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Chapter 9

Q SMALLHOLDER PROPERTY AND TENURE  
(From the manuscript Smallholders. Householders)

by

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Tenure 11/27/89

Smallholders have private property. Rights in resources -- farmland, livestock, fruit trees, firewood, irrigation water -- as well as the technology that renders these resources productive -- granaries, barns, plows, wagons, and hand tools. Some continuing, socially recognized rights in the land and animals belong to the cultivation. These rights of tenure are what smallholders hold. Such rights may be embodied in deeds, tax valuations, and wills, they may be enforceable by courts under the jurisdiction of the state, or they may depend on customs relating to the acquisition, use, and social transmission of certain resources and technologies within the little community. Though rights may be formally assigned to certain individuals and nested within more inclusive systems of rights belonging to lineages, villages, landlords, nobles, estate owners, and the political administration of the county, district, or state, they are associated in a fundamental manner with the farm household and reflect its on-going relationship with productive property.<sup>1</sup> Household members work on a particular farm, they derive appreciable benefits from it, and their investment of labor and capital over time establish and sustain valuable property rights that may pass to close kin by inheritance. Intensive agriculture under circumstances of population pressure and market demands emphasizes well defined, defensible, and enduring private property rights in a qualitatively different manner from hunting and gathering, fishing, or shifting cultivation. Though we are accustomed to thinking of land tenure as a set of jural concepts or legal rules externally formulated and enforced by political bodies, we will examine property rights here as part of a local agro-ecosystem, testing the hypothesis that, other

things being equal, land use by and large determines land tenure. Private individual or household property, frequently accompanied by corporate group rights in common property, are regularly and systematically associated with smallholder intensive agriculture.

Property Rights in a Stateless, Non-Market Society

I was not prepared for the fact that the Kofyar terrace farmers on the Jos Plateau of Nigeria considered their land, both the intensively tilled homesteads and the fallowed bush fields, to be owned by specific individuals and inherited from fathers or brothers. A creek in a ravine, or a large stone partially buried in the earth, might mark a socially recognized boundary line between fields. When I asked about a 20 by 6 foot triangle of tall grassland between two bush millet fields near Bong, I was told that a dispute over ownership could not be resolved (the witnesses were contradictory), and the village chief had decided that neither party should have the use of the contested land (Netting 1968:172). Evidence of socially explicit ownership and inheritance of land, fixed boundaries, and litigation over property ran diametrically counter to the conventional wisdom on African land tenure. Because the Kofyar had not been incorporated in a Hausa-Fulani state with Moslem law and courts, and because they were only peripherally involved in the market economy, I had expected that they would practice only temporary use of land with communal territorial rights held by clans, villages, or tribes. Instead, the Kofyar vehemently insisted that all cultivable land had a proprietor, and that claims could be publicly affirmed, disputed, and enforced.

Where land is a scarce good that can be made to yield continuously and reliably over the long term by intensive methods, rights approximating those of private ownership will develop. Kofyar institutions specifically recognized private property and made possible its retention and transfer in ways that lessened uncertainty and conflict. Some homestead residents said they had occupied a compound and used its surrounding manured field for three generations, but the land did not belong to them, and they recognized the true owner by giving him the palm oil made from the trees on the plot every year and presenting him with a pot of beer when they brewed. The tenant might have secured a lifetime lease with the single payment of a goat or some cash, or there might be an annual rent in kind. It was difficult to remove a long-term tenant from a homestead, but the tenant's failure to attend and contribute to a funeral feast of the owner's family was grounds for dispossession. Sales of land for cash or valuables had to be approved by the patrilineage of the seller, and they were rare but not unknown in the past.

Fields were usually inherited from a father or kinsman. An heir was expected to conduct a costly second funeral commemoration sacrifice of a cow or horse to verify his claim, and the prominent stone cairn graves at the entrance to the compound recalled named ancestors who had once occupied the homestead (Netting 1968:168-172). When there were no heirs, a non-relative might donate the sacrificial beast, receiving the land as permanent property unless the clan of the dead man returned an equivalent animal to him within seven years (Netting 1968:166). The head of the deceased's patrilineage had first claim on his land, but it passed to him as an individual rather than into any sort of communal tenure of the descent group. The household head was normally succeeded by his son, perhaps a younger boy, who remained with his

father as his elder siblings married and moved out to vacant compounds. Where land was in shorter supply in the plains villages at the foot of the plateau escarpment (Stone et al. 1984), a more rigid succession to the oldest son was followed.

Though Kofyar women do not own land in their own rights, a widow is allowed to use her husband's homestead for as long as she wishes. Women also request usufruct of particular fields from husbands, kin, or friends, and the produce of such land belongs solely to the woman who farms it. At divorce, a woman removes her personal crops, livestock, and cash from her ex-husband's homestead. When the Kofyar moved to the frontier cash cropping area, some farmers used some swidden plots until their productivity declined in six or eight years and then abandoned them to take up new bush land. Other settlers, however, intensified their production on land for which they had originally paid a nominal tribute to the chief of a nearby plains village. With no more remaining free land in the area, rights to the developed bush farms are now held de facto by the occupants who control assignment to sons, loan or gift to others, and sale for increasingly substantial money payments. Though there is no provision for individual farm ownership under current Nigerian law (Mortimore et al. 1987), Kofyar are treating their new permanent homesteads as valuable property with the same rights of long-term occupancy, inheritance, temporary transfer, and, more recently, sale, that characterized their traditional lands.

Few authorities on tenure may be inclined to accept the claim that the individualization of rights to land and the weakening of communal or collective regulation of use and transfer form a continuum rather than an abrupt and wrenching transformation with the penetration of a market economy.

Though lineages or corporate communities might allow some limited forms of private property inheritance and exchange, they draw the line at permanent alienation of land. In Africa the "most commonly cited expression of the community's right in land is that individual landholders cannot sell their holdings under most indigenous tenure systems" (Bruce 1988:25). This prohibition tends to break down as new crops and markets give land enhanced value, and as an impersonal market begins to develop (Bruce 1988:26). Certainly a money economy and an accelerating demand for commodities that can only be purchased with the proceeds of cash crops contributes to this transition, but, among traditional intensive cultivators, an external market furthers existing tendencies rather than initiating them. Kofyar concepts of property were consonant with land scarcity and household control, and their voluntary migration in order to increase their market participation did not require a breaking of cultural rules or an abrogation of descent group controls.

The Kofyar land tenure system illustrates an adaptation to demographically induced shortages of arable land and intensive land use, even in a formerly stateless society that was not dependent on the market. Smallholders without easy access to new land must invest time and effort in improving the productivity of what they have. Major permanent construction like terrace walls and a stone corral for the stall-fed goats, the annual labor input of composting and distributing manure, and the tending of oil palms and other economic trees on the homestead farm all represent investments in deferred rewards. Even today a household that occupies a deserted homestead site undergoes some privation for the years it takes to restore soil fertility, prevent erosion, and bring the orchard trees to bearing. If the returns on

the work of intensification and the build up of productive capital of the farmstead are threatened by insecure tenure, reallocation of the land to others, or denial of prior rights to future benefits residing in household members, then the incentives to intensify will decline. Yet because of unpredictable changes in household demography and economic conditions, permanent individuated rights to land must be sufficiently flexible to allow both temporary and long-term transfers. Loaning and leasing permit new households to acquire the use of land without removing it permanently from the control of the owners. Specific arrangements for inheritance, appropriating land in the absence of an heir, and securing rights of occupancy mean that land is not kept out of use when it is needed, and that individuals have options in securing a subsistence base. Land does not have to be a market commodity for it to function as definable property in a system of intensive agriculture.

#### Shifting Cultivation and Usufruct Rights.

Where the conditions of land scarcity and continuous production to support a dense local population are relaxed, rights to resources become less strict and explicit. The Ushi of Zambia practiced the chitimene system of pollarding and lopping dry forest trees, burning their branches, and planting a four year sequence of cassava, millet, maize, cucurbits, and groundnuts in the ashes (Kay 1964). Gardens were frequently changed in this region of low population density, and most were within six miles of the village. "With no apparent shortage of either land or trees, and no vested agricultural interests in any parcel of land for an indefinite period, principles of land tenure have not been clearly defined. Such principles as do exist are, in fact, elementary



and simple, but they refer to the rights of an individual to live and earn a living in the village rather than to property rights; they are concerned with the use of land rather than with land ownership" (Kay 1964:29).<sup>o</sup> One can farm or gather wild produce anywhere, and there is no defined village territory exclusively reserved for occupants of any settlement. Cultivation confers absolute and free rights over use of the area as long as it is used. A garden that is left fallow for longer than the customary period is regarded as abandoned and may be reoccupied by anyone. The size of a garden is controlled only by the availability of labor at the critical times of the agricultural year (Kay 1964:31).

Where land is plentiful and exploited by extensive methods, it will have little value for exchange, and there will be no grounds for dispute or litigation (Biebuyck 1963). In shifting cultivation, all the planted crops are privately owned as long as they are productive, but "when commonly recognized harvest procedures are terminated, the tenure has ended, and the land is considered as returned to the regenerative cycle. Such land has then reverted to the common pool of land owned by the group...and becomes public domain open to all forms of appropriation..." (Spencer 1966). As Harold Conklin (1957) succinctly observes, land for shifting cultivation is a free good: tenure is by usufruct only.

Though slash-and-burn farmers may return to old swiddens to gather tree crops or cassava tubers that can compete with invading bush vegetation, usufruct rights may atrophy during the long period of fallow when natural regeneration of forest vegetation is taking place on the plot. Most shifting cultivators are not on an open access, largely unpopulated frontier, and they must return periodically to fallow fields, sometimes cultivating large tracts

surrounding their village on a rotational basis. An eight or ten year optimal fallow period is, however, sufficiently long that individual household needs and labor power might have changed, necessitating a larger or a smaller tract. Since bush fields are used by and for specific households, even when clearing is a cooperative task and the fields are grouped in one place to better protect against predators, old fallow land must often be reassigned or allocated. A village or a localized descent group, as among Ibo shifting cultivators, may meet to portion out parcels for the usufruct of households, or an individual may ask an elder or chief to be shown a place where he may farm. With land resources that are adequate for fallowing, the major role of the community may be to protect the territory from seizure by other groups (Jones 1949).

Shifting cultivators want to retain optimal levels of arable but presently unused land and perhaps to expand into the fallow of their neighbors. With a need to control in regenerating fallow perhaps ten to twenty times the amount of land presently under cultivation, swidden farmers are frequently involved in conflict, and, like the Maori of New Zealand, their wars may promote the acquisition of forest fallow (Vayda 1961). The segmentary lineages of Tiv shifting cultivators in the Nigerian savanna had endemic border arguments in which individuals extended their farms, then called out their kin groups for acrimonious debates on where the boundary should be. Since the outward push was characteristically directed against the most distantly related lineage or against a foreign ethnic group, a direction of expansionist movement was established, with each lineage losing land in the rear and gaining ground in front (Bohannan 1954, Sahlins 1961). Even among more sedentary, less mobile swiddeners, corporate groups function to restrict access to land, defending it

against outsiders and regulating its use by group members (Johnson and Earle 1987:158, 181). A peasant community council of elders or household heads may perform the same task, preventing trespass by non-members and allocating plots from the fallow reserve to newly created households or to existing families whose membership has grown. The Russian repartitional commune that seems to have been the tacit model for Chayanov's village collectivity of households could in theory organize such periodic distributions.

As population density increases, with a corresponding decline in fallow time and average field size, householders can no longer depend on the village or the lineage to provide them with well rested land, and they are reluctant to give up any land which they have brought into permanent productive use. Areas of intensified annual cultivation are in effect subject to usufruct that is not terminated by the need to fallow, so this land does not revert to a common pool. While Ibo villagers cultivated shifting plots of yams, cassava, and coco yams in sectors of tropical forest surrounding their settlement, they also tilled kitchen gardens adjoining their houses (Netting 1969, 1977).

In the case of houseland, the householder wants to occupy for an indefinite period the land he clears for his compound and his gardens. Gardens, being enriched with household rubbish, can be farmed at more frequent intervals and they also contain permanent crops in the form of oil-palms, kola, and other economic trees. Thus the ownership of houseland is vested in the individual householder and passes to his direct male descendants, while [fallowed] farmland is owned by the community, that is, by the lineage... (Jones 1949:313).

Where population pressure and land shortage restricted possibilities for fallowing (Morgan 1953; Lagemann 1977), large multiple family households in nucleated settlements broke up into smaller household groups that dispersed into contiguous smallholdings on the former bush fallow fields (Udo 1965).

What had been a communal territory of **periodic** usufruct rights became houselands permanently occupied and individually owned (Jones 1949:314). On a regional scale, areas of the most dense Ibo rural population coincide with dispersed settlement and intensive tuber and arboriculture in gardens surrounding small residential compounds (Udo 1965). Physically siting the household in the midst of its compound farm not only lessened travel time, allowed diverse gardening tasks to be done promptly, and guarded the crops, but it also asserted a continuing and visible claim of occupancy to the land.

Arrangements for renting land, pledging it to a temporary user in return for payment, or selling it outright proliferate in just those areas where there is the greatest competition for access. The reorientation from communal to individual household tenure was not a revolutionary change in the customary rules applying to land. Houseland and bush fallow farmland had always been treated differently. Rather intensification, under conditions of scarcity and competition for resources, changed the use to which land was put and the proportions of available land under contrasting farming systems (Netting 1969). Smallholder households emerged, asserting continuing claims to property in scarce, improved, permanently occupied farm lands. "In the main, it may be said that availability of land determines the type of tenure and it is where the pressure is greatest that the few remaining areas of common land are most rapidly decreasing" (Chubb 1961:14).

#### Descent Group Territories.

Where natural resources, especially in land, are not the critically limiting **factors** for agriculture, labor and rights in people's productivity are more important than property. With temporary usufruct, it made no sense

to develop a system of private rights to a particular parcel of land that could not be protected and had little utility until its fertility was restored. "The crucial element for the continued control and use of land was to have enough people, be they relatives or slaves, to work the land," and a corporate group could do this better than individuals (Feder and Noronha 1987:47). As shifting cultivation is accompanied by growing population density and settlement stability, tendencies toward the regulated transmission of collective rights may give rise to unilineal kin groups (Forde 1947:70). Among the horticultural Mae-Enga of highland New Guinea, Meggitt (1965:279) found that areas of land shortage were positively correlated with patrilineal organization or patrilocality. It appears that the descent groups were excluding affines (relatives by marriage) and non-kinsmen from access to land to ensure the continued adequacy of their...own subsistence resources. Rappaport (1968:27-28) pointed out that a single New Guinea kin group with low population density might grant land rights to the abundant resource to a wide variety of relatives, but as the supply of open land declined and conflicts over farms and [marauding] pigs increased, a tendency to confine use and inheritance to the more rigidly defined patrilineage would become apparent. A unilineal descent group can both reduce conflict for land among its members and secure cooperation beyond the nuclear family for the defense of scarce resources (Harner 1970; Netting 1982:467-468). There appears to be a continuum from relatively open local groups or villages with extensive territories of long fallowed land to somewhat more restricted shifting cultivation with unilineal descent groups claiming and defending a corporate estate, and finally to households with rights to heritable smallholdings.

Running from Eastern to Western regions of highland Papua New Guinea, there is a gradient of increasing population density; more intensive cultivation of sweet potatoes with mounding, composting, and drainage; larger numbers and more careful husbandry of pigs; and dispersed instead of nucleated settlement patterns (Feil 1987). Relatively small linguistic and political groups in the Eastern highlands have populations of 30/km<sup>2</sup> or less, while larger Western ethnic groups such as the Chimbu (Brookfield and Brown 1963), the Hagen (Gorecki 1979), and the Enga -(Waddell 1972) reach densities of 100-150/km<sup>2</sup> (Feil 1987:41). These more crowded and sedentary peoples, including the Kapauku (Pospisil 1963) and Dugum Dani of Irian Jaya, Indonesian New Guinea, show a high ranking of agricultural intensity, practicing in most cases complete tillage with grids, trenches, or mounds; fencing; erosion control on slopes; drainage ditching; fertilizing by mulching or composting; and short fallows of 0 to 6 years (Brown and Podolefsky 1976:215-217). Much of their time, perhaps 41% in the case of the Laiapo Enga, is devoted to herding and cultivating tubers for pigs that are important in exchange and prestige distributions (Feil 1987:48). The predominantly shifting cultivators in the East have a substantial reliance on gathering and hunting (Morren 1977), and they keep fewer pigs than the 1.4 to 4 per person characteristic of the groups with intensive agriculture. Land tenure, classified as individual, heritable rights to specific marked plots, versus predominantly usufruct rights to land in group territory when it is taken out of fallow, or no specific rights in fallow or forest, also varies regularly along this continuum (Brown and Podolefsky 1976:216). "Individual ownership of land...is strongly correlated with high population density..., as well as with high agricultural intensity..." (Brown and Podolefsky 1976:221). Individual plots

are held and inherited mainly where the fallow period is short and where trees or shrubs are planted by the owner, both for the economic value of their fruits over time and as identifying marks of possession. Where, on the other hand, exogamous clan groups are dominant, their territories fall for the most part between .6 and 3.3 square miles (Brown and Podolefsky 1976:232), suggesting that relatively small descent groups would have abundant land for long fallow agriculture (Rappaport 1968) and would not need to establish more individualized private tenure rights.

Comparing Maya-speaking populations of southern Mexico in Chan Kom, Zinacantan, and Chamula, Collier (1975) found that both sparse and very dense populations had little emphasis on living near and sharing land rights with patrilineal relatives, but the localized household cluster of kin was emphasized by those with an intermediate level of competition for resources. "Generally where land is abundant and a free good, swidden farmers do not have descent organization, but where land is scarce and a valued commodity, descent emerges to systematize right to land. When, however, landholdings are overly fractioned by inheritance, farming tends to give way to other occupations and land ceases to motivate descent-based kinship" (Collier 1975:206). Among the Chamula intensive agriculturalists with their tightly packed, privately owned smallholdings and their employment in crafts, trade, and wage labor, corporate clans or lineages have disintegrated. As with most sedentary peasant groups, bilateral kinship and household property is dominant (Goldschmidt and Kunkel 1971).

Among traditional cereal cultivating and cattle herding societies of East Africa, Parker Shipton (1984) points up the contrast between areas of low population density (below 40/mi<sup>2</sup>) where chiefs claimed administration over

extensive territories and more crowded regions with descent-based lineage systems. The subjects of chiefdoms were shifting cultivators who moved frequently and did not ordinarily establish heritable property rights. Under conditions of land shortage, unilineal descent groups in acephalous societies protected small tracts and regulated land allocation within them. If population pressure increased beyond a high-density threshold, lineage control would yield to a "hardening of individual rights of ownerships and transfer."

A pattern of localized lineages is most likely to break down when holdings have been subdivided to such an extent that they can no longer provide (together with non-agricultural activities) a reasonable living to patrilineal heirs and their families, and when these heirs can no longer co-exist peacefully. The densities at which this threshold occurs will be highest where double cropping is possible, where crops of high yields per hectare (e.g., cassava or other bulky tubers, or bananas) or cash crops of high value are grown, and where non-agricultural income (from seasonal or longer-term labour migrations, trade, cottage industries, etc.) is most accessible (Shipton 1984:628).

The transition from general land rights with individual usufruct and reversion of the fallowed plot to lineage administration to individualized, specific control may be a regular course.

With the development of specific land rights the cultivator can begin to assert certain rights over plots, beginning with the right to resume cultivation of the specific plot after a period of fallow. At a later stage the cultivator asserts -- and receives -- the right to assign the plot to an heir or a tenant. Thus, the use right to the plot does not revert to the lineage anymore. With increasing population density, the rights assignable by the individual cultivator become more extensive. Eventually they include the right to refuse stubble grazing and, most important, become completely alienable. Thus, a cultivator can lease and sell plots to individuals from outside the lineage (Binswanger and McIntire 1987:86).



Households and the Individualization of Tenure

Under conditions of positive land shortage, households become the important institutions for administering land and transmitting the holding to the next generation. Rules may develop that further restrict the inheritance to one or a few eligible heirs. Sons may divide the estate, with daughters given a dowry or a smaller share of land. Primogeniture, ultimogeniture, or some other rule of impartibility may pass-on the farmstead intact to a single descendant, while non-inheriting siblings may have rights only to stay in the household (usually as celibates), contribute labor, and receive subsistence, without ever sharing in the capital of the enterprise. Such restricted inheritance among Austrian peasants might preserve the farm as an economic unit while non-heirs were forced to migrate, to seek lower status wage labor, or to work in cottage industry (Khera). In large stem or multiple family households with internal differentiation, "fission and morphology may be more a product of property management than of efforts at efficient production. ...there is always tension between the need to manage [and inherit] property restrictively and the need to procure as much labor as possible" (Wilk n.d.:454).

Specific inheritance rules, depending as they do on long cultural traditions and the historic legal systems of states, do not bear a one-to-one relationship with population/land ratios or with smallholder agriculture. Rights to land and detailed inheritance regulations are, however, unfailingly individualized and privatized when they refer to permanently used, high yielding, intensively worked household resources. Shifting cultivators, lacking significant units of property, organize their households around labor

exchange and the complementarity of male and female production, providing a sustaining shared flow of food, cash, and attention. Richard Wilk (n.d.:404 ff.) suggests that the joint use and ownership of land, the investment of labor and capital, and the expectation of inheritance does transform the relationships of spouses, parents and children, and siblings. Where enduring and valuable property in the smallholding contributes to lasting economic relationships within the household, the nature of sentiment, security, and even kinship itself may be palpably different.

The observation that land tenure is not an exogenous variable, an artifact solely of legal and governmental systems, but is fundamentally linked to patterns of land use, was made most forcibly by Ester Boserup (1965:77). Though the British classical economists had assumed that private property in land emerges when agricultural land becomes scarce under the pressure of growing population (Boserup 1965:78), Boserup described the process of intensification. "...The attachment of individual families to particular plots becomes more and more important with the gradual shortening of the period of fallow and the reduction of the part of the territory which is not used in the rotation" (Boserup 1965:81). Rights to land did not change overnight, nor did "private property" become completely dominant over communal or territorial rights in any society. There was no Tenure Revolution, as Morgan, Maine, and the other nineteenth century evolutionists seemed to believe.<sup>o</sup> The persistent linking of political centralization to the emergence of private tenurial rights remains an unquestioned promise of both capitalist and neo-Marxist evolutionary scenarios (cf. Netting 1990). Analytically and •historically separable economic and social institutions are bundled together in categorically opposed structures, following an implied early/late,

simple/complex dichotomy. State formation is seen to mark the transition from "communal cultivators," a mode of production based on communal land ownership, division of labor based on kinship, absent or peripheral markets, and cultural homogeneity, to a "peasant condition" with individual ownership of land, a social division of labor separate from kinship, the market principle, a non-kinship political hierarchy, and the opposition of great and little cultures (Post 1972, cited in Swindell 1985: 59). This transformation is still going on, and scholars such as Eric Wolf and James Scott, whom Samuel Popkin (1979: 4) refers to as "moral economists," argue that precapitalist structures provided peasants with a level of insurance against subsistence failure, security, and welfare that have been lost under capitalism.

They assume that peasants are antimarket, prefer common property to private, and dislike buying and selling. They also assume that peasant welfare depends on the closed corporate village so common in precapitalist society and/or on multistranded feudal ties to those who control the land. The transition to open villages with private property and open land sales, and the transition to contractual, single stranded ties with landlords, they argue, force peasants into the market where their welfare invariably suffers (Popkin 1979: 5-6).

If land use is an important key to functional systems of tenure, we would expect to find household property rights in intensively utilized plots, "while land under more extensive systems of land use is still at free disposal for cultivation by any family with general cultivation rights in the village" (Boserup 1965:85). Truly diversified land use means that some tracts of low fertility or considerable distance from the village can be most efficiently cultivated by shifting techniques or allowed to remain as rough grazing or forest, and rights to such resources are not necessarily individualized. On the other hand, to raise production and reduce fallow on more productive lands, farmers "must adopt fertility-restoring technologies, which require

investment of capital and effort -- and thus also require incentives for farmers to change their practices. One such incentive is the right to cultivate land continuously and to bequeath or sell it" (Feder and Noronha 1987:143). Ethnographic cases exhibit just this predicted contrast between extensive/communal or general land rights and intensive/individual or specific land rights (Rosenzweig et al. 1984).

The Bontoc Igorot of mountainous northern Luzon grow sweet potatoes, black beans, millet, corn, bananas, and other vegetables on dry slopes with the length of fallow directly dependent on how far the field is from the village (Drucker 1977; Prill-Brett 1986). These poor but plentiful slope lands passed from a single original claimant, who first utilized them, to all of his descendants, so that, in time, a large bilateral descent group including virtually all village members has common rights of usufruct. Households can open a temporary sweet potato swidden anywhere on land to which they have descent group rights. Forest lands are communal property with their timber, firewood, basketry materials, medicinal plants, honey, pasture mushrooms, and game animals open to all village members (Prill-Brett 1986:59). Wet rice and dry season sweet potatoes that together constitute 3/4 of the annual diet (Prill-Brett 1986) come from the irrigated, intensively worked terraces that can only be built where water is accessible. A restricted inheritance system directs that a father's rice fields and heirloom wealth objects go to his eldest son, and a mother's to her senior daughter. Other rules govern the subsidiary rights of illegitimate children, collateral descendants, younger children, and children by second marriages. The type of tenure and inheritance relate directly to the scarcity, productive value, and frequency of use of the land. "The least restricted forms of inheritance operate upon

the land holdings for which there is the least competition" (Drucker 1977:7). Irrigated paddy fields may be sold in exchange for pigs, sugarcane wine, and death clothes when a family must have sacrificial animals for a funeral ceremony or pay heavy fines. On such a crisis occasion, kinsmen receive preferentially lower prices (Prill-Brett 1986:80). Neither the Igorot nor their neighbors the Ifugao were, until relatively recently, incorporated in state organizations, and their land tenure rules were indigenous institutions within autonomous village and hamlet groupings. There was no tribal political organization or multi-community chieftaincies.

The Ifugao combination of shifting cultivation and remarkable stone-walled terrace pond fields supports self-sufficient populations of 200 to 400 per square mile (Conklin 1980). Households exercise individual ownership rights in rice fields and in private woodlots that provide fuel, fruit, medicines, and building materials. The inheritance of the prized agricultural terraces is by weighted bilateral primogeniture (Conklin 1980:32). Claims of land title are traced through 8-10 generations of ascendant kin, and previous owners are the most commonly named ancestors involved in almost all ritual occasions. Land is also transferred by indirect inheritance and by purchase, and new terraces are sometimes built. Some of the more important land parcels are inherited in association with heirlooms such as stoneware jars, bronze gongs, gold neck pieces, shell belts, and carved granary idols (Conklin 1980:32). Swiddens producing sweet potatoes, legumes, and vegetables on steep woodland or caneland slopes are not permanently owned but cultivated by individuals in the community common lands. They furnish the bulk of the food consumed by most families except the wealthy. The Ifugao also raise pigs, chickens, and other forms of livestock that are individually owned.

Irrigation channels belong to the constructor and his descendants, and rights to irrigate particular plots are associated with title to land. The builder of a new pond field can tap into a channel by making a payment (usually pigs) and by sharing the upkeep of the channel with an ad hoc group of water receivers in the service area (Conklin 1980:28). No one knows how long the highland Philippine peoples have practiced intensive pond field rice cultivation on their magnificent terraces (Barton 1919; Keesing 1962; Scott 1966), but the institutional association of swiddens with communal rights and irrigated rice fields with individualized, elaborated, heritable property rights is clearly attested.

#### The Gradient of Land Use and the Spectrum of Tenure.

Because altitudinal zones in mountainous regions dictate land use through temperature, exposure to sun, soil, and slope gradients, communities that cut across the environmental grain will usually exhibit correspondingly different systems of tenure. In the central Andes, major vertical life zones consist of a maize zone up to 3500 m. in altitude where irrigated double cropping and specialized horticulture is possible, a tuber and indigenous cereal zone of sectorial fallowing in the range of 3500 m. to 4100 m., and a pasture zone from the upper limits of agriculture to approximately 4700 m. (Brush 1976; Mayer 1979; Guillet 1981). David Guillet's contemporary sample of 17 communities in this area supports the consistent relationship of contrasting land tenure rules with the ecological zones and their differing agricultural regimes. High yields of irrigated maize or specialized tree, vegetable, and strawberry crops are produced in lower zone plots under private control. Rotations may include fodder crops such as alfalfa, clover, rye grass, and

barley, and the fenced, irrigated fields may be manured and chemically fertilized (Mayer 1979:430).

In the next highest zone where potatoes and other rainfall-dependent native tubers have been grown, a long fallow period must be maintained to allow for soil regeneration and the dying out of populations of round cyst nematodes that can reduce yields of successive potato crops (Orlove and Godoy 1986). Village lands are divided into sectors, and most households own individual plots in all of the sectors. The community regulates which sector is to be cropped in a particular year, when planting and harvest is to take place, and how many years of fallow must intervene before the sector is farmed again. In one sectoral fallowing system of the Peruvian highlands, there were ten sectors, each used in rotation for a year of potatoes followed by a year of other Andean tubers, and then fallowed for eight years (Orlove and Godoy 1986:171-172). Other communities may use quinoa (*Chenopodium quinoa*) and barley in the sequence with potatoes, and fallow periods may vary. At lower altitudes where grains are dominant, there may be as many as eight cropping years followed by three years of fallow (Mayer 1979:41). During the fallow period, all households have access and grazing rights to the entire sector. The system combines household property in individual tuber plots with community control over when these plots can be farmed and community-wide grazing of all plots during the fallow period. Community authorities also ratify the ownership rights of particular households and can redistribute cultivated plots which are abandoned or left vacant by owners who died without leaving heirs (Orlove and Godoy 1986:171).

Grazing by llama and alpaca in the highest pasture zones and by sheep and goats at lower elevations is on land under communal control with member

households having indivisible use rights. In the **subhumid**, semifrigid climate of these high altitude grasslands, there may be scattered plots of bitter potatoes for the production of freeze-dried chuno (Mayer 1979:40). Guillet (1981:144) found highly significant associations ( $p < .001$ ) between the intensive irrigated maize regime and private tenure, between sectoral fallowing of tubers and communal control with individual plot cropping rights, and between grazing and common pasture rights. In fact, the nature of corporate communal property rights held in certain resources and land use types may be as distinctive to smallholder communities as the presence of individualized household tenure in the same communities.

The Properties of Private and Common Rights: Swiss Alpine Land and Water.

The practice of intensive agriculture both correlates with and eventually requires private property rights. Those scarce resources that have relatively high productive potential, that yield frequently and reliably, and where outputs can be increased by the application of labor, capital, and management, will be held in socially recognized ways by individuals or households. Rights of use will be sufficiently exclusive, continuous, and transmissible so that at least a significant portion of the benefits generated by coordinated household labor, investment, and planning will accrue to those who make these efforts. The higher the long-term subsistence and/or market value of such intensively used resources, the more likely that they will be subject to detailed rules of ownership, exchange, and inheritance. Manured grain fields and kitchen gardens, irrigated rice and corn plots, terraced tobacco fields, vineyards and orchards, when used by smallholders, are protected from arbitrary appropriation or reallocation by well-defined and vigorously



defended systems of private rights. The reverse proposition, that extensive land use always corresponds with the lack of private property in land, can obviously not be supported, since universalistic judicial and political systems may assign rights of tenure with no regard to use. But smallholders, like those in the highland Philippines and in the Andes, frequently match different types of tenure to different resources and contrasting farming systems in the same community.

Whereas individuals and households assert specific private property rights in those resources under intensive cultivation, common pool resources such as unimproved grazing grounds, surface water, and forests may be held as common property. Common or communal property does not mean that there is open access to anyone who desires it.<sup>4</sup> We will often find common property rights applied to agricultural resources of relatively low per unit value where it would be too costly to enforce exclusive private rights (Oakerson 1986; Berkes et al. 1989; E. Ostrom 1990), but which can be restricted to and defended by a local community of users. Common property is owned and regulated by a corporate group, often a residential community of smallholders, who cooperate in excluding non-members and deriving joint benefits from the resource. Because such resources have the characteristic of **subtractibility**, that is, each user has the capacity of individually appropriating resource units which are thereby subtracted from the goods available to others (E. Ostrom), common property with rules controlling access and use is a means for maximizing the present value of aggregate returns to all members and, incidentally, conserving the resource owned in common. The commons is a pool of resources from which individuals take a portion for their use. But

appropriation affects production, or more precisely, the rate at which individuals appropriate affects the rate at which the resource can

produce or replenish a supply. Without coordination, individuals may in the aggregate use too much too fast, causing the rate of production to fall. Sharing without collective consumption -- the commons situation -- requires restraint, which in turn requires coordination among users. Otherwise individuals continue to consume without regard to the diminishing marginal product of the commons as a whole (Oakerson 1989).

The Swiss alpine community of Tfirbel has a long, documented history of the coexistence of individual and common property rights (Netting 1976, 1981). Well preserved parchment rolls written in medieval Latin and dating from the 13th and 14th centuries make it plain that hay meadows, grain fields, vineyards, **gardens**, houses, barns, and granaries were owned by individuals as representatives of households. Bills of sale and mortgages were written by notaries, witnessed by fellow villagers, and testified to by family members. Field locations were designated by surrounding plots belonging to named owners, and there might be accompanying specified rights in irrigation water. Payments mentioned were substantial and in cash, indicating that TOrbel farmland already had the high price remarked on by observers in this century (Stebler 1922). Partible inheritance, with each child receiving an equal share in the estate at the death or retirement of a parent, was the rule in Valais (Partsch 1955), and it continues to be observed, with the heirs agreeing on the composition of equivalent shares comprising parcels of land and buildings, and then drawing lots for them (Netting 1981:172-174). Though we cannot estimate the village population before about 1700,<sup>5</sup> it is apparent that pressure on limited arable lands had, by the medieval period, already led to the intensive practices of terracing vineyards, grain fields, and gardens; manuring and irrigating the meadows; and stall-feeding livestock, thereby putting a premium on possession of sufficient resources to support a household.

At the same time, higher altitude or rocky cliff and ravine areas were just as clearly demarcated as communal property. A charter dated February 1, 1483 specifically forbade any foreigner (Fremde) who bought or otherwise occupied land in TORbel from acquiring any right in the communal alp, common lands, or grazing places, as well as denying permission to cut wood in the village forest. Anyone could purchase real estate in TORbel, but only a citizen, defined as a person descended in the male line from a legitimate TORbel resident, and his household, could send his cattle and sheep to the alp in summer and cut fuel for cooking and winter heat in the forest. Limiting these economically vital activities to community citizens and making new membership dependent on large cash payments and formal agreement by the current citizenry excluded outsiders so effectively that no new family lines became settled in TORbel after 1700 (Netting 1981:76-82). In 1517 further alp use rights specified that no citizen could send more cows to the alp than he could feed during the winter, thus effectively restricting households to the number of animals which their own hay meadows could support, and severely fining them for any attempt to appropriate a larger share of community grazing privileges. The total stocking of the alp was linked to the village supply of hay, though the proportions of individual household cattle might vary with their privately held meadowlands. The woodlands were similarly regulated, with trees marked annually by the elected community council and households drawing lots for their equalized shares in the timber to be cut (Netting 1981 67-68). Only fallen branches and dead wood could be freely gathered from the forest.

Rights of common property that had probably existed long before they were written down effectively excluded outsiders from competing for alp and forest

resources with citizens and regulated the amount of productive use that each household could make of the commons. Annual meetings of all livestock owners enforced the alp rules, appointed the paid workers who herded, milked, and made cheese over the summer season, and monitored the physical condition of the pasture. Those who sent animals to the alp and received cheese in proportion to the milk given by their cows (and carefully measured by an official several times during the summer) also had responsibilities to maintain the common property. Work parties on the alp cleaned the springs, repaired avalanche damage to paths and walls, raked twigs from beneath the trees, and spread the dung left by the herd. Each household supplied labor in proportion to the number of cattle it had pastured. The elected commission of cattle owners who supervised alp operations and the annual assembly of all citizen users saw to it that regulations were obeyed and "free riders" apprehended and fined. In a small, face-to-face community, it was impossible for anyone to get away with fattening an extra steer on the alp and then selling it in the fall or failing to **show up** for the Gemeinwerk. the mandatory communal work days for the upkeep of the high pastures. Though the group that operated the alp was clearly corporate with a continuing existence in relation to its collective property, its members, unlike a modern business corporation, were both managers and workers, combining ownership with use for subsistence **purposes**, and asserting control by egalitarian rather than hierarchical mechanisms (Picht and Agrawal n.d.). The alp association resembled a cooperative in its form and function, but the institution was coterminous with the local community of citizens.

Both the alpine pastures and the high forests are extensive resources with low or slow productivity per unit area and little potential for increasing

yields (Table 9.1). Forest soils were too thin and rocky to cultivate, and their altitude meant the season was too short for reliable cropping. The larch and pine trees took years to mature. Similarly, the natural grasses of the high pastures could not be irrigated for double crops of hay. Both resources were most efficiently used in indivisible form. The herd of the entire village could be moved among the pastures according to their needs that varied with a particular year's grass growth and precipitation. As villagers visited their animals on a Sunday, they looked closely for signs of overgrazing or poor condition in the livestock. Dividing the alp among the cattle owners would have required much more labor in herding and dairying, as well as possibly fencing that would have been costly and interfered with optimal grazing movements. Privatization might also have hindered the adjustment of pasturage to the variation in household herd sizes over time. Because mountain conifers grow slowly and yet every household needed wood fuel for cooking and heating, dividing the forest into private woodlots might have tempted some owners to overcut their tracts while other lots were not harvested optimally. A market for firewood could also have led to the same effects as some individuals sought short-term returns and the transaction costs of annually redistributing access to fuel went up. The forest had an ecologically important role for the whole village in serving as a barrier to destructive avalanches as well as conserving water and preventing erosion on steep slopes. Only planned, restricted cutting of the communal resource could provide sustained yields, equitably divided among community members; while at the same time conserving vital environmental protections.

The group that exercises joint property rights and manages a common pool resource need not, of course, be a community or a residentially defined

population unit. T6rbel's three irrigation systems were formerly operated as separate associations (Geteilschaften) comprising all of the owners of land whose meadows were watered from a single network of channels. The two lower and probably very ancient systems, the Springerin and the **Felderin**, tap the TOrbelbach, the major stream that drains the village territory and provides a critical common pool resource. Those with rights to timed and rotated periods of the flow within one system are responsible for cleaning it in the spring, paying for any major repairs in proportion to their individual water shares, and monitoring the traditional succession of use periods during each 16 day cycle (Netting 1974). One who purchases or inherits land with its accompanying water rights is automatically a member of the association with its responsibilities. The uppermost system, the Augstborderin, that brings water from outside the village territory, serves both TOrbel and the neighboring village of Zeneggen, and they cooperate in annual maintenance. A formally chartered user association in Tfirbel has a supervising official (the Niventeiler. divider of the new canal [waters]), whose position rotates each year. In the past, when the main channel was an open conduit, the association hired each year a guard (Wasserhuter) to patrol the ditch from its source and check for leaks and obstructions. There is even a very small group of irrigators (but with a written constitution and bylaws) that captures the flow of a spring in a shallow, dammed pond (Wrer), and then releases this "common pool resource" twice a day from a central drain onto some contiguous meadows (Stebler 1921:69-70).

In this notably dry area of southern Switzerland, the intensification of hay meadows to produce two crops a year plus some grazing would not be possible without artificial watering techniques. The distribution of the

scarce resource requires initial investment, especially when the water source must be purchased and a long canal plus a network of smaller channels and sluice gates constructed. Large-scale irrigation involves capital and labor costs that are beyond the reach of most individual cultivators and can be provided more economically by **cooperative effort** or financed by a private owner who then contracts with water users (Spooner 1974). To make sure that the system is properly maintained, that distribution is conducted without waste of water or time, and that members receive the shares to which they are entitled, corporate organization must actively supervise distribution and supply maintenance. Group members must also monitor each other and resolve conflicts that inevitably arise over the use of the scarce resource. Indeed, some systems of communal management and dispute settlement only come into operation during that part of the year when water is in shortest supply and when it is most in demand for growing crops.<sup>7</sup>

Irrigation Management: Corporate Cooperation or Oriental Despotism?

Irrigation systems become even more complex and vital to intensification when they serve wet rice cultivation. But despite system of dams, flood embankments, and long canals that require large specific investment and typically are planned and constructed by the state or other large political entities, local irrigation continues to be administered by small groups of cultivators that manage a common pool resource with common property institutions. Though rice terraces in Bali are individually owned and cultivation is carried on by private proprietors, the irrigation that makes this farming system possible is under the control of a subak irrigation society (Geertz 1972). It comprises a named, contiguous area of terraces (a

"wet village"), and all people with freehold tenure in these fields are members, regardless of their residence, caste, kinship, or wealth. As the canal approaches the society's fields, it is precisely divided several times, with the proportions of water specified according to a written palm-leaf subak constitution. The society regulates the time of planting for its members and delegates the work groups that maintain the system. As a corporate group, the subak elects a chief and other officials by a council of members, each having one vote regardless of the size of the holding. The society collects taxes and disburses money for improvements, fines members for infractions, and appoints the priests who conduct rituals -at subak shrines that schedule the various activities of the rice cropping calendar. Members retain all rights to sell, rent, or tenant their own land and to cultivate it as they wish. The subak society does not engage directly in production or marketing. Though Geertz (1972) refers to the society as a cooperatively owned public utility rather than a collective farm, its structure is more like that of a cooperative that provides a certain agricultural input for its members.

The irrigation society is neither a branch of government nor a private business enterprise, and its operation appears to supply benefits to farmers that neither of these institutions could provide, and that could not be distributed by individual smallholders working independently. As a cooperative with elected leaders, the subak society could create and maintain the waterworks, allot the water among users by discussion and group consensus, regulate the timing of the cultivation cycle, and control the planting of rice (Geertz 1980). Though it did not possess land as common property, the society could give or withhold permission for new terrace construction, and it legitimated transfers of terrace ownership. Water in an entire regional



drainage area was apportioned among the autonomous subak local units not by hierarchical governmental or bureaucratic mechanisms but by religiously sanctioned integration. Ceremonies of the rice goddess cult, beginning at the river temple at the volcanic lake at the top of the system, timed the release of water to each society area in turn. Because wet rice requires the highest water input at or just after planting, followed by decreasing water levels until the harvest on a dry field, subak cycles had to be successive rather than coincident to make optimum use of the limited water resource (Geertz 1972). The higher irrigation societies received water first at the beginning of the ritual cycle in December, and each terrace neighborhood in the Balinese river valley was flooded successively until the coastal fields were reached in April. The vital temporal integration of the cellular irrigation units and the sequence of agricultural tasks within each subak were scheduled and meshed by priests and ritual observances.

Among intensively cultivating smallholders, the same scarce, productive, improvable resources that make private property rights adaptive also provide the impetus for the corporate organizations that protect private tenure and both establish and administer common property. While the Balinese subak manages delivery of public water supplies that make individually owned rice terraces produce dependable crops, the residential hamlet has a separate corporate role in community life. Under a jurisdiction often set out in a written constitution, the hamlet is responsible for public facilities (roads, meeting houses, markets), local security (the night watch and the suppression of violence), and the settlement of civic disputes (inheritance, arguments about traditional rights). It has power to confer and withdraw citizenship, organize collective work, and control access to house land (Geertz 1980). The

hamlet also allocates various public goods necessary for the protection and enjoyment of household farm property in a particular local area. In pursuit of these legitimate activities, the community could tax and fine its members, and it could own property collectively and invest in commercial ventures. Though the Balinese hamlet performs a variety of essentially social task like legitimizing marriage and divorce, enforcing sumptuary laws, and sponsoring feasts (Geertz 1980), its major involvement with matters of property is a salient characteristic.

#### Corporate Institutions for Smallholder Individualists.

The peasant "closed corporate community," a seminal concept proposed by Eric Wolf (1955, 1957, 1966), conveys the historical importance of corporate relationships to property but neglects some of the distinctive features of smallholder corporate groups. Using examples from Java and Mexico, Wolf (1957) stresses community closure in terms of restricted citizenship, "outright communal tenure" of village land, and unitary responsibility for tribute and corvee labor to outside powerholders as means of both accommodating to and resisting the political and economic demands of colonial conquerors. The corporation, "an enduring organization of rights and duties held by a stable membership" (Wolf 1966:86), meets onerous external exactions by equally distributing rent in labor, produce, and money among its members. Such communities maintain the internal order for this defensive posture by forbidding alienation of village land to outsiders and by periodic reallocations of land that have the effect, along with ceremonial distributions such as fiestas, of levelling economic differences among members (Wolf 1966:86).<sup>8</sup> The fact that the most economically valuable lands in such

communities often remain in local private ownership, that there may be substantial and persistent property inequalities among households, and that the community may be defending its **common resources** as much against neighboring farm communities as against exploitation by outsiders is somewhat neglected in this view of peasant economic marginalization and subjection.<sup>9</sup>

The functional links between land use and land tenure have also been partially obscured in Geertz's (1963:90-91) discussion of communal ownership systems under which the Javanese village as a corporate body exercised various kinds of residual rights of control over fields. He suggests that the "collective apportionment procedures of traditional communal tenure" by which the village periodically rotated and redivided plots among qualified families (Geertz 1963:91) had been more recently applied to the wet rice sawah terraces that were requisitioned as blocks by colonial sugarcane enterprises. Within the village, poverty was further "shared" by granting village communally held rice lands to needy or landless farm families. Though sharecropping and renting arrangements indeed distributed rights of land use to non-owners, recent scholarship makes clear the existence of firmly individualized private rights to almost all high value irrigated land. The high percentage of landless in many communities showed that many cultivators received no apportionment of collectively held village land. Rice lands labeled communal were in fact granted for personal use over long periods to village officials who were the richest members of the community (White, Collier 1981, Hart, Alexander and Alexander). Though the corporate community may have asserted common rights in swidden and grazing lands, organized production for tax and rent revenues to the state, and administered irrigation, its control did not

imply communal as opposed to household private property rights in intensively tilled lands.

Throughout our discussion of smallholder rights in resources, a continuing difficulty has been the tendency to binary distinction, to focus on essentially dichotomous variables. Tenure is not either private or communal; property does not parse neatly into open access, common, and private; groups are not either closed corporate or open atomistic. Rights in the same physical field may be partitioned among private owners, temporary cultivators, possessors of trees or buildings on the land, those with rights of easement to travel across the land, and a whole community permitted to graze their animals on the crop stubble. Where private property rights have great importance as they do among smallholders, they can become legally complex and richly diversified. The several types of property use, holding, inheritance, transfer, and administration that are actively present, known, and enforced in a community of intensive cultivators (as opposed to the laws on the books and the official regulations of the state) represent a careful adjustment of social rules and practices to ecological facts. We can move beyond the gross categories of property classification and corporate institutions by looking for regular variations in situations of controlled comparison. Among villages of upland south India in a single area with irrigated and dryland cultivation, similar crops and agricultural technology, common ethnicity, religion, and caste composition, Robert Wade (1988) has uncovered significant differences in institutionalized corporate activities. He examines the organization of open field grazing and irrigation to illustrate the circumstances under which people solve collectively pressing problems of common pool resources.

Irrigation for banded pond rice fields in a village near the end of a 20 mile canal is conducted by 12 common irrigators who are appointed by the community council. After the farmers have transplanted the rice seedlings in their own fields, the irrigator crews distribute the water from the main canal, apply it to each paddy, help bring more water down the distributary, prevent higher villages from blocking off the water supply, and make minor repairs to field access roads. They are hired only when water becomes scarce and when farmers start to quarrel because of the tendency for top-end farmers closest to the water source to use water that should go to those with fields at the tail end of the block.<sup>10</sup> The work is not highly s-killed, because it involves flooding the paddies rather than conducting water down multiple field furrows, but its systematic performance by the hired labor teams saves farmers from the travel time of irrigating their own distant, dispersed fields. It also prevents water loss to other competing villages, reduces the waste of water by managing the sequence and amount of irrigation better than individuals could, (or, if left to their own devices, would) and provides a rotation schedule that consistently improves the water supply for tail-enders (Wade 1988:77-79).

Rice is more subject to stress than other crops if soil moisture falls below the saturation point, but it is not sensitive to overwatering, and farmers who can secure more than their fair share of water may use it to retard weed growth and save on their own labor. Rice is also a highly dependable subsistence crop that needs little fertilizer. Wages for the common irrigators which they themselves collect from individual farmers in proportion to the field sizes are small in proportion to harvest value, and the benefits appear to justify farmer costs. Villages with more abundant water supplies toward the head end of the system grow more double cropped rice

and do so without common irrigators, apparently because there is less risk of crop-endangering water shortage and less competition among cultivators for an adequate water supply (Wade 1988:161-165).

Tail-end villages with less irrigation water also grow more rain-fed crops of sorghum and cotton. When the sorghum is harvested, good livestock grazing is available on the fallow, but unfenced sesame and cotton along with dry season irrigated crops are subject to possible damage by the herds. Some 10,000 head of sheep and goats enter village lands at this time, and their herders are paid by individual farmers in return for folding the animals within a temporary fence for several nights on a field and thus manuring it. Half the fee for manuring goes to the village council who use it to hire field guards. A civic institution thus allows for effective common grazing of otherwise unused plant growth in large unfenced fallow **areas**, the manuring of individual farmers' fields, and the protection of the interspersed standing crops (Wade 1988:60-68). The village council publicly reads the regulations governing common grazing to the assembled farmers and migrant herders every year. The field guards enforce the rules, taking straying animals to the village pound and collecting fines, some of which they divide among themselves. They also attempt to prevent crop thefts from the fields. Tail-end villages have a higher percentage of finely textured, deep, moisture retentive soils than those in rice monocropping top-end communities, and this means that there is a greater supply of fodder for a longer period after the rains. Dryland crops also require more manure than does irrigated rice. Without field guards, farmers could not secure both the benefits of large-scale manuring (what Wade refers to as "sheep-shit economics") and avoid damage to (and a great deal of conflict over) their standing crops.

With a population density of 159 per square km that has almost doubled in the last 80 years (Wade 1988:58), the village has higher risks of irrigation water shortage and of grazing livestock damage than top-end villages, with more adequate and reliable water and a much smaller density of herd animals (Wade 1988:184). Both the canal water and the stubble fallow grazing are common pool resources, used jointly and with subtractive consumption. The institutions of common irrigators and field guards, administered by the corporate community, occur most frequently in villages in the bottom third of the irrigation system where the ecological risks of crop stress from water scarcity, conflict over water, dry crop manure needs, and livestock depredations are highest. "...Any resource characterized by joint use and subtractive benefits is potentially subject to crowding, depletion and degradation," the so-called tragedy of the commons. But only "...where joint use and subtractive benefits are coupled with scarcity, and where in consequence joint users start to interfere with each other's use do you have a commons dilemma. ...Corporate organization is found only in villages where commons situations have become commons dilemmas" (Wade 1988:184). Common property and the costs of controlling and monitoring its use are perhaps a special case of Boserup's more general theory of agricultural intensification. For the Indian village, enclosure of the fallow or full privatization of the irrigation water are not viable options. People will pay the costs of corporate organization and the administration of common pool resources only when it becomes profitable and the risks for agricultural production of doing nothing become too high (Wade 1988:186). Deliberately concerted, corporate action takes place only when net material benefits to be provided to all or

most cultivators are high -- when without it they would face continual collision and substantial risk of crop loss (Wade 1988:186).

#### Does Land Have its Price -- and Should It?

Just as common property resources managed by corporate indigenous institutions are not a quaint holdover of socialistic traditional communities, so the market in individually owned land is not an imposition of modern capitalism that inevitably destroys smallholder society. When farmland has a money price and when rights to it can be transferred freely with permanent legally binding alienation and acquisition, smallholders are often seen to be occupying qualitatively different roles in externally dominated economic systems. Land as a market commodity means that a farmer may be unable to purchase enough of the basic resource to provide a reliable household subsistence, and that land can be lost to those with superior political power and influence. Rights in fee simple and state systems of land registration can be lauded as providing the necessary security of tenure to promote investment, a sale value which allocates land to its most productive use, and a collateral value that increases the supply of credit (Binswanger and McIntire 1987, Feder and Noronha 1987, Shipton 1988). Others see great dangers as exchange values in land displace use values,<sup>11</sup> with commoditization bringing in its train land concentration, debt relationships and eviction, speculation at the expense of small farmers, and the polarization of rural society (Watts 1983, Downs and Reyna 1988, Shipton 1988). Both the views from the Right and the Left suggest that land tenure is determined, for good or



ill, by the action of forces outside of rural society. In fact, agricultural intensification in situations of population pressure increases the volume of land sales while other factors are held constant. With rising population density among the Nigerian Hausa, the proportion of land purchased and loaned goes up, though ethnic group, farming system, religious law, capitalist market economy, and state legal codes are the same (Table 9.X). The frequency of sale is an indication of scarcity of land (Goddard, et al. 1975).

As the smallholder commercializes, he is increasingly threatened by competition for land and resulting disputes, though such conflict is also present among less market-oriented intensive cultivators (Netting 1972). Similarly a variety of means to transfer -use rights through rent, sharecropping, and mortgaging, as well as ownership rights through sale improve the opportunity to bring appropriate amounts of land together with labor and capital for increasing production per unit land (Feder and Noronha 1987).<sup>12</sup> Paradoxically, government attempts to codify and enforce freehold tenure and register secure land titles may add to transaction costs in the individually tailored agreements for loan, rental, barter, swap, and sale that proliferate in Third World smallholder areas (Shipton 1988). An individualization<sup>13</sup> of property rights may be more appropriate and welcomed "in crowded rural areas where valuable cash crops have raised competition for land, where boundary disputes have become most dangerous, and where litigation has become most costly and time consuming" (Shipton 1988:122), but central government bureaucracies may have trouble in implementing workable rules and procedures.

In a stable, intensively tilled area, land purchases, though perfectly legal, may be relatively rare because of high prices and the prevalence of

long-term inheritance and temporary use rights. Sales when they do occur may be for individual fields, gardens, or meadows that are both small and dispersed. Though eagerly sought by smallholders who are attempting to expand, such fragmented plots may not lend themselves to consolidation or enclosure, and the mere presence of a land market does not mean that household farmers will necessarily be dispossessed. Loans may also be sought without pledging land as collateral. Many peasants are notably reluctant to mortgage land and may do so only as a last resort in times of drought or sickness when all other options of migrant labor, craft work, and domestic animal sale have been exercised. Credit schemes financed by international development agencies have often been distinctly unpopular in the countryside. While land transfers in both formal and informal markets may be extremely important to smallholder intensive agriculturalists, the possibility of holding title to land, selling it, and using it for collateral does not mean a consequent decline in the prevalence of small farming.

## Chapter Nine Footnotes

1. We might classify rights, following Shipton (1987:52, n. 9), as:
  - a. Rights of use, including hunting, grazing, cultivation, collection of water, wood, minerals, etc., passage, building, and residence. The accompanying rights of disuse may include those of fallow, or of the holding of reserves for future family expansion.
  - b. Rights of transfer can include those of inheritance, gift-giving, lending, swapping, mortgages, rentals, sales, and other contracts.
  - c. Rights of administration can refer to allocation or withdrawal of use rights, dispute settlement, regulation of transfer, management of land for public uses, and "reversionary" or "ultimate" rights, e.g. for collecting royalties, tributes, or taxes.

These rights may vary along scales of time (for what period the right can be exercised), exclusivity (degree to which rights may be shared), and agent (the right exercised by an individual, a collectivity, or a corporate group).

2. Kay's wording indicates that by "property rights" he means some form of privately held rights. Usufruct is also in the general sense a property right, defining who has the right to use -a resource in a certain way (De Alessi, pers. comm.).

3. It is sobering to consider how strongly the ideology of the nineteenth century classical evolutionists continues to influence our unexamined concepts of property (Netting 1982). For Lewis Henry Morgan, the Rochester lawyer, railroad investor, and New York state legislator, cultural development represented both technological invention and intellectual progress.

The idea of property was slowly formed in the human mind, remaining nascent and feeble through immense periods of time. Springing into life in savagery, it required all the experience of this period and of the subsequent period of barbarism to develop the germ, and to prepare the human brain for the acceptance of its controlling influence. Its dominance as a passion over all other passions marks the commencement of civilization. It not only led mankind to overcome the obstacles which delayed civilization, but to establish political society on the basis of territory and of property. A critical knowledge of the evolution of the idea of property would embody, in some respects, the most remarkable portion of the mental history of mankind (Morgan 1963:5-6, orig. 1877).

Morgan's latter-day followers insisted that individual property in simple societies was purely personal, while land, the basic source of subsistence was always collectively held (Leacock 1963:xvi). Critics of the evolutionary view found forms of private ownership along with well-defined communal rights in every society, and they decried the "dogma of a universal primitive communism" built up by Engels and Marx on a foundation of Morgan's work (Lowie 1920:235). In fact, Engels' (1972, orig. 1884) understanding of the presumed transition of prehistoric German land tenure from collective clan ownership of land through communistic household communities to individual family holdings had an ecological rationale. With the increasing pressure of population on land resources and the lack of sufficient territory to sustain shifting cultivation, disputes over land could interfere with the common economy and encourage some form of private ownership. "The arable and meadowlands which had hitherto been common were divided in the manner familiar to us, first temporarily and then permanently among the single households which were now coming into being, while forest, pasture land, and water remained common" (Engels 1973:202). The supposed lessons of cultural evolution reinforced the political stance of historical materialism, dividing the human career into B.P. (before property) and A.P. periods, and emphasizing the lost Utopia of cooperatively shared resources.

4. The "tragedy of the commons" postulated by Garret Hardin (1968) in one of the most memorable statements of the new environmentalist movement used the scenario of a rational herdsman who increased the number of his livestock without limit, eventually destroying the resource on which he and his fellows depended. Because the herdsman gained the full benefits of each additional animal while sharing the costs of overgrazing with all the other cattle owners, his rational decisions added up to an irrational dilemma (McCay and Acheson 1987:2-15). The finite grazing resource was open to all comers, and the possibility that a group of rational herdsman, observing the degeneration of their environment, and communicating about cause and effect (as humans often do), might establish boundaries against outsiders and jointly control their own herd sizes, seems not to have occurred to those who accepted the biological model. In fact, "commons" in the sense of the long-established community grazing areas of Europe, embody clear and well enforced property rights. As such they are an unfortunate analogy for the real tragedies of overpopulation, atmospheric pollution, groundwater exhaustion, and overfishing in open access resources that Hardin so presciently conceptualized.

5. Based on church registers of baptism, marriage, and burial, along with a village genealogy that allowed family reconstitution, the TORbel population fluctuated between 241 and 294 in the years 1700-1775 (Netting 1981:96, 114). The village has occupied its current territory since at least the eleventh century, and there are indications that it might have been settled well before the ninth century Allemanic invasions (Netting 1981:8-9). A formal charter of 24 statutes pertaining to community membership and regulation of the alp was signed in 1531 by 60 named males representing a total of 69 families (Netting 1981:62). The population of 300 to 350 was substantially reduced by the 1533 plague epidemic, but it is not unreasonable to envision a community of 250 to 350 members that supported itself for centuries on the same land base of 1545 ha, including 967 ha of farmed land (Netting 1984).

6. One account states that water rights in the Embdbach were purchased from the valley town of St. Niklaus in 1270, and documents show that the irrigation system was independently controlled by an association of **Törbel** and Zeneggen residents in 1343 (Stebler 1922:71-72; Netting 1974). The canal, cleverly engineered along the mountainside with a minimal gradient for 6 km to Törbel and another 4 km to Zeneggen, is still known as "the new one" (die Niwa). and it opened up for hay cultivation a high altitude tier of meadows that had previously been forest clearings (Netting 1981:44). The meadow areas still bear names like Riedfluh (rocky **clearing**)-and Schwendi (ring barking trees) that refer to their earlier, less intensive uses (Netting 1981:50).

7. Downing (1974) describes a Oaxacan community where official regulation of the irrigation and dispute settlement are activated only when scarce water supplies coincide with the moisture sensitive period of the developing maize plants.

8. Wolf (1981) now feels that the cargo system did redistribute surpluses without levelling class differences. Indeed, economic support of ceremonies and public festivities might strengthen authority with the community and reinforce inequality (Cancian 1965; Greenberg 1981). A somewhat more narrow definition of the corporate community, and one that makes no assumptions as to form of tenure or degree of internal equality, is that of Tom Sheridan. He terms it "an organization of peasant households that controls certain basic natural resources, and that preserves its corporate identity through time" (Sheridan 1988:xxiii). It is primarily a community of interest rather than of place, and it may not be isomorphic with an actual geographic community.

9. The simple binary ideological opposition of communal and private rights was fostered by the 19th century political conflict, pitting highland Mesoamerican and Andean communities with sparsely populated, extensively used hinterland against liberal governments trying "to disestablish Indian corporate jurisdiction over land in favor of private property rights, to throw the privately owned plots on the market, and thus to open the [lands] to colonization and seizure by non-resident outsiders" (Wolf 1981:326). Modern Mexican communities that eagerly espouse communal *ejido* rights in desert cattle range land may resist government attempts to extend group tenure (and possible reallocation of use rights) to irrigated alluvial bottom lands (Sheridan 1988).

10. For what happens when theft, intimidation, and physical force replace corporate local organization and state bureaucratic administration in the allocation of irrigation, see a Sri Lankan case described by Fladby (1983:191-199).

11. The classical economists such as Smith and Ricardo are the last to insist on the distinction between use and exchange values, because at the margin, exchange and use values are the same (De Alessi, pers. comm.).

12. Studies in Latin America have shown positive correlations between the degree of ownership security and farm investment per unit land (Feder and Noronha 1987:160-161), and titled farmers have a higher incidence of permanent crops than untitled farmers.

13. "Privatization" of property rights might be a more appropriate term than Shipton's "individualization." An individual owning property rights may choose to join others and form a cooperative or a corporation in which management decisions are not exercised by the individual (De **Alessi**, pers. comm.).