agriculture. The second component is an empirical exploration of agrarian structure over the period 1960-80 using census data.

The simulation model will be constructed so that trends in factor allocation in agriculture can be analyzed and the consequences of selected policy choices can be illustrated for policy decisionmakers. Several Latin American countries will be used, depending on data availability, to create a computer simulation model which can be used in policy dialogue with host-country decisionmakers and by planners to assess, ex ante, the effects of different interventions.

A two-stage simulation model will be constructed. The basic premise of the model is that there is a relationship between agrarian structure, or the distribution of agricultural assets, and output, employment, and income distribution. The key structural features to be modeled as the endogenous outcome of economic choice and interaction include, but are not limited to:

- a. operational farm size;
- b. relations of production (e.g., self-cultivation, tenancies, wage labor, etc.);
- c. type and intensity of production within the distinct farm strata;
- d. output, employment, and income distribution variables.

The empirical analysis of the census data will begin by modeling the change in structure as a Markov process. Transition probabilities will be estimated to capture the recent trends in structural evolution. Such probabilities (which state the likelihood that a farm unit in one size class will be subsumed into other size classes) can be used to estimate the long-term structural equilibrium under the assumption that the basic economic processes which generated past structural change are not altered. A more sophisticated econometric analysis which relates the transition probabilities to policy and other observable factors will also be pursued.

Since research shows that resource flows, agricultural production, income distribution, and employment are affected by policies affecting the land tenure structure, this work should have an effect on policies designed to bring about growth and those aimed at equity. This should be especially true where resource managers are consciously attempting to raise the incomes of small-scale producers.

2. Progress to Date

The basis of this analysis can be found in a paper written for the FAO by William C. Thiesenhusen ["Progress towards Growth with Equity in Latin American Agriculture" (Rome: FAO, May 1983)]. Another base component to this work was prepared by Michael Carter ("Equilibrium Credit Rationing in LDC Credit Markets," Journal of Development Economics, forthcoming 1987).

Supporting documentation has been done by Carter ("A Model of the Evolution of Agrarian Structure in Latin America," Paper prepared for Seminar on Models of the Agrarian Structure in Latin America, arranged for the Department of Economics and Kellogg Institute fellows, at Notre Dame University, Notre Dame, Ind., March 1987) and is in preparation by Chris Walker ("A Markov Model of Structural Change: The Case of Brazil," M.S. thesis, Agricultural Economics, University of Wisconsin-Madison, forthcoming, December 1987).

The investigators will assemble data from the agricultural censuses of 1960, 1970, and 1980 from several Latin American countries, to be selected in consultation with the AID project manager and other AID staff as appropriate. (It is understood that the country selection will be conditioned by data availability.) Secondary materials on agrarian structure and on the chosen Latin American countries will be reviewed, as required.

a. The first stage of the model will begin with a given landownership distribution and solve for a static general equilibrium agrarian structure.

b. The second stage of the model will be a simulation, based on the static equilibrium model. The new model will be constructed so that market-mediated accumulation and land transfers can be specified to occur, based on the outcome of the static equilibrium, and thereby "updating" the initial conditions and endowments and allowing the static equilibrium to be solved again.

c. An analysis of the empirical data on the agrarian structure of each of the selected Latin American countries will be prepared and projections will be made with the simulation model to the year 2000. A comparison among the outcomes of the modeling exercises for all countries will be made and an analysis of the differences undertaken.

d. Policy implications will be drawn from the modeling exercise and other recent work by the Land Tenure Center on Latin America.

Estimated Schedule

July 1987	first simulation model completed
October 1987	literature reviewed
March 1988	descriptive static model completed
August 1988	final simulation model completed

3. Activities in the 1987-88 Workplan Period

The censuses will be collected and reviewed and the on-going literature review completed. The descriptive static model will be completed and analysis of the empirical data using this model will begin. Work on the final simulation model will be well advanced by the end of the workplan period.

4. Concerns and Opportunities

Obtaining census materials in some countries may be difficult in that some of the required data may not yet have been tabulated. It will be necessary to obtain the census data from three or four countries. LTC already

has good relations in many of the countries in which we plan to work. The same is true with respect to international agencies with which we will collaborate. A great deal of work that relates to these ideas is being done by individual researchers and by the FAO and other UN agencies (such as ECLA). Effective networking will greatly enhance the work. Travel to several countries will, however, be necessary to gather primary data.

F. The LAC/DR/RD Project: Tenure Security and Land Markets Research

1. Four-Year Strategy

This is a four-year project, supported by funds from the LAC Bureau.

The project is designed to carry out cross-country and longitudinal research on land tenure issues in the LAC region to increase our understanding of land transfers and tenure security for better policy and project design. The project concentrates on three of the five common themes: tenure security; land transfers; and second-generation issues.

Work under this project will often be carried out with resources from S&T, LAC/DR/RD, and country missions. Expectations and commitments of the various parties will be detailed in Memoranda of Understanding (MDUs). These will be developed as needed, apart from the project paper and from this workplan, and in conjunction with preparation and negotiation of budgets for specific activities.

The long-term research activities will generate the following outputs after four years:

a. A state-of-the-arts paper which synthesizes the research work on land transfers and effects of tenure;

b. A policy and program guideline paper for ADOs which addresses the effects of these land tenure issues on the design and implementation of projects;

c. Two sets of long-term research papers documenting the aspects of different titling delivery systems; and

d. Other reports and research papers, as appropriate.

2. Progress to Date

Project activities completed in the past workplan period:

a. Titling and Tenure Security Issues

- Rebecca Boldt initiated her dissertation research comparing titled and non-titled small farmers from six communities in highland Ecuador. Her research will allow comparisons to the previous work in Honduras and Thailand. She completed a survey of 150 small farmers in April 1987.

- Design of long-term research project on tenure security in St. Lucia and Ecuador. The St. Lucia research is in collaboration with the University of West Indies (Cave Hill and St. Augustine). The Ecuador project will be carried out by the University of Pittsburgh Center for Latin American Studies under the supervision of Mitchell Seligson and Jose Zevaillos.

- Grenville Barnes began a comparative study of cadastres, land registries, and titling systems in Latin America and the Caribbean. He completed a study of the Honduran land registration system in February. The study analyzes the registries based on six criteria: efficiency, simplicity, maintainability, cost, utility, and quality.

b. Land Markets

- A concept paper on land markets and the role of land financing programs in rural development efforts in Latin America and the Caribbean by Randy Stringer.

- Design of long-term research projects for land market studies in Ecuador, Guatemala, and St. Lucia. The Ecuador land market research will be a collaborative effort between the LTC, the Catholic University in Quito, and

three research centers also located in Quito: CIESE, IEESC, and CAP. The research design is intended to provide a profile of land market operations in several regions of Ecuador. In general, the St. Lucia study, which began in June, will examine the influence of the new land registry on land transfers by looking at several types of property systems in distinct agricultural zones including a watershed, an area undergoing urban expansion, and an area dominated by a large plantation.

- Carlos Dore completed a research paper analyzing land market operations in Dominican Republic, "The Land Market in the Dominican Republic, 1920-1936," as introduction to the study of the land market's operations in earlier decades.

- The LAC project provided assistance for the design of the expanded land purchase project in Guatemala including the economic analysis, financial analysis, and the research design for the evaluation and monitoring of that project.

c. Post-Reform Adjustments

- Tom Schweigert completed a draft guidelines paper on how land tenure issues affect policy and project design.

- An LTC Research Paper, "Reform Among the Smallholders: St. Lucia, Jamaica, and Implications for the Caribbean," by Randy Stringer, John Bruce, and David Stanfield.

- A chapter, "Honduras: Toward Conflict and Agrarian Reform," in the forthcoming book edited by W.C. Thiesenhusen and published by Allen & Unwin.

Finally, one important aim of the regional research project is to establish institutional links with research centers in the Latin American and Caribbean region. Over the past year, research projects have been established with the collaboration of the Catholic University, CIESE, CEPLAES, and IEESC

in Ecuador; with the University of San Carlos and FLACSO in Guatemala; and with the University of West Indies and the National Research and Development Foundation in St. Lucia. In addition, the titling research in Ecuador will be carried out in conjunction with the Center for Latin American Studies at the University of Pittsburgh.

3. Activities in the 1987-88 Workplan Period

The major activities anticipated for this workplan period are the case studies and the initial survey research of land titling and land markets in St. Lucia and Ecuador. The St. Lucia work will produce a report which will provide an overview of the land market structure as well as a summary of how the land registry is affecting market operations. The report will evaluate the market operations on family, crown, and private lands in distinct regions of the country. An additional report will analyze the new land registration system by using the same criteria employed in the Honduran land registry analysis. Finally, the effects of the land registration on production, access to credit, investments, crop selection and other land-related factors will be summarized based on the preliminary analysis of the baseline survey work.

The work in Ecuador will produce similar reports: the case studies of land market structures in four to six communities from two departments and an initial draft of Rebecca Boldt's dissertation, a cross-sectional analysis of titled and non-titled smallholders in the highlands. Her work will contrast the Ecuador situation to that of Feder's work in Thailand. Mark Thurner will be analyzing land market operations in Chimborazo and produce a study of peasant strategies for obtaining land. His work will review the breakup of the haciendas and the enclosures of the common property and assess the different ways campesino families acquire land through both legal and informal channels. The LAC project will continue to collaborate with the Center for

Latin American Studies at the University of Pittsburgh to ensure good comparative analysis among the various long-term titling research efforts.

The Guatemala land tenure research project will be designed during the workplan period with several efforts anticipated. Tom Schweigert will begin the preliminary background work for the baseline survey of the Penny Foundation beneficiaries in Guatemala. He will work with Guillermo Perdroni from the University of San Carlos Department of Anthropology to establish the criteria for the baseline survey and prepare a methodology for analyzing land rental markets in the South Coast. Another paper will analyze the changes in agrarian policies and structure in Guatemala since the initial reform efforts of the early 1950s. This work will provide W.C. Thiesenhusen with information for the agrarian structure project, as well as a general literature review for the long term research effort.

IV. DISSEMINATION OF RESEARCH RESULTS

As part of the overall effort to improve the management of LTC programs in response to reduced funding, a review of all components of the LTC's ongoing dissemination program was undertaken during the past year. The process involved examining sources and levels of publications funding and components of the current publications program so as to generate a workable plan for future publication/dissemination efforts. Preliminary results of this review were presented to the AID Evaluation Team and the LTC Advisory Board in December.

Publication Program Components: There are three main components of the regular current program:

1. Field project reports (in blue covers), documents produced to meet an immediate project requirement;

2. Research Papers (in green covers), documents based on actual field research;
3. LTC Papers (in yellow covers), documents based on secondary research of significant interest; John Bruce's paper on African tenures is a current example.

In addition, specific projects occasionally produce a series of reports of sufficient size to justify separate publications as a series; the papers generated by the Botswana Project are an example. Only Research and LTC Papers are listed on the Available Publication Lists; field project reports are distributed to a small list of individuals involved with or interested in a particular project, and the Botswana Papers are being advertised separately and sold only as a set to Libraries.

During the past year, LTC staff has focused on catching up on a significant backlog of papers needing editing and duplication. Late in the year Available Publications List No. 32 was produced, announcing the following new publications:

Research Paper No. 82 - Randy Stringer, "Innovations in Group Farming: The Case of Sergio Abigail Cabrera in the Dominican Republic."

Research Paper No. 84 - David Stanfield et al., "Adapting Farming Systems to Marginal Lands in the Dominican Agrarian Reform: The Case of Puesto Grande."

Research Paper No. 85 - Chris Brown, "The Local Institutions Research Project: Summary of Resource-Management Issues."

Research Paper No. 86 - Emil Haney and Wava Haney, "The Transformation of the Agrarian Structure in Ecuador with Specific Reference to the Province of Chimborazo."

Research Paper No. 87 - Randy Stringer, Patricia Ballard, and Wayne Kussow, "Institutional and Land Constraints to Irrigated Agriculture in the Azua Plains of the Dominican Republic."

Research Paper No. 88 - F.S. Zufferey, "A Study of Local Institutions and Resource Management Inquiry in Eastern Central District [Botswana]."

Research Paper No. 89 - F.S. Zufferey, "A Study of Local Institutions in Mopipi Communal First Development Area, Central District [Botswana]."

Research Paper No. 90 - Peter C. Bloch et al., "Land Tenure Issues in River Basin Development in Sub-Saharan Africa."

Research Paper No. 91 - Louise Fortmann, "The Role of Local Institutions in Communal Area Development in Botswana."

Research Paper No. 92 - James C. Riddell, Jeswald W. Salacuse, and David Tabachnick, "The National Land Law of Zaire and Indigenous Land Tenure in Central Bandundu, Zaire."

LTC Paper No. 127 - James C. Riddell and Carol Dickerman, "Country Profiles of Land Tenure: Africa 1986."

LTC Paper No. 128 - John W. Bruce, "Land Tenure Issues in Project Design and Strategies for Agricultural Development in Sub-Saharan Africa."

LTC Paper No. 129 - Joy K. Green, "Evaluating the Impact of Consolidation of Holdings, Individualization of Tenure, and Registration of Title: Lessons from Kenya."

Output at this level was possible only by use of some accumulated publications revenue funds and some project funds to cover a half-time editor for a few months.

For the next reporting year, we expect an output of 6-8 Research and LTC Papers, and one Available Publications List, to be funded equally by the CA and by non-CA funds. As proposed to the Evaluation Team, we are identifying below those papers which are candidates for CA funding:

- Stringer: concept paper on land markets in LAC
- Bruce and Dickerman: literature review, security of title and land registration in Africa
- Hardy: security of tenure and land titles in Senegal
- Schweigert: land tenure issues in project design in Latin America and the Caribbean
- Lawry: grazing associations and group ranching: experience from Africa.

Publications Dissemination: During the first year of the current CA an effort was made to streamline our dissemination efforts by drastically

reducing the size of the Available Publications List, limiting it to items issued within the previous five years. During the current year, that effort was continued by a complete reworking of our mailing list. The previous list had accumulated over time in both a planned and an unplanned fashion. It was thoroughly reviewed by staff members representing both the African and the Latin American sides of the LTC program, and a new, much shorter list has been produced which focuses on institutions the Center wants to reach with its publications and on a relatively few key individuals. The new list was used for the first time to mail the most recent APL so it is too soon to evaluate its effectiveness, but it has already generated significant cost savings.

Sources and Levels of Funding: There are basically four sources of funds to cover the cost of publication production, exclusive of editing. They are:

- the Cooperative Agreement
- dissemination funds in project budgets
- cost-sharing by UW (funds returned from indirect cost recovery)
- cost-sharing by LTC from revenues generated from publications produced before the current CA.

In the next reporting year LTC will try to generate additional support funds for publication and dissemination, and will devote a portion of significant LAC and AFR Bureau add-ons to the CA to this same purpose.

With the recently issued APL, the basis for charging for publications among readers in developed countries changed from a flat charge for each publication to one based on actual cost of production and airmail postage. Papers below 50 pages in length now cost \$4.00, with an additional \$3.50 if airmail is desired; papers between 50 and 100 pages in length are \$7.00, with \$4.50 for airmail; those between 100 and 150 pages in length are \$10.00, with \$5.50 for airmail; and those between 150 and 200 pages in length are \$12.00,

with \$6.75 for airmail. Revenues generated by papers produced with CA funding under this new system will be returned directly to the CA; revenues generated from other sources will flow into a separate revolving publications account. Given the recent introduction of the system, it is too soon to judge its effectiveness, but we will monitor revenues closely during the next reporting year in an attempt to assess that.

The lack of funds for a technical editor has long been seen to be a real need of the LTC program. Our Advisory Board pointed this out in their first report in 1986, and both they and the AID Evaluation Team reiterated the need in their 1987 reports. A newly negotiated add-on from the Africa Bureau, which will come on line sometime early during the next reporting year, provides \$7,000 in salary next year for such a position, and that sum is being matched with funds from the existing add-on from the LAC Bureau. As a result, soon after July 1, 1987, the Center will be in a position to employ a technical editor on a part-time basis. The role of the editor will include development of a strategy for publication outside LTC, which will involve reviewing journals and other publications which seem likely vehicles for LTC's research output, and identifying likely publishing opportunities for particular reports. Over a number of years, this net addition to support staff can be expected to increase the Center's output of polished, professional work in refereed journal and book formats, and to relieve the significant staff overload generated by this year's publications "catch-up" effort.

V. LTC ADVISORY BOARD

The second meeting of the Advisory Board took place on December 15-16, 1986. The Board members attending were:

Albert Berry, Social Sciences, University of Toronto

Lane Holdcroft, formerly of African Bureau, USAID

Bruce Johnston, Food Research Institute, Stanford

Bryant Kearn, Dean, UW-Madison Outreach

John Montgomery, JFK School of Government, Harvard

The Board had received before its meeting a report by the Center's Director on progress during the past year on matters touched upon in the Board's last report. In addition, David Atwood, the ST/RD project manager, attended the meeting and briefed the Board on AID's recent mid-term evaluation of the CA.

The Board discussed LTC's various roles and objectives. It commended LTC on its field research, and noted instances of influence on national policies. It considered that renewed emphasis should be placed upon pushing projects through the write-up and publication stages, and on the interpretation and synthesis of non-LTC research on land issues. The Board urged efforts to obtain funding for (1) technical editing assistance, (2) an expanded role in synthesis, (3) the Library, and (4) a program of visitors which would periodically attract to the Center "mid-career people with a broad feel for political economy." LTC and the University were urged to look to sources other than AID for resources, both inside and outside the University. Diversification of funding and increased funding on "hard" money were urged.

The Board also reviewed the research themes, and indicated that they were favorably impressed by LTC's current directions. They noted environmental degradation and natural resource management as deserving development as a separate research area. It was further suggested that LTC seek opportunities for selective involvement in Asia, and with respect to the neglected area of Islamic law. As regards disciplinary perspectives, the Board urged the value

of political economy approaches, demographic perspectives, policy histories, and the new institutional economics.

The Board commended the conclusions of the recent mid-term evaluation of the Cooperative Agreement by AID.

On the administrative side, the Board recommended that one meeting of the Board per year be normal practice, scheduling its next meeting for the spring of 1988, unless a meeting was needed before that time. Albert Berry was appointed Chair for the next meeting of the Board. Board member Irma Adelman will be leaving the Board this year, and a replacement will be appointed. The Board recommended that, in addition, a further member from the University of Wisconsin be appointed to the Board, preferably someone who has not had much contact in the past with the LTC.

There has been a number of developments over the past year in management and funding which respond to suggestions by the Advisory Board at this and last year's meetings. The Board had recommended that LTC seek opportunities to increase support for LTC programs from state funds, and there have been two recent positive moves in this area. First, the College of Agriculture is assuming, as of July 1, 1987, the full salary and benefits package for the secretary/student advisor at LTC who works with LTC's Ph.D. in Development program. Second, Professor William Thiesenhusen was able to obtain a research assistant with Graduate College funding to work with him on the Agrarian Structure theme.

In a third development, LTC has diversified its funding sources by concluding its first agreement for use of aid-generated local currency with a host country national government and the USAID. This has been arranged in connection with LTC's security of tenure/land registration research in Somalia. LTC will be able to draw down up to fifteen million Somali shillings

for local research costs from one account in the USAID-administered trust fund and another with the Somali Ministry of Planning. While LTC is grateful for the funding, the experience so far has indicated some of the drawbacks of this funding mechanism: the substantial delay awaiting Somali approval of the funding, high start-up costs due to uncertainties over the funding mechanisms, and greatly increased local administrative costs. The UW contract management office had serious reservations concerning accountability for the funds, and its inability to audit and perform its normal functions, but ultimately approved the contract. The Somalia experience will be treated as a test of the workability of this mechanism.

Proposed FY 88 Budget	I. CORE			II. RIVER BASINS			III. TRAD		TENURE
	S&T Funds	LAC Off-Cmps	AFR Off-Cmps	S&T Funds	Afr. Bur.	Senegal	S&T Funds	Swaziland	
I. SALARIES									
African (3)								\$5,686.00	
Latin American (6)	\$15,210.00								
Latin American (1)									
African (1)	\$5,687.00								
Latin American (6)									
Other Faculty	\$5,213.00					\$3,565.00		\$2,606.50	
Sub-Total	\$26,110.00					\$3,565.00		\$8,292.50	
African (7.5)						\$17,352.00			
African (12)	\$25,545.00								
Latin American (12)		\$23,400.00							
African (12)									
Latin American (12)	\$20,610.00								
Latin American (12)									
W. Afr. Advisor (12)			\$35,000.00						
Other Professionals						\$11,460.00		\$12,423.00	
Technical Editor									
African (3.5)									
Administrative (6)	\$6,398.00			\$1,599.50			\$1,599.50		
Librarian (12)	\$14,862.00			\$2,477.00			\$2,477.00		
Sub-Total	\$67,415.00	\$23,400.00	\$35,000.00	\$4,076.50		\$28,812.00	\$4,076.50	\$12,423.00	
Support (12)	\$9,058.00								
Support (12)	\$9,610.00					\$1,922.00	\$1,922.00		
Support (12)	\$5,796.00			\$1,449.00			\$1,449.00		
Support (12)	\$6,925.00			\$1,385.00			\$1,385.00		
Sub-Total	\$31,389.00			\$2,834.00		\$1,922.00	\$4,756.00		
Research Assts.	\$22,920.00					\$12,900.00			
Students and Hourly	\$15,000.00								
Sub-Total	\$37,920.00					\$12,900.00			
Consultants			\$1,375.00			\$2,925.00			
Sub-Total	\$162,834.00	\$23,400.00	\$36,375.00	\$6,910.50		\$50,124.00	\$8,832.50	\$20,715.50	
II. BENEFITS									
Faculty (22%)	\$5,744.20							\$1,824.35	
Academic Staff (22%)	\$14,831.30	\$5,148.00	\$7,700.00	\$896.83		\$6,338.64	\$896.83	\$2,733.06	
Classified Staff (28.8%)	\$9,040.03					\$553.54	\$1,369.73		
Research Assts. (6%)	\$1,375.20					\$774.00			
Sub-Total	\$30,990.73	\$5,148.00	\$7,700.00	\$896.83		\$7,666.18	\$2,266.56	\$4,557.41	
SUB-TOTAL	\$193,824.73	\$28,548.00	\$44,075.00	\$7,807.33	\$0.00	\$57,790.18	\$11,099.06	\$25,272.91	
III. TRAVEL									
International Travel	\$2,000.00	\$4,000.00	\$8,000.00		\$1,750.00	\$11,000.00		\$9,000.00	
Per Diem	\$1,000.00	\$3,500.00	\$7,500.00		\$1,000.00	\$7,500.00		\$1,064.00	
Domestic Travel	\$2,000.00	\$2,000.00	\$2,000.00						
Per Diem	\$1,000.00	\$1,000.00	\$1,200.00						
Sub-Total	\$6,000.00	\$10,500.00	\$18,700.00		\$2,750.00	\$18,500.00		\$10,064.00	
IV. OTHER DIRECT COSTS									
Supplies	\$2,000.00		\$500.00	\$250.00		\$1,000.00	\$250.00	\$500.00	
Communication	\$2,000.00	\$500.00	\$500.00	\$670.00		\$1,500.00	\$670.00	\$1,000.00	
Dissemination	\$1,000.00		\$1,000.00	\$200.00		\$2,750.00	\$200.00	\$500.00	
Computer			\$500.00					\$1,000.00	
DBAI & SOS	\$1,950.00		\$400.00			\$1,500.00		\$2,000.00	
Miscellaneous			\$1,100.00						
Field Research Costs						\$20,000.00		\$5,000.00	
Sub-Total	\$6,950.00	\$500.00	\$4,000.00	\$1,120.00		\$26,750.00	\$1,120.00	\$10,000.00	
Sub-Total	\$206,774.73	\$39,548.00	\$66,775.00	\$8,927.33	\$2,750.00	\$103,040.18	\$12,219.06	\$45,336.91	
Indirect Cost Recovery	\$88,913.13	\$10,282.48	\$17,361.50	\$3,838.75	\$715.00	\$26,790.45	\$5,254.19	\$11,787.60	
Tuition Remission	\$5,042.40					\$2,838.00			
TOTAL	\$300,730.27	\$49,830.48	\$84,136.50	\$12,766.08	\$3,465.00	\$132,668.62	\$17,473.25	\$57,124.51	

Proposed FY 88 Budget	S&T Funds	Book Proj.	LAC Funds	* S&T Funds	PPC Funds	LAC Funds	*
I. SALARIES	*			*			*
African (3)	*			*			*
Latin American (6)	*	\$15,210.00		*			*
Latin American (1)	*		\$4,554.00	*			*
African (1)	*			*			*
Latin American (6)	*	\$4,609.00		*	\$23,045.00		*
Other Faculty	*			*			*
Sub-Total	*	\$4,609.00	\$15,210.00	\$4,554.00	\$23,045.00		*
African (7.5)	*			*			*
African (12)	*			*			*
Latin American (12)	*			*			*
African (12)	*			*			*
Latin American (12)	*	\$8,244.00		\$4,122.00	\$4,122.00		*
Latin American (12)	*			\$3,491.00		\$3,491.00	*
W. Afr. Advisor (12)	*			*			*
Other Professionals	*			*			*
Technical Editor	*			*			*
African (3.5)	*			*			*
Administrative (6)	*	\$1,599.50		*	\$1,599.50		*
Librarian (12)	*	\$2,477.00		*	\$2,477.00		*
Sub-Total	*	\$12,320.50		\$7,613.00	\$8,198.50	\$3,491.00	*
Support (12)	*		\$9,058.00	*			*
Support (12)	*	\$1,922.00		*	\$1,922.00		*
Support (12)	*	\$1,449.00		*	\$1,449.00		*
Support (12)	*	\$1,385.00		*	\$1,385.00		*
Sub-Total	*	\$4,756.00	\$9,058.00	*	\$4,756.00		*
Research Assts.	*		\$30,600.00	*		\$7,632.00	\$2,865.00
Students and Hourly	*			*			
Sub-Total	*		\$30,600.00	*		\$7,632.00	\$2,865.00
Consultants	*			\$1,250.00	*		\$2,500.00
Sub-Total	*	\$21,685.50	\$54,868.00	\$13,417.00	\$35,999.50	\$7,632.00	\$8,856.00
II. BENEFITS	*			*			*
Faculty (22%)	*	\$1,013.98	\$3,346.20	\$1,001.88	\$5,069.90		*
Academic Staff (22%)	*	\$2,710.51	\$0.00	\$1,674.86	\$1,803.67	\$768.02	*
Classified Staff (28.8%)	*	\$1,369.73	\$2,608.70	*	\$1,369.73		*
Research Assts. (6%)	*		\$1,836.00	*		\$457.92	\$171.90
Sub-Total	*	\$5,094.22	\$7,790.90	\$2,676.74	\$8,243.30	\$457.92	\$939.92
SUB-TOTAL	*	\$26,779.72	\$62,658.90	\$16,093.74	\$44,242.80	\$8,089.92	\$9,795.92
III. TRAVEL	*			*			*
International Travel	*			\$1,800.00	*		\$1,800.00
Per Diem	*			\$3,750.00	*		\$3,750.00
Domestic Travel	*		\$2,000.00	*			*
Per Diem	*		\$1,000.00	*			*
Sub-Total	*		\$3,000.00	\$5,550.00	*		\$5,550.00
IV. OTHER DIRECT COSTS	*			*			*
Supplies	*	\$250.00	\$1,000.00	*	\$250.00		*
Communication	*	\$670.00	\$1,500.00	*	\$670.00	\$1,500.00	*
Dissemination	*	\$200.00		*	\$200.00		*
Computer	*			*		\$3,850.00	*
DBAI & SOS	*			*			*
Miscellaneous	*			*		\$2,250.00	\$1,000.00
Field Research Costs	*			*			\$500.00
Sub-Total	*	\$1,120.00	\$2,500.00	*	\$1,120.00	\$7,600.00	\$1,500.00
Sub-Total	*	\$27,899.72	\$68,158.90	\$21,643.74	\$45,362.80	\$15,689.92	\$16,845.92
Indirect Cost Recovery	*	\$11,996.88	\$29,308.33	\$5,627.37	\$19,506.00	\$6,746.67	\$4,379.94
Tuition Remission	*		\$6,732.00	*		\$1,679.04	\$630.30
TOTAL	*	\$39,896.60	\$104,199.23	\$27,271.11	\$64,868.80	\$24,115.63	\$21,856.16

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Proposed FY 88 Budget	VI. REGISTRATION						VII. URBAN	VIII. LAND	HKTS	
	S&T Funds	Afr. Bur.	Somalia	Post-Occ	LAC Funds	St. Lucia	S&T Funds	S&T Funds	LAC Funds	
I. SALARIES	*						*			
African (3)	*	\$2,843.00	\$5,686.00	\$2,843.00			*			
Latin American (6)	*						*			
Latin American (1)	*						*			
African (1)	*						*			
Latin American (6)	*						*			
Other Faculty	*					\$9,047.00	*		\$4,800.00	
Sub-Total	*	\$2,843.00	\$5,686.00	\$2,843.00		\$9,047.00	*		\$4,800.00	
African (7.5)	*						*			
African (12)	*	\$25,950.00				\$5,190.00	*			
Latin American (12)	*						*			
African (12)	*			\$36,400.00			*			
Latin American (12)	*	\$8,244.00				\$4,122.00	*			
Latin American (12)	*				\$10,473.00	\$3,491.00	*		\$17,455.00	
W. Afr. Advisor (12)	*						*			
Other Professionals	*		\$14,000.00			\$1,104.00	*		\$9,000.00	
Technical Editor	*				\$3,500.00		*		\$3,500.00	
African (3.5)	*	\$3,666.00				\$2,444.00	*			
Administrative (6)	*	\$1,599.50				\$3,199.00	*	\$1,599.50		
Librarian (12)	*	\$2,477.00					*	\$2,477.00		
Sub-Total	*	\$38,270.50	\$3,666.00	\$14,000.00	\$36,400.00	\$13,973.00	\$19,550.00	\$4,076.50	\$29,955.00	
Support (12)	*						*			
Support (12)	*	\$1,922.00					*	\$1,922.00		
Support (12)	*	\$1,449.00					*	\$1,449.00		
Support (12)	*	\$1,385.00					*	\$2,477.00		
Sub-Total	*	\$4,756.00					*	\$5,848.00		
Research Assts.	*		\$8,350.00			\$3,820.00	\$22,920.00	*	\$2,865.00	
Students and Hourly	*							*		
Sub-Total	*		\$8,350.00			\$3,820.00	\$22,920.00	*	\$2,865.00	
Consultants	*		\$1,315.00		\$3,750.00			*	\$3,750.00	
Sub-Total	*	\$43,026.50	\$14,859.00	\$21,001.00	\$39,243.00	\$21,543.00	\$51,517.00	\$9,924.50	\$41,370.00	
II. BENEFITS	*						*			
Faculty (22%)	*		\$1,250.92			\$1,990.34	*		\$1,056.00	
Academic Staff (22%)	*	\$8,419.51	\$806.52	\$3,080.00	\$8,008.00	\$3,074.06	\$4,301.00	\$896.83	\$6,590.10	
Classified Staff (28.8%)	*	\$1,369.73					*	\$1,684.22		
Research Assts. (6%)	*		\$501.00			\$229.20	\$1,375.20	*	\$171.90	
Sub-Total	*	\$9,789.24	\$1,307.52	\$4,330.92	\$8,008.00	\$3,303.26	\$7,666.54	\$2,581.05	\$7,818.00	
SUB-TOTAL	*	\$52,815.74	\$16,166.52	\$25,331.92	\$47,251.00	\$24,846.26	\$59,183.54	\$7.00	\$12,505.55	
III. TRAVEL	*						*			
International Travel	*	\$1,540.00	\$5,000.00	\$7,500.00	\$3,600.00	\$17,550.00	*		\$3,600.00	
Per Diem	*	\$915.00	\$1,500.00	\$8,525.00	\$7,500.00	\$22,500.00	*		\$7,500.00	
Domestic Travel	*			\$500.00	\$400.00		*		\$800.00	
Per Diem	*			\$375.00			*			
Sub-Total	*	\$2,455.00	\$6,500.00	\$16,900.00	\$11,500.00	\$40,050.00	*		\$11,900.00	
IV. OTHER DIRECT COSTS	*						*			
Supplies	*	\$250.00				\$2,000.00	*	\$250.00		
Communication	*	\$670.00	\$2,000.00	\$1,000.00	\$2,000.00	\$3,400.00	*	\$670.00	\$2,200.00	
Dissemination	*	\$200.00	\$2,000.00	\$500.00		\$4,110.00	*	\$200.00		
Computer	*			\$2,000.00		\$3,300.00	*			
DBAI & SOS	*					\$650.00	*			
Miscellaneous	*		\$1,000.00		\$1,000.00	\$3,840.00	*		\$1,000.00	
Field Research Costs	*	\$23,000.00	\$20,000.00		\$4,900.00	\$42,175.00	*		\$5,300.00	
Sub-Total	*	\$1,120.00	\$23,000.00	\$25,000.00	\$3,500.00	\$7,900.00	\$59,475.00	\$1,120.00	\$8,500.00	
Sub-Total	*	\$53,935.74	\$41,621.52	\$56,831.92	\$67,651.00	\$44,246.26	\$158,708.54	\$13,625.55	\$69,588.00	
Indirect Cost Recovery	*	\$23,192.37	\$10,821.60	\$14,776.30	\$17,589.26	\$11,504.03	\$41,264.22	\$5,858.99	\$18,092.80	
Tuition Remission	*		\$1,837.00			\$840.40	\$5,042.40	*	\$630.30	
TOTAL	*	\$77,128.11	\$54,280.12	\$71,608.22	\$85,240.26	\$56,590.69	\$205,015.16	\$19,484.54	\$88,311.18	

Proposed FY 88 Budget	IX.NATL	RESOURCE	MGMT	X		TOTALS		
	LAC Funas	Haiti	AFR Bur	S&T	LAC	AFR	Other	
I. SALARIES	*							*
African (3)	*			\$0.00	\$0.00	\$5,686.00	\$11,372.00	*
Latin American (6)	*			\$15,210.00	\$0.00	\$0.00	\$15,210.00	*
Latin American (1)	*			\$0.00	\$4,554.00	\$0.00	\$0.00	*
African (1)	*			\$5,687.00	\$0.00	\$0.00	\$0.00	*
Latin American (6)	*			\$27,654.00	\$0.00	\$0.00	\$0.00	*
Other Faculty	*	\$2,600.00		\$5,213.00	\$4,800.00	\$0.00	\$17,318.50	*
Sub-Total	*	\$2,600.00		\$53,764.00	\$9,354.00	\$5,686.00	\$44,400.50	*
African (7.5)	*	\$4,338.00		\$0.00	\$0.00	\$0.00	\$21,690.00	*
African (12)	*		\$5,190.00	\$51,495.00	\$0.00	\$5,190.00	\$5,190.00	*
Latin American (12)	*			\$0.00	\$23,400.00	\$0.00	\$0.00	*
African (12)	*			\$0.00	\$0.00	\$36,400.00	\$0.00	*
Latin American (12)	*			\$41,220.00	\$4,122.00	\$0.00	\$4,122.00	*
Latin American (12)	*	\$3,491.00		\$0.00	\$38,401.00	\$0.00	\$3,491.00	*
W. Afr. Advisor (12)	*			\$0.00	\$0.00	\$35,000.00	\$0.00	*
Other Professionals	*	\$23,324.00	\$18,750.00	\$0.00	\$9,000.00	\$18,750.00	\$62,311.00	*
Technical Editor	*		\$7,000.00	\$0.00	\$7,000.00	\$7,000.00		*
African (3.5)	*		\$2,444.00	\$0.00	\$0.00	\$6,110.00	\$2,444.00	*
Administrative (6)	*			\$15,995.00	\$0.00	\$0.00	\$3,199.00	*
Librarian (12)	*			\$29,724.00	\$0.00	\$0.00	\$0.00	*
Sub-Total	*	\$3,491.00	\$27,662.00	\$33,384.00	\$138,434.00	\$61,923.00	\$108,450.00	\$102,447.00
Support (12)	*			\$9,058.00	\$0.00	\$0.00	\$9,058.00	*
Support (12)	*	\$1,922.00		\$19,220.00	\$0.00	\$0.00	\$3,844.00	*
Support (12)	*		\$2,898.00	\$14,490.00	\$0.00	\$2,898.00	\$0.00	*
Support (12)	*			\$16,327.00	\$0.00	\$0.00	\$0.00	*
Sub-Total	*	\$1,922.00	\$2,898.00	\$59,095.00	\$0.00	\$2,898.00	\$12,902.00	*
Research Assts.	*	\$11,460.00	\$24,000.00	\$22,920.00	\$21,010.00	\$32,350.00	\$74,052.00	*
Students and Hourly	*			\$15,000.00	\$0.00	\$0.00	\$0.00	*
Sub-Total	*	\$11,460.00	\$24,000.00	\$37,920.00	\$21,010.00	\$32,350.00	\$74,052.00	*
Consultants	*	\$17,450.00	\$4,375.00	\$0.00	\$11,250.00	\$5,750.00	\$21,690.00	*
Sub-Total	*	\$14,951.00	\$49,634.00	\$64,657.00	\$289,213.00	\$123,537.00	\$155,134.00	\$255,491.50
II. BENEFITS	*							*
Faculty (22%)	*	\$572.00		\$11,828.08	\$2,057.88	\$0.00	\$8,983.81	*
Academic Staff (22%)	*	\$768.02	\$6,085.64	\$7,344.48	\$30,455.48	\$18,023.06	\$23,859.00	\$22,538.34
Classified Staff (28.8%)	*		\$553.54	\$834.62	\$16,203.17	\$0.00	\$834.62	\$3,715.78
Research Assts. (6%)	*	\$687.60		\$1,440.00	\$1,375.20	\$1,260.60	\$1,941.00	\$4,443.12
Sub-Total	*	\$1,455.62	\$7,211.18	\$9,619.10	\$59,861.93	\$21,341.54	\$26,634.62	\$39,681.05
SUB-TOTAL	*	\$16,406.62	\$56,845.18	\$74,276.10	\$349,074.93	\$144,878.54	\$181,768.62	\$295,172.55
III. TRAVEL	*							*
International Travel	*	\$5,850.00	\$10,000.00	\$2,000.00	\$14,800.00	\$28,790.00	\$48,400.00	*
Per Diem	*	\$8,112.00	\$7,500.00	\$1,000.00	\$26,000.00	\$25,440.00	\$40,676.00	*
Domestic Travel	*		\$1,250.00	\$2,000.00	\$3,200.00	\$3,750.00	\$2,000.00	*
Per Diem	*		\$750.00	\$1,000.00	\$1,000.00	\$2,325.00	\$1,000.00	*
Sub-Total	*	\$13,962.00	\$19,500.00	\$6,000.00	\$45,000.00	\$60,305.00	\$92,076.00	*
IV. OTHER DIRECT COSTS	*							*
Supplies	*			\$3,500.00	\$0.00	\$500.00	\$4,500.00	*
Communication	*		\$2,500.00	\$6,020.00	\$4,700.00	\$4,000.00	\$10,900.00	*
Dissemination	*	\$1,000.00	\$2,500.00	\$2,200.00	\$0.00	\$4,000.00	\$10,360.00	*
Computer	*	\$500.00		\$0.00	\$0.00	\$2,500.00	\$8,650.00	*
DBAI & SOS	*	\$1,000.00	\$650.00	\$1,950.00	\$0.00	\$1,050.00	\$5,150.00	*
Miscellaneous	*	\$1,000.00	\$5,000.00	\$0.00	\$3,000.00	\$6,100.00	\$8,090.00	*
Field Research Costs	*	\$5,300.00	\$44,000.00	\$0.00	\$10,700.00	\$67,000.00	\$92,475.00	*
Sub-Total	*	\$8,800.00	\$54,650.00	\$13,670.00	\$18,400.00	\$85,150.00	\$140,125.00	*
Sub-Total	*	\$16,406.62	\$79,607.18	\$148,426.10	\$368,744.93	\$208,278.54	\$327,223.62	\$527,373.55
Indirect Cost Recovery	*	\$4,265.72	\$20,697.87	\$38,590.79	\$158,560.32	\$54,152.42	\$85,078.14	\$151,371.42
Tuition Remission	*	\$2,521.20	\$5,280.00	\$5,042.40	\$4,622.20	\$7,117.00	\$16,291.44	*
TOTAL	*	\$23,193.54	\$100,305.04	\$192,296.89	\$532,347.65	\$267,053.16	\$419,418.77	\$695,036.41