

Property Rights to Land

A SOCIETY'S ABILITY TO DEFINE AND, WITHIN A broad system of the rule of law, establish institutions that can enforce property rights to land as well as to other assets is a critical precondition for social and economic development. Better access to markets as well as increased population density tend to increase the value of land and can lead to either the emergence of institutions that facilitate a more precise definition of property rights to this asset or the emergence of costly conflict over land rights. Together with the exogenous imposition of property rights by overlords, these factors determine the evolution of property rights systems throughout history. A review of history illustrates that the way in which land rights are assigned does affect economic and human development in the long term. Moreover, property rights arrangements that may not be conducive from either an economic or a social point of view may stay in place for a long time.

Three reasons account for public involvement in the establishment and guarantee of property rights to land: (a) the elimination of the need for individuals to dissipate resources in trying to establish property rights, (b) the cost and equity advantages normally associated with a systematic approach, and (c) the network effects resulting from consistent availability of information across administrative units. This chapter identifies and discusses key elements such as duration of land rights, identification of boundaries, types of rights, enforcement mechanisms, and scope for gradual evolution of property rights arrangements in response to changing economic and social conditions.

The magnitude of the benefits that result from establishing property rights, and the type of intervention most appropriate in any given set-

ting, will depend on the scope for investment (by locals and outsiders) and transfer of property rights, the possible threats of dispossession or conflict, and the potential for increasing output and efficiency by means of land transfers. Empirical evidence from across the world reveals the demand for greater security of tenure and illustrates that appropriate interventions to increase tenure security can have significant benefits in terms of equity, investment, credit supply, and reduced expenditure of resources on defensive activities.

To increase the security of property rights, legal and institutional issues need to be tackled in tandem or evolve jointly, with reference to the broader social and economic environment within which land rights are embedded. On the legal side, the definition of property rights to land and the way in which people can acquire them must be clear and equitable, in line with practice on the ground; rights must be sufficiently long term; and risks of losing them to discretionary bureaucratic behavior must be eliminated. On the institutional side, procedures need to be formulated, institutions need to be accessible, and services should be provided effectively and at low cost. All this implies that beyond the formulation of general principles, practical implementation of any measures to increase the security of tenure has to start with in-depth analysis of the current situation. If the administrative infrastructure is thin and resources are scarce, this will imply a significant role for local communities.

The Historical Context

Land rights can be understood properly only if viewed against the context of their evolution

A HISTORICAL REVIEW OF LAND TENURE ARRANGEMENTS IS important not only because dealing with current land policy issues is impossible without an awareness of the underlying historical dimensions, but also because many of the systems that have historically been encountered in the evolution of property rights, from the nomadic existence of hunter-gatherers to haciendas and highly mechanized farms, still exist side by side in different regions of the world. Placing these within the broader historical evolution of land rights will help in understanding not only their origins, but also the possible paths of development. Doing so does not aim to substitute for the literature on the subject but rather to build on the available work to identify driving forces that underlie the evolution of land tenure arrangements over time and to use these as a backdrop for the challenges policymakers face and their options for addressing them.

Property rights generally emerge as a result of the interaction of economic and political forces. Economists have long used the concept of induced innovation (Hayami and Ruttan 1985) to explain how, with increased population density, a more precise definition of property rights can reduce open access to and provide individuals with investment incentives. According to this theory, social groups adopt property rights because the benefits from doing so exceed the costs, implying that society will always gain. However, there are many cases where the virtuous cycle of increased scarcity of land leading to more precise definition of property rights has not materialized, but instead conflict has arisen. A second strand of the literature emphasizes that those in power may establish certain types of property rights to exclude others or affect their behavior. In this case, the imposition of property rights will not necessarily be associated with economic benefits and may be extremely sub-optimal from a social perspective. Therefore, institutions that lead to socially undesirable outcomes can originate in the inability to respond to the pressure resulting from increased population or outside intervention. In either case, and irrespective of the original causes, inefficient institutions can prevail for a long period and changing them may be politically difficult. Nonetheless, the impact on economic outcomes may be considerable.

Evolution of Customary Tenure with Population Growth

A key justification for secure property rights is that they provide incentives for investment in land and sustainable resource management. In areas that are naturally suitable for arable cultivation, with low population densities, cultivators have no incentive to invest in soil fertility, and instead will practice shifting cultivation. Under this system the cultivator clears a plot of land and grows food crops for a few years until the soil fertility has been exhausted. At this point the cultivator moves to a new plot and leaves the previous plot fallow to restore its soil fertility (Boserup 1965).¹ Because land is plentiful and no labor input is needed to restore fertility, ownership security is not required. Instead, the general right to cultivate a piece of land is an inseparable, and in principle inalienable, element of tribal membership. Cultivation rights are assigned to individuals on a temporary basis, normally for as long as the cleared plot is cultivated. Once cultivation has ended because soil fertility has been exhausted, the plot falls back to the lineage and the family either selects a new plot or has a plot allocated by the chief of the tribe. There is little

Societies adopt property rights when high population density requires land-related investment or if other factors increase the value of land

incentive to claim individual property rights in land, and the general right to use land, though not specific plots, is available to all members of a lineage. The need to expand the level of agricultural production in line with higher population density implies that fallow cycles will become increasingly short until shifting cultivation is no longer adequate as a method of restoring soil fertility. Other means, such as applying manure, planting trees, terracing, or irrigating, will be needed to do so. Unless property rights to land are defined in a way that will allow those making the investment to reap at least part of the benefit, none of these investment activities will be undertaken voluntarily. Historically, this has been one of the driving forces underlying the adoption of more secure property rights as well as the development of social structures to facilitate collective action to engage in land-related investment.

The diffusion of exogenous technical change and/or expansion of trade generally can have an investment-increasing effect similar to the one caused by increased population density. By increasing the stream of incomes that can be derived from a unit of land, technical change and trade expansion increase incentives for better definition of property rights in land. Indeed, establishment of tree crops, and the associated investment in clearing and leveling of land, was generally undertaken only where institutional innovations had enhanced tenure security adequately so that individuals could be sure to reap the benefits from such investments. Similarly, the transportation revolution caused by the steamship in the late nineteenth century led not only to the involvement of hitherto unexplored countries and states in global trade but also to increased demand for individualized ownership of land. For example, the opening of Thailand to international rice trade through the Bowring treaty of 1826 induced a quantum increase in the demand for rice land in the Thailand plains and brought about the introduction of a formal land registration system (Feeney 1988).

The above describes a virtuous cycle where greater resource values lead to an increasingly precise definition of property rights that induces higher levels of investment. However, there are many examples throughout history where failure to establish the necessary property rights institutions has led to conflict and resource dissipation rather than investments that would enhance resource values and productivity. Both conceptual models and empirical evidence suggest that the broader economic impact of the way in which property rights are secured will be significant (Eggertsson 1996; Grossman 2001, 2002; Grossman and Kim 1995).

Failure to develop property right institutions will lead to conflict and resource dissipation

Outside Interventions

On a global scale, the gradual increase of tenure security described in the previous section was followed only in a few marginal areas where no minerals were available. Most other regions at some time experienced colonial intervention or the imposition of overlords. The nature of such intervention was affected by the level of population density prevailing at the time of colonial conquest, and its impacts can be seen most clearly in the case of low population densities. At low levels of mechanization, and with the exception of a few plantation crops, agricultural production does not entail economies of scale. Smallholder agriculture will therefore maximize both output and social welfare. As long as land can be accessed freely, the establishment of large-scale plantations, for example, coffee plantations, as well as the recruitment of labor for agriculture at wages that are below the marginal return to labor in independent agricultural production, will not be feasible unless governments adopt interventions to systematically reduce the benefits that smallholders can obtain on their own holdings. Such interventions to reduce overall welfare so as to benefit a particular group have been common throughout history (Binswanger, Deininger, and Feder 1995).

Low population density or the drastic decimation of the domestic population in the context of colonial conquest in many of the colonies in the Americas and Africa required the imposition of coercion to obtain labor either for agricultural production on large farms and plantations or for a supply of labor to work in the mines. As shown and formalized in detail elsewhere (Conning 2002), in such landlord economies, getting households that would otherwise engage in higher-productivity family farming to supply labor to mines or large farms requires that the supply of land be artificially restricted. To do so, the colonial powers applied three main strategies, namely:

- *Reducing the land available for peasant cultivation* by allocating rights to “unoccupied” lands so that they went to members of the ruling class only, thereby confining free peasant cultivation to infertile or remote areas with poor infrastructure and market access (table 2.1 lists a variety of cases in which access to high-quality land was restricted). Farm profits or welfare on free peasant lands were thus reduced by the higher labor requirements needed to produce a unit of output on poor land, by increased transport and marketing costs, and by increased prices for consumer goods imported to the region.

Colonial rulers often introduced discriminatory systems of property rights

These systems often reduced efficiency, undermined equity, and had to be maintained by force

Table 2.1 Intervention to establish and support large farms, selected locations and periods

Continent and country	Land market interventions	Taxes and interventions in labor and output markets
<i>Africa</i>		
Algeria	Titling, circa 1840 Land grants under settlement programs, 1871 Settlers' law, 1873	Tax exemption for European farmers' workers, 1849 Credit provision for European settlers
Angola	Land concessions to Europeans, 1838, 1865	Slavery until 1880 Vagrancy laws, 1875
Egypt (Ottomans)	Land grants, 1840	<i>Corvée</i> labor from 16th century <i>Corvée</i> exemption for farm workers, 1840s Land tax exemption for large landlords, 1856 Credit and marketing subsidies, 1920s and 1930s
Kenya	Land concessions to Europeans, circa 1900 No African land purchases outside reserves, 1926	Hut and poll taxes from 1905 Labor passes, 1908 Squatter laws 1918, 1926, and 1939 Restrictions on Africans' market access from 1930: <ul style="list-style-type: none"> • Dual price system formalized • Quarantine and forced destocking for livestock • Monopoly marketing associations • Prohibition of African export crop cultivation Subsidies to mechanization, 1940s
Malawi	Land allotments to Europeans, 1894	Tax reductions for farm workers, circa 1910
Mozambique	Comprehensive rights to leases under <i>prazo</i> , 19th century	Labor tribute, 1880 Vagrancy law, 1899 Abolition of African trade, 1892 Forced cultivation, 1930
Sokothon Caliphate (Nigeria)	Land grants to settlers, 1804	Slavery, 19th century
South Africa	Native reserves, 19th century Pseudo-communal tenure in reserves, 1894 Native Lands Act, 1912 <ul style="list-style-type: none"> • Demarcation of reserves • Elimination of tenancy • Prohibition of African land purchases outside reserves 	Slavery and indentured labor, 19th century Restrictions on Africans' mobility, 1911, 1951 Monopoly marketing, from 1930 Prison labor, circa 1950 Direct and indirect subsidies, 20th century
Tanganyika (Tanzania)	Land grants to settlers, 1890	Hut tax and <i>corvée</i> requirements, 1896 Compulsory cotton production, 1902 Vagrancy laws (work cards), 20th century Exclusion of Africans from credit, 1931 Marketing cooperatives to depress African prices, 1940
Zimbabwe	Reserves, 1896 and 1931	Poll and hut taxes, 1896 Discrimination against tenancy, 1909 Monopoly marketing boards, from 1924 <ul style="list-style-type: none"> • Dual price system in maize • Forced destocking of livestock, 1939

(table continues on following page)

Table 2.1 (continued)

Continent and country	Land market interventions	Taxes and interventions in labor and output markets
<i>Asia</i>		
India (north)	Land grants from 1st century	Hacienda system, 4th century B.C. <i>Corvée</i> labor, from 2nd century
China (south)		Limitations on peasant mobility, circa 500 Tax exemption for slaves, circa 500 Gentry exemption from taxes and labor services, 1400
Japan	Exclusive land rights to developed wasteland, 723	Tribute exemption for cleared and temple land, 700
Java and Sumatra	Land grants to companies, 1870	Indentured labor, 19th century Cultivation system, 19th century
Philippines	Land grants to monastic orders, 16th century	<i>Encomienda</i> <i>Repartimiento</i> Tax exemption for hacienda workers, 16th century
Ceylon (Sri Lanka)	Land appropriation, 1840	Plantations tax exempt, 1818 Indentured labor, 19th century
<i>Europe</i>		
Prussia	Land grants, from 13th century	Monopolies on milling and alcohol Restrictions on labor mobility, 1530 Land reform legislations, 1750–1850
Russia	Land grants, from 14th century Service tenure, 1565	Restrictions on peasant mobility: <ul style="list-style-type: none"> • Exit fees, 1400–50 • Forbidden years, 1588 • Enserfment, 1597 • Tradability of serfs, 1661 Home farm exempt from taxation, 1580 Debt peonage, 1597 Monopoly on commerce, until 1830
<i>South America</i>		
Chile	Land grants, 16th century	<i>Encomienda</i> , 16th century Labor services, 17th century Import duties on beef, 1890 Subsidies to mechanization, 1950–60
El Salvador	Grants of public land, 1857 Titling of communal land, 1882	Vagrancy laws, 1825 Exemption from public and military services for large landowners and their workers, 1847
Guatemala	Resettlement of Indians, 16th century	Cash tribute, 1540 <i>Manamiento</i> , circa 1600 Debt peonage, 1877
Mexico	Resettlement of Indians, 1540 Expropriation of communal lands, 1850	<i>Encomienda</i> , 1490 Tribute exemption for hacienda workers, 17th century Debt peonage, 1790 Return of debtors to haciendas, 1843 Vagrancy laws, 1877
Peru	Land grants, 1540 Resettlement of Indians, 1570 Titling and expropriation of Indian land, 17th century	<i>Encomienda</i> , 1530 Labor service exemption for hacienda workers, 1550 Slavery of Africans, 1580

Source: Binswanger, Deininger, and Feder (1995).

- *Imposing differential taxation* by requiring free peasants to pay tribute, hut, head, or poll taxes (in cash, kind, or labor services), while often exempting workers or tenants of manorial estates or taxing them at much lower rates. Such systems were used widely in Western Europe during the feudal period; in ancient Japan; in China, India, and the Ottoman Empire; and by all colonial powers (table 2.1). Tribute systems survived into the second half of the 19th century in Eastern Europe and Japan. As long as free peasants could pay tribute or taxes in kind or in cash and have equal access to output markets, taxation alone may have been insufficient to generate a supply of workers or tenants, and it was therefore often complemented by output market interventions.
- *Restricting market access* or confining public goods (roads, extension, credit) to rulers' farms was often done by setting up cooperative or monopoly marketing schemes to buy only from the farms of the rulers. The *prazo* system in Mozambique combined rights to labor and tribute from peasants with monopolies on inputs and outputs. In Kenya the colonial government prohibited the production of coffee by Africans outright until the 1950s. European monopolies on sales of tobacco in what is now Malawi and Zimbabwe were directly transferred to large farms after the countries gained independence. In some cases this was combined with direct subsidization of these farms to make them competitive with peasant farms that would otherwise have shown superior economic performance.

A fourth strategy was the importation of indentured labor or slaves.² The workers had to be indentured to prevent them from establishing plots of their own or going into mining at least for the period of indenture. Once members of the ruling group began to establish viable agricultural production, getting enough workers for their estates required interventions in more than one market. The most common pattern was to combine restrictions on land use with differential taxation. This pattern led to the establishment of haciendas, the defining characteristic of which is that a large landowner manages most of the land and workers have access only to small house plots to ensure their subsistence, emerged as the predominant form in Algeria, Egypt, Kenya, South Africa, and Zimbabwe; in Bolivia, Chile, Honduras, Mexico, Nicaragua, Peru, and other countries in Latin America; in the Philippines; and in Prussia and other parts of Eastern Europe.

A major purpose of the concentration of land by individual landlords was to restrict the indigenous population's possibility of engaging in independent cultivation, something that is illustrated by the fact that the landlord's home farm often vastly exceeded the area actually cultivated and much of the land remained under forest or fallow or was devoted to extensive livestock grazing. At the height of the feudal period in Western Europe, between one-quarter and one-half of the total area on manorial estates was cultivated by the owner of the home farm. On Latin American and African haciendas, that share was initially much lower, in some cases only about one-tenth (Palmer 1977).³

By contrast to the case of low population density, in situations where population density was already high at the time of colonization, colonial powers could simply replace pre-existing structures, something that the British did in India, the Dutch did in Indonesia, the Dutch and the Portuguese did in Sri Lanka, and to some extent the French did in West Africa.⁴ They either established overlords who would collect tribute in return for cultivation rights or conferred land ownership on the crown or an overlord. The latter in practice converted small farmers into tenants or sharecroppers. Landlord estates were prevalent in China, Egypt, Ethiopia, eastern India, Iran, Japan, the Republic of Korea (henceforth referred to as Korea), and Pakistan. In many of these colonial environments, landlords could easily restrict peasants' alternatives and maintain control over land and labor, and sometimes over output markets.

Reforms of Land Relations

To overcome the long-term effects of outside intervention and noneconomic distortions, land reform measures were often needed. The way in which land relations were transformed from feudal landlord estates or haciendas continues to affect systems in place at present and shape the challenges current land policy efforts face. As land reform involves the transfer of rents from a ruling class to tenant workers, it is not surprising that most large-scale land reforms were associated with revolts (Bolivia), revolutions (Chile, China, Cuba, El Salvador, Mexico, Nicaragua, Russia), conquests (Japan and Taiwan [China]), the demise of colonial rule (eastern India, Kenya, Mozambique, Vietnam, Zimbabwe), or the end of major wars (Hungary and much of Eastern Europe). Attempts at land reform without massive political upheaval

Land reform was often needed to correct the bias introduced by nonmarket intervention

have rarely succeeded in transferring much of a country's land or have done so extremely slowly because of a lack of political commitment to provide the funding to compensate owners. This report distinguishes among transformation of landlord estates to smallholder farms, transition to junker estates, and collectivization and de-collectivization. Even in Europe, the reform of land relations has been a lengthy, conflictive, and highly political process (Swinnen 2002), and often the introduction of universal franchise has been essential to constrain the power of landlords (Acemoglu and Robinson 1999). This illustrates not only that greater democratization is often inextricably intertwined with the reform of property rights, but also that, in many instances, far-reaching reforms to the property rights system have been undertaken only in conjunction with major historic events, something that is confirmed by the recent changes of property rights in Eastern European countries.

Land reform was relatively simple in tenancy systems, but much more difficult where haciendas prevailed

Rapid transition from landlord estates to family farms in a market economy has led to stable systems of production relations. The organization of production remains the same family farm system; the only change is that ownership is transferred from large landlords to tenants who already farm the land and have the skills and implements necessary to cultivate their fields. Government involvement in the transition has often been substantial, ranging from a ceiling on the size of landholdings and on the amounts to be paid for the land, to the establishment of beneficiaries' financial obligations. Many reforms that followed this pattern provided stronger incentives for tenant-owners to work and invest in their farms and led to increases in output and productivity. The resulting systems have had great stability. Since the end of World War II landlord estates in Bolivia, large areas of China, eastern India, Ethiopia, Iran, Japan, Korea, and Taiwan (China) have been transferred to tenants in the course of successful land reforms. Theoretically, the productivity gains associated with such reforms come about because of improved work and investment incentives associated with increased security of tenure. These gains may be modest if tenants had to compensate landowners at near market prices, if security of tenure had already been high, if cash rent contracts had prevailed, or if the disincentive effects associated with share tenancy had been low (Otsuka and Hayami 1988). Empirical evidence shows that the reform of landlord estates led to considerable investment, adoption of new technology, and increases in productivity (Callison 1983; Dorner and Thiesenhusen 1990; King 1977; Koo 1973; Warriner 1969) and that costs to the government for complementary investments supporting the transition in ownership structure, such as infrastructure,

housing, and training in management skills, were low because the structure of the smallholder production system was already in place.

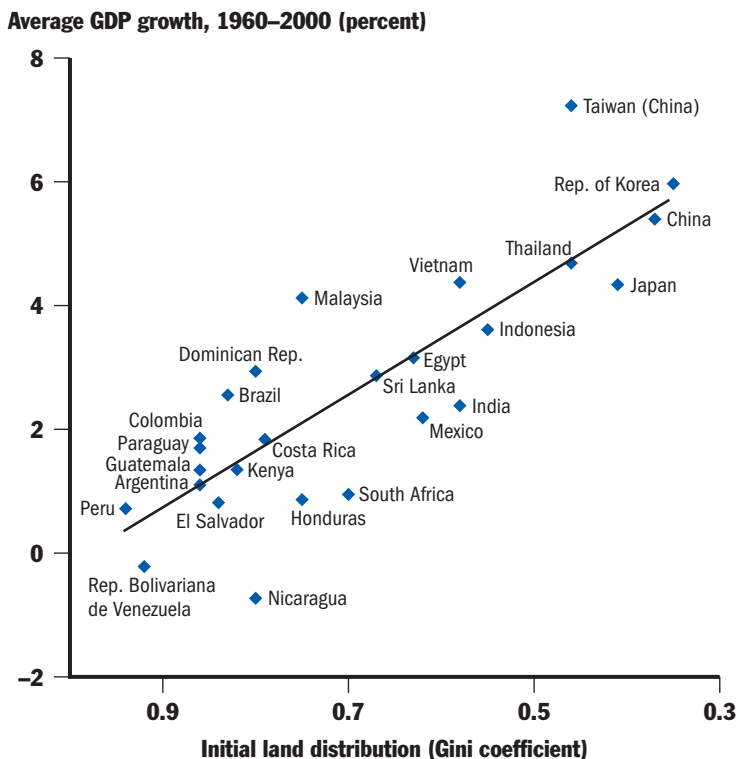
By contrast with the relatively smooth transition from landlord estates to family farms, the reform of hacienda systems has been slow and difficult. The outcome has frequently been the emergence of large owner-operated junker estates, with greatly increased home farm cultivation, that produce a variety of crops and livestock products using a hierarchy of supervisors. By substituting often subsidized capital for labor, junker estates were transformed into large-scale, mechanized, commercial farms that no longer depended on large amounts of labor. Collective farming was also introduced in a number of countries based on an erroneous belief in the productive superiority of large farms. For example, landlord estates in China, the former Soviet Union, and Vietnam were initially converted into family farms. The redistributed farmlands were later consolidated into collectives, in which land is owned and operated jointly under a single management. In Algeria, Chile, the former Democratic Republic of Germany, Mozambique, Nicaragua, and Peru, junker estates or large commercial farms were converted directly into state farms. In most cases workers continued as employees under a single management, with no change in internal production relations, to maintain the perceived economies of scale and superior management associated with these arrangements.

Importance of Land Rights for Long-Term Development

In view of the far-reaching impact of land tenure arrangements on the economic opportunities open to households, it should come as no surprise that, in the long run, the initial land ownership distribution has decisively affected the scope for broader economic development well beyond the agriculture sector. Land and real estate are major assets in modern societies (Ibbotson, Siegel, and Love 1985), with land being even more important in developing countries, where it often constitutes not only the main element in households' asset portfolios, accounting, for example, for about 60 percent in Uganda, but is also a key determinant of household welfare.⁵ The way in which land rights are defined will therefore affect not only the returns from specific investments and the direction and magnitude of technical change, but also the way in which the gains from exogenous increases in land values will be distributed, for example, through infrastructure investment, better opportunities for trade, and economic growth in general (Berry 2001). The desire to have the poor benefit from such

The initial distribution of land affects the nature and rate of long-term economic growth

Figure 2.1 Initial land distribution and economic growth, selected countries



Note: The Gini coefficient measures the degree of concentration (inequality) of a variable in a distribution of its elements. It compares the Lorenz curve of a ranked empirical distribution with the line of perfect equality. This line assumes that each element has the same contribution to the total summation of the values of a variable. The Gini coefficient ranges between 0, where there is no concentration (perfect equality) and 1, where there is total concentration (perfect inequality).

Source: Authors' calculations based on Deininger and Squire (1997); World Bank data (for 2002 from the Statistical Information Management and Analysis database).

investment was the basis for arguments to put redistribution before growth (Adelman, Morris, and Robinson 1976). Indeed, in societies with highly unequal access to assets and opportunities, ensuring that development efforts do not end up benefiting a narrow elite of the rich and powerful, thereby deepening pre-existing inequalities instead of helping the poor, is often extremely difficult (Birdsall and Londono 1997).

Cross-country regressions illustrate not only that the security of property rights does have a significant impact on overall growth (Keefer and Knack 2002), but also that initial access to assets affects subsequent outcomes (Birdsall and Londono 1997; Deininger and Squire 1998; Rodrik 1998).⁶ Figure 2.1 illustrates this graphically, highlighting that

during 1960–2000, countries that had a more egalitarian distribution of land tended to be characterized by higher levels of economic growth. This general pattern is confirmed if more sophisticated panel techniques are used and other control variables, including the inequality of education, are included (Deininger and Olinto 2000).

The historical importance of land access in the industrial world is illustrated by the divergent reaction of the western and eastern parts of Europe to the plague-induced population declines of the 14th century. As a large body of literature discusses, the associated drop in tribute contributed to the erosion of serfdom in Western Europe, but led to the reimposition of serfdom in Eastern Europe (Brenner 1997; Hilton 1978). Factors held responsible for this difference include a combination of higher wages and urban opportunities, better definition and more equal allocation of property rights, and higher levels of collective action and social capital in the West compared with the East (Allen 1998). In the latter, somewhat similar to what is still encountered in remote, backward areas of some developing countries, a monopoly on the control of land allowed lords to extract tribute and strengthened their political power to claim the land, monopolize output markets, and control the movement of peasants who, without secure and independent land access, and without an entrepreneurial middle class as possible allies, were powerless to resist the imposition of such constraints.

A more recent, but similar, assessment of the long-term importance of land tenure institutions emerges from a comparison of Indonesia, the Philippines, and Thailand. In Indonesia development was based mainly on the exploitation of tropical rain forest under Dutch colonialism, resulting in bifurcation of the rural sector between rice-farming peasant proprietors and large plantations for tropical export crops that were based on hired labor. In the Philippines the exploitation of a similar resource base under Spanish rule resulted in pervasive landlessness among the rural population and successive, though not always successful, attempts at land reform. By contrast, a relatively homogeneous class of land-owning peasants continued to dominate in Thailand, where the delta plains were suitable only for rice production and formed the resource base for development. These different agrarian structures associated with different social value systems have accounted for differential development performance across the three economies in the last 30 years (Hayami 2001).

While cross-country regressions are unable to provide a causal interpretation for such a relationship, two possible explanations stand out. One explanation is that where land is highly concentrated, landlords

Land concentration reduces efficiency of resource use

have an effective monopoly over the labor (as well as the output) market, which makes the accumulation of human capital, or indeed of any other form of investment, much less rewarding.

A comparison between Colombia and Costa Rica on the one hand and El Salvador and Guatemala on the other can illustrate this. Even though they share a common colonial history, language, religion, climate, topography, factor endowments, and technology, these countries reacted in quite different ways to the coffee boom of the 19th century. In El Salvador and Guatemala, large landowners who depended on a repressive labor regime to remain economically viable prevailed, and the boom led to land expropriation, especially from Indian and indigenous communities, and concentration of land on a massive scale. Landlords held a monopsony on power in the labor market, which allowed them to pay their workers the bare subsistence minimum, thereby eliminating any incentives for human capital accumulation. By contrast, in Colombia and Costa Rica, two countries characterized by small-scale landholdings where elites depended on trade rather than on large-scale agriculture, the boom led to the emergence of a smallholder coffee economy. As a consequence, literacy rates differed sharply between the two groups of countries from the late 19th century and continue to do so (table 2.2). Table 2.2 also reveals significant gaps with respect to other human development indicators and the establishment of democracy, which occurred about 40 years later in the countries characterized by dominance by large landlords than in those countries that relied on a smallholder production structure.⁷

It can also affect the political economy and provision of local public goods

A second, complementary, interpretation of the link between inequality in initial endowments and subsequent growth is that high concentration of land either reduces the incentives for provision of public goods such as infrastructure and irrigation or biases the provision of such goods in a direction that is more useful to landlords. The literature has long noted that communities' ability to provide public goods may itself be a function of the underlying land ownership distribution (Platteau and Baland 2001). In most cases the total surplus to be derived from land and associated public goods tends to increase with greater equality in the asset distribution (Bardhan and Ghatak 1999), something that is supported empirically by the finding that in Mexico, as well as in India, communities with more egalitarian land access are characterized by higher levels of collective action (Banerjee 1999; Dayton-Johnson 2000). Empirical evidence from India highlights that patterns of land ownership and landlessness will affect the types of public goods provided, as well as how efficiently they are provided (Foster and Rosenzweig 2001). Experi-

Table 2.2 Impact of land ownership distribution in four Latin American countries

Country	Colombia	Costa Rica	Guatemala	El Salvador
<i>Structural characteristics</i>				
Land privatization	1870–80	1820–40	1870s	1870s
Share of coffee farms smaller than 10 hectares	61.0	42.2	13.1	13.5
Share of coffee farms larger than 50 hectares	14.0	37.5	79.5	57.1
<i>Share of coffee in exports (percent)</i>				
1900	49	76	56	83
1929	55	58	77	93
<i>Adult literacy (percent)</i>				
1900	34	36	12	26
1910	40	50	13	26
1930	52	67	18	27
1980	85	91	54	64
<i>Social and economic development</i>				
GDP per capita (PPP US \$, 1995)	6,130	5,850	3,340	2,610
Rank on Human Development Index (1994)	51	33	117	112
Democracy since	1958	1948	1996	1992

GDP = Gross domestic product.

PPP = Purchasing power parity.

Source: Nugent and Robinson (2002).

tal evidence points in a similar direction, suggesting that in communities where initial asset endowments are highly unequal, the ability to engage in socially optimal collective action is seriously impaired and, as a consequence, welfare losses are incurred (Cardenas forthcoming).

The exogenous imposition of two different kinds of land revenue settlement by the British in colonial India provides a “historical experiment” that allows investigators to make inferences about the long-term impact of land tenure arrangements in an environment where other factors, for instance, endowments and colonial power policy, differ little. Under the *zamindari* or landlord system, revenue collectors (*zamindars*) received full rights to land subject to delivering a fixed amount of revenue to the colonial power. The cultivator-owner (*mahalwari*) system, by contrast, vested land rights in village bodies, essentially establishing individual land ownership by producers. Thus the differences in the concentration of land ownership that were first documented in the late 19th century and persist to this day are not surprising, despite the successful abolition of intermediary interests following independence

and more than half a century of land reforms. More interesting, a combination of reduced incentives for investment, constrained credit market access, low effort supply, and little potential for collective action (which is more difficult for extremely heterogeneous groups) associated with the historical assignment of property rights has had far-reaching impacts on long-term development. In particular, differences emerged in the ability to get the state to deliver public goods, the associated human development outcomes, and the adoption of agricultural technology (Banerjee, Gertler, and Ghatak 2002). In non-landlord districts the availability of village schools is 20 to 60 percent above what is found in landlord districts, infant mortality is 40 percent lower, and levels of literacy are 5 percent higher. Adjusting for other characteristics, non-landlord areas were characterized by a higher availability of such public goods as irrigation, which was 25 percent higher than in non-landlord areas, leading to faster adoption of high-yielding varieties, use of inputs such as fertilizer (45 percent higher), and significantly higher yields, even though the differences in land tenure institutions had long been eliminated.

Land rights are social conventions about the distribution of benefits from land use

Conceptual Framework

PROPERTY RIGHTS ARE SOCIAL CONVENTIONS BACKED UP BY the power of the state or the community (at various levels) that allow individuals or groups to lay “a claim to a benefit or income stream that the state will agree to protect through the assignment of duty to others who may covet, or somehow interfere with, the benefit stream” (Sjaastad and Bromley 2000, p. 367). Governments play an important role by determining how property rights are defined, how they can be enforced, and how they evolve in line with changing economic conditions. This, in turn provides a basis for the level of tenure security enjoyed by individual landowners and their ability and willingness to exchange such rights with others. All this suggests that property rights are a social construct. Property is not merely the assets themselves, but consensus between people about how these assets should be held, used, and exchanged (de Soto 2000). Moreover, property rights to land are not static, but evolve in response to changes in the economic and social environment.

By defining who is entitled to reap the benefit streams that flow from a given resource and thereby establishing correspondence between the

effort expended in trying to increase the value of this resource and the reward to be had from such activity, land rights are not only a key element of the social fabric of most societies, but also a critical determinant of investment, and thus of economic growth. The nature and characteristics of rights and enforcement institutions together define the perceived security of property rights to land, and it is this security that will affect decisions about land use, land-related investments, and the willingness to engage in land transfers. In many cultures, official land records were among the first documents to appear once a written language had been developed.⁸ Indeed, the benefits of well-defined and secure property rights and the advantages of public provision of such rights have, over history, led virtually all economically and politically advanced societies to establish state-managed systems for regulating land ownership and land transfers (Powelson 1988).

Property Rights as a Public Good

Establishing and enforcing a system of property rights to land has benefits that extend beyond the individual landowner. The benefits are to a large extent nonrival; that is, one person's enjoyment will not reduce others' ability to benefit from the system. However, it is possible to exclude some individuals or groups from access to these benefits. The broad distribution of the benefits associated with providing information about the assignment of property rights to land, as well as the enforcement of such rights, provides a strong rationale for government involvement. The infrastructure needed to physically demarcate and delineate plots, to establish and maintain accurate records of land ownership, and to enforce these rights and resolve whatever disputes might arise is associated with high setup costs. The tools used to record land rights, such as maps and inventories of land use, also provide essential inputs for planning and providing other public services. All this implies that significant cost advantages are associated with public provision of information in the form of land records and a judiciary and enforcement system to guarantee property rights to land.

The existence of clear and well-defined property rights to land will prevent the dissipation of valuable economic resources in attempts to secure and define such rights by individuals. This will allow landowners to invest resources in productive activities instead of spending them on defending their land claims. Where property rights are incomplete or

Property rights have public good characteristics

Public establishment of property rights will prevent resource dissipation, providing particular benefits to the poor

ill-defined, entrepreneurs and households will need to spend resources to maintain their existing property rights or to establish new ones. Investments such as guards, fences, and other demarcation devices to demonstrate the legitimacy of property claims and to defend such rights against possible intruders often have little direct social or productive value, lead to the dissipation of potential rents, and divert resources from more productive uses of land (Allen and Lueck 1992). Studies show that the privately optimal amount of spending on protection will often be excessive from a social point of view (De Meza and Gould 1992; Feder and Feeny 1991; Hotte 2001; Malik and Schwab 1991). Thus well-defined property rights reduce the need to expend economically valuable resources in defending claims and allow these to be used for productive investment instead (Grossman and Mendoza 2001).

The benefits individual land owners derive from public provision of property rights will be proportional to the amount of land they own. At the same time, in situations where government institutions do not function well, the ability to invoke the powers of the state and to resort to self-enforcement will be highly correlated with individuals' wealth. For this reason, establishing institutions to systematically protect and enforce property rights will generally provide high benefits to the poor and vulnerable. As they have better access to local information than central bodies, communities can in many instances enforce and administer property rights at the local level at very low cost. As it is the poor who are less able to defend their rights in this way, government measures to improve the definition of property rights can have significant potential to improve equity.

Universally recognized rights facilitate transactions with outsiders and offer cost advantages in infrastructure provision

Even though informal rights normally provide security within a well-defined and socially cohesive group, their enforcement is not costless and is generally limited to this group. Similar to common legal standards and the ability to enforce them in different constituencies and administrative entities, broadly recognized property rights facilitate abstract representation and impersonal exchange of rights, thereby increasing the scope for exchange with outsiders. This provides a necessary, though by no means sufficient, condition for participation in a modern economy through mechanisms such as mortgaging and the associated development of financial markets. Legal authority and patterns of conflict resolution allow the state to establish standards of acceptable behavior, and social norms to govern individuals' behavior, that transcend the community and provide the basis for the rule of law.

The establishment of secure property rights, that is, rights that are defined with sufficient precision and can be enforced at low cost so as to instill confidence in economic agents, requires considerable investment in both technical infrastructure, such as boundary demarcation and generation and maintenance of maps and land records, and social infrastructure, such as courts and conflict resolution mechanisms. In view of the fixed costs related mainly to the establishment of a spatial data infrastructure, there are advantages to public delineation and enforcement of property rights to land. Clear cost advantages are associated with public provision of the geographic data infrastructure as well as with the enforcement of rights, because the state can solve the problem of standards and reliability and guarantee enforcement through a legal system and its monopoly on power, and because the spatial data infrastructure required to identify land rights has many applications in related fields.

Key Elements in the Definition of Secure Property Rights to Land

To assess the elements needed for a property rights system conducive to growth and poverty reduction, this section identifies key components of the definition of property rights and briefly describes, at the conceptual level, how such rights are likely to affect economic behavior. In doing so, it focuses on the duration of rights; the identification of boundaries; the need for enforcement institutions, that is, institutions that can interpret land rights in an authoritative manner so as to avoid the emergence of land-related conflict in an environment characterized by demographic and economic transition; and the evolution of rights as relative scarcities change.

Duration of Rights

The “bundle” of property rights defines the nature of legitimate uses that can be made of land and the benefits to be derived from doing so. Such rights may comprise access for gathering, usufruct for a specified period of time, or more complete rights (often referred to as full ownership), with or without the ability to transfer the rights to the resource temporarily or permanently. Not only are there many combinations of rights, but also of the specifications of such rights, which may affect the specific resources covered, the acceptable amount of extraction, and the

The duration of rights needs to match the horizon of expected investment

period over which such extraction may occur. Of all of the attributes of land rights, the duration for which use may be enjoyed is one of the most important. Full ownership normally extends in perpetuity and includes the ability to bequeath land across generations. By contrast, use rights may be permanent or of a more limited duration, and many lesser rights, such as seasonal rights to graze animals, may be applicable only for certain periods. The length for which rights to land are awarded, and the mechanisms available for extending them, that is, whether they are automatically renewed or whether extension depends on a discretionary process, will affect the incentive to invest in and manage land in a sustainable fashion. Awarding permanent rights is most appropriate if the intent is to maximize welfare over an infinite horizon, although the extent of investment will also depend on the opportunities available. In practice, most customary systems award permanent land rights to the lineage precisely because of the importance of providing investment incentives.

Land rights in urban and peri-urban areas are generally of longer duration, because of the higher value and longer time horizon of the investments involved. In China use rights to urban lands are given with longer time limits than for rural lands (70 years for residential use and 50 years for industrial and cultural use); are renewable; and can be transferred, bequeathed, and mortgaged within the specified lease period. As a result, an active market in land use rights has emerged in the advanced coastal provinces (Wang and Murie 2000). Similarly, Botswana defines urban land use rights for 99 years that can either be renewed or require the government to pay compensation for any improvements, whereas many rural rights are under the customary regime. (Kalabamu 2000).

Adverse possession awards rights at low cost

Countries where unoccupied land is still available often have rules for “adverse possession,” meaning that long-term, peaceful occupancy of a plot in good faith for a minimum amount of time confers ownership rights to the occupant. This provides a mechanism of awarding secure land tenure that is not only associated with minimal institutional requirements but also, because possession and use are required, is unlikely to be associated with negative equity consequences. Extinguishing ownership claims after a certain period eliminates the risk of past owners suddenly surfacing and claiming the land, and at the same time prevents valuable land from being left vacant for long periods at the cost of monitoring of land use by the owner. This implies a trade-off between the social objective of having land visibly utilized and the

insecurity that may prevail if adverse possession is recognized after only a short period of time. Adverse possession was the main mechanism whereby most settlers in the United States acquired their land (de Soto 2000), and all 50 U.S. states have legal provisions upholding the ability of squatters to acquire ownership rights through continued possession of a property in good faith for a specified period.⁹ Short horizons for recognition will increase the security of current owners' property rights and provide greater incentives to invest, but will require owners to spend more time monitoring their vacant land to prevent squatters from obtaining title. Empirical analysis of the length of time for which a squatter must occupy a property in good faith, enacted by 46 U.S. states in 1916, confirms that better title records, a more effective legal system, and higher gains from development can all be linked statistically to shorter statute lengths (Baker 2001). Thus, even though adverse possession reflects a trade-off between investment and imposing costs on current landowners, it is justified, because in most cases long-term occupants have made land-related investments, and providing them with basic protection can increase investment.

Identification of Boundaries

Defining boundaries is associated with some transaction costs, implying that the degree of precision with which boundaries will be identified will depend on the nature and use of the land in question.¹⁰ To be unambiguous, and therefore enforceable at low cost, the boundaries of the resource, for example, a piece of land or the type of extraction that a given right allows to any user, need to be clearly defined. Precise, observable, and well-defined boundaries are easier to enforce and cost less to protect than poorly defined boundaries, implying that the way in which boundaries are defined will affect the cost of enforcement. Territorial or geographical boundaries are the most common, because they are easy to demarcate and are permanent. Note, however, that boundaries can be defined with respect to resource categories, attributes (such as specific trees), or time of use, thereby creating multiple tenures over the same parcel of land. Examples are use of the same plot of land by sedentary agriculturalists to grow a crop and by nomads who graze their livestock on the stubble or by apartment time shares. Arrangements characterized by overlapping tenures, defined according to traditional custom, are widely found in lands with low commercial value. A relatively vague definition of boundaries will be unproblematic as long as institutions to

Boundaries need to be easily identifiable

**The costs and benefits
of demarcation need
to be weighed**

interpret the rules authoritatively are available, though this may develop into a source of conflict if either the value of the resource increases or the authority of traditional institutions is challenged.

From an economic point of view, formal recording of boundaries will be efficient if the benefit from doing so, in terms of warding off challenges to resource ownership or use or facilitating transfers between users, is higher than the cost of doing so. The cost of recording rights, that is, the efficiency of the system that registers property rights and their boundaries, is an important element of these costs. Moreover, well-defined property rights will be characterized by boundaries that minimize external effects; that is, they will provide as close an overlap as possible between the unit to which property rights are assigned and the area from which the main resource value originates. This implies not only that, for some resources such as extensive pastures or noncommercial forests, the externalities may be sufficiently important to warrant some kind of group rather than fully individualized ownership, but that, even in the case of individual ownership, some mechanisms will be needed either to internalize or limit the amount of externalities generated. The factors shaping the trade-off between efficiency losses caused by incentive problems and exclusion costs caused by potential encroachment have been discussed extensively in the literature. Attempts to translate multiple tenures into systems with geographically well-identified boundaries have been difficult.

Subject of Rights

**Individual assignment of
land rights has many
advantages**

Individual assignment of property rights is the arrangement that provides the greatest incentives for efficient resource use. It is the most preferable for society if the resource over which property rights are given is of sufficiently high value to justify the costs of establishing and enforcing individual rights and if externalities associated with resource use are few and of a nature that allows addressing them through regulation. Individual ownership has emerged as the predominant form of land ownership in many cases where the benefits from continuous land use and the associated investment are high enough (Ellickson 1993). However, in even the most individualistic system, the rights enjoyed by individuals are never unrestricted, but instead limited by the need to have rights holders contribute to the broader public good. Most countries' constitutions contain a provision for a social function of land, implying that governments have the ability to expropriate

land, with compensation and following a well-defined judicial process, for public purposes. In addition, individuals can come together in user groups and other formal or informal associations, to establish voluntarily norms and restrictions on owners' ability to exercise their rights. Such rules can not only help eliminate externalities, but can also provide public goods, for instance, environmental amenities and green spaces. Thus, even where land rights are individualized, they are never unrestricted.

Group rights may be desirable where there are economies of scale in managing the resources so that users have the option of improving productive efficiency or internalizing harm that co-owners might do to each other. Examples include the use of economies of scale to break seasonal labor bottlenecks (Mearns 1996) and investment in community-level infrastructure (Boserup 1965; Dong 1996).¹¹ In such circumstances, the costs of delineating and enforcing boundaries to individual plots are high, and even if feasible, the benefits from a transition to formal and individualized titles may not be sufficient to cover the expenses associated with their establishment and maintenance. Indeed, in a number of African countries, titles that were generated at high cost have lost their value as landowners have failed to update them. These considerations are particularly important in situations where, with limited economic development, the scope for realizing gains from land exchanges remains limited.

Similarly, in areas where risks are high and insurance markets not well developed, the guaranteed access to land that is implied in customary systems can make an important contribution to greater equity. To the extent that they have better access to private information than central bureaucracies, local communities can provide some insurance against idiosyncratic and, to a more limited extent, covariate shocks, as well as eliminate the threat of permanent asset loss. It is well known that, at low levels of development and with limited development of financial markets, communal land ownership that gives individuals use rights that they can draw upon even after a temporary absence may perform an important insurance function. It is thus not surprising to find that group ownership has been prevalent where risk is high and where factors such as remoteness, environmental hazard, or presence of external enemies imply that superior insurance mechanisms are unavailable (Ellickson 1993). Similarly, the types of property rights that emerged among more than 40 Indian communities before they came into contact with outsiders were significantly affected by the

Group rights are more appropriate if there are economies of scale and externalities, if risk coping and mutual insurance are important, and if benefits from land-related investment are low

physical environment (harsh winters) and by such community variables as regular warfare, expulsion, nomadism, and population density that affected the deadweight, governance, and exclusion costs of establishing and maintaining different access regimes (Anderson and Swimmer 1997).

A further reason for group rights is that in environments with low population density, high environmental risk, and limited access to infrastructure and markets, the benefits from individual assignment of land ownership rights may not be sufficiently high to justify the costs involved. In many of these cases, state weakness and limited outreach and administrative capacity of central government institutions will limit the ability of these institutions to effectively enforce property rights. As a consequence, even where they are not sanctioned by formal law, local institutions are bound to have a significant impact on the way in which land rights are actually implemented. In such situations, aiming to improve the way in which local institutions work may be socially advantageous and administratively less costly, and may permit covering large areas in a much shorter time, which is important if resources are scarce.

To be effective, group rights need to match resource properties and group characteristics

Given that there are many contexts where group rights will be more feasible and cost-effective than individual assignment of property rights, such group rights need to meet certain minimum criteria to be effective. While group rights define the boundaries of the community, and thus the limitations nonmembers are to respect, failure to specify rights clearly within the group may still result in suboptimal arrangements. Where this is the case, open access by group members and the associated disadvantages or disincentives for investment and sustainable use may still prevail. Specific characteristics of the management group, as well as of the resource under consideration, that are conducive to better management can be identified and provide a basis for policy advice (McKean 1996). In terms of resource characteristics, the literature on common resource tenure suggests that for rights to be defined on a group basis, a number of conditions need to be satisfied. First, the boundaries of the common property regime need to match ecosystem boundaries. Second, the award of property rights must make the community of resource users or co-owners better off than it would have been without such rights, for example, by allowing them to ward off encroachment by outsiders. Finally, the allocation of benefits from the common needs to be roughly proportional to the effort (time, money, and so on) invested. This illustrates that specific rights held under multiple tenures need not be less individualized than those under “private”

property rights structures. In fact, most customary systems provide individuals with strong and inheritable rights to cropland, whereas pastures, forests, and water are often held in common.

The benefits of group rights are also enhanced if the co-owners of resource rights constitute a self-governing group with sufficient cohesion that has established accepted mechanisms for resolving internal conflict and the rules governing resource access provide for monitoring behavior and enforcing sanctions. At the same time, where deep-rooted socioeconomic differentiation of communities has taken place, there are high levels of institutional contestation, and giving group rights may not be the most preferable option. Also, rules need to be easily enforceable and ecologically conservative. The importance of easy enforcement is illustrated by the fact that in many societies rules that are not fully optimal but are easily enforceable seem to be preferred over ones that would be preferable economically but are difficult to enforce and monitor. Moreover, the stability of group rights can be greatly enhanced by a formal recognition of such rights by the state that would allow co-owners to call for protection by the police and the courts when they encountered challenges.

In cases where there are no externalities or economies of scale in resource management, group rights often tended to disappear as other mechanisms to cope with risk became available; markets for output, capital, and insurance developed; and technical progress allowed for greater diversification and reduction of the covariance of yields as well as the risk of crop failure. Improvements in the institutional environment and greater ability to access noncovariate streams of income in the nonagricultural economy are likely to decrease the cost of formal demarcation of boundaries relative to the expenses, in terms of forgone earnings, from policing informal rights. The development of financial markets will also reduce the value of the insurance offered through customary arrangements linked to land. At the same time higher land values increase the benefits from exchanging property rights among cultivators through decentralized mechanisms rather than through village authorities who may not have access to information on individual households' productive ability. This is, for example, visible in China where, until very recently, reallocation of land among producers was almost exclusively through administrative means, something that enjoyed considerable support among producers (Kung 2000). Greater opportunities for off-farm migration have led to the emergence of longer-term use rights and decentralized land transactions through

The desirability of group rights will often decrease with economic development

When and how property rights evolve also depend on political factors

rental markets that, by giving land to those with the highest ability, can be demonstrated to be more efficiency-enhancing and more equity-oriented than administrative assignments (Deininger and Jin, 2002).

While most of today's developed countries have undergone a process of gradual individualization of property rights to land (Boserup 1965), the evolution of property rights is neither automatic nor independent from political factors. In fact, the distribution of political power, resulting patterns of distributional conflict, inability to commit credibly to new rights, and costly decisionmaking all can either block such institutional change or lead it into undesirable directions. This is confirmed by the persistence of insecure tenure in Côte d'Ivoire and Ghana (Firmin-Sellers 2000) and blockage as well as premature imposition of more specific land rights in Imperial Ethiopia (Joireman 2001). The importance of political considerations in shaping the nature and direction of institutional change is confirmed by findings from the United States (Kantor 1998). Thus, while economic changes that increased land values and at the same time improved functioning of other markets have led to greater individualization in many cases (see, for example, Feeny 1989), this is by no means a linear process or a historical necessity. From a policy perspective, the most critical issue is to provide for sufficient flexibility to respond to local needs and to ensure that, if property rights change, such change will not eliminate rights that have been enjoyed by weaker groups.

Properties of Enforcement Institutions

Formal rights imply an ability to draw on the state's enforcement institutions, but the institutions to implement these rights need to combine legality, legitimacy, and accountability

Mechanisms of informal collective action through customary arrangements to increase individuals' tenure security and limit unsustainable use of land and dissipation of rents have evolved in many situations (de Soto 2000; Umbeck 1977). The enforcement mechanisms associated with such informal means are, however, often effective only in smaller communities; are difficult to enforce against outsiders; and may break down if individuals within the community, especially leaders, behave opportunistically as resource values rise. Thus a key difference between informal possession and a more formalized property rights system is that in the case of the latter, rights holders will be able to call on the coercive powers of the state to ensure enforcement if their rights are violated, rather than being forced to rely solely on their own efforts. In addition, informal social contracts and their property representations are not sufficiently codified and fungible to have a broad range of application outside their own geographical perime-

ter. The fact that informal rights cannot be traded and exchanged beyond the community is one of the reasons why, in many historical circumstances, they have been replaced by more formalized property rights once resource values have increased sufficiently to justify the cost of doing so. The main mechanisms for formalizing rights have been land registries and title documents, which not only provide protection from challenges to individuals' rights, but also make transferring these rights easier, and therefore allow the emergence of secondary financial instruments, such as mortgages, that are built on the existing rights system.

In any given situation, the ability to enforce rights depends on the ease with which rights holders can access the required institutions and obtain legally binding decisions from them and whether such decisions enjoy local legitimacy. Examples abound of cases where legislation mandating strong formal protection of property rights was of limited value as it could not be enforced at the local level, where the institutional capacity to do so was lacking. Having a legally defined right will be of little value if, in case of violation of this right, access to the courts is difficult, the case will not be heard for a long time or will not be resolved without paying bribes, or court orders in relation to a specific piece of land cannot be enforced. Indeed, investigators have identified the failure to enforce "formal" property rights in Kenya as one of the reasons for the failure of titling efforts to provide increased security of tenure (Atwood 1990; Pinckney and Kimuyu 1994). Where institutions to enforce formal property rights are either not available or do not enjoy broad legitimacy, the expected advantages are unlikely to materialize. In these cases a more advantageous option may be to build on existing systems and structures rather than try to replace them with new ones. The use of local institutions and a relatively simple system in Lithuania, as described in Box 2.1 is only one of several examples from Eastern Europe that illustrate the feasibility of a gradual approach. It illustrates the general principle that a gradual evolution of property rights that builds on local institutions is often a quicker, more cost-effective, and less conflict-prone way to securing tenure than trying to impose radical one-time change.

Evolution of Rights in Response to Changing Relative Scarcities

The precision with which resource rights are defined and the rigor with which they are enforced normally increases with the value of the resource, which is often closely related to population density. Indeed, for resources of low value, boundaries are often demarcated only loosely,

Box 2.1 A decentralized two-step system for registering property rights: the case of Lithuania

THE CASE OF LITHUANIA ILLUSTRATES NOT ONLY the scope for putting in place decentralized and temporary systems that can then be absorbed into a more unified framework, but also demonstrates that doing so provides tangible benefits for which owners are willing to pay. Village authorities registered ownership and use rights, establishing a temporary, person-based cadastral register of landowners at the village level. A parcel-based, integrated system under the National Agency for Cadastre will integrate these registers and eventually take their place. While initial registration is based on sketch maps with a low level of precision, more detailed surveys will be required for subsequent market transactions when the money to pay for them is available, and the hope is that this will help to make the registry

self-financing. The relatively rapid progress was facilitated by the establishment of the single Department of Land Management that had jurisdiction over rural, urban, and forestland (Valetta 2000). The structure was highly decentralized, with registry offices in each municipality, and the first priority for the administrative units carrying out the technical tasks was the economic imperative of quickly transferring ownership to land rather than the utmost in technical precision. Private sector agents, including surveyors, real estate brokers, and property appraisers, helped to make progress rapid. Virtually all farmers now have an official document certifying their land ownership rights, and more than two-thirds paid for this, on average, a third of the monthly wage.

Sharp changes in resource values without institutional change increase the conflict potential, especially during demographic or economic transitions

and resource use is governed by informal arrangements or social norms. Some minor or temporal rights, such as the right to pasturage after the harvest or right of way, are rarely formally registered, because in most circumstances the cost of doing so would exceed the value of the right. Instead, reference is made to social norms governing behavior. Similarly, given the cost involved in monitoring and writing detailed contracts regarding the specific rights to resource use transferred in any given transaction, the specifics of such contracts are left to common law or practice and custom. In fact, high-cost systems providing “full” enforcement may not always be optimal or preferable to lower-cost mechanisms at the local level. This is illustrated by mining claims in the late 19th century, where miners could either spend resources to have their claim titled or could cope with the higher enforcement costs of untitled claims by means of informal mechanisms. A general reduction in the risk of conflict led to a decline in the demand for formal documents and a greater reliance on informal mechanisms (Gerard 2001).

The optimum type of property rights depends on the nature of the resource, its relative scarcity, the externalities that arise in its use, the cost of specifying and enforcing property rights, the state’s capacity to enforce property rights, the ability to minimize external effects through regulation,

and the means available within a given group to delineate and enforce rights and responsibilities internally. As none of these factors is static, the most appropriate property arrangement would be one that could respond to changing conditions in predictable ways. Once economic and social conditions change, for instance, if land values increase with higher population density or improved opportunities for trade, the value of attributes that were previously left undelineated may increase sufficiently to make delineation worthwhile (Barzel 2000). If such shifts occur rapidly and if agreed mechanisms to re-interpret past norms and contracts are unavailable, this can lead to widespread contestation and to conflict over property rights, with negative social and economic consequences.

Higher levels of resource scarcity caused, for example by population growth, will increase the value of land and can cause friction and conflict over the interpretation of traditional informal rights. To avoid these, a way to authoritatively resolve disputes about previous contracts or redefine property rights as needed in line with new economic realities will be needed.¹² This would then lead to a more precise definition of property rights in line with increased values, setting a precedent to guide the assignment and specification of property rights and contracting between parties in the future. In practice, especially in countries where the legal system is weak and multiple authorities claim to be the legitimate authorities, opportunistic behavior by the parties involved may lead to vast differences in the re-interpretation of “custom” in response to changed realities. This can give rise to prolonged claims and “institutional shopping,” that is, parties pursuing disputes through different channels, for example, formal and informal authorities and legal and administrative channels, at the same time in the hope of obtaining a favorable solution (Berry 1993). Such behavior will not only increase the cost of resolving disputes but will also have an impact on the credibility of the broader legal system.

Failure to resolve disputes over land is associated with a number of negative impacts, in particular: (a) the inability to obtain a definitive solution for a long time impedes investment; (b) the transaction costs associated with legal proceedings imply that most of the increased value of the resource is dissipated rather than benefits users; and (c) the possible emergence of vested interest groups which, because they benefit from legal insecurity prevent resolution of the conflict. The last appears to be one of the reasons underlying the inability to solve conflicts in some West African countries, where court cases are drawn out for extremely long periods and where, when solutions are found, they can rarely be generalized to other cases, thereby contributing to continued

Authoritative interpretation of past norms and contracts is essential to avoid conflict over rights

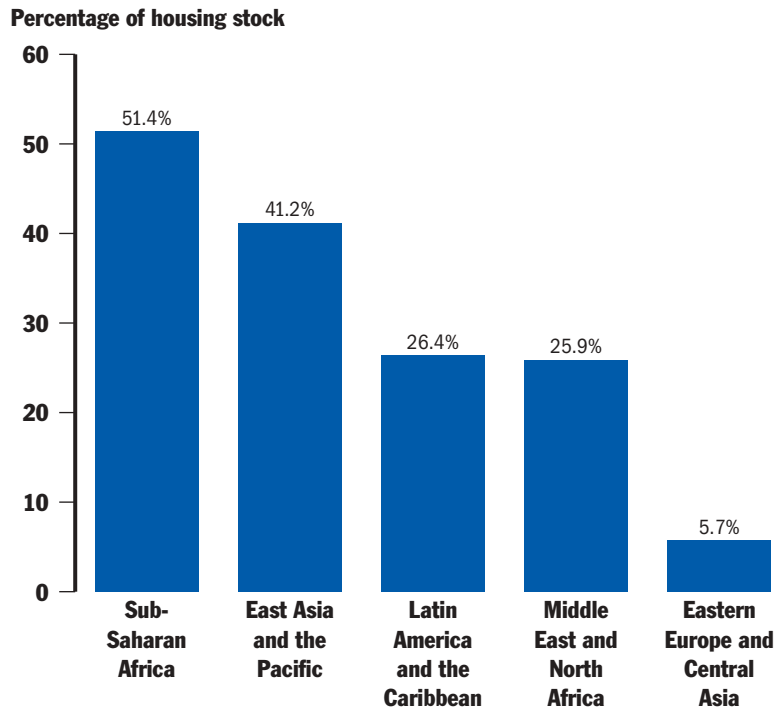
insecurity (Berry 1993). Such systems are not only costly, as they imply that individuals spend large amounts of resources in a relatively unproductive way, but they also pose a danger that apparently minor conflicts about land may evolve into large-scale strife with possibly devastating social and economic consequences. This has been particularly relevant in cases where conflicts run along ethnic lines or occur between migrants and the indigenous population, as has occurred, for example, in Côte d'Ivoire (Chauveau 2000). In all these cases, mechanisms that would help to resolve conflicts quickly and early on could not only provide large economic benefits, but could also help avoid great subsequent damage.

Demand for and Impact of Secure Property Rights

Insecure land tenure is pervasive in the developing world

THE EARLIER DISCUSSION ILLUSTRATES THAT TENURE SECURITY depends on a host of both objective and subjective factors, including the clarity with which rights and obligations are defined; the quality and validity of property rights records and whether or not the state guarantees them;¹³ the precision with which boundaries are demarcated; the likelihood that rights will be violated; and the ability to obtain redress by an authoritative institution in such cases, along with the reassurance that whatever measures that institution decides are deemed appropriate and can be enforced effectively. Deficiencies in any of these areas, or a mismatch between different components of the property rights system, can seriously undermine tenure security, thereby increasing the potential for conflict and undermining incentives for investment and exchange. Although there are few internationally comparable data from the rural sector, data from urban areas illustrate the magnitude of the problem of insecure tenure in a way that can be compared across regions. Figure 2.2 illustrates the widespread incidence of land-related insecurity, taking as an indicator the share of the urban population that is either squatting or living in unauthorized housing. It illustrates that, for example, in Africa more than 50 percent of the housing is in the informal sector (Angel 2000).

High levels of tenure insecurity are illustrated by an implicit or explicit demand for instruments that can increase land ownership security. For example, in Nicaragua the demand for registered certificates was significant even though households already had informal documents. Not surprisingly, this demand came mainly from the poor, who did not

Figure 2.2 Informal land occupation in urban areas, by region

Source: Angel (2000).

have the means to increase tenure security through other channels (Deininger and Chamorro forthcoming). In Zambia, despite its low population density, almost 50 percent of farmers believe that their land tenure is insecure and would be willing to pay an average of US\$40 for higher levels of land tenure security (Deininger and Olinto 1998), a finding that is confirmed by informal evidence suggesting that households have a great interest in demarcation of their plots. Qualitative surveys in urban areas similarly indicate that the priority demands of households in irregular settlements are, in descending order of importance, access to services, security of land tenure that would preclude them from being evicted, and rights to transfer or sell their dwelling unit or the land they occupy (Durand-Lasserve and Royston 2002a).

Indirect confirmation of the importance of property rights comes from the fact that in many traditional tenure systems, households undertake investments that range from marking boundaries to planting trees and building houses or sheds with the primary purpose of establishing implicit property rights to land and increasing existing levels of

An unitary model of the household is often inappropriate, and attention to women's control over assets is particularly relevant

tenure security (Brasselle, Gaspart, and Platteau 2002; Gray and Kevane 2001; Place and Otsuka 2001). This can be seen as an indication that these households attach a high value to greater levels of tenure security. The most comprehensive evidence on this comes from Ethiopia, where tenure insecurity increases households' propensity to establish visible investments, such as trees, while at the same time decreasing their incentive to invest in activities that have a more direct and positive impact on productivity but are less directly visible, such as establishing and rehabilitating terraces (Deininger, Jin, Adenew, Gebre-Selassie, and Nega 2003).

Within the household, the way in which land rights are assigned or will be transferred through inheritance will affect the range of land- and non-land-related economic opportunities open to women and the spending outcomes directly under their control. Women's ability to have independent access to and to exercise control over assets is a critical determinant of their welfare and their income-earning capacity (Fafchamps and Quisumbing 1999). Past research and conceptual work were often based on a unitary model of the household; however, a growing literature indicates that this model is often inadequate and that the way in which control over land rights is assigned within the household has far-reaching implications for a wide range of outcomes (Schultz 1999). Evidence suggests that in a number of circumstances, the preferences of women and men in the same household for different types of consumption are not equal, and the ability to control assets or the benefits derived from them will have implications on the way in which household income is spent across different types of consumption items.

Equality of women's land rights to those of men is warranted from a rights-based perspective. Furthermore, a growing literature demonstrates that in Africa and Asia women's control over household assets affects consumption patterns. Households where women control greater shares of assets and land at marriage have been shown to spend more on food and on children's welfare and education (Leroy de la Brière 1996; Doss 1996; Fafchamps and Quisumbing 2002; Haddad 1997). In Honduras and Nicaragua the amount of land women own has a significant and positive impact on food expenditure as well as on children's educational attainment (Katz and Chamorro 2002). Given the importance of land in the asset portfolio of the average rural household in many developing countries, increasing women's control over land could therefore have a strong and immediate effect on the welfare of the next generation and on the level and pace at which human and physical capital are accumulated.

Increasing security of tenure does not necessarily require issuing formal individual titles, and in many circumstances more simple measures to enhance tenure security can make a big difference at much lower cost than formal titles. In fact, many of the investment effects discussed thus far can be observed even in situations where land is not fully alienable, implying that it will be important to distinguish between tenure security and transferability. Note that many studies indicate that in Africa formal land title had little or no impact on either investment or farm income (Atwood 1990; Carter and Wiebe 1990; Migot-Adholla 1993; Pinckney and Kimuyu 1994), something that is often mirrored by similar findings for urban areas (Durand-Lasserve and Royston 2002a). This strongly suggests that title is not necessarily equal to higher tenure security. One example to illustrate this comes from Cameroon, where demand for tenure security was great; however, even though formal means, which were incompatible with traditional norms, were available, households only used less expensive ways to increase tenure security that were compatible with social standards (Firmin-Sellers and Sellers 1999).¹⁴ The most appropriate and cost-effective mechanisms to increase tenure security, and whether or not transferability will be needed, will have to be determined by applying the general principles discussed earlier to the circumstances prevailing in any given situation.

From an economic point of view, secure tenure is critical to provide incentives for households and entrepreneurs to undertake land-related investments. If their ability to keep the benefits from investments is uncertain, they are unlikely to invest or exert effort. Indeed, the desire to gain more secure property rights in situations where informal rights systems prevail induces individuals to undertake such actions as planting trees on land they possess or setting up boundary markers as a way to increase tenure security. The need to provide more secure tenure cuts across rural and urban sectors of the economy. While early work in the urban sector has often underestimated the importance of land tenure (Werlin 1999), development practitioners now recognize that lack of secure tenure and the associated threat of eviction and poor access to basic services are important determinants of poverty in urban areas. Security of tenure has been identified as one of the most important catalysts in stabilizing communities, improving shelter conditions, reducing social exclusion, and improving access to urban services (UNCHS 1999). The United Nations Centre for Human Settlements has identified security of tenure and better governance as the two main priorities that require immediate and urgent attention, noting that there are many links between the two.

Formal title is not always necessary or sufficient for high levels of tenure security

Greater tenure security allows reduction of private spending on securing of property rights

Equity Benefits of Greater Tenure Security

Even though interventions to increase tenure security are often justified in terms of their expected impact on productivity and investment, the reduction in households' need to spend resources on defending such rights is no less important. Within communities, households' level of tenure security and the transparency and accountability of the institutions administering land rights will affect governance as well as the extent to which conflicts will arise or can be resolved without generating negative effects on social cohesion and productivity. In the context of their evolution, many customary tenure systems reward investment in visible land improvements either with more individualized rights to the land after the investment has been made or with secure rights to the flow of benefits from the investment itself, for instance, trees.

A public guarantee of tenure security reduces the amount of resources individual land owners have to spend on defending their resource, sometimes with dramatic effects. For example, in Peru formalization of land ownership in a local registry allowed households to significantly increase their participation in the formal labor market, because they were no longer required to invest in a multitude of informal activities required to maintain tenure security. Field (2002) estimates that receipt of a preliminary document increased the supply of hours worked by 17 percent, whereas full legal ownership increases labor supply by about 50 percent, or 45 hours a week per household. This finding is particularly noteworthy against the background that other welfare programs are generally associated with a decrease in labor force participation. The fact that land ownership provides an incentive-compatible safety net has long been noted in the literature (Burgess 2001). This can lead to behavioral adjustments that are not directly reflected in land prices or land transactions. For example, observers generally believe that higher levels of land tenure security in China allow households to temporarily migrate and take off-farm jobs (Yang 1997). Indeed, with greater security of land rights those households with the lowest agricultural incomes will be able to transfer their land to others, informally or formally, without fearing that they will lose the land during their temporary absence, and will thereby be able to significantly improve their living conditions (Murphy 2000).

One reason why more secure property rights can improve equity is because a higher level of tenure security through programs targeted to the poor helps to increase the value of these households' endowments.

Even if the use of land as collateral for credit is only a remote option, as it is in most of the informal settlements where the scope for foreclosure is dim and most of the residents are poor and do not have viable business projects in the first place, there may be a large need for improving tenure security to give official recognition, get an “address,” and promote social stability. In addition to integrating households into the formal system, such actions can significantly reduce the transaction costs for informal lenders (Messick 1996). If the use of land as collateral is not immediately required, the information and legal requirements for land certificates can be relaxed, providing an opportunity for adopting speedier and less costly registration procedures.

Increasing tenure security can also have benefits in terms of improving local governance structures (Alden-Wily 2002). In many countries where tenure security is low, often as a consequence of past land reform, political connections are important for people to gain or maintain access to land. For example, in Mexico before the 1992 reforms, the *ejido* sector was subject to numerous restrictions on land rights, leading to clientelism, inefficient land use, and low levels of investment in rural areas and chaotic informal settlement in peri-urban areas (Gordillo, de Janvry, and Sadoulet 1998). In qualitative interviews, beneficiaries of a program to establish land rights that were both more secure and better administered highlighted that the two most important impacts of the reforms were the reduction in conflicts and the increase in transparency, along with the associated reduction of political influence in the *ejido* (World Bank 2002a).

Even though land is, in the short run, virtually indestructible, deforestation and environmental destruction undermine the long-term sustainability of the natural resource base. Conceptual models and empirical evidence indicate that more secure property rights to land will provide incentives for greater resource conservation, as illustrated in the case of Brazil, where Cattaneo (2001) identifies tenure security as a key factor in deforestation, or in Ghana, where Ahuja (1998) claims that a more pro-active policy regarding land tenure could have significant benefits in terms of natural resource management. This is supported by evidence indicating that improved forest management in practices were adopted in Nepal and Vietnam after use rights to state forests were transferred to communities and to individual farmers (Kijima, Sakuria, and Otsuka 2000; Otsuka 2002). In Panama effective property rights, even though not the only relevant factor, could significantly reduce the danger of deforestation (Nelson, Harris, and Stone

Greater tenure security can reduce environmental degradation

2001). The importance of adequate regulation is reinforced by the fact that in many contexts individuals use deforestation as a strategy to gain property rights (Angelsen 1999). Some evidence also suggests that giving more secure property rights to indigenous people will enable them to negotiate more effectively with outside interests, and will thus reduce deforestation (Godoy 1998). Environmentally appropriate land use generates externalities at the local as well as at the global level. The international community's and governments' increasing recognition of the value of such external benefits and willingness to take them into account reinforce the need for a clear definition of property rights to the lands from which these external benefits originate.

In line with earlier discussion, to reap such environmental benefits, attention to group and resource characteristics is warranted. Even in situations where full individualization of property rights is infeasible, helping communities to develop structures that overcome the coordination problems associated with the optimum use of natural resources and thereby establish effective property right regimes can enhance the sustainability of resource use, prevent environmental degradation, and promote the overall efficiency of land use (Baland 1996). For example, in Mexico the collapse of groups' collective action potential was a key factor in many cases of unsustainable use and degradation of natural resources (Key and others 1998; McCarthy, de Janvry, and Sadoulet 1997) and efforts to improve internal structures could help to achieve better resource utilization. In other instances, especially where resource characteristics demand more specific investment, as in the case of high-quality, valuable timber, groups have often chosen to assign ownership rights to individuals (Kijima, Sakurai, and Otsuka 2000). What is relevant in all of these cases is to ensure that groups have appropriate mechanisms to define and modify rules and that they are able to enjoy the benefits from such decisions.

Impact of Tenure Security on Investment and Productivity

There are three main elements of tenure security that can affect households' behavior. First, greater security against eviction, which in practice is often equivalent to longer duration of land rights, will reduce the need to spend resources on defending resource rights and the probab-

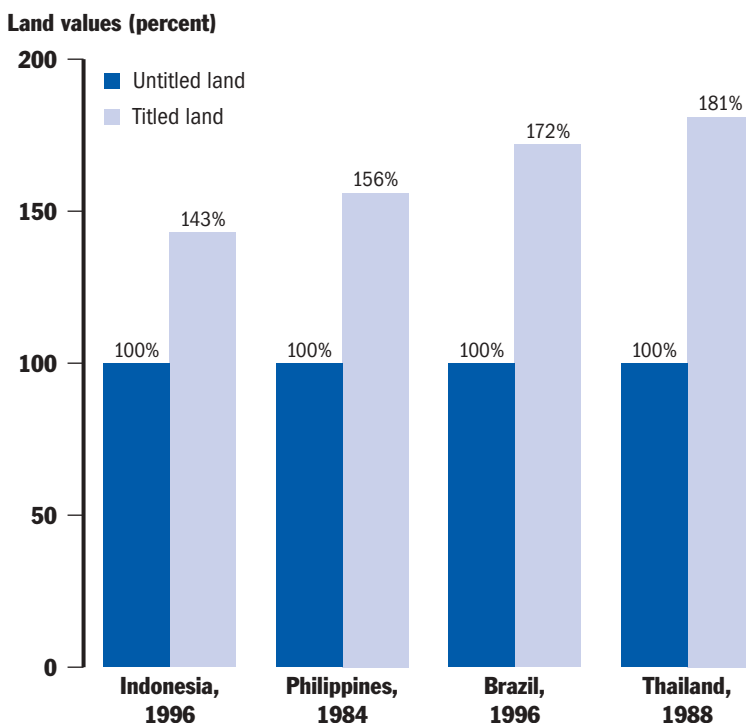
ity of getting caught up in land conflicts. This is likely to increase the demand for land-related investment. Second, greater ability to transfer land, while unlikely to affect the probability of conflict or eviction, will increase the payoff from investments linked to the land because it will allow the person who made the investment to benefit from it even if, for some unforeseen reason, he or she will not be able to personally use the land. Third, greater tenure security can enhance access to credit, thereby increasing the value of investment undertaken in situations in which limited credit supply constrains investment.

Empirical analysis of the relation between tenure security and economic outcomes needs to take account of the different elements and many gradations of tenure security. For example, open-access-property regimes provide much less security than inheritable usufructuary rights. On the other hand, long-term and fully transferable leases may, in practice, provide levels of tenure security virtually identical to those provided by titled individual ownership. Careful definition of the underlying concepts is therefore essential in any empirical study of land tenure.

In addition, empirical analysis needs to recognize the possible presence of spurious correlations between measures of tenure security and economic impacts. For example, if wealthy households have better economic opportunities but are also more likely to acquire land title, simple correlations may easily overestimate the impact of title as an indicator of tenure security. Similarly, households may be more likely to demand and acquire title to land of higher quality where the payoff from investment is higher. Failure to account for this, for example, by adjusting for land quality or household characteristics, could also lead to spurious and misguided conclusions. There are various ways to deal with this problem, such as using panel data analysis with household fixed effects or controlling for as many unobserved variables as possible. The reliability of any empirical result depends on the care taken in adjusting for these factors.

Lack of tenure security, in any of its dimensions, implies that households or entrepreneurs face a risk of losing their property rights to a plot of land (and the associated income flows) at some point in the future. As shown formally and empirically (see, for example, Besley 1995; Feder 1988), eliminating such a threat by enhancing the security provided through either informal means or formal institutions such as land titles will increase the expected benefits from productivity-enhancing,

**Reducing the risk of eviction
can increase land values**

Figure 2.3 Impact of title status on land values, selected countries and years

Source: Feder (2002).

long-term investments, and thus the owner's willingness to undertake them. Also, without secure tenure households will have fewer incentives to rent out land in the short term to other users even if doing so could have significant equity and welfare benefits. We therefore distinguish the effects of tenure security on investment and land prices before proceeding to the impact of formal land title on credit supply. Figure 2.3 summarizes the impact of secure land rights on land values in selected countries.

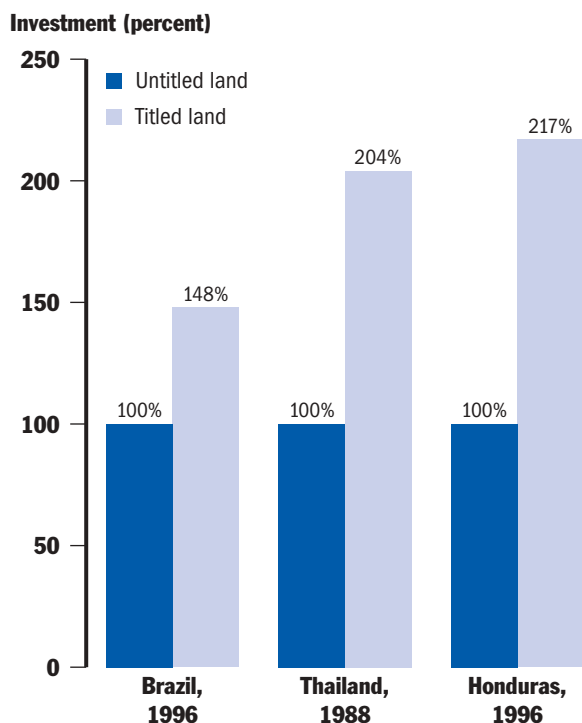
In Asia, higher tenure security, even if not formalized, increased investment

The importance of productivity benefits associated with more secure and individualized forms of tenure, even in a single period without any investment effects, is illustrated by the transition from collective to private cultivation that has been associated with large increases in productivity, as in the case of China (Lin 1992; McMillan 1989). In addition, the key result from a number of studies is that under formal as well as informal regimes, greater tenure security, as measured by the extent of rights possessed by the owner, significantly increases landowners' investment incentives. Especially where investments are labor-intensive

but involve few cash outlays, the unambiguous conclusion is that higher levels of tenure security—even if they are not associated with high levels of transferability and are defined only at an informal level—do provide an important incentive for increased investment. Results from China, Pakistan, and Vietnam confirm the importance of tenure security for investment. Comparing plots planted with the same crop by the same household but under different tenure regimes, Jacoby, Li, and Rozelle (2002) find that farmers tend to apply more manure and labor, and to obtain significantly higher yields, on plots that are privately owned and are therefore more secure. In India, land values for titled land are, on average, about 15 percent higher than for untitled land, suggesting that possession of formal title reduces the probability of land loss (Pender and Kerr 1998).

In Thailand land ownership titles induced higher investment in farming capital (attached investments and other capital), and titled land had significantly higher market values and higher productivity per unit. Output was 14 to 25 percent higher on titled land than on untitled land of equal quality (Feder 1988). A comparison of housing prices in non-squatter residential areas and squatter areas of the city of Davao in the Philippines revealed that prices were 58 percent higher in the formal area than in the informal one and rents were 18 percent higher (Feder and Nishio 1999). Accounting for a possible impact of greater tenure security on crop choice, for example, shifting to orchards instead of growing maize, may further increase these benefits. In Vietnam, Do and Iyer (2002) provide evidence suggesting that land registration contributed to increased levels of perennial cultivation and irrigation. Higher levels of tenure security in Chinese villages have a strong and significant investment-enhancing impact, such as the application of green manure (Yao 1996). Panel data from China confirm that, controlling for other factors, land transfer rights boost agricultural investment (Carter 2002). In India investment in conservation is much lower on leased plots and on plots that are subject to sales restrictions, supporting the hypothesis that more secure land rights significantly affect household behavior (Pender and Kerr 1998). For urban settings in the Philippines, the differential in property values between dwellings of otherwise equal quality in the nonsquatter and the squatter sector was about 58 percent, and this largely benefited the poor (Jimenez 1984). In Jakarta registered land was up to 73 percent more valuable than similar land held by a weak claim (Dowell and Leaf 1992). Figure 2.4 shows the impact of title on investment in three countries.

Figure 2.4 Impact of title status on investment, selected countries and years



Source: Feder (2002).

In Africa, tenure security and transferability are relevant

In Ghana plots with greater transferability, interpreted as more secure tenure, increased the probability that individuals would plant trees and undertake a wide range of other investments such as drainage, irrigation, and mulching (Besley 1995). While tenure security affects farmers' investment behavior, this does not necessarily require fully individualized rights or land titles. In Niger farmers apply significantly lower amounts of manure on rented than on owned plots, suggesting that they are aware of the difference in long-term tenure security, but no significant difference is apparent between parcels held under full private ownership and those held under traditional usufruct. The conclusion is that tenure security on the latter is apparently high enough for farmers to expect to be able to reap the benefits from their medium-term investment (Gavian and Fafchamps 1996). In Malawi higher levels of tenure security under a patrilineal system have led to higher levels of tree planting, tobacco cultivation, and adoption of new technology (Otsuka 2001). In Tanzania Briggs and Mwamfupe (2000) have identified insecurity of property rights in peri-urban areas resulting from disputed ownership as a key factor underlying lower investment.

Indeed, a fundamental rule found in most customary or communal land tenure institutions is that investment in observable land improvements, such as planting trees, is rewarded with strong individual land rights (Crisologo-Mendoza and Van de Gaer 2001; Otsuka 2001; Shepherd 1991). In areas where long-term improvements such as terracing or clearing land and establishing plantations have the potential to significantly increase land productivity, a common arrangement is that tenants can either establish quasi-ownership rights to the land or significantly increase their share of the harvest, as in the case of the Republic of Yemen (Aw-Hassan 2001).¹⁵ Similarly, in Sumatra joint ownership of land is found in areas that grow rice, which requires little investment, but an individualized system of land rights has evolved in upland areas where cinnamon is grown, implying a need for long-term investment (Suyanto, Tomich, and Otsuka 2001).

In Nicaragua, the greater security associated with registered title helped to bring the level of investment closer to the optimum and increased the value of land by almost 30 percent. Investment at the plot level is affected by the rights to the specific plot, but not by whether there is at least one titled plot (which could then be used to access credit) in the household. This suggests that, rather than improved credit access, it is the higher level of tenure security that drives the result, an interpretation reinforced by the fact that there are no significant differences in transferability between titled and untitled lands (Deininger and Chamorro forthcoming). In peri-urban Ecuador, the unconditional impact of title is to raise property values by 24 percent. Informal property rights, which communities develop over time, can to some extent substitute for formal property rights, implying that titling will have maximum effect in newly established communities where no informal rules exist yet (Lanjouw and Levy 1998). In Venezuela, from 1965 to 2000 the prices of land in informal markets were consistently between 40 to 60 percent lower than the prices for titled land (Delahaye 2001).

Analysis of the impact of higher tenure security and land titling in the Brazilian Amazon also indicates a strong impact of higher tenure security (Alston, Libecap, and Schneider 1995, 1996). For Indian reservations in the United States, Anderson and Lueck (1992) found that output on tribal and individual trust land was 85 to 90 percent and 30 to 40 percent lower, respectively, than on fee simple land. Salas (1986) provides less rigorous evidence for Costa Rica, where they estimate a positive correlation of 0.53 between farm income and title security, and Stanfield (1990) claims that titling programs have led to increases in

Formal title has a positive impact in Latin America

the value of land. More anecdotal evidence supports this: de Soto (1993) notes that in Peru investment in property increases ninefold when squatters obtain formalized title to their homes.

Land Title as a Key Determinant of Formal Credit Access

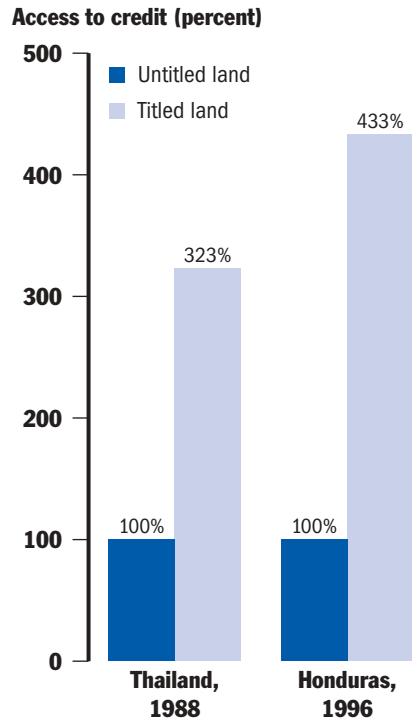
Title reduces the costs of transferring land

In addition to inducing investment, secure land ownership that can be verified and transferred at low cost is likely to increase the supply of credit from the formal credit system. The reason is that because of its immobility and virtual indestructibility, land with secure, clearly defined, and easily transferable ownership rights is ideal collateral. The provision of collateral—facilitated by the possession of formal land title—is generally a necessary condition for participation in formal credit markets for medium- and long-term credit. Titles may enhance access to informal credit markets as well, as Siamwalla (1990) observed in Thailand. Therefore, the existence of well-documented and transferable property rights and of institutional arrangements to facilitate the low-cost transfer of land can often make an important contribution to the development of financial markets. Figure 2.5 presents some of the available evidence.

The importance of the credit supply effect associated with the provision of land title is supported by evidence from Thailand (Feder 1988), where farmers' opinions and econometric evidence point toward improved credit supply as the main benefit of titling: the availability of title significantly enhanced households' credit supply in three of the four provinces. Lopez (1997) finds a similarly positive impact of title on credit access in Honduras.

For title to enhance credit access, certain preconditions need to be satisfied

The positive effect of title on the supply of credit will not emerge universally. Formal land titling and registration, as distinct from measures to increase tenure security in an informal setting, are more likely to have a strong credit market impact in situations where informal credit markets are already operational and a latent demand exists for formal credit that cannot be satisfied because of the lack of formal title. This is generally the case in countries where a certain level of per capita income has been attained, so that land is no longer the primary safety net, and if profitable investment opportunities are available for potential borrowers. Where these conditions exist, providing formal land titles can indeed contribute significantly to the emergence of financial markets. Even in these cases, measures to improve the development of credit infrastructure or access to markets may be appropriate simultaneous with titling efforts.

Figure 2.5 Impact of title status on access to credit, selected countries and years

Source: Feder (2002).

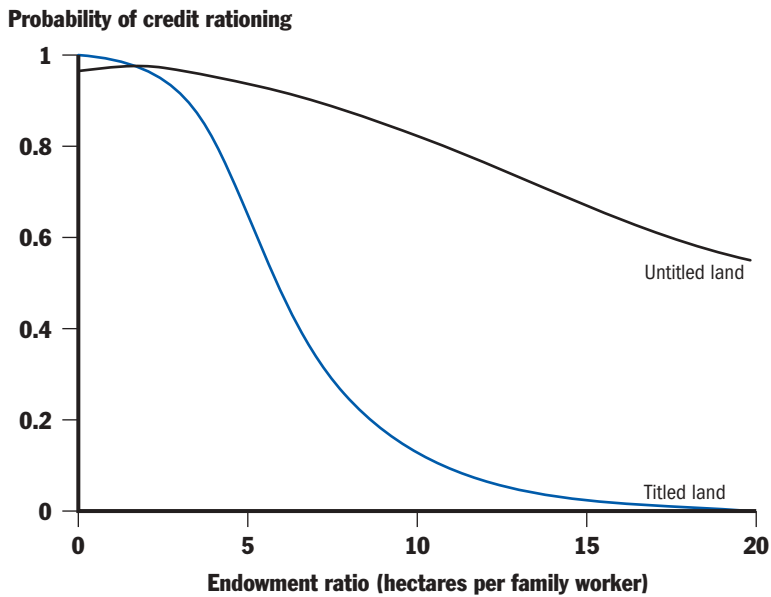
By contrast, formal titles may not have an effect on access to credit in situations where (a) the option of foreclosure is not feasible, (b) the necessary financial infrastructure and/or a banking system that will lend to small producers is not available, or (c) the profitability of projects by potential users of credit is low. In addition, at low levels of income and in the absence of other mechanisms for social security, land serves as a social safety net. Foreclosing on the land of households that have defaulted on credit would deprive them of their basic means of livelihood and may not be socially desirable, which is essentially the reason for customary systems restricting the marketability of land. Even where formal law decrees that land should be fully tradable, such legislation may be impossible to implement, as was indeed the case in Kenya (Atwood 1990). Because banks are unlikely to lend under these circumstances, expected credit market effects will not materialize. In India, for example, Pender and Kerr (1999) found that formal proof of

Where title increases credit access, the effect may be differentiated by asset class

land ownership had little impact on credit supply, either because other factors strongly affected credit access by small producers or because foreclosure by banks was not an option.

The provision of credit is also normally associated with fixed transaction costs that are related to the need to screen applicants, enforced repayment, and other issues independent of the amount borrowed. The need to recoup these expenses may cause lenders to provide credit to small borrowers at significantly higher cost than to large ones, or to exclude them altogether. Thus, even where land is titled and can therefore be used as collateral, the transaction costs associated with administering such credit or with foreclosure procedures may be too high to be attractive to commercial lenders. Thus, the credit access benefits of land titling may be differentiated by wealth and accrue only to richer producers. Indeed, a study in Paraguay confirmed the existence of such a credit supply effect of title (Carter and Olinto 2003). Estimates indicated that producers with less than 20 hectares remained rationed out of the credit market and therefore did not benefit from the credit supply effect of title, implying that the credit-related benefits of titling programs accrue only to medium and large landowners. As figure 2.6 indicates, producers with a smaller landholding are more likely to be rationed in their access to capital, especially if their landholding is untitled, than producers with larger landholdings. While title is estimated to increase access to credit for all producers, the effect is sufficiently large to overcome rationing only for those with more than 20 hectares of land, implying that other mechanisms need to accompany titling for households below this threshold. Mushinski (1999) found a similar pattern of wealth-biased credit rationing in Guatemala.

Whether, in the presence of heterogeneity in endowments, small producers will benefit from policies to award title depends in part on the presence of credit markets and the ability to reduce transaction costs and policy-induced distortions that limit access to credit markets. Considerable evidence suggests that in situations in which credit markets either do not function well or entail distortions that put smaller and poorer farmers at a disadvantage, the establishment of formal and individualized property rights through titling may have an adverse impact on equity. Eliminating policy distortions and other barriers that might reduce access to credit will therefore be important before, or commensurate with, initiation of titling activities. Where titling is unlikely to increase access to formal credit even with the elimination of such distortions, and where additional interventions to increase access

Figure 2.6 Impact of titling and wealth on credit access, Paraguay, 1990–95

Source: Carter and Salgado (2001).

to credit by smallholders are not viable economically, lower levels of formality and precision can be used. Experience illustrates that these can be upgraded over time, as in the case of Botswana (Adams 2000).

Policy Implications

THE PRINCIPLES AND EVIDENCE DISCUSSED EARLIER IMPLY that the legal framework for land ownership should not only be comprehensive, but should also be flexible, allowing for different options depending on population density, level of economic development, and infrastructure access. Furthermore, it should explicitly recognize the rights of women and other groups that have traditionally been neglected or disadvantaged. Wherever justified and compatible with the foregoing principles, the legal framework should include formal recognition of customary rights subject to minimum standards. Even where rights are awarded to the group, they should be sufficiently specific regarding the obligations of individuals within the group and the mechanisms by which these are specified or can be

changed. Finally, the institutions that administer land rights need to be backed by law, legitimate, accessible, accountable, follow clearly defined procedures, make authoritative decisions and provide information at low cost so as to not discriminate against the poor.

Definition and Demarcation of Property Rights

The foregoing discussion highlights that property rights should endure long enough to provide investment incentives and should be supported by accessible enforcement institutions that enjoy legal backing and social legitimacy; that the responsibility of individuals needs to be clear even if property rights are given to a group; and that the pertinent institutions must have the possibility of evolving flexibly in response to changing needs. Even where the ultimate right (root title) may be with a community or the state, many options are available depending on the particular situation and system. Botswana provides a good example of a gradual change in the breadth of land rights that an individual can enjoy, starting with group rights. Since 1970 the authorities have gradually strengthened individual rights, starting with the right to exclude other people's animals and to fence arable lands; allowing the allocation of land to all adult citizens, whether male or female, married or single; charging a price for transfers of developed land; and introducing common law residential leases for commercially valuable land (Adams 2000; Toulmin and Quan 2000). The critical issue is that the different systems are compatible and complement each other and that mechanisms for making the transition between different systems are well defined so that duplication and parallelism are avoided.

In customary systems, demarcation of external boundaries is critical, subject to clear membership, internal rules, conflict resolution mechanisms, and recording of transfers

Customary arrangements are dominant in most African countries and in indigenous areas of many Latin American and some Asian countries. Systems meant to closely resemble customary tenure were re-established in Mexico in the form of *ejidos* after the 1917 revolution and in China and Ethiopia in the context of collectivization. In these cases individuals' secure and normally inheritable rights to receive land, generally for individual cultivation, are based on their membership in the lineage that cleared the land. Therefore, the defining characteristic of customary tenure is that land is owned by the community rather than the individual. Exchanges through sales or rentals are limited to the community, and allowing the permanent transfer of land to outsiders formally and definitively ends the customary tenure regime. Customary systems of land

ownership have evolved over long periods of time in response to location-specific conditions. In many cases they constitute a way of managing land relations that is more flexible and more adapted to location-specific conditions than would be possible under a more centralized approach (Downs and Reyna 1978; Noronha 1985). The land rights provided by such systems are often very secure, long-term, and in most cases inheritable and can be transferred within the community (Feder and Feeny 1991; Feder and Noronha 1987). Challenges will arise only once transfers with outsiders become more widespread or if internal institutions are no longer able to adequately resolve land disputes.

The literature is clear that even in cases where property rights are given to a group—that is, a clear boundary is established between members and nonmembers—whether or not an open-access regime will prevail within the group will depend on the effectiveness with which mechanisms for resource management within the group are established and managed. The widespread presence of condominium associations in industrial countries that share many characteristics with customary tenure systems illustrates that well-defined group rights are not necessarily inferior to full individual ownership and can have advantages in providing public goods. It also illustrates that in addition to defining the responsibilities of individuals within the group, mechanisms for exit and/or the transition to more individualized property rights structures need to be clearly defined if such arrangements are to be viable. As long as readily identifiable, long-term, and transferable rights to land are held by individuals within a group that satisfies the criteria outlined earlier, first providing legal recognition and regularizing groups' land ownership rights may well be a cost-effective approach to providing tenure security (Heath 1994). In many cases communities have well-established rules for assigning land rights within the group, but may face threats of encroachment or conflict from outside. If this is the case, high levels of tenure security can often be achieved at low cost by delineating rights for a group rather than for individuals. Experience suggests that such arrangements will be sustainable and equitable only if the rights and responsibilities of individuals within the group are clearly defined and if mechanisms to enforce them or to appeal infringements are in place.

In many instances conflicts arise because land transfers and the agreements surrounding them are contested, or because one of the parties involved challenges the validity of the way in which past conflicts were resolved. For this reason land transfers and agreements undertaken in connection with the resolution of conflicts should be recorded in a

way that minimizes the possibility of ambiguity or re-interpretation. Providing administrative validation for arrangements and contracts, such as transfers and sales, that have been agreed on locally, provided they do not infringe on others' rights (for example, of women or holders of secondary land rights) constitutes a promising option (Lavigne Delville 2000). In fact, simple recording of sales agreements witnessed by respectable members of the community has long been used to legitimize and give social recognition to such transactions. Use of this mechanism is particularly desirable in West Africa where, because it is often migrants who are involved in land transactions, the conflict could lead to broader frictions along ethnic lines.

Recognizing occupants or formal long-term leases is an option on state lands

In situations where land users and the private sector are confident that the government will honor contracts, long-term and secure lease rights that are fully transferable can become virtually indistinguishable from private ownership. For example, in Israel most land is state-owned and leased to farmers for terms of 49 or 99 years without any negative impact on the functioning of land or credit markets (Lerman 2001). Where there are reservations or fears about the equity and productivity impact of privatizing land ownership, award of long-term leases can provide a means of achieving many or all of the benefits, or to test out the feasibility of such arrangements and then gradually expand on the basis of the experience gained in the process. For example, in China after 1978, rural land was initially given on informal lease contracts for 15 years, a period that has now been extended to 30 years. The gradual evolution of tenure security on state-owned land is illustrated in box 2.2.

Similarly, in Vietnam the 1998 Law on Land provides automatically renewable leases of 20 years for annual crops and 50 years for perennials, allows some mortgaging, and permits foreign investors to obtain leases to land under certain conditions (World Bank 2000). Obviously, as lease contracts near the end of their term, uncertainty about their continuity can reduce investment incentives. Thus, rules to ensure a fair and transparent process of contract renewal will be required. The desire to reduce transaction costs, uncertainty, and the opportunity for discretionary bureaucratic interference has led many countries to stipulate automatic renewal of leases in the absence of an overriding public interest requiring termination of the contract.

Obviously, if there are doubts concerning the ability or desire of the state institutions leasing out the land to honor long-term contracts, for example by revoking leases or raising lease payments once investments that increase the value of the land have been made, the benefits from

Box 2.2 Land tenure security under state ownership

IN CHINA THE ADOPTION OF INDIVIDUAL USE rights to land under the household responsibility system in the early 1980s has contributed significantly to increased productivity and output in rural areas (Lin 1992; McMillan, Whalley, and Zhu 1989). Nonetheless, studies find that tenure security varies sharply across villages (Li, Rozelle, and Brandt 1998) and that periodic administrative reallocation of land contributes to great insecurity of property rights (Jacoby, Li, and Rozelle forthcoming). Weak property rights have been linked to environmentally unsustainable methods of cultivation, overexploitation of scarce natural resources, low investment, and decreased household welfare (Chen and Davis 1998). Furthermore, abuses of power by village authorities to effect reallocations that would provide them with personal bene-

fits are a growing problem (Li 2002). To increase tenure security, in 1999 the Chinese government revised the 1986 Land Management Law to require that farmers receive written 30-year land use contracts and that the scope for readjustments be circumscribed or completely eliminated. This has had considerable, though regionally differentiated, impacts on farmers' perceptions (Prosterman 2001). Building on this, in 2002 the government adopted a new land law that strengthens individuals' rights, frees rental markets, protects households against arbitrary expropriation by village cadres by requiring that even small reallocations be approved by a two-thirds majority of village members, and aims to establish mechanisms to protect women against losing their land endowments (Schwarzwalder 2002).

leasing of public land will be limited or completely absent. If it is not possible to increase the credibility of government institutions and the benefits from improved ownership rights are substantial, complete privatization may be indicated. At the same time, there may be broader benefits from increasing the credibility of public institutions and making them more accountable, something that illustrates the close link between land tenure and broader legal reform.

If the value of land is sufficiently high, individual ownership rights to land are generally the option of choice. Where the magnitude of the task, the high requirements of full title, and shortage of administrative capacity render the award of fully surveyed and documented freehold title infeasible or impractical, at least in the short to medium term, intermediate options to increase the tenure security of informal urban and rural dwellers are needed. The options available include a streamlined and simplified title registration system as introduced in Peru (de Soto 2000); long-term and transferable leases as implemented in many Indian cities; or legal measures that guarantee occupancy rights and recognition of such rights, including record keeping, at the local level. These measures have often had a significant impact on increasing tenure security at a relatively low cost. Ensuring the compatibility of any simplified registration system with an

Private ownership will be key to tenure security in many cases

eventual formal titling procedure is, however, essential in order not to set up parallel systems.

Land ownership as certified by formal title will still be the option of choice where land values are sufficiently high and the administrative capacity for land administration is available. This is illustrated by the fact that many middle-income countries such as Chile, Malaysia, Mexico, Morocco, Thailand, and Tunisia have carried out large-scale tenure regularization and upgrading programs that have provided formal title with considerable success. In this context, land registration should be accessible and provide authoritative and reliable information to financial institutions and potential investors at low cost. To ensure transparency, public access to the registry needs to be enshrined in law, the administrative structure must be sufficiently deconcentrated,¹⁶ and the physical records must be in a condition that permits such access at low cost. The agency responsible for registering land rights should also be independent from the courts and the executive.

Initial award of land documents should be systematic

As the benefit of an official registry lies in providing authoritative information on all properties in a jurisdiction, the increment in tenure security that can be offered by a legal and institutional framework that covers most of the territory and that provides a possibility for gradual upgrading as needed can outweigh the relatively low level of precision that may be necessary for cost reasons. Greater precision and detail can then be targeted to areas where land values are higher, for example, urban areas. Equity and efficiency considerations also imply that wherever possible titling programs should be systematic rather than on demand. Efficiency is increased through economies of scale, and equity is enhanced if all claims in an area are registered at the same time.¹⁷

Registration programs should be accompanied by publicity campaigns to ensure widespread knowledge of the rules and procedures. Often, involving communities is more cost-effective than a highly formalized way of demarcating boundaries. Furthermore, local communities have the best knowledge of the situation on the ground, and if there is a systematic requirement for them to provide consent they can object to wrong boundaries, misquoted or omitted owners, and other irregularities. This is critical to prevent the emergence of subsequent disputes that would jeopardize the security of titles and certificates awarded, reducing their value and undermining the scope for subsequent land transactions. The importance of local participation is widely acknowledged, systems that do not pay sufficient attention to this issue are either slow and ad hoc or suffer from subsequent disputes.

Even where systematic registration is being implemented, it will not be feasible at once for a whole country, thereby posing the challenge of dealing with nonpriority areas on a sporadic basis. The same is true for areas that are not included under systematic adjudication. Given that historically, ad hoc procedures of land adjudication without proper consultation have arguably been the mechanism through which traditional communities and their members have lost most of their land either to outsiders or to chiefs and community members, special attention to these situations is warranted. This will make adherence to a transparent process even more important.

Unless the authorities can make land administration institutions provide services broadly, at low cost, and in a way that inspires public confidence and trust so that owners see tangible benefits that justify their efforts to keep their property records updated, large investments in legal drafting and physical infrastructure may have little long-term effect. Indeed, institutional shortcomings can impose constraints on households' and entrepreneurs' ability to enjoy and transfer property rights that are as detrimental as ambiguous legal provisions. In fact, the case of India, where the registry essentially provides only a record of tax payments and where land disputes therefore abound (Wadhwa 2002), illustrates that a registry that does not provide authoritative and up-to-date information may be of limited use. In many cases titling programs did not achieve the expected outcomes because households failed to register follow-up transactions, thereby rapidly invalidating the value of the huge public investment. Analysis of the incentives for follow-up registration reveals that high transaction costs or transfer taxes often mean that households do not register transactions, and the authorities need to take appropriate measures to deal with this issue. Thus, to ensure sustainability, if landowners are expected to register transactions and to use the registry, their costs in time and money for doing so should be minimized.

Sustainable mechanisms for follow-up registration are required

Strengthen Women's Land Rights

Past land policy initiatives that were based on a unitary model of the household have often failed to recognize the importance of the way in which control of assets, and in particular land, is assigned within the household. This has often resulted in relative neglect of women's land rights, despite the fact that this violates basic norms of equality and evidence pointing toward the importance of women's access to assets and

income for nutritional outcomes and human capital accumulation, especially for girls, as well as for women's bargaining power within the household. Irrespective of whether or not women engage in agriculture, independent asset ownership will considerably enhance their livelihood opportunities; for example, they could use land ownership to gain access to credit that would allow them to establish small enterprises or engage in other nonagricultural pursuits. Even where measures intended to enhance women's rights, such as joint titling, were introduced, results and impacts have often lagged far behind expectations, implying that greater attention to the effectiveness of interventions would be warranted.

Attention to women's land rights is particularly important if women are the main cultivators, if control of productive activities is differentiated by gender, or if adult mortality is high

In many societies women's land rights are of a secondary nature, acquired through their husbands or male relatives. As a consequence, women's ability to have independent land ownership in case of the death of their husband or divorce was limited. Divergence between ownership and control rights can have negative effects on productivity. Where the husband controls the proceeds from cultivation, this reduces women's incentives to exert efforts, and thus lowers agricultural productivity. This is particularly relevant in African countries, where women are the main agricultural cultivators, and in many Latin America and Asian countries, where men migrate or women are traditionally heavily discriminated against (Agarwal 1994; Deere and Leon 2001). In Burkina Faso the reallocation of factors of production from plots controlled by men to plots controlled by women within the same household could increase output by 6 percent (Udry 1996). Other studies highlight that bias in the allocation of land rights against women is not justified, as the literature provides no evidence of inferior efficiency by women farmers; indeed, a study from Côte d'Ivoire, for example, demonstrates that women's efficiency is not significantly different from that of men (Adesina and Djato 1997). In addition, anecdotal evidence suggests that giving women title to land will allow them to use the security this provides to access credit, possibly to start up nonfarm enterprises.

Unless women's rights are specifically protected, increases in land values caused, for example, by higher levels of population density or the emergence of export opportunities, may lead to a progressive weakening, or even the loss, of women's rights to land. In some parts of West Africa the introduction of export crops has resulted in men taking over plots previously farmed by women (Kevane and Gray 1999), similar to what occurred in Kenya (Dolan 2001). By contrast, the introduction of export crops in Ghana has increased the demand for women's labor,

causing husbands to “gift” them land rights in return for labor on their husbands’ cocoa plots. The resulting improved outcomes, such as spending on girls’ education and health, illustrate that strengthening women’s bargaining power and their control over assets clearly matters and can help improve equity (Quisumbing and Otsuka 2001). In many Indian states both laws and court rulings or prevailing practices are often strongly biased against women. Government action to address the issue has been recommended at the national level (Saxena 1999).

The devastation caused by the HIV/AIDS epidemic, together with the fact that in traditional systems widows have only indirect, and often insecure, access to land, is forcing significant adjustments. Although traditional inheritance patterns are changing in some African countries because of the significantly increased male mortality (Ntozi and Ahimbisibwe 1999), in Uganda widows suffer from significantly higher levels of land-related conflicts than others, causing losses in productivity and requiring them to spend money on trying to obtain a resolution (Deininger and Castagnini 2002). Better definition and enforcement of women’s rights to land and its inheritance could therefore avoid burdening victims of such shocks with conflicts over land that are likely to further weaken their ability to effectively cope. Unless measures to effectively protect women’s access to land assets are taken, general efforts to increase the security of land rights may in this context result in a higher concentration of land rights in the hands of men, with negative implications for gender equality and economic outcomes (Lastarria-Cornhiel 1997).

In most countries, traditional law implies that women’s access to land is mediated through their relationships with men. Legal recognition of women’s ability to have independent rights to land is thus a necessary, though by no means sufficient, first step toward increasing their control of assets. While most countries recognize gender equality before the law and outlaw discrimination against women, putting such regulations into practice requires more specific actions. In Asia women’s land rights have been systematically eroded over a long time. While contestation of the main property laws has helped to improve the legal framework, shortcomings remain both in the legal basis for women’s property rights and in the actual ability to implement these (Agarwal 1994). In Africa, where juxtaposition, and often conflict, between traditional patriarchal authorities and democratic institutions based on gender equality can create considerable friction, a number of countries, including Mozambique, Nigeria, and South Africa, have anchored gender

Legal recognition of women’s property rights is an essential first step

Box 2.3 Innovative gender legislation in Latin America

IN AN ATTEMPT TO IMPROVE GENDER EQUALITY, Latin American and Asian countries have adopted a number of innovative practices. Explicit equality between men's and women's land rights is guaranteed by Nicaragua (as of 1981), Brazil (1988), Costa Rica (1990), Honduras (1991), Colombia (1994), Bolivia (1996), the Dominican Republic (1998), and Guatemala (1999). Joint adjudication and/or titling of land to couples is a requirement in

Colombia (as of 1988), Costa Rica (1990), Nicaragua (1993), Peru (1997, for married couples only), the Dominican Republic (1998), Ecuador (1999), Guatemala (1999), and Brazil (2001, option since 1988) and has been proposed in El Salvador and Honduras. Furthermore, Chile, Colombia, and Nicaragua give priority and charge lower fees to female household heads in land-related interventions.

Source: Deere and Leon (2001).

Inheritance regulations often play a critical role

equality in their constitutions, with a clarification that this provision supersedes any legal provision, including in customary law. The example of Uganda, where the clause pertaining to co-ownership by women was eliminated from the 1998 Land Act at the last moment, illustrates that the legal emancipation of women is often highly political and that in the absence of strong advocacy, proper attention to women's issues may be difficult to achieve (Yngstrom 2002).

For many women, inheritance is an important way of accessing land. Normally the rules followed are highly culture-specific, have evolved over long periods, and continue to adapt to changes in the socioeconomic environment. Investigators have repeatedly identified lack of clarity in inheritance regulations as a major source of conflict. Where modernization will clash with traditional values, the goal should be to clarify the rules and explore the extent to which they are consistent with other values, such as gender equality, and if they are not, to examine how such consistency might be achieved at either the procedural or the legal level. The issue has become particularly important in the context of the HIV/AIDS epidemic in Africa, where the requirement to go through elaborate formal channels to effect transfers of rights in the case of inheritance has, in some cases, developed into a major burden for the poor (Fourie 2002). Legal changes to increase women's rights undertaken in Latin America (see box 2.3), and more recently in Asia, have made land legislation more gender-balanced (Deere and Leon 2001).

Legal change needs to be translated into local reality

Although investigators have undertaken little systematic study of changes in inheritance or other legislation, empirical evidence suggests that even where legal provisions are adequate, if they clash with traditional norms their effectiveness may be limited. For example, in India women often fail to exercise their legal rights because of social pressure, and some evidence indicates that adjustments men have made to the legal provisions may make them actually worse off (Saxena, 2002). In Africa, laws in favor of women may not be effective, as those who are to benefit from them often fail to insist on their rights for fear of being accused of witchcraft or being socially stigmatized (Walker 2002). For example, even though women's rights are adequately protected in law, local institutions that male elites have traditionally dominated cannot automatically be counted on to protect and enforce these rights, as Khadiagala (2001) demonstrates for Uganda. In Eastern Europe, even though countries' constitutions mandate equality of men and women before the law, practice discriminates against the latter, for instance, by allowing the registration of property in the name of only one person, which will usually be the male household head.

All this implies that legal measures can only constitute a first step within a broader process of education and capacity building that makes women aware of their rights. To avoid or be able to counter undesirable side effects early on, the impact of legal measures needs to be closely monitored. Advocacy and awareness campaigns to draw attention to the importance of gender issues in land policy, as well as measures to make women aware of their rights and to provide them with legal aid, will be required (Gopal and Salim 1998). Even though it is rarely enough by itself, the right to inherit land can have an important role in preventing the erosion of such rights by providing new opportunities and can strengthen women's bargaining power (Gray and Kevane 2001).

One strategy to improve women's property rights that has not been fully explored is the potential for giving priority attention to women as beneficiaries of government interventions and programs. Titling programs in Latin America have developed promising approaches, including, in addition to legal changes, joint titling and explicit guarantees for women's land rights. Experience from these suggests that legal initiatives that are accompanied by dissemination campaigns are often insufficient to improve women's status. Preferential treatment of women in public programs such as titling and land reform in Latin America suggests that this provides an appropriate way to increase gender equity and has helped improve the documentary basis for women's rights, which earlier attempts

had almost completely neglected (Deere and Leon 2001). Much more can be done with regard to positive discrimination in favor of women in specific projects and in rigorously evaluating the impact of gender preferences in land registration.

Eliminating or replacing customary tenure is often neither necessary nor desirable

Build on Customary Tenures and Existing Institutions

Given that customary tenure systems have evolved over a long period of time, they are often well adapted to specific conditions and needs. Even in situations where such arrangements reach their limits, building on what already exists is in many cases easier and more appropriate than trying to re-invent the wheel, which can end up creating parallel institutions with all their disadvantages. In the past, practitioners have often considered customary tenure arrangements to be an economically inferior arrangement, equivalent to collective cultivation. To facilitate economic growth and prevent the static and dynamic efficiency losses presumably associated with this form of tenure, they proposed establishing freehold title and subdividing the commons (World Bank 1975). Especially in Africa, this has helped to legitimize and continue the dualism between “modern” forms of land tenure comprising leasehold and freehold systems and “backward” forms consisting of customary arrangements that most newly independent states had inherited from their former colonial masters. In view of the limited outreach of the modern sector, which in most African countries covers at most between 2 and 10 percent of the total land area (Österberg 2002), the failure to formally recognize customary and other traditional institutions has effectively excluded the majority of land and the population using it from the rule of the law, with potentially far-reaching implications for governance.

In Africa, customary institutions administer virtually all of the land area, including some peri-urban areas with high land values where demand for land transactions and more formal property rights is rapidly increasing. Such institutions not only often have a stronger field presence than government institutions, but locals also trust them more, especially in West Africa, where colonial intervention relied more on local institutions. At the same time, the lack of legal recognition of these institutions, which *de jure* puts them outside the scope of the law, makes enforcing decisions extremely difficult for them and for those who may be negatively affected or think these authorities abuse their

Table 2.3 Status of customary tenure in new land laws, selected African countries

Country	Recognition of customary tenure	Customary rights registrable interests	Commons registrable by group	Implementation
Burkina Faso	Permissive	No	No	n.a.
Côte d'Ivoire	Partial	Yes	No	n.a.
Eritrea	No	No	No	None
Ethiopia	No	No	Yes	None
Ghana	Yes	Yes	Yes	None
Kenya	Permissive	No	No	n.a.
Lesotho	Yes	Yes	Yes	None
Malawi	Yes	No	Yes	None
Mali	Yes	Yes	No	n.a.
Mozambique	Yes	Yes	Yes	Under way
Namibia	Yes	Yes	No	None
Niger	Yes	Yes	No	n.a.
Rwanda	No	No	No	None
South Africa	Yes	Yes	Yes	None
Swaziland	Yes	Yes	Yes	None
Tanzania	Yes	Yes	Yes	None
Uganda	Yes	Yes	Yes	Minor
Zambia	Yes	No	No	Under way
Zanzibar ^a	No	No	Indirectly only	Pilots
Zimbabwe	Yes	Yes	Yes	None

n.a. Not applicable.

a. Archipelago of Tanzania.

Source: Based on Alden-Wiley (2002).

power to appeal or bring other action against such decisions. Formal recognition of their role could, by making such institutions more accountable, benefit everybody.

Recent reforms in other African countries have gone a long way toward recognizing customary tenure (table 2.3), thereby providing the basis for integrating it into more formal systems. In addition to the legal recognition of community rights that, for the first time, provides an opportunity to integrate the mass of land users into the formal system, a key element of these reforms is the extensive use of existing local institutions, or in some cases the establishment of new ones, to solve land disputes and provide guarantees for such rights at the local level (Toulmin and Quan 2000). Experience illustrates that legal recognition of the respective institutions is, however, only the first step that needs to be followed up by actual demarcation of land, as well as capacity

building for local institutions. While the former will require attention to minor and secondary rights can have a significant impact on equity, the latter will need clear principles, procedures, and rules to prevent abuses of power and establish mechanisms of appeal. The dangers inherent in the failure to recognize customary rights and the resulting disconnect between legal stipulations and actual practice is illustrated by the case of Côte d'Ivoire. Despite a long history of participatory demarcation of community land, the 2000 Land Law failed to recognize such rights and instead mandated that all customary rights not transformed into full title within 10 years would revert back to the state. The state's limited ability to implement these provisions was questionable from the outset. At the same time, predictions that the law would create widespread tenure insecurity, conflict, and discretionary action by bureaucrats seem to have been borne out by recent hostilities in the country that were at least partly related to land issues.

To put the legal recognition of customary rights into practice, mechanisms for the demarcation and recording of the boundaries of community (or, if desired and feasible, individual) land are indispensable and have been established in a number of countries. For example, Tanzania's land policy establishes a certificate for village land and designates the elected village council as trustee for land. Individual households' plots are registered as individual customary holdings, but land is held and registered by the village. In this case the law also provides a range of options for landholding, and land previously acquired by the state can be transferred back to the village. In Mozambique the law establishes the protection of customary rights without the need for registration. The local community is given legal status, thereby eliminating the need to survey all the individual plots, but at the same time providing protection by delineating community boundaries. Foreign investors and other outsiders can acquire use rights only through consultation with communities (Tanner 2002). In Benin customary rights are recognized and will be validated in a participatory fashion. Once they have registered customary rights, individuals can apply either for land certificates or full registration, both of which can be used for credit on a cost recovery basis. Land is managed by a land management committee at the level of the commune and a village land management committee (Pescay 2002). By expanding on such innovative practices, possibly in a decentralized fashion that allows gradual upgrading over time (see box 2.4), it will be possible not only to improve security of tenure but often also to strengthen local government institutions.

Box 2.4 The scope for gradually upgrading tenure security over time

FOR THE FREEHOLD SYSTEM IN NAMIBIA TO COVER existing urban settlements would take more than 20 years, even if the required knowledge, expertise, and technical equipment were available. The lack of all these factors implies a need for a model of a land registration system that can be upgraded over time. To this end, permissions to occupy were given for the planned portions of urban areas, but these could not be mortgaged, subleased, or otherwise transferred without permission. Urban expansion increases the demand for serviced land for residential and business purposes. At the same time, the high costs involved in planning and developing land, especially with high standards of infrastructure, make land in these areas generally unaffordable for the poor. This, together with the lack of surveyors and other technical expertise, slows processes and encourages the growth of informal settlements. To cope with this a

parallel registration system was developed that provides a lower form of title, called a starter title, that guarantees perpetual occupation of a site within a block without identifying the exact location of this site within the block. It also allows the possibility of transferring occupation rights according to customs or norms (by-laws) drawn up by the group occupying the site, but not the mortgaging of this right. A second title, called a landhold title, adds the ability to mortgage the land. In both cases the whole block is registered in freehold ownership by the central registry office, whereas the specific occupancy rights on the site are registered only locally at the district level. While institutional issues have slowed down implementation, observers see this as a promising option to extend tenure security quickly to large numbers of poor people in circumstances where technical and human resources are limited.

Source: Juma and Christensen (2001).

As table 2.3 illustrates, there has been considerable progress in terms of legal drafting. At the same time, the fact that some of these laws were passed some time ago without the necessary follow-up in terms of implementation, is reason for concern. Indeed, studies from Uganda indicate that the institutional vacuum created by new laws without actual institutions for enforcement can become a major source of insecurity and conflict (Deininger and Castagnini 2002; McAuslan 1998). Experience from Mexico illustrates that passage of advanced laws is ineffective unless they are backed up by adequately funded, staffed, and motivated institutions to resolve conflicts and assist communities, implying that the implementation of advanced legal provisions will require significant effort and resources to be put into dissemination and capacity building at the local level, and to ensure that mechanisms of appeal are available. In the case of Africa, integration of the customary and statutory systems remains a major challenge for policy, and more work is required to clarify both the technical and institutional options available to implement new land legislation in a context of constrained availability of human and fiscal resources (Fourie 2002).

Putting new legislation into practice poses technical and institutional challenges

Governments have often underestimated the importance of land rights for marginal groups

Strengthen the Land Rights of Indigenous People and Herders

Forests and other common property resources contribute significantly to people's welfare, especially of the poor. In Africa and Asia poor people in marginal areas often derive 30 to 40 percent of their consumption from common property resources (Cavendish 2000; Jodha 1996). The literature suggests that governments often neglected or underestimated the importance of land tenure issues in natural resource conservation and the noneconomic values associated with "marginal" lands (Heltberg 2001; Shackleton, Shackleton, and Cousins 2001). This is important, because with competing demands for land from outside, for example, for logging and mining, and with collective action problems as communities' sources of livelihood and preferences become more diverse, many of these resources are degrading, thereby jeopardizing the livelihoods of a large number of poor and marginal people (Arnold 2001).

Recent policy changes and international conventions have led to greater recognition of indigenous land rights in many countries, especially in Asia and Latin America, where a large share of the population is affected. In Latin America the indigenous population amounts to about 50 million people, or about 10.5 percent of the total population, and many more people are dependent on forest resources. Furthermore, indigenous people are highly concentrated in specific countries such as Bolivia (where 71 percent of the national population is indigenous), Guatemala (66 percent), Peru (47 percent), and Ecuador (43 percent). These four countries and Mexico (14 percent) account for almost 90 percent of Latin America's indigenous population. About 100 million people in India and some 120 million people (or 30 percent of the population) in Southeast Asia are classified as forest-dependent (Poffenberger 2002).

A growing number of countries recognize indigenous land rights in principle and allow for their internal management by the community. For example, in the Philippines the 1997 Indigenous Peoples Rights Act recognizes, promotes, and protects the rights of indigenous people and provides rights to ancestral domains, rights to transfer lands, and exemptions from property taxes. Lands that were previously administered by centralized institutions are to be turned over to the community. Similarly, in at least some Latin American countries the recognition of indigenous property rights is followed up by more far-reaching action.¹⁸ Even where a legal framework is in place, implementation has often been slow because of gaps in the extent to which communities can actually exercise their management authority in prac-

tice. Pilot projects in Brazil, Colombia, Peru, and other countries have helped to streamline procedures for giving ownership title to indigenous communities and are currently being expanded and replicated in other countries (Hvalkof 2002).

Clearly defined property rights are particularly relevant in cases where rights granted to indigenous communities overlap with mineral or logging rights that have already been awarded to others, and where only legal clarity on their rights will enable communities to negotiate effectively with outside interests. This is illustrated in Ghana, where clear rights enable communities to negotiate with concessionaires on uses for different purposes, replanting after harvest, and specified shares of the proceeds (Amanor, Brown, and Richards 2002).

Pastoral communities are widespread in the marginal areas of the Sahel, the Middle East and North Africa, East Africa, and Central Asia. In areas characterized by sparse rainfall, the high risk of crop failure may make strategies characterized by high mobility and the associated joint ownership more rewarding than individualizing land ownership (Nugent and Sanchez 1998; Steele 2001). Strategies to manage risk in these agriculturally marginal areas depend heavily on mobility and the ability to temporarily use supplementary resources, such as crop residues, from adjacent areas or from the market. Access to such resources was in many cases unproblematic under conditions of low population density, but is becoming contested with the expansion of crop agriculture and often constitutes a source of conflict between nomadic and settled communities. Population growth and the expansion of sedentary agriculture may therefore lead to significant conflict and/or a decision by nomadic herders to shift toward sedentary agriculture themselves, as can be observed in many areas of the world (van den Brink, Bromley, and Chavas 1995). Despite the large physical areas involved, the fact that pastoralists often constitute one of the most vulnerable groups, and the potential for conflict and violence at the interface between pastoral and sedentary communities, the land tenure needs of pastoral populations have often been neglected or marginalized in the policy debate.

By its nature, most pastoral activity takes place on lands with low commercial value and incorporates mobility as a central element. In highly marginal environments, the importance of temporary access to feed resources is critical, and investigators have emphasized the importance of geographic mobility as an inherent element of a land tenure system that provides flexibility and allows the merging and shifting of rights to insure against risks (Breusers 2001; Niamir-Fuller 1999;

Overlooking the needs of pastoral communities is dangerous

**Giving management
authority to local
communities is desirable,
especially as pressure for
settlement increases**

Turner 1999). This is complicated by the fact that the routes followed by pastoralists often cross state boundaries and change depending on resource availability. The public good nature of the resources in question and the coordination failures in managing them have led a number of countries in Asia and North Africa to try to manage such resources through the state to reverse the degradation of rangeland and enhance the availability of feed (Leybourne and others 1993; Nordblom and Shomo 1995; Osman, Bahhady, and Murad 1994). Many observers have criticized this approach, whereby reserves to help reverse degradation and improve feed availability are opened during certain periods and are rented to herd owners afterwards, because of the high costs of fencing and guarding the reserves, the lack of financial sustainability, the creation of incentives for overstocking and the resulting negative equity effects, and the lack of any community participation.

Given the complexity of the institutional structures involved, in most situations simply introducing private property rights will be neither feasible nor cost-effective (Blewett 1995). Experience with nationalization of property rights previously held by traditional communities has been disappointing as well. It prevented tribal leaders who in the past apportioned access to and use of tribal pastures to efficiently manage their resources, leading to private land appropriation and conflicts, as in Jordan and Syria (Masri 1991; Nesheiwat, Ngaido, and Mamdoh 1998). In Ethiopia conflict ensued because traditional authorities manage access to and use of grazing resources, but are prohibited from diverting land to crop use (Swallow and Kamara 1999). Tenure insecurity increased because herders repeatedly lost their pastures to neighboring farming communities or to new migrant farmers (Ngaido 1993). Giving greater management authority to local communities is also the principle behind the *gestion du terroir* and natural resource management approaches that have been used extensively to implement community-based pastoral or integrated natural resource management projects, especially in West Africa. Although not always fully successful (Delville 2002), these approaches have highlighted the importance of local resource management and responsibility.

The negative impact of increasing scarcity of land during the lean season is compounded by increased pressure to becoming settled within pastoral communities themselves. The increase in the value of land with higher population pressures will eventually lead to increased individualization of land, implying significant changes for pastoralism (Jarvis 1991). Indeed, China's 1985 Rangeland Law emphasized individual

household tenure as a necessary condition to improve incentives for sustainable rangeland management. Such contracting of grassland to households is appropriate in some areas with high human and animal population densities, such as large parts of Inner Mongolia. At the same time, in less densely populated areas pastoral tenure arrangements often continue to be based on collective access and management (Banks 2001; Ho 2000). This has led to the development of herder-driven cooperatives in Jordan that are reclaiming the management of parts of traditional pastures as grazing reserves. Many communities are adopting such an approach, and the positive results of these initiatives are being replicated elsewhere (Ngaido and McCarthy 2002).

Responding to this need, initiatives in a number of Sahelian countries, such as Burkina Faso, Mali, Mauritania, and Niger, seek to grant greater tenure security to pastoral communities, building on the positive experience with giving greater property rights and responsibility for resource management to local communities. Mauritania, for example, is introducing so-called focal-point management of lands vital to the sustainability of pastoral livestock production, together with national policy reforms to create the basis for a pastoral code that legally recognizes customary resource management practices and property rights and provides protection against encroachment by outsiders. Given that rangelands are not only fragile but, in most instances, also characterized by a legacy of mismanagement and unsettled land tenure, arriving at a sustainable policy will require recognizing the importance of ensuring access, taking account of the fragility of the land and focusing on risk management, and acknowledging the multiple-use forms and objectives of different groups of users.

Improve Functioning of Land Administration Institutions

Even if property rights are well defined by law, legal concepts need to be translated into something that can be physically identified on the ground, referred to, and transferred if desired. This creates a need for demarcation and surveys of boundaries, registration and record keeping, adjudication of rights, and resolution of conflicts. All these activities, together with other land management functions the state performs, are normally referred to as land administration (UNECE 1996). The state has an essential role to play not only in the legal definition of property rights, but also in providing the infrastructure used

Land administration translates concepts into reality

to demarcate and record property rights to enable their cost-effective enforcement. To secure property rights to land, countries will therefore have to establish institutions that carry out land administration functions. While private users will appropriate some of the benefits provided by such institutions, the reliability and comprehensiveness of the information they provide, their accessibility, and the trust they command will be critical for granting tangible tenure security to the poor.

Land administration can contribute to the achievement of broad efficiency and equity goals if a number of preconditions are satisfied. First, the institutions involved need to have clear mandates and a structure that allows them to function efficiently and free from political pressure. Second, the poor will be the first to be left out of sporadic approaches that cover part of the territory at high cost, and may even lose their rights if nontransparent processes of sporadic titling are adopted. Thus, where social and economic conditions warrant titling or other forms of land rights regularization, the danger of excluding the poor by adopting approaches that are nontransparent, fail to make the required information widely accessible, or impose high fixed or upfront costs must be taken into account. This suggests that the scope of any program should be comprehensive.¹⁹ Regularization efforts need to be undertaken at costs that are commensurate with the benefits, thereby allowing sustainability in the long term. Finally, as a public good, the information on land ownership maintained in the registry needs to be publicly available and accessible at low cost to minimize the transaction costs for other users and to allow land and financial markets to operate at minimum cost. The cost at which these services are provided and the way in which users are charged will have a critical impact on the level of formality voluntarily chosen by landowners, and thus on the extent to which the conceptual advantages associated with well-defined and secure property rights can be realized in practice.

**Cadastral and registries are
key land administration
instruments**

Two main instruments used for land administration are a registry that handles information on land ownership and transactions and a database, called the cadastre, that contains the boundaries of parcels as defined by surveys and recorded on maps and any additional information about these parcels. The cadastre provides the basis for a number of other functions, such as land use planning, management and disposal of public lands, land valuation and taxation, provision of other public services, and generation of maps. The establishment of well-functioning land administration systems was a lengthy process in the industrial nations (de Soto 1993; Kawagoe 1999). Where these do not

Box 2.5 Key differences between deed and title registration

TWO TYPES OF REGISTRATION SYSTEMS ARE prevalent in industrial market economies: registration of deeds and registration of titles. In a deed registration system, legally recognized and protected rights to land arise upon conclusion of an agreement between the holder of the right and its acquirer. The entry of the agreement's existence and key content into the public registry is to provide public notice of the existence of a right, and chal-

lenges to property rights will be handled through civil litigation. In a title registration system, however, it is the entry of land rights into the registry that gives them legal validity, guaranteed by the state. All entries in the register are *prima facie* evidence of the actual legal status of the land. The deed registration system is used in the United States, while the title registration system is the norm throughout Europe, Australia, and most of Canada.

exist, developing a strategy that would provide a comprehensive spatial data infrastructure at low cost and in an accessible and transparent manner will be critical. Once such a data infrastructure is available and can provide a frame of reference, registries of different categories of land can often be managed at the local level, provided that ways to link the cadastres to the registry and keep the latter up to date are available. These can be quite simple, for example, information can periodically be transferred from local institutions to the center. Similarly, there is a strong trade-off between speed and the accuracy (and therefore cost) of land records. As the physical demands on a registration system can be immense, depending on the number of land parcels in a particular country, the system must be designed in such a way that it can deal with such demands quickly, efficiently, and in a sustainable way. As illustrated in box 2.5, the demands of title and deed systems differ considerably from each other in this respect. In doing so, two dangers have to be avoided. On the one hand, bureaucrats have in the past often been overambitious in the design stage but subsequently failed to deliver, or covered only very small areas. As a result, the land administration system has often failed to ensure even the basic goals of providing affordable ways to maintain tenure security and facilitate the emergence of a market. On the other hand, political imperatives of awarding a large number of titles within a short period of time should not undermine the quality and long-term sustainability of the titles awarded.

Studies of land administration systems worldwide suggest that institutional rigidities, overstaffing, corruption, and limited outreach often seriously undermine public confidence in the land registration system

There is the potential to strengthen land administration institutions, to better define their responsibilities, to improve coverage, and to enhance financial independence

(Adlington 2002; Sanjak and Lavadenz 2002). Many of the services public sector institutions provide, such as surveying and mapping, can be contracted out to the private sector, thereby reducing the scope for political interference and allowing the reduction of staffing levels in the public sector. To achieve this, proper regulation will be critical, something that includes the public sector's ability to enforce regulation. At the same time, the creation of private sector capacity and the feasibility of free entrance for qualified professionals needs to be maintained. In Zambia, as in many other African countries, surveyors' associations restrict entry by qualified individuals, resulting in backlogs of up to seven years for issuing titles (Moll 1996). These entry restrictions are similar to those observed in Indonesia, Malaysia, and the Philippines (Brits, Grant, and Burns 2002).

A common shortcoming in many countries is that different entities deal with rural land, urban land, and natural resources or state land. These entities may lack coordination and even compete with each other. In the Philippines the Ministry of Environment and Natural Resources, which is responsible for "protected areas," theoretically controls 72 percent of the land, but in practice much of this land is used for agricultural cultivation (World Bank 1998). Similar inconsistencies are observed in Ghana (Kasanga and Kotey 2001), Indonesia (Wallace and Poerba 2000), and Sri Lanka (Abt Associates 1999), among others. Failure to clearly assign responsibilities and define the specific type of land for which an institution is responsible will run the danger of creating overlapping mandates, which at best will increase transaction costs, and at worst will undermine tenure security and the validity of titles or land use certificates, result in resource degradation, and give rise to avoidable conflict.²⁰ Examples abound where lack of clarity in institutional responsibilities has resulted in the issuance of multiple titles to the same plot. This erodes confidence in the land administration system and creates a need for corrective measures that can be politically difficult and economically costly (Munoz and Lavadenz 1997) The example of El Salvador, which undertook far-reaching institutional reforms in a postconflict situation, demonstrates that in many instances, institutional reform and clarification of responsibilities are key to establishing an effective land administration system.

Earlier discussion demonstrated the desirability of comprehensive coverage and the challenges it creates in situations where the basic infrastructure for such coverage does not exist. Historical evidence suggests that distortions introduced in the process of first-time registration will

be more harmful than any degree of inequality that is normally generated through the working of competitive market processes (Deininger and Binswanger 1995). In the African context, the relevance of land grabbing during initial surveys for land registration and its impact on dis-equalizing the ownership of land is well recognized (Downs and Reyna 1978). As such inequality in the distribution of assets is difficult to correct, having transparent processes for the adjudication of land in the process of awarding initial titles is of utmost importance. It should be complemented with a strong framework for quick and authoritative conflict resolution on the spot. This requires a combination of systematic campaigns in areas of high relevance with minimum measures and standards in areas where such systematic coverage is not feasible. In India the inability to provide an authoritative record of land ownership has greatly reduced the scope for privatizing high-value urban land and associated industries (Wadhwa 2002). Unclear, nontransparent, and discretionary rules for land use in urban areas in Eastern Europe, especially the separation of property rights to land and to buildings, are not only a major source of discretionary abuse of bureaucratic power, but also increase transaction costs in land markets, and therefore slow down the emergence of a financial market that is based on real estate as collateral (Butler 2002).

Low operational costs allow land administration institutions to be self-financing and ensure sustainability and some protection from political influence. This is enhanced by the ability to set fees that are sufficient to recover costs. Examples from Eastern Europe, Asia, and Latin America demonstrate that establishment of the cadastral infrastructure is a public good, the cost of which should be financed by the government with cost recovery through general taxes. By contrast, land registration can and should recover its operational costs from fees without discouraging registration and thereby contributing to the growth of an informal sector (Adlington 2002; Sanjak and Lavadenz 2002). In Thailand a program of land titling provided the basis for a substantial increase in the total amount of land revenue collected, from US\$300 million in 1984 to US\$1.2 billion in 1995 (Brits, Grant, and Burns 2002). High registration costs will discourage registration. This will have a disproportionate effect on the poor, who could benefit the most from a comprehensive system, but will be the first ones to be pushed into informality. This will deprive them of the benefits of land registration and will undermine the value of the entire registration system.

Conclusion

WELL-DEFINED AND ENFORCEABLE PROPERTY RIGHTS HAVE many public good characteristics. They should be long enough in duration to provide incentives for investment, based on clear and easily identifiable boundaries, enforceable at low cost, and have mechanisms in place for adjusting to a varying environment. Although public good aspects call for government intervention, land policy cannot be formulated in a historical vacuum. Rather it needs to proceed from the understanding that some laws and institutions were created with the explicit purpose of benefiting certain groups of land-holders at the expense of others. Therefore, policies should attempt to overcome such inherent inequalities. Even where the needs are clearcut and do not pose major technical challenges, reforms often encounter resistance from vested interests who benefit from the status quo.

Full individual ownership with formal title is a common means of providing secure and transferable land rights once land scarcity and commercialization of the economy have reached certain advanced levels. Where this is not the case, less formal measures can often significantly enhance tenure security at much lower cost than formal titling. For example, secure long-term leases, especially if they can be transferred, can provide many of the advantages associated with full ownership rights. In other cases, individual ownership and formal title do not translate into high levels of tenure security and further measures, for example, on the institutional side, will be needed to increase people's ability to exercise effective ownership rights.

Clearly specified property rights to land that enjoy broad recognition will have important equity benefits. These equity effects come about because it is normally women, the poor, and other vulnerable groups whose rights have historically been neglected and who are least able to take costly measures to defend their land rights. Legal and institutional measures to increase their tenure security will enhance the value of their endowment and thus of their earning capacity, or, in the case of distribution of assets within the household, their bargaining power and the economic outcomes directly under their control. Numerous studies have shown that higher levels of tenure security greatly increase the incentives for land-related investment and induce better land management.

Legal reform is needed where discrimination against specific groups (women or traditional rights holders) exists, where certain categories of

users or owners face a high risk of land loss or expropriation, where the status of existing property rights is not well defined or is out of alignment with reality, or where large amounts of state land cannot be transferred to users and privatized. Also, where undisputed rights exist on the ground, giving legal recognition to these can be a major advance. Giving clear rights to occupants of state land or auctioning off such lands where this does not collide with equity objectives can have large welfare and efficiency benefits. The same is true for legal recognition of women's land rights, although such recognition is at best a necessary condition that needs to be combined with legal assistance, dissemination of legal provisions, and capacity building to lead to improved land access and use by women.

Where institutions are ineffective, inaccessible, or highly discretionary, translating legal concepts into real rights and ensuring that these rights are exercised in a way that produces social benefits will require attention. This implies that interventions on the legal side need to be complemented by attention to the institutional framework governing the implementation of laws. Which framework is the most appropriate in any given setting will depend on the level and scope of broader economic development, in particular the threat of dispossession to existing owners (and the resources spent on defending property rights to land); the scope for land-related investment; and the potential for efficiency-enhancing land transfers. Mechanisms need to be chosen that are consistent with the existing institutional environment and achieve the objectives at low cost. For example, if mechanisms to allocate land at the community level work well, are transparent, and enjoy legal recognition, low-cost demarcation of community boundaries may increase equity and tenure security at much lower cost than individual demarcation and titling, something that can be left for a later stage if needed. Institutions dealing with land administration need to be transparent, accessible, and cost-effective.

In environments where the population is growing but economic opportunities remain constrained, conflict over land is likely to increase. If not effectively managed, this can mushroom into larger incidents of often ethnically motivated violence and social tension. Socially accepted and low-cost mechanisms of managing and resolving conflict to reduce its socially disruptive and investment-reducing impact and to prevent it from escalating into large-scale confrontation are likely to become increasingly important, especially in Africa. Any land administration system needs to anticipate conflict and include

mechanisms for conflict resolution, especially where land is becoming increasingly scarce.

The role of the state is to promote systems that ensure security of tenure by individuals. Tenure security increases the productivity of land and the incomes of those who depend on it. While the individualization of land rights is the most efficient arrangement in many circumstances, in a number of cases, for example, for indigenous groups, herders, and marginal agriculturalists, definition of property rights at the level of the group, together with a process for adjusting the property rights system to changed circumstances where needed, can help to significantly reduce the danger of encroachment by outsiders while ensuring sufficient security to individuals. As long as groups can internally decide on individuals' resource access and other issues following basic conditions of representativeness and transparency, securing group rights can contribute to better and more sustainable land management as well as more equitable access to productive resources.

Observers are often concerned that better definition of land rights necessarily implies higher levels of transferability, and thereby creates the danger that households could lose their main source of livelihood, for instance, because of distress sales. This chapter has shown that tenure security can often be enhanced quite independently from the rights to transfer land. Indeed, many country examples demonstrate that increasing the security of property rights does not require making them transferable through sales markets to outsiders. The next chapter discusses the advantages and disadvantages of transferability in more detail.

Notes

1. This implies that fallow land is not unused, but rather that fallowing constitutes a labor-saving method of restoring soil fertility that is in line with the relative scarcity of labor and the abundance of land at low levels of population density.

2. The capital cost associated with slavery made it feasible only for crops with a ready export market. It was therefore used where native hunter-gatherers were too few to provide a steady labor supply, or simply moved away. For example, large farms imported slaves in the east coast of Brazil, the South African Cape, and the

southeast United States, where they could produce tropical and subtropical crops, such as sugar, cotton, and tobacco, that faced no competition in European markets. By comparison, the temperate zones of the Americas (Argentina, southern Brazil, Canada, and the northeastern United States) escaped slavery because their products could not be exported competitively to temperate zones in Europe until the advent of the steamship and the railroad, at which time slavery was no longer acceptable. Large farms in areas with access to abundant labor reservoirs, such as the sugar islands of the Caribbean and Mauritius; Sri Lanka (Ceylonese)

and northeastern India (Assamese) tea plantations; and Malaysia, Sumatra, and South Africa were able to rely on indentured labor, often of different ethnic origin, instead of slaves.

3. Table 2.1 focuses on specific measures in individual countries. It is worth noting that these were often preceded by more general land grants to rulers, for example, the papal bull of 1493 that gave the discovered and undiscovered land of Latin America to the crowns of Portugal and Spain.

4. Even where this was done, colonial powers often adopted measures that either completely eliminated or greatly restricted the land rights that the original population had customarily enjoyed. For example, in India's *zamindari* areas, the permanent settlement of 1793 formally vested all land rights in the revenue collectors employed by the British, thereby transforming former owners into tenants at will who could be, and in many cases were, evicted upon nonpayment of the land revenue.

5. A number of studies fail to obtain significant results in regressions of total income on land ownership (for example, Lopez and Valdez 2000). Such a result can be due to a range of factors, in particular, assumptions, including linearity, that may not necessarily hold. For Mexico, relaxation of these assumptions, together with the choice of a broader index of well-being, leads to a strong impact of land access on household welfare (Finan, Sadoulet, and de Janvry 2002). More evidence on this issue and the specific channels through which land ownership affects welfare would be highly desirable.

6. In addition, a large body of literature suggests that inadequate institutions in a broader sense lead to policies that are not conducive to economic growth (Acemoglu and Robinson 1999; Easterly and Levine 2001).

7. Other studies also formally analyze the problem of an elite preventing human capital accumulation by the masses (Acemoglu and Robinson 2000; Bourguignon and Verdier 2000). Thus, even though investments in human capital would be socially and individually profitable and individuals who were unconstrained in credit markets would easily be able to under-

take them (Eckstein and Zilcha 1994; Galor and Zeira 1993), poor people who do not have access to assets might be caught in poverty traps. They fail to get out of poverty not because they are unproductive or lack skills, but they never get the opportunity to use their innate ability due to credit market imperfections. In such a situation, increasing the asset endowment of the poor can lead to permanently higher levels of growth (Aghion, Caroli, and Garcia-Penalosa 1999; Bowles, Bardhan, and Gintis 2000).

8. For example, in Egypt as early as 2200 B.C., all lands were registered at the prime minister's office. Ownership transfers had to be recorded, signed by three witnesses, and authenticated by an official seal. Similarly, in ancient China a key function of the bureaucracy was to allocate and enforce land rights. In Babylon under Hammurabi (about 1700 B.C.) and Assyria (1250–750 B.C.), records of property ownership were registered and kept by the state, and sales were recorded by deeds, often had to be conducted publicly, and had to be authenticated by witnesses or officials.

9. Collective action by squatters in the United States was decisive in bringing about the change from competitive auctioning of land to the policy of preemption (Kanazawa 1996).

10. Whereas physical marks, such as trees, rivers, or even hills, are often considered to be sufficient for resources of relatively low value, identification of the boundaries of high-value urban plots requires much greater precision.

11. Comparisons of different settlements (Jamestown, Plymouth, Salt Lake City, and the Bermudas) suggest that while many frontier settlements started out with group ownership and production to use economies of scale in defense and other activities, the length of time during which group ownership is maintained can be related to the riskiness of the environment, the frequency of social interaction, and the hierarchical structure of decisionmaking (Ellickson 1993).

12. Where land is relatively abundant and labor is scarce, societies focus more on the ability to secure access to labor, for example, through kinship ties and class and

lineage structures, than on defining property rights to land. Given that in many cases the situation is changing gradually, this generates a need for adjustment without associated frictions.

13. While a title provides absolute tenure security in countries where the government guarantees the accuracy of entries into the registry and stands ready to pay for any errors that have been made, a title document may have little value in a setting where, possibly as a result of consecutive governments having given out titles without verifying pre-existing ownership claims, many overlapping documents are known to exist.

14. The local population used the possibilities for increasing tenure security opened up by the 1974 Lands Ordinance to place boundary markers as an inexpensive way to “formalize” existing rights at low cost without negating existing community norms. Full private title to land was obtained mainly by wealthy business people and well-connected politicians in urban centers. This illustrates not only the many gradations of tenure security, but also that the state can play a constructive role in enhancing tenure security, both by providing simple and inexpensive ways to register land and by giving communities an active role in the maintenance of such registries, for example, by having representative local bodies oversee registration and arbitrate disputes.

15. Depending on how such actions affect the probability of land loss and whether or not community rules provide compensation for such investments when a plot reverts to the community (Baland and Platteau 1998), one can envisage scenarios where communal tenure systems may increase rather than decrease the amount of land-related investment undertaken (Sjaastad and Bromley 1997).

16. While low transaction costs and broad access to land administration are extremely important, this can be achieved by deconcentrating a central government agency rather than by establishing decentralized units with independent decisionmaking power, which may lead to the absence of a national framework and of uniformity in the provision of land administration services.

17. Starting with the *ryotwari* system the British introduced in southern India around 1820, successive systematic titling programs show that conflicting claims can be dealt with through a relatively quick administrative procedure rather than through lengthy and costly legal channels. Public notice and viewing at the community level are key requirements to prevent land grabbing.

18. Of the 17 countries in Latin America with indigenous populations, only Chile, El Salvador, and Uruguay do not recognize indigenous land rights in principle, and 8 have translated the recognition in principle into concrete laws that give indigenous people either collective ownership rights or usufruct rights. To ensure that indigenous communities can effectively exercise the property rights given to them, a number of countries have to develop their legal frameworks in more detail.

19. Where warranted, systematic titling is preferable for cost reasons and because ensuring transparency is easier (Arrunada and Garoupa 2002).

20. Especially in countries with limited administrative capacity, having one agency be responsible for land administration functions may be the best option, but this is not always feasible. If this is the case, then ensuring that no gaps or overlaps between the agencies occur and that they share information and coordinate their systems is of utmost importance.