



Land use and tenure in the tropics

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Where the conventional concepts do not apply

Tropical peoples are predominantly dependent upon agriculture for their livelihood. The prospects of significantly altering this economic pattern by bringing it to a level comparable with that of industrialized countries are, in the short run, not promising. It is therefore evident that overall development must include - indeed often must begin with activities that require and use land on a fairly large scale. Without the production of a surplus in agriculture and other rural enterprises, industrialization cannot occur, unless alternative sources of foreign exchange earnings are available from the export of minerals. However, the global consequences of "mineral warfare" in recent years indicate quite clearly that over-dependence on exportation or importation of minerals is fraught with unpredictable hazards and sophisticated forms of blackmail. While it is desirable to have a diversity of resources and it is also necessary to prefer one type of economic activity to another, there is as yet no rationale for excluding agricultural development either in the developed or developing countries. The reasons for giving increasing attention to the agricultural sector, including forestry, are both explicit and compelling.

Over a period of time, as a result of development policies, an economic system may be transformed from one that is largely agricultural to one in which the industrial sector becomes dominant. A major catalyst in this direction can be the development of modern forestry. But because the requirements of modern forestry are unusual to tropical countries, their potentialities are frequently underestimated, and forest tenures are thus more chequered than those of traditional farming. However, forest tenures have a direct bearing on development, since they embody those legal, contractual and/or customary arrangements whereby forest services can gain access to productive opportunities on the land. They also constitute the rules and procedures governing the rights, duties, liberties and exposures of individuals and groups to the use and control of forest resources. In short, forest tenures are closely related to the pattern of income distribution in the forestry sector.

In the history of tropical forestry, the pattern of development has been notably due to external forces. It was started essentially for the procurement of logs for European markets. 'Because it took a considerable number of years to obtain the mature tropical tree of 1.8 m in diameter needed for the wood-processing technology of that time, it was judged that the continuing supply of select logs required reserving a fairly high proportion of the superficial land area. Thus both in purpose and concept, tropical forestry generated conflicts; the cause and magnitude of these conflicts are closely related to the nature and importance of rural economies.

Although, as an enterprise, forestry is now an established sector of tropical economies, its operational base - land - is, nevertheless, a continued source of debate and instability. This is principally because of the exclusive requirements of forestry and its largely inflexible considerations which are at variance with the ingredients of peasant economies and traditional societies. The customary Land owners lost a great deal of political and economic influence by being denied access to forest lands which have always been regarded as their most sacred heritage. Also, the rights of farmers, cattle graziers and hunters were either terminated or severely restricted in the wake of forest reservation. Generally, the problems created by displacements from forest reserves or abrogation of land-use rights have never been satisfactorily resolved in tropical countries with increasing population, intense political development and more articulated individual rights even in the so-called traditional societies, these problems have become more urgent and compel fuller understanding as well as feasible solutions.

SMALL HOLDINGS REPLACING FORESTS IN COSTA RICA part of a tradition of land acquisition

There are severe limitations to a full examination of the pertinent problems of tropical forest land tenures. There are several countries within the broad geographical tropical belt, which are virtually an amalgam of numerous traditional groups or nation-states; consequently, it may be impossible to speak precisely of a traditional land tenure typical of the situation in a whole country. Moreover, the important seven European colonial powers (Belgium, France, Italy, Netherlands, Portugal, Spain and U.K.) had different patterns of property law and colonizing objectives underlining land development programmes in the tropics. In the case of the ax-British territories there were variations in the introduction and application of English land laws within each territory. These problems are compounded by the fact that some tropical countries have experienced successive colonizations. Because of the obvious juxtaposition of prevailing tropical land tenures, the discussion in this article is largely restricted to the conditions in a few countries, and in particular to West Africa, although examples from other tropical regions are occasionally cited. Nevertheless, the various issues that have been outlined should be of wider geographical interest.

A note of caution. Certain concepts of land tenure are not being criticized just because they are foreign. It is strictly a question of the suitability of those concepts for the needs of tropical countries. Indeed, my central viewpoint revolves around the evolution of a rationale or set of conditions that will (a) foster forestry's potential contributions to economic development, and (b) facilitate adjustments compatible with the tropical countries' expectations of land tenure, taking into consideration the requirements of forestry development.

Principal components of land tenure

Among the tropical countries there are no standard or generally acceptable descriptions of land tenure. Perhaps the simplest concept is to view it as a body of actions aimed at controlling the use of land. Over a period of time these actions may be formalized into rights and relationships between individuals primarily for the purpose of regulating the use of land resources. Since land is a resource that is fundamental to most human endeavors and there are individuals or groups continually attempting to gain access to its use, there is necessarily an element of competition affecting tenurial developments and considerations. For instance, in the subsistence economy, agriculture has a dominant hold on land. However as the population of potential users increases, and the needs and desires of community expand, the land will acquire economic values. Consequently, the meanings attached to the principal elements of land tenure i.e. land, ownership, rights and use regulations vary considerably over time and place.

In the advanced countries "land" may be "defined geographically as a specific area of the earth's surface: its characteristics include all reasonably stable or predictably cyclic attributes of the biosphere vertically above and below this area including... the plant and animal populations and the result of past and present human activity and their interactions, to the extent that these attributes and their interactions exert a significant influence on present and future uses of land by man" (FAO, 1975a). A complement of this description is that land is attached to imaginary grids and can be identified as parcels or plots which can be "held," "owned," "rented," or "sold." These attributes are not always easily applicable in tropical countries where the concepts of land may still be based largely on traditional form, of land tenure. The extent, location and boundaries of land have always been highly subjective rather than a matter of qualitative or quantitative documentation. On the other hand, land is jointly held and decisions on its disposition are valid only with the approval of every member of the community.

[SURVEYORS IN NIGERIA where the meaning of land value is changing](#)

Individual rights

Similarly, "rights in land" in Western countries do not necessarily have appropriate property interpretations in rural areas of developing countries. In order to be securely held, individual rights do not have to be permanent or hereditary. The degree of permanence of rights depends to a large extent on the particular modes of life, soil fertility, various ecological factors, and the nature of economic activities. "Use" is strictly related to "rights" and indeed both are largely synonymous. Effective "use" and appropriation are generally essential for the maintenance of individual and family rights in a particular piece of land. On the other hand, villages or line-ages do not have to make continued full use of their land in order to maintain their claim to the whole of their territory.

Therefore, the principal components of "land tenure" in tropical countries comprise: (a) a concept of land; (b) a mode of correlating man with his environment; (c) a social system with a spatial dimension; and (d) economic status of local inhabitants. Unlike the Western countries, where there are "rules of tenure" encompassing maps, general formulae like ultimate or sovereign rights, rights of allocation or control and recognized distinctions between ownership, possession, use and usufruct, many tropical countries have a diverse inventory of relationships which are best understood in the linguistic and socio-economic context of each community.

[AT A TEAK PLANTATION TN INDONESIA a high value crop increases the value of the land](#)

Group ownership

In most of the tropical countries, the indigenous land tenure is essentially group-oriented. Detailed arrangements in ownership structure may differ from community to community, but, basically, the individual derives rights of ownership from the group to which it belongs. In reviewing the situation in Africa, Elias (1962) has noted that "ownership is that of the group and the individual member has mere possession. But this possession is really more than sheer physical control by the allottee on his allocated portion of land; he can exclude from it not only strangers to the group but also others of the same group, provided that in the latter event he can show that he himself has committed no breach of customary rules relative to group members generally."

The role of family units is the commonest feature of group ownership. In this regard, land is viewed as belonging to a common ancestor and the land can be used when vacant by any member of the family. In most families, the lineage is patrilineal, although in Ghana, Ivory

Coast, Congo and Zambia, the right of the matrilineal to control the use of land is acknowledged. However, family land is more readily delimitable than the amorphous but universal communal land system. Variations of this exist throughout the tropical countries. Whether in Africa or Asia, a high proportion of rural lands are jointly owned by communities. The characteristics of this tenure are that individuals manage rather than own land, sometimes individually, and sometimes collectively; the individual cultivator has control over the crops he produces, while the group has power to decide to what use a particular area of land is put; long-term perennials such as oil palm and shea-butter trees in parts of West Africa, sago palm in Papua New Guinea, and bamboo in Southeast Asia belong to the community, while arable crops (e.g. maize, beans, rice, cassava and yams) are regarded as the property of the individuals who planted them. It is therefore not uncommon to find both the group and the individuals claiming varying rights over the same piece of land.

In other circumstances, for example in the West African Savanna, the use of communal lands is more permissive. The pasture could be grazed by cattle owned by all and sundry; common occupation of land among nomads is a stronger bond than that of family and is, in their view, interchangeable with blood brotherhood. Because of this and other instances of ambiguities arising from unrestricted access of numerous members of the community to the "pool" of land resources, Elias (1962) has described the system as "corporate" rather than communal, since, he argued, "the relationship between the group and the land is invariably complex in that the rights of the individual members often coexist with those of the group in the same parcel of land. Nevertheless, the individual members hold definitely ascertained and well recognized rights within the comprehensive holding of the group."

An interesting aspect of communal ownership is the principle of "first occupancy." There exists in most rural areas of the tropics a special association between some social groupings which are considered to be the first settlers in particular districts, and the existence of special rights. This is particularly apparent in regions where the inhabitants arrived in successive waves of migration of ethnically similar or different groupings. In these cases, a set of ritual rights may be attributed to the first settlers and another set of political rights to the later immigrants. This arrangement is less than the "equalitarian" status envisaged under communal ownership, which nevertheless validates the argument by Elias (1962) in favour of corporate ownership rather than communal tenure. This hierarchy of tenures is structurally similar to the constitutional powers of state and central governments in most federated nations; the rights of first settlers are those of the "reserve powers" often enjoyed by central governments. Examples of this tenure are found in parts of Nigeria, Ivory Coast, Niger, Congo, Rhodesia and Papua New Guinea.

[NOMADS IN THE SAHEL whose land?](#)

Traditional land use

The traditional economies of tropical peoples are largely geared to extensive use of land. Control of Land was essential to the survival of the different groups but it had little value for exchange. Title to land meant both prestige and subsistence; it also meant continued existence and a degree of sovereignty for the social groups. Land was vested in chiefs, elders and/or councils. All had rights of access to land, but these rights derived essentially from membership of particular groups; in some cases they resulted from the allegiance of the subject to the political authority.

Land being accessible to all, the general rule was that a man's descendants had equal rights to his land. However, the exercise of rights was always limited by obligations and counterbalanced by rights and privileges of others. For example, a peculiar feature of an indigenous tenure in Rhodesia is that a young man could not inherit or be allotted land until he

was about to marry (Carbett, 1963).

The amount of land utilized by a family or an individual was largely governed by economic, technical and even magical factors. An unusual land-use practice has, however, been observed by Thomas (1963) in Senegal. The Diola are obliged to cultivate an equal number of high-lying and low-lying fields in order to balance their production. Thus, in addition to dividing the land into small plots, the holdings become widely scattered. As a result of population pressure, the collective reclamation of new land from the mangrove swamps becomes a periodic necessity as does the redistribution of the rice fields at line-ages level every five or six generations.

The setting aside of land for mythical reasons is a common practice in most communities. The culture and tradition of some societies often compel a veneration of their ancestors in periods of victory and tribulation on initiation lands, lands that are haunted with spirits, lands where the mythical emergency of ruling dynasties or other groups took place, former settlement sites, or shrine lands. The existence or absence of such lands is generally a reflection of the degree of mobility of local populations.

In the past, litigation over land was not frequent, particularly among land-controlling units and closely related groupings. However, movements and expansion of groups have been recurrent causes of territorial changes and have led to the co-existence of different groups, exercising different claims on the same tract of land. Although there were conflicts within ethnic groups, villages or line-ages, they were nevertheless easily settled through the acceptance of common values, sanctions and symbolic arrangements. Temporary rights could easily be exercised by different categories of persons, but the rights derived from first occupancy or first clearing were recognized.

Factors changing the pattern of land use

There have been continual changes in tropical land tenures but those of the last 50 years have been far more rapid and permanent. Migrations, contact between peoples, internal political changes, and the spread of new religions greatly affected tenurial developments. However, over the last century or so other major factors have come into play. Economic and social changes have taken place largely through the importance of technology and religions. The existing land tenure systems have thus been significantly modified or complicated. Along with the exposure to European forms of administration and government, the tropical countries received "exotic" crops such as cocoa, coffee, tea, sisal, sugarcane, banana, rice, pineapples and citrus trees requiring plantation regimes. A growing demand was also established for indigenous - rubber, timber and palm produce. Consequently, the composition of the groups living on and working the land has changed; the demarcation of land units has been considerably modified or intensified; lands have been divided or shared; the nature and contents of rights have altered; new categories of persons have acquired rights of control in land; and new conceptions about the land have originated.

The effects of European-oriented changes appear spectacular because of their origin and less-than-wholesome tactics, and because we are all living witnesses to their implications, in parts of Africa for example. There is no doubt that the earlier conquests and colonizations left an imprint on various land tenure systems. For instance, in parts of Africa and Asia where Mohammedan law was fully entrenched before the advent of the Europeans, it is no longer feasible to completely separate the indigenous tenure from the Islamic doctrine of succession.

The colonization movements of the nineteenth and twentieth centuries profoundly altered the land tenure systems in specific countries. Because of the generally inhospitable climate of West Africa to the Europeans, the imperial powers did not impose a Western type of tenure on land except in the urban areas and for the special management requirements of certain

natural resources. However, in East and Central Africa, the European settlers rapidly increased their land holdings, dispossessed large proportions of the local population, and they created a racial society based largely on the control of the best land resources. After their independence, Kenya, Tanzania, Malawi, Zaire and Zambia had to repeal a variety of land laws in order to facilitate land reforms. The same course of action may be undertaken in Angola and Mozambique in due course. Malaysia had a similar experience with Indian and Chinese settlers. The Malaysian Land Reserve had to be created as a bulwark against the growing landlessness of the Malays.

Non-agricultural influences

The increasing awareness of the potentialities of non-agricultural land resources has exerted the greatest influence on the pattern of land use. In many countries the potentialities of minerals, water, fisheries, livestock, wildlife and forest resources exceed those of subsistence and contemporary large-scale agricultural production. The development of these resources has necessitated both institutional and economic measures for land management. Similarly, the infrastructural improvements accompanying national economic programmes has disrupted the customary tenure. The provision of roads, for example, even though intended to facilitate and encourage the production and marketing of export crops as well as easing communication problems, is generally harmful to the integrity of lands and family cohesion.

In all these examples, land tenure changes are taking place either as a result of planned activities by governments or through the inter-play of several factors of trade, communications, demographic pressures, and increasing monetization of subsistence economy. Thus the elements of tropical land tenure are themselves not immutable, even though the system is still largely traditional.

Land transfer and tenancy

The prerequisite of land transfer is that land is owned. Ownership creates rights to transfer in the same way as transfer becomes a source of ownership. But it should be noted that ownership does not always include the power to transfer land. Transfer through monetary sale is not well accepted in customary land tenure and is generally regarded with disapproval. In the past, land transfer was conditioned by social and ritual limitations. However, in many countries the emergence of new conceptions about alienation is linked with the processes of desocialization and of individualization of land-holding. On the other hand, the feeling of insecurity and of hostility towards outsiders, resulting from increased land scarcity and greater demand for land, has largely fostered the concepts of inalienability, of group ownership and of ritual sanction in land tenure.

In West Africa, there have been many invasions, migrations, and consequent transfers of land. The situation in those countries has been aptly summarized by Mabogunje (1971): "Some of the most densely settled areas in West Africa today are to be found in this (forest) belt. Many of the more important groups, however, have traditions of movement from the north, having displaced or absorbed less organized or more primitive people. We are thus led to conclude that in the early periods of West African history, the role of the forest areas was that of a refuge zone, providing, albeit temporarily, some degree of security from the aggressiveness of stronger, better organized groups in the grassland region of the north."

The most common form of land transfer is through inheritance. In the customary tenure system, the group, as the ultimate owner of land, is presumed never to die. Inheritance is predominantly patrilineal, although a notable feature of the system is that members of the group die intestate, that is, the wishes of the deceased before his death are discounted, so that the customary rules of descent and distribution may be allowed to operate without constraint.

By these rules, the elders are permitted to administer as they see fit the supervision, protection, and the final partitioning, where necessary, of the landed property left behind. The growing exception to this general rule derives from the introduction of permanent crops such as cocoa, rubber, coffee, tea and sisal representing major investments which the group cannot readily or morally manage as common property.

Generally, land on which a deceased person had rights of use can become an addition to the land set aside for communal purposes if the recognized owner dies without issue, or if, in the opinion of the family council, no family law of descent or distribution appears to be adequate and acceptable to the would be inheritors. Once a piece of land has been set aside for communal purposes, it is not allowed to be individually owned or inherited. Also, if a piece of land is recovered from a stranger or reclaimed from swamps or waste by communal effort, such land is not allowed to be inherited individually.

Leasing, borrowing and exchanging are some more acceptable methods of land transfer, and each has been used in varying degrees in tropical countries. The most commonly used and by far the most traditional of them is pledging. Customary tenure usually permits pawning or pledging articles, including agricultural crops, for the purpose of providing security for loans. In some parts of Nigeria, cocoa, and rubber trees and oil palm are principal pledge objects for security against loans raised for children's education, marriage, funeral, litigation, old age and sickness, tax payment, and occasionally for agricultural improvement. The land is not so pledged but only the trees on it that are owned individually. An important difference between the customary tenure concept of pledge and that of the Anglo-Saxon tradition is that the customary pledge is permanently redeemable. There may thus be situations in which grandchildren or other relations are called upon to repay the loan extended to a deceased family member in order to recover the cocoa and/or rubber trees.

Land itself, even if not inalienable, would not command much value in terms of security, since those who have money to lend generally have plenty of land. The moneylender is not interested in working the land to produce certain crops, but in harvesting and selling produce for cash returns on his loan. Again, it should be noted that pledging of tree crops is a recent phenomenon in rural economies. It encumbers the processes of inheritance; during periods of good harvest and producer prices, moneylenders are most reluctant to surrender management of farmlands.

Borrowing of land takes place when there is a temporary shortage of land for the production of food crops. This temporary shortage may be caused (a) by circumstances in which the land in fallow has not regenerated enough by the time the owner or user needs land for the production of a seasonal crop; (b) when the farmer wants to take advantage of cheap migrant labour and does not have enough land of his own to keep them busy; and (c) when a labourer decides to stay and become a tenant, and he borrows land from season to season until he is absorbed into the land-owning group. Land exchanges occur when farmers decide to create contiguous plots of land.

Forest tenure designates here a formalized way of controlling totally or in part the use of forest land. The consequent management controls and institutions are foreign to local systems. The alien nature of forest land tenures is partly due to the long-term requirements of forest resource development and partly because the potentials of the sector are not easily perceivable within the limited economic horizons of traditional societies. In most of these societies, the forestry viewpoint is restricted to the provision of primary needs such as firewood for fuel, poles for building, game for animal protein, and perhaps timber for construction and boat-building. The forest lands were unmanaged and the availability of even the select forest resources was fortuitous in the face of expanding shifting cultivation.

Agricultural land use

The opposing agricultural land-use practices compelled the development of a different land management for forestry, whose original tenets centred on a sustained yield regime of resources. Various attempts were therefore made to acquire land for exclusive forestry use. As has been observed earlier, there are infinite variations both in the principles and framework of land property throughout the tropical countries. The basic objective to halt forest destruction and obtain title to forest lands has been pursued through varying strategies in different communities within each country thus leading to a mosaic of forest tenures. However, an important factor that prevented the emergence of uniform tenures throughout each country was the inadequate understanding of local societies, particularly the basis of their attachment to land. The forest departments in all but a few of the tropical countries started as arms of the colonial administration which paid little regard to local customs. Nevertheless, the early foresters should not be heavily blamed for their naive "blanket" reservation approach and anthropological misgivings. It should be remembered that they had to contend with many forces; the local chiefs, groups and shifting cultivators on the one hand, and the influential political arm of the colonial administration on the other.

DWELLING ON THE BANKS OF A TROPICAL RIVER does the dweller know who owns his land?

The first and generally regarded as a most satisfactory forest tenure is that under the state. The forest lands in this category are frequently referred to as "state forests" or "forest reserves." In most countries efforts were made to reserve as much of the forest land as practicable under government freehold. Vast areas were speedily surveyed because such areas were observed either to be "threatened by shifting cultivators," "vacant," "unoccupied" or "no-man's land." The individual rights to such lands were pre-empted by ordinances and/or proclamations. The expropriation of occupancy rights is essentially a derivative of the principle of State's eminent domain which is common to all European systems of land ownership. The efficacy of this rule is notable in countries which did not have strong indigenous kingdoms whose prerogatives and traditional roles run counter to the spirit and provisions of state forest land ownership. West Malaysia, however, is an exception: it is a country which recognizes the constitutional role of the Sultans and yet has the ownership of forest lands vested in the state.

The second type of forest land tenure is the communal or collective ownership. Historically it developed as a compromise through the appeasement policy in vogue during the political transition from ethnic nation-states to the amalgams now known as countries. In order to avoid political unrest, the forest departments concerned had to de-emphasize the Western freehold concept, recognize the local communities as *de jure* owners of the forests and entitled to revenue from management operations, while the forest departments were *de facto* managers or "perpetual" tenants. Ghana and Nigeria are the notable exponents of communal forest land tenure. In Gabon, there are exceptional circumstances for the creation of communal forests. Under a 1957 decree, Okoumé and Limba forest lands can be developed for "purposes favourable to the welfare of small communities or villages." Although the decree allows each village to carry out certain actions, there is an implicit indication that the ownership of the land is not transferred to the villagers.

"Protection" and "protected" forests

Forest land, irrespective of its actual ownership may be classified "protection forests" or "protected forests." Protected forests carry useful trees, but are not intended to be managed on a sustained yield basis. These forests may be situated on lands that will eventually revert to agriculture or other uses, but in order to maximize the utilization of the existing timber and curtail premature entry into such lands, some restrictions are imposed in the meantime. Protection forests are declared on erosion-prone and over-grazed land. In other

circumstances, protection forests are constituted for the supply of specific goods and/or service such as firewood and recreational facilities near urban centres. Since the existence of protection forests could be consequential to the stability of the general environment, most countries have this category of forests, the point of interest therefore being whether such forests are protected under central government laws or under local council by-laws. In Nigeria and Ghana there are government as well as local council protection forests. However, in the French-speaking countries of Africa, where all forest lands are government-owned, there are protection forests as well as protected forests. The distinct feature of protected forests is that this is an administrative term applicable to all types of forests, especially when they are not yet legally reserved. All customary rights are admitted in protected forests except those occasioning destruction and removal of certain trees. Generally, these forests have definite management objectives.

Specifically protected trees

Some governments have introduced specific provisions with regard to the status of certain timber species. Such classified trees cannot be removed except with the approval of the forest service. The local farmer has a somewhat contradictory responsibility towards the trees. He is not permitted to damage them deliberately, nor is he obliged to look after them, except that in some countries, particularly in Ghana and Nigeria, certain tributes may be paid to the landlords before such trees are removed. Many forestry laws of the French-speaking countries prohibit damage to protected trees.

Private forest land

A third form of forest tenure is private forest ownership. This is found, for example, in Latin American countries and to some extent in the Pacific region. Because of the long-term nature of forestry and the fact that land is generally owned by communities, it has not been feasible to develop a great deal of private forest property in Africa. Since there are no special incentives, landowners are unable to comprehend the comparative benefits of investments in forestry vis-à-vis agriculture. Madagascar, the Comoro Islands, the Philippines and the Fiji Islands are countries which have substantial portions of their forest estate under private ownership.

Where public funds are committed to large reclamation schemes, the property is usually held by the government. However, a recent experience from Nigeria is that peasant farmers in erosion-prone areas, drought-affected regions and mining and windswept lands are being encouraged to enter into a covenant such that a proportion of their lands will be used for no purpose except for growing forest crops. The potential advantage of this trend is that it could be formalized into a restrictive freehold similar to the "dedicated woodland" that was introduced by the British Forestry Act of 1947.

Government purchased timber rights

The purchase of timber rights over considerable areas is a peculiar arrangement for forestry development in some Pacific islands. In Fiji, Papua New Guinea, Solomon Islands, and Western Samoa, the forest services are unable to acquire land even in the most favourable circumstances of abundant land, very low population and lack of competition for land use. This is due to the unwillingness of the ownership groups to part with their land. The practice is therefore for the government to enter into agreements with customary owners and acquire the right to exploit commercial timber on their land. The cutting right may then be granted to companies or private entrepreneurs in the form of timber harvesting permits or contracts. This system is different in a significant way from the usual timber utilization contracts discussed above. Although the cutting rights are granted for 20 years, after which the lands will revert to

the customary owners, the forest service, notwithstanding its status quo, has endeavoured to establish plantation on lands that have been logged. This is virtually an "anticipatory tenure" fraught with uncertainties.

[IN THE GARDEN OF A CHIEF IN WEST AFRICA trustees of communal land](#)

Local "rights of usage"

In a number of African countries, the "rights of usage" have been conceded to local inhabitants (FAO, 1965). These rights have their origin in custom, and unwritten laws govern their exercise over large parts of, or sometimes throughout, the forest estate. They include rights to collect minor forest produce, hunt, fish, draw water, dig wells, or of thoroughfare, and to use the forest for ceremonial purposes. In extreme circumstances, these are harmful rights of usage which enable local inhabitants to cut or use major forest produce, collect minor produce affecting economic trees, set forests on fire, rear and graze cattle, and even undertake clearing for cultivation and residence. In the English-speaking countries, the exercise of customary rights is strictly regulated, most of them being abolished in the main forestry legislation. But in the French-speaking countries, the main distinction is between *forêts classés* (classified as forest reserves) and *forêts protégées* (protected forests) discussed above. The exercise of usage rights in protected forests is less strict than in the classified forests.

The admission of the rights of usage was sometimes used as an incentive to enable landowners to cooperate with the forest service for forest reservation and management. Invariably, local inhabitants actively exercise and guard these rights thereby constituting severe tenurial constraints to forest managers. However, since forest reserves are set aside for different purposes, it should be possible to classify rights of usage according to circumstances. Also, since in the final analysis forestry purpose should consider the requirements of local inhabitants, the tenurial constraints arising from the grant and exercise of rights of usage could be viewed as a requirement.

Two factors are pertinent to the development of the forest land tenures that have been discussed. First, the existing tenures are frequently imports to various countries. The circumstances of recipients and mechanism of these imports were very diverse. Second, where there was no population pressure, the need to formalize the forest land was secondary to the exploitation motives, as was the case in Cameroon, Congo, Gabon, Ivory Coast and Surinam. However, the situation in the Pacific islands that has been mentioned is one of lost opportunities. If a vigorous forest reservation policy had been launched in the early days of political administration, the present difficulties could have been avoided. On the other hand, where there had been lack of population pressure, and the climate was congenial to European settlers, the tenure had been modelled after that of the metropolitan European country. This is the underlying cause of distinction between the forest land tenures of Latin American countries on the one hand, and those of African and Asian counterparts on the other.

Forest policy and general land use objectives

In the early days of tropical forestry, various reservation targets were set for instance, 33 percent of the land in some countries and 25 percent in others. The targets were rarely attained. The forest land varies a great deal in these countries, from about three percent in Kenya, 10 percent in Nigeria, 29 percent in Madagascar, 40 percent in Brazil, 57 percent in Zaire, 78 percent in Papua New Guinea, to 87 percent in Guyana (*FAO World Forest Inventory*, 1963). Although tropical forests are infinitely heterogeneous and therefore of varied potentialities, nevertheless, their presence and legal status impose corresponding reductions on the total amount of land available to other uses, particularly for agriculture. Thus in all its

localities, forest property has introduced a new type of investment into land and thereby altered the seasonal interest in land that a subsistence farmer had, into a long-term interest.

The land use restriction brought about by forest reservation has sometimes served as a catalyst for improved land management. For instance, in Nigeria, the peasant farmer who is traditionally an extensive land user has had not only to moderate his shifting cultivation horizon near forest reserves, but also has had to review his relationships with other farmers in the control, occupation and use of land resources. Thus in some communities, peasant farmers are inadvertently practising intensive cropping. Increasing observations of rotational cultivation of millet, guinea corn, onion, groundnut, and cotton, have been reported from among inhabitants near the savanna forest reserves in Ghana and Nigeria.

Within the vast African savanna, livestock production is a primary occupation. In this region, the interests of the forester and those of the grazier are partly at variance and partly interdependent. Usually, the graziers pay little attention to boundary marks except those imposed by large rivers, impassable mountains and tsetse fly. Thus where cattle taxes are required of herdsmen, as is the case in Nigeria for their nomadic tenure, it has been difficult to enforce such taxes. However, wherever feasible, forest reserves are established primarily to provide feed for herds of cattle. Grazing regimes are then developed so that the cattle move from one zone to another taking advantage of comparatively rich ground vegetation. This arrangement facilitates the administration of cattle tax and has proved to be of immense advantage both to the cattle economy and the preservation of the ecosystem.

The gigantic soil protection efforts being undertaken by governments to combat the drought problems in the four northern states of Nigeria, for example, have been seriously hampered due to the existing tenurial rights of local inhabitants. They would not surrender small portions of land for the establishment of shelterbelts and windbreaks which are of critical importance to the continuing use of the remaining large portion of land, and hence their own survival. Although the inhabitants now recognize the long-term advantages of shelterbelt projects, nevertheless the negotiations for land purchase are most cumbersome and prohibitive (Adeyolu, 1973). However, where land has been obtained for the project, the benefits arising from compensation and employment opportunities during establishment stages have been of great importance to local economies.

Unemployment

The instances above illustrate different tenurial functions in land management which are, however, secondary to the problems of rural development in most tropical countries. With the various attempts to stimulate, assist and create a suitable environment for development and the necessity to skip or combine evolutionary stages of economic growth, a corresponding and difficult battle these countries have had to fight is that of dealing with unemployment. This is an extremely difficult battle in spite of the planned contributions of modern industries, agricultural infrastructure, social services and land reform. In these circumstances, the imperatives for the forestry sector are as highlighted by Raup (1967) that "wherever there is surplus agricultural labour and shortage of working capital, the task of tenure systems is to put people to work."

Raup's hypothesis provides a socioeconomic framework for reconciling the conflicting forest policy and general land use objectives. Also, in this connection Nantiyal and Smith (1968), and Muthoo (1970) have discussed the criteria for evaluating interrelated land use policies. The pertinent conclusion emerging from these studies is that the beneficial use of land and tenurial equilibrium are dependent upon positive management techniques.

The tropical forests comprise about 700 million hectares (FAO, 1974). The magnitude of these forests is partly due to the actions of foresters and partly the result of the natural

characteristics of various countries. Since the forest policies were not based on land capability and socio-economic surveys, the existing forest reserves, inevitably, embrace the best agricultural lands in most countries and are therefore prone to attack not only in heavily populated areas but also in societies experiencing rapid changes. It is obvious that in many locations the forest lands are a dormant resource because of the legal provisions inhibiting their transfer to more beneficial uses. Thus, while too many forests may be an obstacle to development in some countries, in other places, where forest reserves are not too excessive, the lack of impetus may be clue to inflexible management practices. In discussing the potentialities of forest lands and the management options thereof, a fundamental point to realize is that "not all land presently under forest will necessarily be permanently available to forestry, nor will eventual forest estate be necessarily limited to land presently under forest" (Westoby, 1974).

The point of interest at this juncture is the use-real and potential - which the forest services, forest owners, and society at large, make of the lands at their disposal. This is the only criterion that requires close examination in order to justify changes in forest land tenures. At present, virtually all tropical services manage their forests solely for the steady supply of wood. There is no doubt that the exclusive mono-cultural practice, of tropical forestry cannot necessarily "provide the greatest benefit for the largest possible number of people" as frequently envisaged in forest policy documents. Accordingly, the forest services must continually assess the values which society could and should ascribe to forest lands.

COPRA AND COCOA CULTIVATION ON A LARGE PRIVATE ESTATE another form of land tenure

It is not only the strategy of development and implementation which should change with time. Circumstances might necessitate that the policy of extensive management compatible with the highly selective exploitation regime be altered because of improved conversion efficiency for popular timber species as well as technological advances for processing hitherto unused species. Furthermore, the range and scope of technical variables now at the disposal of the tropical forester should enable him to appraise the "systematic nature of forestry activities, and to emphasize that even though forestry may be described as a system, the system is not and cannot be considered closed" (King, 1975) nor absolute to cellulose production.

The ability of the forest land to satisfy a greater variety of wants by bringing it under multiple use rather than single use management is still a distant goal for most tropical foresters. It should be stressed in this connection that the management of forests must be related to the benefits which it is expected will be derived from such management. Consequently, it may be desirable to deemphasize the wood production objective of forest Lands relatively near city centres and where a profitable timber rotation exceeds fifty or sixty years. Where the responsibilities of the Forest Service include the development of national parks, amenity forestry, wildlife, and game, there should be little or no institutional constraints for reorienting the management priorities to the best advantage. In recent years, a great deal of attention has been paid by the Nigerian State Forest Services to the development of these ancillary resources. Indeed, in some of the states, the popularity of secondary vestry projects has considerably enhanced the development possibilities of the primary objectives of forest land management.

Agri-silviculture

There are other development potentials which are seldom given the attention and prominence they deserve in tropical forest management. The fact that forests and forest industries are generally located in the rural areas often reduces migration to the towns. This leads not only to a reduction of unemployment in urban areas, but also to a more equitable reduction-distribution of economic activity in a given country or region. Another and perhaps more

important attribute in these days of increasing unemployment is that forestry generally provides more employment opportunities for each unit of capital employed than is possible in most other sectors of the economy. Moreover, the system of agri-silviculture (or taungya or shamba) which has been practiced by foresters in many parts of the world, if rationally and scientifically pursued, offers exciting symbiotic possibilities for the development of both forestry and agriculture to meet the increasing demands for food and for homogeneous supplies of wood (King, 1968). The dynamic advantages of this scheme are being explored by some countries. In Nigeria, for example, agri-silviculture is now an integrated rural development programme with strong socio-economic inputs. There is the production and processing of food crops by the workers who are permanent employees of the Forest Service; plantation establishments are far more successful than under the traditional taungya and workers live in planned settlements with basic amenities and in an atmosphere conducive to ethnic harmonization (Enabor and Adeyoku, 1975). The obvious economic benefits of the programme are sufficient deterrents against unplanned forest land management in any locality.

Along with the modernization of the taungya system, it is possible to develop other management programmes for integrating the resources of local inhabitants, who are professionally threatened by the creation of forest reserves, with those of the Forest Service. In some localities the real threat to the security of the forest estate is from a small but organized group of professionals whose special needs and livelihood requirements are not duly recognized. The hunters who provide all the animal protein requirements of local communities have not only been discriminated against by forest services, but have, occasionally, been "goaded" to violent reaction with the support of villagers. The attitude of most forest services to the plight of this and similar professional groups has been counterproductive. In this circumstance the rational approach lies in evolving a management scheme whereby income earning opportunities are conceded to as many members of the group as feasible as a measure of insurance against tenurial instability.

Generally, the long-term use of forest resources overlaps the long-run wood supply problem. While forest resources are capable of producing a continuous output of goods and services, they will do this only if the land and the forest on it are maintained in a productive condition. The amount of sustained output from these resources can be varied by the way they are managed. The concept of management variants is, however, still unknown to tropical forestry. With increasing population it has to be realized that maximum satisfaction for all people can be attained only from the best combination of goods and services. Thus it can hardly be overstressed that "forestry is not a good thing *per se*. It is good only if it produces goods and services that people want" (Worrell, 1959), for therein lies its purpose and management goals.

Requirements for future development

In looking for a solution to forest land tenure problems, two major considerations should be taken into account first the need to organize, on the basis of traditional foundations, a system of ownership that can be adapted to the requirements of economic life of a modern state, and second the need to allow for, and promote, investments from outside local communities by facilitating and granting access to land to development agencies under conditions of sufficient security and stability. In a situation where virtually all rural land is owned by groups and the alienation of land is a misnomer, a possible solution to the obvious dilemma of forestry development is the long-term leasing of customary land. This system has found acceptance in New Zealand for forestry development on customary lands of the Maoris.

Long-term management contracts for the purpose of building up a new forest on exploited land are of considerable importance, especially for those areas designated for inclusion in the permanent forest estate and such agreements should be negotiated with the customary owners at the earliest possible stage of forestry development in a given area. It is desirable

that these agreements be concluded when timber rights are purchased so that definite commitments for replenishment of the forest resources on clear-felled land can be included in the concession agreement. Planting can either be done by the government or by an afforestation company to be formed in which the government and landowners are shareholders. The introduction of this scheme in Liberia, Papua New Guinea, Surinam and other countries still at the threshold of active forestry development will have progressively better prospects as rural populations become more directly involved in forestry activities and thus are able to recognize the adverse repercussions on their well-being of inordinate demands on the integrity of forest lands. Leasing may therefore be a phase or necessary prelude to dedication of forest lands.

The extinction of traditional land use forms which imply inefficient socioeconomic conditions, notably the lack of sedentary habits, seems logical but in many countries their continuation is to be expected for years to come. The forest land sector, while continuing to provide the potential space for shifting cultivation, must adjust at the same time to economic development needs. Sufficient forest land for timber production will have to be reserved and freed from rights of usage and treeless areas, hitherto subject to uncontrolled grazing, will have to be demarcated and protected for the establishment of manmade forests. The problem is therefore one of reconciling forest rights of usage with the role of the forest land sector within the overall economic framework. As has been documented in concepts of land reform programmes (FAO, 1966), the solution must be found in the spread of agricultural and stock-raising methods which make possible a more intensive use of land than that accomplished under customary practices. Undoubtedly, a better use of the land and labour at the disposal of the rural population can be made possible through forestry development. However, measures designed to maximize the direct contribution of forestry development to the social and economic improvement of rural life should be coupled with the progressive control and rationalization of rights of usage through regulatory means.

[INDIAN FORESTERS AT WORK whatever the tenure may be, the resources have to be taken care of](#)

Adjusting legislation to traditional institutions

In the old school of thought, these problems seem best capable of solution by an extension of a regime of individual property under written law to all inhabitants of a given country. However, the integration of such an institution with the traditional systems encounters difficulties of a sociological nature such that it is hardly a workable solution in the present state of affairs. Moreover, some tropical societies may still cling tenaciously to their systems, ideas and modes of thinking. Thus it would seem best in matters of land tenure to adjust legislation as far as possible to the content of traditional institutions. The difficulties of the procedure lie in the extremely delicate type of action. Nevertheless, it is possible to consider a solution which would consist of extinguishing, more or less gradually, lineage rights, not in favour of individuals but of larger communities, which might range from the "commune rurale" to the state. But here again, strong resistance may be expected.

The abolition of harmful usage rights in forest reserves may be compensated by the extension of communal forest plantations in the vicinity of villages or towns. In some cases, financial compensation may be given to communities that are deprived of certain harmful usage rights. In other cases, the land may be established as a forest reserve, future profits from the lands being shared between the government and the claimants of usage rights (King, 1963). Generally, there are inherent advantages in the communal status of forest lands. For instance, where politicians are anxious to carry out imprudent liquidation policies in communal forests, the statutory responsibilities of communities concerned are often a useful counteracting force. Yet, in spite of the ultimate rights of communities over their forest reserves, it has also been

possible to bring to bear other arrangements curtailing the harmful forest management roles of local councils. In recent years, the management processes of communal forests in Nigeria have been reviewed. While the ownership is unaffected, the statutory functions of local councils, as representatives of forest land owners, are now restricted to participation in routine consultations and receiving of forest royalties; local council forest services and their taxation authority have also been abolished in most parts of the country. The new arrangements permit unrestrained execution of management policies as well as enhancing permanent tenure.

Land trusts as land banks

A new impetus for forestry development is the creation of "land trusts." Where these exist, as for example in Nigeria, the prospects of acquiring new areas for forestry development are great. Land trusts are themselves development agencies which also have the unique possibilities of being "land banks." Large areas of underutilized and misused lands can be brought under the aegis of land trusts thus enabling forest services to compete both for the rehabilitation and permanent development of these lands.

In some countries, the prospects of significantly increasing the size of the forest estate are discouraging. The circumstances for acquiring land primarily for forestry development are not favourable, nor may it be feasible to invoke the concepts of "unsettled districts," "unoccupied lands," or "no-man's lands." Thus, to a large extent in Nigeria, Ghana, Kenya, Uganda, India, Pakistan, Bangladesh, Sri Lanka and West Malaysia, new forest reservation policies may not only be anachronistic but also provocative. Nevertheless, the genuine aspirations of these countries to be less dependent on imports and acquire appropriate technologies for processing existing and potential resources have brought new opportunities for land development. In addition, recent progress in forestry science has made possible a substantial reduction in the sector's traditional deficiencies of long gestation periods. Indeed, advances in phylogenetics and fertilization of forests, on the one hand, have led to the production of more and better wood in a shorter time through the creation of artificial forests whose regime is adapted to the demand of the industry. On the other hand, with increasing availability of depleted agricultural soils under plantation crops (e.g., cocoa in West Africa) farmers are asking for suitable tree species which are tolerant of such worn out soils. The proven economic profitability of certain species on 5 to 10 years' rotation for the supply of raw materials to pulp, match and furniture industries is an attractive alternative to farmers growing cash crops of many years' regime. These developments are potentially important to ownership patterns of forest resources. It is possible that in some countries private forestry comprising a patchwork quilt of forests and farmland interspersed with occasional light industries would emerge and flourish. It is also likely that advances in tree-breeding and wood-processing techniques would be matched by increasing private investments in forest lands.

The feasible changes in tropical forest land tenure and other accompanying improvements can be realized only if desirable adjustments are made both in the structure and objectives of forest services. At present, most public forest administrations exist and function essentially as "preservation agents." Their view is unduly restricted to timber production and regeneration. While these activities deserve the top priority they have always had, nevertheless, the circumstance, in which the forestry sector now has to compete vigorously for development resources compel a consideration of other equally important, if not cardinal, tenets. The traditional maxim that forestry begins and ends with tree-raising activities in forest reserves is naive and as double-edged as national trade protectionism.

Continuous review necessary

In a dynamic economy, the objectives and the means of attaining them have to be continually reviewed. In consequence, forest services must reorient their priorities; in places where

agrarian land reforms are being undertaken, the role of the forest service must be clearly defined and fully integrated; where there is "land-hunger," the forest service should take the lead in providing catalysts for economic development; and even where forest land tenure is undisputed and completely free of threats, the forest service should be imaginative and resist all temptations of acting like a feudal landlord.

It is evident, therefore, that tropical foresters suffer from two major sets of defects pertaining to their inability to increase significantly their estate, stabilize their estate, stabilize their tenure and/or cease being a target of attack. First, by training and convention, tropical foresters are exclusively concerned with the production of only one raw material on an extensive scale, a situation which is becoming increasingly difficult to justify both in concept and practice in some countries. Indeed, in parts of Bangladesh, India, Kenya, Nigeria and Sri Lanka the point has been reached where it is obligatory for the forester to function as a manager of land resources in the first instance, and as a producer of wood in the second or third category. However, the forester cannot discharge these new functions effectively unless he is exposed to some elements of other disciplines such as law, economics, sociology, anthropology, public administration, extension credit, and public finance.

[CALCULATING TIMBER VOLUME, ECUADOR one task of tenure systems is to put people to work](#)

Most forestry training programmes throughout the world do not include courses which provide a good understanding of relevant societies. The foresters' attachment to a basically slow-growing resource may be unwittingly harmful to their cause. It is also instructive to note that comparatively little attention is devoted so far in seminars, workshops or conferences to problems related specifically to forest land use. There are, of course, seminars and training courses strictly devoted to forest ecology, hydrology, management, pathology, protection, and silviculture, none of which can exist for or by itself. On the other hand, there is a great deal of information on agricultural land use and management which fosters access to large credit facilities and development grants by strictly advisory and extension service such as in agriculture. But because of the limited interest or the deficiency in his training, foresters sometimes may be unable to apply for development loans even in countries where agricultural banks and credit institutions may be willing to support short-term rotation crops such as pulpwood, splintwood, and gum arabic.

The second set of defects afflicting most tropical forest services pertains to lack of information about their activities. Since the forest services are not business-oriented, they frequently operate as a minor bureaucracy overwhelmed with inertia; and since forest services are de facto owners of forest land, the necessity for reporting or providing information is *ad hoc* and perfunctory. Hence, the inherent problems, successes, and potentialities are not only unknown to the public but are also secret to the majority of the rank and file of forestry staff. It is not surprising, therefore, that there are no investment incentives or, if there are any, they are below optima; there is no willingness to surrender land to forestry in thinly populated areas; and there is no overt interest to undertake private forestry. Moreover, in spite of both proved and latent economic benefits of forestry projects, the reception in some communities is either violently antagonistic, uncooperative, or, at best, apathetic. The reasons for this state of affairs are due to lack of good built-in public relations programmes and at the same time the cumbersome structural organizations embracing or strangling many forest services.

The essential policy issue that emerges from the discussion of tropical forest land tenures relates to the use and abuse of, and process of accountability for, existing forest lands. The answers to these questions will be of critical importance to forest services' proposals to modify existing tenures and land uses. If, indeed, it is necessary and desirable to stabilize and/or change the forest tenures, the first basic step in that direction should be to accept the injunction of the old maxim: "Charity begins at home." The forest services should treat and if

possible cure their running sores, so that they can fight the good fight with fortitude and commendation. Since the causes of these problems are largely organizational and internal to forest services, there is the possibility of applying forthright solutions. For instance, a redeployment or strengthening of staff at difficult forestry stations may enable experienced officers to undertake regular consultations with communities and opinion leaders and thereby initiate a meaningful dialogue. As has been observed in different circumstances, recalcitrant groups are often divided by superficial gulfs arising from inadequate appreciation of the local difficulties and aspirations of each other. Because forest services often shy away from the public, their admirable policy objectives which may be capable of generating and sustaining economic development and their genuine concern to pass on a well-managed environment to posterity are often misconstrued. Such misrepresentations and lack of sympathy for the foresters' worthy causes can be dispelled by sustained public relations programmes (FAO, 1975b).

Therefore it cannot be overstressed that for as long as it is inseparable from land, forestry will retain its vulnerability to public debates and tenurial instability. Forestry's long-term insurance and impregnable defence against any precipitate action is to use land always in the public interest and increase public understanding of its problems and policies.

