

How Can Land Tenure and Cadastral Reform Succeed? An Inter-Regional Comparison of Rural Reforms

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ABSTRACT

In a synthesis of studies in English, Spanish and French, cadastral reforms in Peru, Colombia, Albania, Hungary, Burkina Faso and Senegal were examined, confirming that rural reforms are successful only if they acknowledge the existence of traditional landholding systems. Comprehensive, well-intentioned measures that are pursued only partially – without commitment from governments to planning and full implementation, and without the necessary support services – generally do not succeed. The studied reforms were successful only in: consolidating and registering customary tenure, and in promoting the conservation of natural resources. They were neither successful in increasing security of tenure; promoting improvements to land; facilitating access to credit, nor creating a viable land market. Mixed results were obtained in reducing land disputes, increasing agricultural production, and reducing fragmented holdings.

RÉSUMÉ

Dans une synthèse des études en Anglais, Espagnol et Français, les réformes cadastrales au Pérou, en Colombie, en Albanie, en Hongrie, au Burkina Faso et au Sénégal ont été étudiées. L'examen confirme que ces réformes sont couronnées de succès si elles tiennent compte de l'existence des régimes fonciers existants. Les mesures compréhensives qui sont mises en œuvre que partiellement, sans engagements des gouvernements au niveau de la planification et des services, ne survivent point. Les réformes étudiées réussissent à assurer

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une sécurité accrue des droits fonciers seulement aux niveaux suivants : (i) La consolidation et l'enregistrement des droits coutumiers (ii) La conservation des ressources naturelles. Elles échouent quant à la sécurité accrue des droits coutumiers, l'amélioration des terres et l'accès au crédit. Les résultats sont mitigés en ce qui concerne la diminution du nombre de conflits fonciers, l'augmentation de la production des terres et la diminution de leur fragmentation.

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INTRODUCTION

Unlike many studies that have been done on the effectiveness of cadastral reform in individual countries or regions of the world (e. g., Powelson and Stock 1987; Dorner 1992), this paper addresses the need for a survey and synthesis of the results of such reforms from several regions, updated to 1999. The study was accomplished through a meta-analysis of a significant body of literature published in English, Spanish and French – a survey of 44 studies, a synthesis of selected papers and/or research projects on the subject (Rosenthal 1987), an examination of the findings, and a resolution of inconsistencies among them.

This study focuses only on rural reforms and the experiences of three regions – South America, Eastern Europe and French West Africa – to determine which types of reform are successful the reasons behind the successes or failures. To evaluate the success of land reform within the context of land tenure reform, the empirical results in each country and each region were measured against the following objectives:

- To consolidate and register customary tenure
- To increase security of tenure
- To promote improvements to land
- To enhance access to credit
- To stimulate a viable land market
- To reduce land disputes
- To increase agricultural production
- To reduce the incidence of uneconomical fragmented parcels
- To promote the conservation of natural resources

Section I of the paper presents the background of rural reforms and explains our choice of study areas and our case study approach. Sections II, III and IV describe and analyse the reforms in Peru and Colombia; Hungary and Albania; and Burkina Faso and Senegal, respectively. An inter-regional comparison is given in section V and recommendations for further study are presented in the conclusion.

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I. BACKGROUND

A. LAND TENURE AND CADASTRAL REFORM

Cadastral reform is a class of economic reorganization within *land reform*, defined as the combined economic, political, social and cultural transformations that result from the structural changes applied to the use of land (adapted from Escarcega López Botey Estapé [1990]). *Land tenure* is the legal, traditional or customary ways of holding and transferring land among people using land and its product (adapted from Thiesenhusen 1995 and from Payne 1997).

Land tenure reform is any alteration of the existing system of land tenure. A *cadastre* is a system of registering and recording parcels of land to which they have the rights. It serves three purposes: first, it is a means to record the land rights of landowners; second, it is used as a census recording information on that population; and third, it can be used as a fiscal tool for taxation of the infrastructure. *Cadastral reform* refers to any alteration to the technique, method or composition of the existing cadastre or the creation of a new one. In the context of land tenure reform, cadastral reform is a means to transformation; it must be informed by the experience of land tenure reform.

The major goals of land reforms are to transform the agrarian sector from a feudal system to a capitalist one and within the sector, to transfer the control of land from the elites to the peasants (de Janvry 1981). In this study which focuses on reform in rural areas, the goal of land reform is to increase agricultural production and thereby, to assist in stimulating economic growth. The mechanism of *tilling* – granting and registering title to peasants' agricultural holdings to achieve this goal, are described in four stages (Stanfield 1985 per Dörner 1992):

- A secure title helps farmers use the land as collateral as they try to secure loans from financial institutions.
- A secure title provides farmers with incentives to invest in their holdings so that their chance of accumulating capital for future benefits are increased.
- From this ability to secure long-term operational capital and an incentive to use this capital in farm enterprises, farmers with secure titles will actually increase their long-term capacity for capital investments as well as increase their purchases of production inputs.
- As a result of higher investments and greater use of production inputs, the value of production per hectare of the holdings with secure title will be higher than the value of production per hectare of those holdings without such title.

In application, the reform generally brings change to a traditional tenure system under the assumption that customary tenure systems inhibit economic growth, "traditional land tenure arrangements in third world countries are often cited as one of the major constraints against effective long-term rural development" (Barnes 1985). Some ambiguity occurs, however, when new laws are imposed on a society which has operated under the customary system for hundreds or sometimes thousands of years. People are uncertain as to how the new laws will actually be implemented and in many cases – as will be shown in the following sections – reforms are not implemented at all. Whereas the implementation of a new system of land laws is extremely expensive, time-consuming and politically sensitive, most developing countries do not have the resources to see it carried to fruition.

"Few comprehensive evaluations of agrarian reforms have been undertaken to date and even then the answers are not always clear cut reflecting the complexity of the task" (Kay 1998). By examining the performance of reform measures in disparate cultures and regulatory frameworks, it was possible to narrow the range of viable options for reform and thereby simplify the search for lessons.

In this study, we used a case study approach to include as broad a range of experiences as possible with the aim of finding some commonalities among the experiences. The method used was to evaluate experiences within each region and then by comparing the results across the three regions, to draw out lessons that could inform future development planning policy. We first chose three regions that were quite different, historically and geographically. From each region, we selected two countries which have reasonably similar land tenure problems and, importantly, which have sufficient information to allow a thorough analysis. Because of the scarcity of material on a wide range of urban reforms, the study was limited to rural reforms. Although the countries that we examined in each region may not necessarily be representative of their region as a whole, they would still depict some general contrasts between very different societies. Table 1 presents a general comparison of the six countries being studied.

It is essential to account for differences rooted in the particular economic and social environment of each country (Williamson and Fourie 1998). The legal, technical and institutional environments and capacity must be considered; demographics, to begin with, are informative.

Peru and Colombia are the largest countries and have the largest populations compared to the other countries in the study, but they are not densely populated. In the Eastern European region, Albania is the smallest country with the smallest population and according to its contribution to the gross domestic product (GDP), the most dependent on agriculture. Hungary

Table

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Colombia
Albania
Hungary
Burkina Faso
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Before the Peruvian reforms, land ownership was concentrated in a small proportion of the population. In 1961, over a quarter of the population were landless agricultural workers and tenant labourers and 76% of the farmland were concentrated in less than 4,000 farm holdings (roughly 0% of farms). To redress these inequities, peasant (*campesino* herein) organized and achieved some success in 1963 when a local land reform decree in the vicinity of Cuzco was passed. In the following year, the 1964 reform law was instituted under the administration of President Belaunde Terry. Although it gave the appearance of addressing the problem, it was not mandatory and actually allowed large landowners to avoid its provisions. With its focus on three areas in the sierra, this law only served to protect the government's power base of landed coastal estate owners (King 1977). In 1969 law, the new military enacted a law which was more aggressive and removed the exemption to coastal, irrigated, corporately-owned and plantation estates. These reforms continued throughout the 1970s.

A. PERU

II. REFORMS - SOUTH AMERICAN CASE STUDIES

is the country with the largest areas of arable land; yet, it is the least dependent on agriculture - a sign of its higher level of development than the others. In French West Africa, Senegal and landlocked Burkina Faso have the highest proportions of population involved in agriculture (60% and 85% respectively), mainly at subsistence level (Banks and Muller 1998; World Fact Book, 2000). Because of these differences and other ones (e.g., variation in ethnic makeup) we find it useful to compare the *purposes* or aims of their land reform instead; in general, there are a few common objectives that many reforms try to achieve.

Table 1. Area, population and importance of agriculture

Country	area (km ²)	% land for agriculture	% GDP from agriculture	population (million)	% of labour force in agriculture
Peru	1 285 200	24	7	26.6	not available
Colombia	1 138 900	44	19	39.3	30.0
Albania	28 750	41	56	3.4	49.5
Hungary	93 000	66	3	10.2	8.3
Burkina Faso	274 200	35	35	11.6	85.0
Senegal	196 200	28	19	10.0	60.0

Source: World Fact Book, 2000.

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The initial Peruvian land reforms, which aim at providing *campesinos* access to land and helping them increase agricultural productivity, were avowedly political in redistributing state and expropriated lands. Both purposes were pursued by expropriating land from large landowners and granting this land to *campesinos* in the form of individual parcels and communal farms. Communal farms were established as either an Agrarian Production Cooperative (CAP) or as an Agricultural Society of Social Interest (SAIS) (Lastarria-Cornhiel 1989). The CAPs were formed primarily of *campesinos* who harvested crops and the SAIS consisted largely of Indian communities that operated pasturelands. These communal farms were the invention of civilian advisors and not of government officials (Powelson and Stock 1987).

The laws in Peru have always recognized both private and collective property rights. The collective lands are held by campesino farming communities (*comunidades campesinas*) and native communities, without the right to transfer or mortgage the property. From 1969 to 1979, only 12.8% of the land granted by the government was granted to individuals. By 1979, 75% of all the arable land in Peru was held collectively, and continued to be subjected to harsh restrictions (Alvarado 1995). The military government attempted to support the *campesinos* with government-run services such as offering them credit through the state bank while, paradoxically, denying them access to private moneylenders. As it turned out, the state bank was not able to replace the private moneylenders from whom most of the *campesinos* had previously obtained adequate credit. The state also intervened by subsidizing the sale of fertilizer. The state catered mostly to farmers in the coastal region, not to farmers in the *sierra* where help was most needed (Powelson and Stock 1987). This neglect of the *sierra* would contribute to the eventual rise of insurgent movements.

Decollectivization in the 1980s undid much of what the reform of the 1970s had established. The institution of collective rights came into question, corruption was prevalent and the standard of living on cooperatives had not improved. Despite the law prohibiting it, cooperatives began dividing land to their members, in the hope of increasing work incentives, ensuring optimal use of the land and better access to markets (Carter and Alvarez 1989). Violence and political pressure from the Maoist rebel group *Sendero Luminoso* (Shining Path) and the national *Ejército* (Army) in rural areas have forced many people in the areas of conflict to move to urban centres.

The first government of Alberto Fujimori in 1990 made changes by increasing private rights and decreasing collective rights in order to encourage the development of the land market. In 1991, the legislative decree 653 *Ley de Promoción de las Inversiones en el Sector Agrario* (Law of Promotion of Invest-

ment in the Agrarian Sector) placed on the table. The law recognized the rights of the members (Alvarado 1995).

A subsequent reform that, even in a rural area (such as those in the highlands), had much impact on the rural sector. The liquidation of the state banks, the secure credit lines, and the titling of land (Alvarado 1995) were measures to improve rural land. The reform "must be supported by institutional improvements, such as credit facilities, and extension services, and the creation of the conditions for the development of the rural sector."

By 1993, the new law recognized collective rights. Law 26505 enacted the *comunidades campesinas* rights by allowing them to acquire land. It allowed the transfer of land. It had been the minimum requirement for the creation of cooperatives.

When cooperatives were created, documents existed that were not remedied in 1987. The *Law of Demarcation* (Law of Demarcation) addressed the lack of formal title to land possession to initiate the process.

The 1992 *Proyecto de Ley* (Project) provided for the creation of projects, however, it did not solve the problem. As of 1993, the *campesinas*, and a significant number of titles (Alvarado 1995) lack legal title to land. The contributor to development (often) marginal

ment in the Agrarian Sector) was introduced, which eliminated the restrictions placed on the transfer and mortgage of land granted by land reform. It recognized the private rights over land occupied by former cooperative members (Alvarado 1995).

A subsequent study of the land market following these changes indicated that, even in areas where conditions favoured the creation of land markets (such as those with a high proportion of tiling), the reforms did not have much impact on land transactions (Alvarado 1994). It also found that, with the liquidation of the *Banco Agrario*, most small farmers had been able to secure credit elsewhere, which was what was hoped. The results indicated that the tiling of land was not enough to stimulate the land market. According to Alvarado (1994), greater success required further support services; e.g., measures to increase the profitability of agricultural activities along with an improved land information system. Dörner (1972) makes it clear that land reform "must be undertaken in conjunction with a variety of supporting institutional improvements including better credit provision, marketing facilities, and extension of advisory services." To him, land reform is about the creation of the appropriate institutional environment required for the development of "latent human potential."

By 1993, the new Political Constitution of Peru guaranteed individual and collective rights in property to increase the security of land tenure. In 1995, Law 26505 enacted further land tenure reform. The law allowed the *comunidades campesinas*, which were still farmed collectively, to receive private rights by allowing them to be titled individually (Alvarado 1995). It also allowed the transfer of parcels of less than three hectares in area, which had been the minimum limit for many years before (del Castillo 1995). When cooperative lands first began to be subdivided into parcels, no documents existed that could be registered in the public registers. This was remedied in 1987 by the *Ley de Deslinde y Titulación del Territorio Comunal (Law of Demarcation and Tiling of Communal Territory)*, which recognized the lack of formal titles and allowed communities required to prove possession to initiate title documentation.

The 1992 *Proyecto Especial de Titulación de Tierras* (Special Land Tiling Project) provided tiling and registration to privately held land. Both of these projects, however, have met with limited success due to the magnitude of the problem. As of 1992 it was estimated that about 50% of *comunidades campesinas*, and approximately 75% of individually-owned land, lacked land titles (Alvarado 1995). In the rain forest, some 61% of family farming units lack legal title to the land they work. This lack of security is cited as a contributor to deforestation. Squatters, i.e., those without title who occupy (often) marginal agricultural lands, tend to deforest twice as much land on

average as legal owners, because insecurity of tenure leads them to cultivate annual rather than perennial crops (Bedoya Garland 1995). Williamson (1997) attributes the problem of squatters to inappropriate government policies, migration and population growth.

B. REFORMS AND LAND REDISTRIBUTION IN COLOMBIA

Land tenure and cadastral reform have been pursued in Colombia through three main reforms: the first, from 1961 to 1972; the second, in 1978; and the third, in the late 1980s and 1990s which realized more changes, providing *campesinos* with greater access to land. The 1961-72 land reform was largely the result of widespread *campesino* discontent with the poor *campesino* economy and the introduction of capitalist agricultural methods (Zamosc 1986). The 1961 reform law (Law 135), in addition to redistributing land in order to appease *campesinos*, also aimed at reducing rural-urban migration and stimulating the domestic market for industrial goods (Zamosc 1989).

Land reform was implemented mainly by the establishment of the *Instituto Colombiano de la Reforma Agraria* (INCORA – Colombian Agrarian Reform Institute) whose purpose was to intervene in land disputes on behalf of *campesinos*. *Campesinos* and other users of state services were also represented by the National Association of Peasant Users, formed in 1967. This organization provided promoters of grassroots strategy for land reform and trained *campesino* leaders to form committees and associations that represent them (Zamosc 1986). In 1968, the government “recognized the right of sharecroppers and tenants to the lands they worked on the haciendas” (Zamosc 1989).

Unfortunately, because of the government was not fully dedicated to implementing the reform, the measures did not bring significant changes and the *campesinos* were forced to take action on their own (Zamosc 1989). The most common pattern of events for intervention was the formation of *campesino* unions, followed by their involvement in (often times, repeated) land invasions, after which INCORA would intervene to support the *campesinos* and to negotiate arrangements with the landowner.

In 1972, the new government which was more favourable to capitalist agriculture, prohibited land invasions to prevent large landowners from losing large areas to squatters. In 1974, the elected government even militarized areas in conflict over land to suppress *campesino* revolt (Zamosc 1989).

In summary, the land reform between 1961 and 1972 did not achieve its purposes. The land invasions resulted in only 12.7% of those families seeking land actually gaining it. The reduction of INCORA’s budget in 1972 was a key factor in limiting the effectiveness of the reform as it led to inadequate credit and technical assistance, and the absence of infrastructure and basic services

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for the *campesinos* (Zamosc 1989). The government in power from 1978 to 1982 continued to suppress the *campesinos* but made changes to give immunity to landowners who allowed sharecroppers on their land to help relieve the tension caused by the fear of expropriation.

Land tenure in Colombia continues to be affected by the changes made by the reforms of the 1960s and 1970s. For example, INCORA continues to be responsible for redistributing land to *campesinos*. The government still does not recognize the efforts of land invasions. Recently, new legislation has been introduced to take further steps in land redistribution and titling in rural areas. As a result of Law 30 in 1988, the state even began to intervene in the land market and in some areas became the largest buyer of land, in its program to sell it back to *campesinos* through INCORA's land reform program (FAO 1994). The 1994 study by the Food and Agriculture Organization (FAO) analyzed the situation of rural property transfers from the perspective of the market and that of the small-scale producer trying to acquire land. The government considered the market to be the most appropriate instrument to modernize the structure of land tenure and the distribution of property. The results showed that landholding in Colombia is still concentrated in a few hands.

- In 1990, subdivision of parcels comprised 28.6% of land transactions, while the remainder involved whole parcels.
- In 1992, 3% of the landholdings occupied 60.8% of the country's land area.
- In 1992, 56.8% of the landholdings occupied only 2.8% of the country's area.
- In 1992, 78.1% of the landholdings occupied only 8.8% of the country's area (FAO 1994).

The FAO study identified land speculation and violence as the two main reasons for subdivision of land. Speculation was driven by the increase in land prices outside urban zones. Violence and intimidation, including pressure exerted on ranchers and others to sever their lands, was a real factor in the Colombian land market. Fragmentation of large landholdings, however, does not provide more access to land for small or medium-scale landowners since the cost of required improvements is much more than that of the land itself. Low-income producers do not become profitable merely by owning more land, because they lack the capital to make good use of it (FAO 1994). Profitability of the redistributed holdings is a key ingredient of successful land reforms and, as Dorner (1972) has pointed out, a wide range of interrelated factors, such as market access, availability of technical information, etc. are required. To help develop the land market and to support alternatives to violent conflicts over access to land, Law 160 (1994) authorized the

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subsidizing of 70% of the cost of acquiring land, provided that individual campesinos financed the remaining 30%, either personally or through the *Fondo para el Financiamiento del Sector Agropecuario* (FINAGRO) (Castro Guerrero 1995).

In addition to the redistribution of land, the government also executed a massive titling program. This program benefited *campesinos* who could show that they possessed land, promoted the reorganization process of titles for black communities and the expansion and reorganization of indigenous reserves. The government also designed an information system to facilitate the registration of land upon acquisition (Castro Guerrero 1995; Colombia 1995). In spite of all this, the few efforts of land reform in recent years have been confused and not successful, causing much frustration amongst *campesinos* (Castro Guerrero 1995).

C. SOUTH AMERICA - REGIONAL COMPARISON

In Peru, the attempts at rural collectivization did not achieve the desired results. The failure was not necessarily due to collectivization itself, although it decreased the incentive for farmers to work hard. Although it benefited some farmers, the reform failed to help them access credit and failed to provide them other agricultural assistance. In fairness, other factors contributed to the failure of collectivization, including the macro-economic effects of a world recession, the lack of implementation of reform in the highlands, corruption, and guerilla warfare. In spite of this, collectivization provided *campesinos* with access to land, as most of the country came to be owned by collective units.

In contrast, decollectivization in Peru increased work incentive, ensured optimal use of land and improved access to markets. Privatization in rural Peru brought mixed results. Although it did not encourage the development of the land market, since land transactions continued to occur informally, it facilitated access to credit by eliminating the restrictions imposed from a single bank and demonstrated that informal transactions and credit arrangements could succeed without government intervention. Although it succeeded in redistributing and providing access to land, privatization also encouraged parcel fragmentation.

Titling and registration were not successful because of the sheer size of the problem of land disputes, corruption, its slow process and cost, and have not improved the security of tenure. The local community has proposed that community involvement would have improved this situation and that titling could have contributed to reducing deforestation and cocoa production.

In Colombia, land redistribution only served to increase violence, since the recognition of the land rights of sharecroppers and tenants increased land

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disputes and provoked landowners to evict them. The government's lack of dedication to reform also contributed to this and the overall incomplete implementation, resulting in inadequate credit and technical assistance, and an absence of infrastructure and social services. Sharecropping, on the other hand, has succeeded in relieving the tension caused by the fear of expropriation. It also provided *campesinos* with access to land, increased productivity, and promoted land improvements.

The development of the land market and economic support has led to mixed results in Colombia. Although the government has facilitated access to land through subsidies, it has not succeeded in redistributing land and reducing land concentration. Violence continues to plague further land redistribution efforts by INCORA.

Peru has been more ambitious than Colombia in the pursuit of land reform. In both countries, however, land redistribution failed for different reasons. In Peru, it failed mainly because of low agricultural productivity, restriction of the sources of credit and limited application in the sierra, whereas in Colombia, it failed because of violence and the lack of government dedication.

In both countries, and especially in Colombia, it was found that the shift to sharecropping was an effective method of land tenure reform. The development of the land market and its role in land redistribution, however, is dependent on many factors, not simply on land tenure or the cadastre. In Peru, the informal market seems to prevail and the recognition of informal arrangements is effective. In both countries, the still common *minifundismo* — where the parcels are typically too small to provide subsistence — restricted productivity and therefore, the value of land. In both countries, computerized land information systems have been implemented to facilitate and improve titling and registration. Titling and registration have not yet achieved success in Peru and are only starting in Colombia.

III. EASTERN EUROPEAN REFORMS

A. ALBANIA

Immediately following World War II, the Communist government in Albania introduced agricultural policy and land reforms to collectivize agriculture and eliminate of all private agricultural activities (de Waal 1996). Collectivization began in 1946 and was completed in the 1960s. The Communist goal of total elimination of private agriculture was achieved by 1967 (Cungu and Swinnen 1997). The changes in land ownership in Albania for the period 1950-1995 can be seen in table 2.

Table 2. Land ownership in Albania, 1950-1995

Pattern of ownership	1950	1970	1989	1991	1995
Private Sector	91.30	4.21	3	21	94.4
Collective Sector	5.37	90.98	74	55	0.0
State Sector	3.33	4.81	23	24	5.6

Source: Cungu and Swinnen (1997).

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Self-sufficiency in agriculture was a major objective of the Communist government, and to achieve this, it attempted to increase agricultural production by expanding arable land and by retaining rural populations. The area of arable land doubled between 1950 and 1989, reaching approximately 700,000 km², but the the population tripled in the same period resulting in a 10% decrease in land per capita (de Waal 1996). Self-sufficiency was impeded by severe droughts and by the end of foreign aid. The confiscation of privately-owned animals, combined to a very weak economy and few available jobs led to a crisis. In 1991, with the coming to power of a democratic coalition government, communist rule ended, and over 50% of the population were employed in agriculture (de Waal 1996).

In an effort to privatize the economy, land reform was introduced in July 1991 and the decollectivization of agricultural land proceeded. State farmland constituted 20% of the land with cooperatives making up the other 80%. By May 1993, 92% of the cooperative land was privatized. Some state farmland were also privatized and further redistribution and compensatory issues were addressed (de Waal 1996).

Approximately 3 million landed properties have been created through 9 different privatization programs. The methods of implementation varied throughout the country. In the south, all prior land ownership was abolished and land was allocated by lottery, resulting in very little friction between villagers, since they perceived the process to be fair and equitable. Before the decollectivization, most land belonged to landlords and most of the villagers were landless. In northern Albania, where the terrain is steep and rocky, the land commission decided to restore land holdings as they stood before collectivization. The implementation of this land reform involved a pronounced and rapid shift to full private ownership.

To encourage the development of an institutionalized property system in which land could be used to secure loans, the Bank of Agricultural Development was established in October 1991. Other measures, such as coordinated land-use planning also came in effect. Approximately 30% of prime agricultural land around several of Albania's major cities was lost due

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to the haphazard housing developments there. This spontaneous urban growth must be curbed down with the initiation of land-use planning, regulations and zoning (Bockheim 1997).

Immense legal and social problems have arisen from the new economy based on private property. Old structures for public administration of land were abandoned with the new limited roles of public agencies, resulting in indefinite rights for new landowners and unclear transaction rules. Albania is in need of a post-privatization stabilization program to redefine the ownership and clarify the roles of landowners, land users and the government in the emerging land market (Jazo, Stanfield and Barry 1997).

The land reform implemented in 1991 had prevented the decline in agriculture by creating a more dynamic rural economy (Cungu and Swinnen 1997). However, land redistribution had produced a high degree of parcel fragmentation, resulting in holdings too small to enable substantial increase of agricultural productivity or commercial viability. The success of internationally competitive market-oriented agriculture required some consolidation to increase farm size (Bloch 1998).

With the assistance of the United States Agency for International Development (USAID), the European Economic Commission (EEC) and the World Bank, Albania approved the development of a Land Market Action Plan (LMAP) in November 1993, with the goal of establishing socially and environmentally sustainable land markets (Sherko and Sula 1997). These land markets would be able to function more smoothly with the creation of an Immovable Property Registration System (IPRS). The security provided by the IPRS also served to motivate the landowners to use their properties for entrepreneurial investments and gave them the incentive to acquire properties (Sherko and Sula 1997).

The implementation of IPRS turned out to be impeded by the slow appointment of registrars as well as the government's unwillingness to provide space for the registration offices. Problems also occurred when funding agencies could not acquire and provide compatible equipment which could easily be repaired in Albania or in the region (Jazo, Stanfield and Barry 1997). Since 1995, Albania has been in a political crisis, often with riots and violence. The suspicion of corrupt courts and police and a lack of clear enforced social and economic rules have created insecurity and documents related to the privatization of land have been destroyed in government offices. The initial goals set out for the implementation of land reform will not be achieved until political stability is re-established (Stanfield 1998).

*How Can Land
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B. HUNGARY

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From World War II to 1989, Hungary was dominated by collective farms. Socialist land reforms implemented in 1945 achieved the redistribution of some 3 million hectares of land through confiscation and expropriation of estates larger than 570 hectares. Under this program, 725,000 landless workers and smallholders received parcels no larger than 8 hectares and a 10-year moratorium on the sale of land was applied to prevent the re-assembly of large estates (Csaki and Lerman 1998). In the late 1980s, cooperative members and workers were allowed to cultivate 0.5 hectare of land in individual plots for consumption and sale. This relationship verged on contract farming and allowed a high degree of independence from central authority (Csaki and Lerman 1998).

Although Hungarian agriculture grew at about 2.5% per year during the four decades of socialist rule and nearly doubled between 1960 and 1989, collective farms were highly inefficient (Csaki and Lerman 1998). With agricultural yields in Hungary comparable to those of developed market economies, Hungary's desire to participate in international markets required a move toward market-oriented privatized agriculture (Csaki and Lerman 1998).

Thus, Hungary initiated a complex land reform in 1989 by means of the restitution and privatization of land. Prior to this reform, the three forms of organizations that dominated Hungarian agriculture were state farms, agricultural producer cooperatives and household farms (Mathijs and Mészáros 1997). Many of the large-scale collective and state farms were inefficient under communist rule. Privatization involved three main tracks: (1) land formerly managed collectively in the cooperative but registered to individual members would get back full-fledged title; (2) landless cooperative members would receive on average 1 hectare of land from the cooperative reserves; and (3) former land owners would be compensated through a complex process of vouchers issued to them, followed by land auctions (Csaki and Lerman 1998).

The diversification of land ownership forms and farm structures were evident by the end of 1996. The corporate farm sector was comprised mainly of cooperatives, companies with limited liabilities and partnerships while approximately 30,000 individual and family farms represent the non-corporate segment (Mathijs and Mészáros 1997).

Privatization of *state-owned properties* began in the 1980s with the selling of state-owned residential properties, the occupants being given the opportunity to purchase them at very low prices. Mass privatization started in 1990 with the creation of the State Property Agency. While land markets for

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the sale and purchase of land operated only partially, a rental land market rapidly developed. Through programs of subsidized purchases, the public had increased home ownership and commercial development, which increased conveyancing.

A land compensation program was undertaken to redistribute land to former owners and other compensation claimants, resulting in the creation of over 2 million new land parcels covering an area of over 5 million hectares (Tassy 1996). However, many of these parcels were unusable economically for agricultural purposes, some level of consolidation being required to create viable agricultural units (Hoffentraget 1996).

By 1996, Hungary had over 7 million property records and 55 thousand cadastral maps. The registration of land information is no less important in Hungary than in any other market-oriented economy, where the security of title transfers is essential. The Hungarian land registration system is similar to those of many other countries where the government guarantees the title (Ossko 1996). Because of the high demand, an explosion in conveyancing in Budapest in early 1997 led to a backlog in processing some 400,000 transactions (Niklasz 1999). To speed the work, computerization of the Land Offices was called upon in 1992, financed by the Poland Hungary Assistance for the Reconstruction of the Economy Aid (PHARE) program with additional funding from the Hungarian government (Niklasz 1999).

The agricultural transition in Hungary can be described as a gradual, moderate and continuous process following changes initiated during the socialist period (Kovacs 1996). The authority of the agencies responsible for reform seems to be limited by opposing political interests that were involved in issues of agricultural reform, directly or indirectly. Kovacs (1996) describes the transformation in Hungary as a "compromise" between these interest groups.

C. EASTERN EUROPE - REGIONAL COMPARISON

The reforms in Hungary and Albania were aided by the fact that both countries, through the process of establishing a market-oriented economy, have undergone similar privatization and compensation programs, and both were attempting to implement cadastral reforms. In addition, both countries were using the assistance of foreign agencies and foreign funding. Yet, although many factors surrounding the land tenure and cadastral reforms are similar, great differences exist in the purposes and successes of each country in implementing these reforms.

An overview of East Central European and Former Soviet Union countries in mid-1996 ranked Hungary as the leading nation, in the various transitional

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tasks of market liberalization, land reform, privatization of services, rural finance and institutional framework. In contrast, the "shock-therapy" method of decollectivization implemented in Albania resulted in an extremely unstable agricultural environment although this country has experienced an impressive growth in gross agricultural output (GAO) of 70% over the first few years of reform (1991-1995). The high level of fragmented land holdings created from these very reforms will likely hamper future growth and productivity (Cungu and Swinnen 1997). The political instability and violent insurrection in Albania in recent years has forced the governments and organizations to abandon, at least temporarily, attempts to complete the land reform process.

Although the Hungarian GAO decreased by 30% over the same period of time (1991-1995), the gradual and moderate process of land reform in the country has not resulted in immediate increases of agricultural productivity; its relatively stable political situation and more developed economy will likely result in future ones. These factors, combined with the consolidation of fragmented lands and a developing land market, should promote the successful development of larger-scale farms, which will enable the Hungarian economy to participate in world markets (Csaki and Lerman 1997).

The reforms in Albania and Hungary both involve the privatization of formerly state-owned land, land redistribution, and compensation to former landowners. While the processes of privatizing the land may be very similar in both countries, the post-privatization attitudes of the landowners seem to differ. In Albania, landowners are more uncertain of their individual land rights despite the reforms' objective to establish a sense of security in the registration programs. Meanwhile, the problem in Hungary seems to be the management of land transactions and reducing the backlog of title registrations.

Land tenure and cadastral reform programs underway in Hungary are more advanced technologically than those in Albania. Hungary's comparative stability has also permitted, for example, the growth of management systems such as the IPRS while Albania's immediate needs are still basic. The country-wide local area network connecting Hungarian district land offices would not be feasible in Albania, given its unreliable electrical network system. Although the reforms underway in Albania includes future plans for the creation of geographic information systems (GIS) and automated databases, the present concern is to establish the security of title.

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IV. FRENCH WEST AFRICAN REFORMS

A. BURKINA FASO

Of the three examples of land reform provided in West Africa, the first, Onchoarciasis Control Program (OCP), is rare in that it does not involve a change in tenure. The other two, called RAF (*Réorganisation agraire et foncière*) implemented in 1984 and 1991, deal with rural tenure and cadastral reform.

For centuries, river blindness disease, or *onchoarciasis*, has caused to under-population in the fertile river basins within the French West African Savannas (McMillan et al. 1998). In 1974, the World Health Organization (WHO) launched phase one of a US\$56 million program to control the disease (McMillan et al. 1993). The program objective was to facilitate economic development in the infested river basins (McMillan et al. 1998) by creating new settlements to diffuse the increasing population pressure in surrounding areas. Before the program was launched, 41,000 km² of fertile land in Burkina Faso was classified as uninhabitable and uncultivable due to river blindness (McMillan et al. 1993). Twenty-five years later, the disease is controlled and is no longer cited as a health threat in the area and substantial agricultural settlement has taken place within the territory (McMillan et al. 1993).

The government of Burkina Faso decided from the onset of this program that simply creating new settlement land was not enough. Of the original seven participants in the program, Burkina Faso was the only country to provide *assisted settlement* as opposed to *spontaneous settlement*. Thus, the Volta Valley Authority (VVA) was created with the mandate of assisting the people of Burkina Faso in every step of the settlement process. The VVA helped by surveying and preparing lands, transferring and installing settlers, forming and introducing specific production regimes, and providing major technical innovations such as irrigation and animal traction (McMillan et al. 1998).

Meanwhile, there have been two major changes to rural tenurial systems in Burkina Faso. Both the 1984 and 1991 RAFs "tried in vain to curtail the powers of the traditional land authorities" (Faure 1995). By 1984, the overwhelmingly common belief was that the indigenous tenure systems needed to be replaced if agricultural progress was to be made. The RAF of 1984 made a clear break from customary rights, and declared that all land legally belonged to the state and that lands formerly considered as common, with access restricted by the tribal chief, became a freely accessible resource. However, this first RAF did not set up a system of titling and registration whereby individual rights to a particular parcel were formalized. In fact, land sales were actually prohibited by law with the implementation of this RAF.

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Prior to the 1984 RAF, anyone wishing to cultivate land not appropriated by a clan or family head, also referred to as *free land*, could do so only with the permission of the land chief. This was a means for villages to protect their land reserves. Conflicts would frequently arise over these *free lands* where, for example, customary chiefs wrongly attempted to sell lands to traders. Where the chiefs had only managerial rights, they may have believed that they owned the land. With the 1984 RAF, it became clear that land sale was illegal and chiefs would not be able to sell such lands to entrepreneurial traders (Faure 1995). However, the declaration of 1984 RAF was so misconstrued that people believed the "free" lands were available to whomever wanted to cultivate them. In some cases, large tracts were cleared based on the common belief that the customary guardians of that land no longer had authority to restrict access.

By 1991, the agricultural sector's desire for increased production and private investment had not materialized. The 1991 RAF sought to encourage private investment and agricultural intensification and, significantly, "to maintain socially just land distribution" (Faure 1995). At this time, the traditional tenure system was widely recognized and stronger than the new laws. The 1991 RAF attempted to increase security for investors by creating so-called ownership rights for those who wanted them. This second RAF stipulated that "land belonging to the National Estate may be assigned as private property to individuals or legal entities under the conditions set out by [decree] ...Lands thus assigned cease to be state property" (Faure 1995). With this law, farmers could obtain title deeds which would guarantee security of tenure, including public notification of ownership and the ability to mortgage the property.

One of the major problems with the RAFs in Burkina Faso is their weak implementation. Village land-use management committees (VLMC) were created with the authority to resolve tenure issues that would have formerly been handled by land chiefs. However, because access to property was based on selective demarcation on a case-by-base basis and no national cadastral survey was performed, the VLMCs did not have the resources needed to enforce the law and, consequently, traditional tenure continued to exist. Due to administrative oversight, the 1991 RAF did not allow for consultation between private entrepreneurs and traditional land authorities. Although the legal framework in Burkina Faso was in place to provide security of tenure, there was not enough support from the grassroots communities (Faure 1995).

B. SENEGAL

Studies done on registered land holdings in Senegal indicate that few of the theoretical improvements have materialized from titling and registration. "Although the number of case studies is small, they notably fail to reflect the

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effects associated with greater security of tenure" (Golan 1994). The roots of western-style landholding go back to 1830, when the French colonial government established a legal framework of private, individual ownership (derived from the French Civil Code), followed by inception of a land registration system. With this system in place people with knowledge and influence were able to amass and register vast tracts of land. At the time of independence in 1960, the *Commission de réforme du régime foncier 1960* produced four main conclusions:

- Every attempt by the French to establish individual registered tenure had failed since the colonial days.
- It would be unwise to make any attempt to return to a customary tenure system. "The legitimization of custom would be a step backward, with the capacity to block all modern development" (Golan 1994).
- Policy makers should be concerned with the Islamic brotherhoods. These were described as neo-feudal systems where religious leaders exploited labourers to work the land.
- Senegalese land reform would find difficulty in allowing for the variety of cultural and tenurial systems throughout the country through the enactment of a single law.

The current land tenure system in Senegal is embodied in *Law No. 64-46*, or the *Law of National Domain*, initiated on 17 June 1964. Its purpose was to create a *national estate* excluding the concept of ownership. Land is owned by neither the state nor the people and is no longer considered a good that can be bought, sold, or leased. The land is simply detained by the state and usufruct rights are distributed by the government to individuals and groups (Caverivière and Debene 1988). With *Law No. 64-46* all land not registered became part of the *national domain*. With only 2% of all land being registered this meant that virtually the entire country had become the property of the state. Rights of usage are awarded to individuals by the government. Only those parcels having been registered prior to 1964, as well as those registered during the six-month grace period following the creation of *Law No. 64-46*, have rights associated with them. New registration of land is now illegal (Caverivière and Debene 1988).

A main objective of this reform was to increase agricultural production through consolidation of fragmented parcels, that is, usufruct rights were redistributed to the people living on the land in a manner which is more uniform and efficient for agricultural production (Caverivière and Debene 1988). With the little empirical data available thus far, it is difficult to judge whether production has increased as a result of this consolidation.

The administrative responsibility of lands classified as rural zones is vested in the rural councils, which are elected by the people. All transactions

pertaining to land, including inheritance, are overseen by the council. Anyone who personally cultivates land within a rural zone automatically has rights of usage; however, the council can redistribute vacant land or poorly used land. For example, if someone is known to be cultivating an excessively large parcel without allocating sufficient resources to it, then redistribution is at the discretion of the rural councils. Selling, renting or lending land is prohibited.

In theory, under the *Law of National Domain*, traditional rights are completely abrogated and ultimate authority in matters of land is vested in the rural councils. In reality, there has seldom been enough money to support a full-scale implementation of the statute. The institutions needed to enforce the law have been ineffective and customary rights are still recognized by many. Golan (1994) found that, in two survey regions, 98% and 79% of compound heads claimed the right to dispose of land, even though this is prohibited, and 17% of them claimed having lent or borrowed land.

The *Law of National Domain* clearly weakened the security of tenure. People had less faith in security of tenure offered by the rural council than that offered by the indigenous system. They are also afraid to ask the council for more land for fear of being ostracized by the village (Caveriviere and Debene 1988). The weakness of the *Law of National Domain* in Senegal is well summarized in Golan's words: "The law appears to have undermined security of tenure, partly because of the discretion it has vested in the State to overturn existing land rights but also because of its incomplete implementation."

C. FRENCH WEST AFRICA – REGIONAL COMPARISON

From the studies on Burkina Faso and Senegal we can draw some similarities as well as some differences in their tenure and cadastral reforms. Both countries have attempted to use titling and registration with very little success. Senegal differs from Burkina Faso in that it began titling and registration in the colonial years and then moved away from this concept at independence while Burkina Faso has only begun to use titling and registration recently in an attempt to increase private investment in the agricultural sector. In both countries, the vast majority of land belongs to the state and regional committees have been created to resolve rural tenure issues. Empirical data suggest that tenure reforms, which typically attempt to dissolve customary tenure systems, have succeeded only in decreasing security of tenure. But in both countries this insecurity is the result of an ambiguity that came from incomplete implementation and enforcement of the newly created laws reforming tenure.

Formal registration of land may sometimes cause existing disagreements among co-proprietors and family members to escalate into deadly disputes. The formal system is viewed with skepticism, and some customary users fear

that their land will be lost in the new system, especially in areas where land is used in a way in which the boundaries are ambiguous." (Golan 1994)

Case studies in Senegal point to increased security of tenure as a result of the reform, farmers are more willing to invest because of security, but also because of the lack of respect for customary rights.

A title to land is not always used. With customary tenure, farmers are reluctant to purchase land, and reluctant to use their land as collateral. In one test area, farmers who were holders sought to recoup their investments by selling the banks excess land.

An active land registration program has been implemented. Farmers have continued to invest in their land, but believes that the program is not working and transactions are present and seasonal herds are generally excluded from secure exclusive use (Atwood 1999).

Stamm (1999) found that registration was not a success in production of land ownership. Users maintained ownership, but a rapid decline in production due to fear of revocation of rights in Kenya, and significantly reduced production in Senegal.

that their land might be acquired fraudulently by skillful and powerful parties in the new system. Traditional ways are still highly trusted: "Even in those areas where land is registered, customary law in fact continues to govern the way in which most people deal with their land, making tenure rights ambiguous." (Barrows and Roth 1990)

Case studies have shown that on-farm investment cannot be directly linked to increased security of tenure or titling and registration. In some locations of reform, farmers have expressed fear of making improvements to the land because of suspected resentment by their neighbours and neighbours' general lack of respect for their claims to land (Atwood 1990).

A title to land serves as good collateral only if an active land market exists. With customary rights still playing such a major role, outsiders to an area are reluctant to purchase a title. Furthermore, Africans generally do not want to use their land as collateral for fear of losing what is often their only possession. In one test area of titling and registration, Nakuru, Kenya, only 1% of title holders sought credit (Barrows and Roth 1990). Lenders have difficulty recouping administrative costs on small loans and the larger loans desired by the banks exceed the needs of the farmers (Barrows and Roth 1990).

An active land market has not emerged in any of the massive titling and registration program areas. Customary transfers, through heredity and gift, have continued to be the most prevalent forms of transfer. Atwood (1990) believes that the criticism that indigenous land tenure systems increase risks and transaction costs to potential purchasers is inaccurate. In fact, problems are present and can be attributed to the formalization programs. Women and seasonal herders, whose livelihood depends on their access to land, were generally excluded from titling rights. Also, some individuals managed to secure exclusive rights of ownership to previously commonly-owned lands (Atwood 1990).

Stamm (1994) found that some of the standard arguments for titling and registration were refuted by evidence from Burkina Faso. He found that production depended more on agricultural fertility than on rights of ownership. Under the Burkina Faso reforms, ownership rights could be maintained only with proof of continued fertility of the land. This resulted in a rapid decline in renting and a movement to low-level cultivation, though fear of revocation of ownership rights. In a similar study in Ghana, Uganda and Kenya, Place and Hazell (1993) found that land rights were not significantly related to levels of agricultural yields.

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V. INTER-REGIONAL COMPARISON

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Table 3 summarizes the results of rural reforms identified by this study. Based on the foregoing evaluations and regional comparisons, the reforms were further measured against performance objectives: those rated "Pass" were successful; those rated "Mixed" provided mixed results; and those rated "Fail" were failures. In general the reforms evaluated in this study did not meet their objectives in increasing the security of tenure; promoting improvements to land; facilitating access to credit and creating a viable land market. They were more or less successful in reducing land disputes; increasing agricultural production; and reducing uneconomical fragmented landholdings. They were most successful in consolidating and registering customary tenure; and promoting the conservation of natural resources.

A. CONSOLIDATING AND REGISTERING CUSTOMARY TENURE

Reforms that attempt to consolidate and register customary tenure generally tend to succeed. For example, those that recognize the actual rights held by small scale farmers tend to work as there is no apparent real change, only a legal change. This has occurred in Eastern Europe where, through the privatization process, state-owned land is offered first to those who occupy it and who are forced to participate in the reform by bidding on and purchasing the land. Here the changes taking place are clear and the law is unambiguous. Another factor contributing to its success is that this system is not completely new, since land was held privately only about fifty years ago. In Peru, reforms have recognized customary occupation through privatization, titling and registration programs. The main problems experienced here, however, are the lack of efficiency of the programs and the magnitude of the task.

Other reforms, however, that attempt to change the customary tenure system, have met with difficulty in most cases. For example, in French West Africa, dissolving the customary tenure in favour of a new system has created ambiguity, because people still rely on the previous traditional system they are accustomed to. Clearly, people affected by the change have to want change and should be involved in the reform process. In South America, attempts to change the customary tenure system by means of land redistribution have also met with little success: in Peru, collectivization failed due to a lack of agricultural productivity; and in Colombia, the government was not sincere in its commitment to reform.

B. INCREASING THE SECURITY OF TITLE

The security of title is a concept very difficult to measure. As there was no direct evidence that the security of land increased, we must rely on

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In cases where security of tenure was not increased, land tenure and cadastral reform did little to promote improvements to land because it could not be used as collateral to obtain credit. Also, in French West Africa, improvements were sometimes not realized because people fear resentment from neighbours. In Eastern Europe people did not understand what secure tenure meant and therefore, did not use their land to obtain credit to facilitate improvements.

C. PROMOTING IMPROVEMENTS TO THE LAND

Privatization in Eastern Europe has led to mixed results. This process is a recognition of occupation, which, when supported by law, increases the security of land tenure. There have been problems because people sometimes do not fully understand the concept of private land and therefore the security of land tenure is not fully realized. Because land was expropriated at one time for the purpose of collectivization, people have reservations about trusting the state to ensure the security of their holdings.

Violence also seems to indicate a lack of security. The subdivision of land in rural Colombia that had resulted from expropriation, which caused them to evict sharecroppers and tenants in the land redistribution led to less security of tenure due to landowners' fear of violence, which may indicate an increase in security of tenure. In Colombia, In Peru, sharecropping has been shown to increase security against tenure system, e.g. under *Law no. 64-46* in Senegal.

In cases where land rights are changed, they become ambiguous, because people may not know exactly how different their rights are. In French West Africa this has occurred due to the attempted change of the customary

Purpose	Latin America	Eastern Europe	French West Africa
Consolidate and register customary tenure	pass	pass	pass
Increase security of tenure	mixed	mixed	fail
Promote improvements to land	mixed	fail	fail
Facilitate access to credit	n/a	fail	fail
Create a viable land market	fail	mixed	fail
Reduce disputes in land	fail	mixed	fail
Increase agricultural production	fail	mixed	fail
Reduce uneconomic fragmented units	fail	fail	pass
Promote conservation of natural resources	pass	n/a	n/a

Table 3. Evaluation of the results of rural reforms across all regions

Flow Can Land Tenure and Cadastral Reform Succeeded? An Inter-Regional Comparison of Rural Reforms

study. Based reforms were "Pass" were rated "Fail" not meet their governments to agricultural s. They were tenure; and

In South America, land tenure and cadastral reform managed to promote improvements to land in limited cases only. In Peru, programs were set up to provide small producers with credit and technical assistance, but their success was limited since not all areas were supported equally. In Colombia, sharecropping arrangements tended to promote improvements to land since both the landowner and the sharecropper benefited from them. Sharecropping encouraged landowners to invest in the land to increase production.

D. FACILITATING ACCESS TO CREDIT

In French West Africa, land tenure and cadastral reform has not increased land transfers and titles are not respected by the established customary tenure system. As a result of this, land titles are not accepted as collateral and have therefore not facilitated access to credit. As well, banks are not willing to give out small loans. In South America, credit has been made available but this has not necessarily been a result of land tenure and cadastral reform. In Eastern Europe there is no evidence that access to credit has been improved.

E. CREATING A VIABLE LAND MARKET

There is little evidence that land tenure and cadastral reform do much towards creating a viable land market. In French West Africa and Peru, there is evidence that land transactions continue to occur informally because the formal market does not easily replace the entrenched customary methods of transferring land. Titling and registration in Peru have not created a land market mainly because of the lack of profitability of agricultural activities and the use of inefficient land information systems. Land disputes, corruption and the costs of transactions also impede the creation of a land market. There is no evidence that reform has created a viable land market in Colombia.

In Eastern Europe land tenure and cadastral reform are being used to reinstate a market-driven economy as well as to create a viable land market. There is some indication that the market is developing but the process is slow due to the uncertainty of tenure and laws that limit transactions.

F. REDUCING DISPUTES IN LAND

The use of reforms to reduce disputes in land has had different results in different regions. In French West Africa and South America reforms have not been successful. In South America the surveying of boundaries has in fact created disputes and led to violence. In Albania the experience has been more positive. Disputes in land have been mitigated due to the use of plans that are posted in public areas for a 90-day period, during which disputes can be resolved. After this period the plans are finalized and no discrepancies may be raised. There is no evidence from Hungary that reform has reduced disputes in land.

G. INCREASING AGRICULTURAL PRODUCTION

Eastern Europe has seen a significant increase in agricultural production since the collective farms were reformed. This increase in productivity is due to the fact that the reforms were not effective in the short term but in the long term the privatization of land tenure has led to an increase in agricultural production in French West Africa.

The use of reforms in French West Africa has helped agricultural production to increase both in the short and long term. This is due to the fact that the reforms have helped to increase agricultural productivity and therefore the amount of land that is being used.

H. REDUCING AGRICULTURAL PRODUCTION

Land tenure reforms in French West Africa have led to a decrease in agricultural production. This is due to the fact that the reforms have led to a decrease in the amount of land that is being used and therefore a decrease in agricultural production. In Eastern Europe, reforms have led to a decrease in agricultural production due to the fact that the reforms have led to a decrease in the amount of land that is being used and therefore a decrease in agricultural production.

I. PROMOTING AGRICULTURAL PRODUCTION

Land tenure reforms in French West Africa have led to an increase in agricultural production. This is due to the fact that the reforms have led to an increase in the amount of land that is being used and therefore an increase in agricultural production. In Eastern Europe, reforms have led to an increase in agricultural production due to the fact that the reforms have led to an increase in the amount of land that is being used and therefore an increase in agricultural production.

By examining the results of these reforms, it is clear that the reforms have had a positive impact on agricultural production in French West Africa and Eastern Europe. This is due to the fact that the reforms have led to an increase in the amount of land that is being used and therefore an increase in agricultural production.

G. INCREASING AGRICULTURAL PRODUCTION

Eastern Europe and Peru have similar experiences with the use of reform to increase agricultural production. In Peru, land was consolidated into collective farming units to achieve this purpose and resulted in lower productivity due in part to the lack of incentive for collective farms to operate efficiently. In Hungary, collectivization increased production slightly but was not effective enough to compete on world markets. Parcelization and privatization of collective farms continue as part of the strategy to correct this situation. In Albania, agricultural production increased dramatically in the short term but was limited due to fragmentation. There is no evidence that land tenure and cadastral reform have increased agricultural production in French West Africa.

The use of sharecropping in Colombia seems to be unique in this study in helping agricultural production increase because landowner and sharecropper both have incentives to operate efficiently and invest in the land, knowing that they will benefit from the arrangement.

H. REDUCING UNECONOMIC FRAGMENTED LANDHOLDINGS

Land tenure and cadastral reform in French West Africa have reduced uneconomic fragmented landholdings due to the consolidation process. This happened in Senegal with Law No. 64-46 which consolidated lands by completely removing the concept of ownership. In South America, however, the reforms have eventually increased fragmented landholdings. In Eastern Europe, reform has also caused the fragmentation of land into uneconomical units.

I. PROMOTING THE CONSERVATION OF NATURAL RESOURCES

Land tenure and cadastral reform were found to have a role in the conservation of natural resources only in South America where lower security of title resulted in increased deforestation. This was because squatters tended to farm more coca and annual crops rather than legal, perennial ones. Tilling and registration could be used in the rain forest to increase security of tenure and therefore reduce deforestation.

CONCLUSION

By examining disparate land reform initiatives, this inter-regional comparison has attempted to extract some lessons for general application. Chief among these is that community participation is essential for successful reform. If the reform is orchestrated by elites and remote administrators who are intent on

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uniformity and probably scornful of those who till the soil, and if the beneficiaries do not agree with the changes and do not participate, they will not accept it and progress will be very difficult. This is connected to those concepts of reform by *grace* and by *leverage*, discussed by Powelson and Stock (1987). *Bottom-up*, or grassroots reforms tend to succeed as they involve the community and accept their responsibility for land. They will be more efficient in mitigating land disputes and reducing violence and corruption which seem to be endemic in many less-developed countries. In respect to the situation in Senegal, Wunsch and Olowu (1990) echo Tocqueville's (1956) expression of the state's disdain for the needs of the individual: "...uniformity relieves [the central government] of inquiry into an infinite variety of details..."

Powelson and Stock (1990) speak of the unknowing complicity of "well-intentioned elites of the industrialized world (aid donors), who often believe that peasants are helpless and in need of protection." In reality, peasant societies are no less complex than the elites and their operators are just as shrewd. Hyden (1990) reports that development programs tend to derogate "lay actors" and their views as unimportant "cultural dopes": "Through their action they make an ongoing contribution to the production and reproduction of one set of structures as opposed to another. Their lack of involvement in civic structures should not be construed as evidence of total powerlessness." Evidence of the deep roots of peasant action abounds: in the context of Latin America, Guardino (1996) describes how Mexican *campesinos* actively and creatively participated in the political system by forming strategic alliances to out-manoeuvre players in the colonial power structure.

Secondly, the commitment of government to fully implement reform is a key determinant of success. Many reforms did not succeed simply because they were not fully implemented, either because those involved were not dedicated or they lacked the resources. Full implementation must be planned from the start of the reform process; an incomplete effort runs the risk of causing damage to existing land holding systems.

Thirdly, land tenure and cadastral reforms that attempt to significantly alter existing customary tenure are likely to encounter problems. Land redistribution and drastic changes in land rights decrease the security of tenure and create ambiguity. Titling and registration may be used to recognize the system that is already in use. The most secure land tenure system is that which people are accustomed to.

Fourthly, landlord-tenant relations that benefit both parties, such as sharecropping arrangements, are useful for achieving the objectives that other land tenure and cadastral reforms seek to accomplish. Changing the power

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structure to allow access to land has the potential to create conditions by which the security of tenure and agricultural productivity can be increased, as well as encouraging land improvements.

Fifthly, collectivization tends to decrease work incentive and reduces productivity in most cases while fragmentation tends to create uneconomical units of land. Exclusive adoption of either extreme must be avoided. Privately operated lands are most successfully exploited, but only if sufficient and appropriate resources are available. Consolidation of scattered land holdings may help resolve this situation.

Sixthly, reforms are unsuccessful if they do not fully achieve their stated purposes; furthermore, they must be supported by changes to surrounding structures and institutions. Land tenure reform alone without institutional and physical supports (i.e., "land operation reform" as described by Koo 1982), is not likely to succeed. Infrastructure, such as roads, sewers, social services and access to credit must be introduced to achieve the overall purpose of land reform.

This study has used empirical evidence to test the theories behind land tenure and cadastral reform, and has suggested some lessons for future land reforms. Unfortunately, some of the examined reforms have not matured yet and their outcomes have not been fully measured. Further studies are needed to evaluate the long-term results and their effects and to systematically examine factors that would enable a specific reform to realize its stated objectives. The effects of external factors such as agricultural production, formal and informal land transactions, land disputes, applications for credit, housing developments, and the state of infrastructure and social services should also be monitored. There was little evidence as to how land reforms affect security of title and discussion has been based mostly on speculation. Further studies should include actual surveys of landowners and settlers to determine their perceived levels of security and an analysis of economic indicators involving the land market such as access to credit, improvements to land, agricultural productivity, among others.

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