



Where forest reserves improve agriculture

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The creation of forest reserves in the tropics can have a good effect on the quality of agriculture. The same people who destroy forests in order to carry out low-yield farming and grazing can be persuaded into better ways through sensible forest reserve policies. The author draws on Nigeria's experience.

The introduction of forest reservation policies in tropical countries has been an important factor in improving land use. This may not be generally recognized, especially outside of tropical countries, but it is a fact. Forest reserves, when they have been created and enforced, have rapidly constrained the horizons of the farmer bent on forest encroachment and shifting cultivation. In addition, they have caused him to review his relationships with other peasant farmers in the control, occupation and use of land resources. Gradually, the farmers of tropical forest lands are moving toward intensive cropping and soil improvement techniques, and forest reserves and forest services are part of the reason for this.

In some communities in Africa that are largely free of European precepts, the hold of the forest service on land is bringing about social cohesion and the specialized production of subsistence crops. For instance, around the Guinea savanna reserves of Nigeria, most peasant farmers have, intuitively, adopted rotational cropping of millet, guinea corn, onion, groundnut and cotton. The constraint placed on forest encroachment by forest reservation is one of the principal reasons behind this development since it has encouraged farmers to give up shifting agriculture and settle down to permanent farming in one place.

Forest reserve policies are having a similarly beneficial effect in the dry lands of the tropics. Within the extensive savanna zone, where livestock production is a primary occupation, cattle raisers have always defied boundaries except those of large rivers, impassable mountains and tsetse fly areas. However, the constituted forests of this area, although not in any way enclosed in the manner of European pastures, are relatively free of Braziers. Forest reserves set aside for grazing are divided into zones so that the cattle move from one zone to another, taking advantage of comparatively rich ground vegetation. As a land reform measure, therefore, forest reservation in this region has been of immense advantage to the cattle economy.

In the drier Sahelian region, land acquisition for forestry development is now raising some new problems for the forest services. As a result of severe drought conditions in recent years, state forest services have been seeking land on which to establish shelterbelts. The region in question is thinly populated, but the inhabitants are, nevertheless, very reluctant to surrender

what is largely wasteland to a programme which they recognize as being of great importance to the authorities (Adeyolu, 1973). Compensation for land and temporary employment opportunities are the main reasons for the acceptance of these projects and the inhabitants of this area believe in hard bargaining. Compensation is arrived at through negotiations between the villagers and the state forest service. In the semidesert grazing lands of Kano and Sokoto districts the villagers are demanding compensation for shelterbelt lands which makes their acquisition relatively more costly than that of commercial land in the cities. Villagers in Kano State, for example, have been asking 150 to 250 naira per hectare, and the forest service was paying about 100 naira in late 1973 (1 naira was equal to US\$1.20 at that time). The prices may now be higher.

This is a period of significant social change in the traditional societies of tropical Africa. The most important single reason for this change is the emergence of new technologies and economics, and these developments are influencing forestry and the concept of forest reserves along with nearly every other side of life.

Over the past two generations there has been an increasing tendency for individuals in tropical Africa to acquire freehold rights to land, a new economic pattern for these traditional societies. Consequently, there has been an erosion of the authority of rulers, chiefs and heads of clans who in the past spoke for the village or community on land-use questions as land was understood to belong not to individuals but to communities. In some places, such as the Western State of Nigeria, determined individuals have defied due process of law, entered forest reserves and established permanent crops such as cocoa and kola nut trees.

Intensive chopping, soil improvement and settled farming can be linked to the enforcement of forest reserves

[LAND CLEARANCE FOR PERMANENT FARMING part of a new social pattern](#)

Breaking traditions

This and similar instances of defiance of tenurial laws are not necessarily caused by agricultural land shortage, but rather are often due to a "forest hunger," based on the common belief that forest land is inherently fertile, together with the new and potent social prestige of owning inheritable cash crops, a decided break with African traditions.

[PLOUGHING WITH OXEN IN BENIN and different techniques](#)

Faced with a grave threat to the security of the forest estate, the forest service in Nigeria is rapidly modifying its management practices to meet, whenever it can, socioeconomic changes of this kind. For instance, the *taungya* system - agri-silviculture - is now being reconceived as a rural development programme with social and economic dimensions. It is a truly dynamic approach to the concept of manmade forests. The new trends in *taungya* are for cultivators to become permanent employees instead of peasant licensees and for them to enjoy basic amenities in planned communities. These should not be looked upon merely as palliatives but as imaginative propositions capable of stimulating goodwill and support for the forest service and consequently reducing further demands on the forest reserve.

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. The relevance of this point was argued by Roche (1973) when he pointed out that modern forestry should not be understood as an activity designed merely to ensure a steady supply of cellulose. Thus the exclusive monocultural practices of tropical forestry cannot necessarily "provide the greatest benefit for the largest possible number of people," as frequently envisaged in forest policy documents. Timber production objectives should be de-emphasized,

especially on forest lands that are relatively near cities, and where, in fact, the ecological factors do not favour a profitable timber crop in less than 50 or 60 years. In Nigeria in recent years considerable efforts have been devoted to the establishment of parks, roadside plantations, zoological gardens and public landscaping. There is a positive and most encouraging response to these projects by state governors and policy-makers. Indeed, the popularity of these amenity projects has provided financial leverage for the projects and activities of forest services.

Not infrequently, the real threat to the security of a forest estate comes from small but well-organized groups which most forest services refuse to recognize, let alone negotiate with. Prominent among these groups in Africa are the local hunters, who generally enjoy immense popularity in villages, not only because they provide virtually the whole meat supply in areas where there is game, but because of their special skill in a highly respected traditional occupation and their knowledge of the dense high forest, an environment which is fraught with mystique. Not enough attention has been paid to the particular needs of this group. The usual practice has been to regard these hunters as "poachers" and to prosecute them, fine them and imprison them. This, however, only consolidates their determination and antagonism and leads to occasional violence and loss of life. Instead of engaging in litigations and futile forest service patrols of reserve boundaries, it might be better to come to terms with hunters and to accommodate their needs as much as is feasible.

Finally, it should be stressed that the forester, in order to be a successful public servant and land manager, needs the confidence of local communities. He can gain this only by developing dynamic programmes that provide regular employment and varying quantities and qualities of goods and services, thereby enhancing the multiple-use possibilities of the forest estate.

Faced with problems of unstable land tenure, the forester needs to be much more than a wood-grower. He has to be a knowledgeable professional and an expert in certain aspects of forestry, but more than anything else he has to be an informed manager of land resources for the benefit of his country and its people.

[WOODEN HUT BUILT BY NEW SETTLERS IN CAMEROON "forest hunger"](#)

References

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