# TREE TENURE INSECURITY AND DEFORESTATION IN UGANDA

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## ABSTRACT

Uganda's forest cover is estimated at 1,473 million hectares of gazetted forest and 2-3 million hectares of unreserved natural forest cover and savanna woodlands. These valuable forest resources are, however, disappearing rapidly. Deforestation in Uganda is estimated to occur at a rate of 500-650 $Km^2$ annually and the rate has accelerated in recent times in spite of government effort to restrict the harvest of valuable trees. Tragically, the uncertainty resulting from changes in government policy may have contributed to this acceleration.

The major characteristics of the Uganda's forest policy is the strong concentration of state power over forest resources and the corresponding lack of local participation in forest and tree management. Failure to recognize indigenous systems of forest management and indigenous rights to resources has led to loss of incentives by the local communities to protect trees, discouragement of local people to engage in tree planting and reforestation projects, and excessive reliance by the state on punitive measures to enforce the law.

Uganda Forestry Resources Institutions and Center (UFRIC) has initiated a series of studies that will eventually help to reduce confusion about the diversity of existing institutional arrangements and how these affect deforestation and biodiversity in Uganda. The study will contribute essential information needed by public officials, researchers, and citizens of Uganda to craft a new forest code that will lead to sustainable long-term development.

## 1. INTRODUCTION

Uganda's forest cover is estimated at 1,473 million hectares of gazetted forest representing 6.7% of total land area. In addition, there is an estimated 2-3 million hectares of unreserved natural

forest cover and savanna woodlands with valuable commercial tree species on private, communal, and public land.

These valuable forest resources are, however, disappearing rapidly. Deforestation is estimated to occur at a rate of 500-650 $Km^2$ annually (NEAP, 1992; FAO, 1993). The rate of deforestation has accelerated in recent times in spite of government effort to restrict the harvest of valuable trees. Tragically, the uncertainty resulting from changes in government policy may have contributed to this acceleration. Initial pilot studies conducted by UFRIC have shown that the rate of deforestation is high in all types of land tenure present in Uganda including government, communal, private, and open-access forests (Banana and Gombya-Ssembajjwe, 1994; Becker et. al., 1994). Thus, type of land tenure does not appear to be directly related to the rate of deforestation. Rather, deforestation may be related to the long-term incentives and institutional arrangements facing forest users. Some of the forests studied are close to being intact. For example, Namungo and Echuya forests while Lwamunda, Mbale, and Bukaleba are severely degraded. Consequently, there is a need to study the effect of the present forest policies and the existing institutional arrangements on local users' incentives to organize and manage local forest resources on a sustainable basis.

Tree tenure may be one of the factors leading to deforestation in Uganda. Tree tenure consists of a bundle of rights that may be held by different people at different times. Fortmann (1985) identifies four major categories of rights that make up the bundle that comprises tree tenure: the right to own or inherit, the right to plant, the right to use, and the right to dispose. The last two categories of rights have changed greatly over time following changes in forest policy.

## 2. Property rights in trees under different forest policies

People's rights on trees have changed greatly with changes in government forest policy. In many areas of Uganda, during the precolonial period, customary tree tenure was closely linked to land ownership. A person who owned a parcel of land also owned the trees on the land. Whoever owned the land, had the right to plant trees, to harvest and dispose of the trees and their products.

For example, in Buganda, a tenant was not encouraged to plant permanent crops and trees on milo-land. However, if the tenant planted trees, the landlord was entitled to get a share of the proceeds and to become the owner of the trees upon the departure of the tenant (Raintree, 1987).

Under the indigenous tree tenure rules, certain tree species and forests were protected by the community. Protected trees included "sacred trees and sacred forests," which were used for religious ceremonies (Gombya-Ssembajjwe, 1994). Certain trees that were believed to house evil spirits also could not be cut.

Customary tree ownership in many African countries seems to vary extensively. In many cultures, trees may be "owned" directly, distinct from rights in land, or as a part of landholding (Bruce and Fortmann, 1988). For example, in Ibo societies, if economic trees are self-sown, they belong to the owner or owners of the soil on which they grow. But if they are planted, they are the property of the person who planted them (Obi, 1988).

In Halfa Province of the Sudan, date trees are seldom owned by a single individual. A date tree can be divided up into parts. The landlord, the person who planted the date, and the person who tended it are all entitled to share the products of this date in predetermined proportions (Leach, 1988).

In general, ownership and use of trees under customary tenure may vary depending on whether the trees are self-sown or planted, whether they are used for commercial or subsistence purposes, and by the tenure of the land on which they occur. Often, self-sown trees used for subsistence purposes are considered to be a communal good (Lawry and Stienbarger, 1990).

During the colonial period, indigenous people's rights to harvest and dispose of trees was significantly restricted. Similarly, after independence, Uganda's forest policy, like many other developing countries, has been characterized by the strong concentration of state power over forest resources and the corresponding lack of local participation in forest and tree management (Mclain, 1991, 1992; Raintree, 1987). Economic trees are classified as "reserved" trees and cannot be cut without the permission of the forest department. This policy has been resented more in areas of the

country where there are few economically important timber species because of lack of substitutes for forest products.

Failure to recognize indigenous systems of forest management and indigenous rights to resources has led to:

- loss of incentives by the local communities to protect trees;
- discouragement of local people to engage in tree planting and reforestation projects; and
- excessive reliance by the state on punitive measures to enforce the law.

## 3. Forest Policy changes in Uganda

Legislation establishing local forest reserves under district administrations and central government forest reserves was enacted in 1938 and 1947. The local forest reserves were small and gazetted to meet the needs of local communities, while the central government reserves were large and supposed to serve regional needs (Hamilton, 1987). In 1967, the Forest Act was amended. The administration of the local forest reserves was centralized and absorbed into the centrally organized Forest Department. This move essentially removed local control and participation in forest resource management. This change was a part of a general political move towards centralization justified as being a more rational and efficient form of governance (Banana and Gombya-Ssembajjwe, 1994).

Provisions of the 1967 Forest Act include the following:

1. No one may reside, cultivate, or graze livestock in a reserve without the written permission of a senior Forest Officer.
2. Local communities may enjoy special rights in the use of less commercially important forest produce that they may take from reserved or public forest land in "reasonable" quantities without a permit or payment of fees for their own domestic use.
3. With exception of planted exotic species, commercial harvesting of forest products is subject to a use permit.
4. Access to forests for other benefits, such as recreation and cultural activities is open to all local users.

5. Trees that are of high economic value are classified as "reserved tree species," whether it is growing within the government forest reserve, on private or public land. Reserved trees may only be cut with the forest department approval.

Subsequent changes in the forest policy, for example the 1987 forest policy, have served to increase rather than reduce state involvement in the management of natural resources, further diminishing local participation (Tukahirwa, 1992).

In order to implement the above protective policies, the forest department issues fines and permits to regulate forest product use. The forest department functions as a "police" department. District Forest officers have the power to issue permits, to search for and confiscate illegally obtained forest products, and to fine and/or arrest without first obtaining a warrant. This concentration of power has in many cases been misused and abused. Such punitive forest policies can be found in both former Anglo and Franchophone Africa and Asia (McLain, 1992; Brinkerhoff and Gage, 1993; Lawry, 1989; Rudrappa, 1994).

In many countries, such forest policies and institutional arrangements have proved to be ineffective in halting the rate of deforestation. The financial and human resources available to the forest departments are inadequate to carry out the task of policing forested areas without the partici pation of the local communities. Most forest resources in Africa are scattered over large areas, which make monitoring and rule enforcement by the state very costly if not impossible (Ostrom, 1990; Bromley et al., 1992).

Prior to 1971, the forest policy in Uganda was strictly implemented by the Forest Department. Compliance to rules by the local people was high because of the high quality of monitoring by the Forest Department. However, after 1971, the forest sector suffered alongside other sectors of the economy during Uganda's turbulent history. The effectiveness of the Forestry Department was eroded as a result of low levels of funding and general decline in law and order (Hamilton, 1987). Forest management activities became very limited and inefficient. Forest resources on private, communal, and public land experienced a "de facto" open access exploitation

and/or abandonment. The department lost control of some areas of the forest estate to agricultural encroachment.

Since 1986, however, law and order has been gradually restored by the National Resistance Government (NRM). The Forestry Department has been sufficiently funded by the World Bank Forest Rehabilitation Project. Most forest land that was lost through agricultural encroachment has been reclaimed. A new forest policy that emphasizes protective aspects of forestry was gazetted in 1987. Under this policy, nature forest reserves were increased to 20% of the whole forest estate. In these areas, only nonextractive activities such as tourism and research are permitted. A further 30% has been designated as buffer zones with strictly controlled extraction of nontimber forest products by indigenous local population. On the remaining 50%, normal concessions for timber are allowed on a sustained yield basis (Tukahirwa, 1992).

In a relatively short space of time, local populations have experienced two extreme forest management regimes: (1) the open access regime of 1971-1986, which led to a high rate of deforestation (approaching the tragedy of the commons) and (2) the present "protectionist" regime, which severely limited local access to economic trees by the state. Villagers risk being fined or imprisoned if they cut without permission "reserved" tree species that they may have planted or tended on their own land.

## 4. Impact of "reserved" trees policy on deforestation

This policy has a negative impact on people's perceptions of the value of trees on private and communal forest reserves. In areas of the country where this policy is vigorously implemented, studies have shown that farmers cut many seedlings and saplings from their land as a strategy to limit the number of trees in the field before they become visible to the forest guards (McLain, 1992). Mature trees are degraded by debarking, burning, or by inserting nails in the trunk in order to reduce their value (Kyaroki, 1994).

Forest officials believe that permit requirements do not diminish a tree owner's control over the tree(s) since the cost of the permits are nominal. However, the transaction costs of obtaining the permit can be considerable since you may have to travel to a far-away forest district office for several times and, in many cases, a bribe may have to be paid before obtaining the permit.

Purchase of permit(s) by "outsiders" to cut reserved trees on the commons has also undermined the authority of local leaders by taking away the authority of the community to "exclude" outsiders, which is very crucial for the management of common properties. McLain (1992) encountered a similar experience in Mali where elders complained that "in the past, they were able to enforce the rules, the forest belonged to them. Each person knew that each tree had its owner. Now the wood cutters can show you their cutting permit and can cut any where they want."

## 5. The Case of Busoga Savanna woodlands in Eastern Uganda

Busoga is a region in Eastern Uganda composed of Kamuli, Iganga, and Jinja districts. It borders the districts of Tororo in the East, R. Nile in the West, Lake Victoria in the South, and Lake Kyoga in the North. It covers a total area of approximately 20,000 $Km^2$ and a total population of 1.7 million people.

The vegetation consists of savanna woodlands and bush thickets with several *Acacia* and *Combretum* sp. interspersed with valuable Mvule *(Milicia excelsa)* tree species. The gazetted forest estate comprises only a few thousand hectares of natural tropical high forests along the shores of Lake Victoria. The rest of the forest resource is found on the savanna woodlands on private and public land, constituting the largest forest ecosystem in the region. The Mvule trees are widely scattered throughout the region with low stocking levels estimated at three trees/ ha. (average volume of $9m^3$ / ha.). This is the only economically important timber species in the region from which local people can earn income. Its wood is very durable and extensively used for construction work, high grade furniture, and panelling. At one time, it was the highest priced timber species in both Eastern and Western Africa. Because of its high economic value, the state classified it as a "reserved" tree

species and it could not be harvested without a permit. This was done as an attempt to regulate harvesting and achieve sustainable utilization of the resource.

Because of the vast nature of the area and that the valuable trees are scattered, it is difficult to manage this resource intensively and to monitor rule compliance. Management of the woodlands by the forest department concentrates on the control of selective felling of the Mvule trees and commercial charcoal burning. However, already large areas have been cleared for agriculture, charcoal harvesting, and pitsawying. The overall effect is that the woodlands are shrinking both in area and timber volume.

The following two case studies serve to illustrate the effect of tree-tenure insecurity on deforestation of these woodlands.

### 5.1 DON'T CUT THOSE TREES OR ELSE..... (adopted from Kyaroki 1994)

An old man in Iganga district inherited 100 ha. of savanna woodland from his father 20 years ago under customary land tenure. He has been practicing subsistence agriculture since then, but the land is also rich in valuable tree species. There are over 200 Mvule trees that the old man has tended and protected. In addition, there are a lot of *Acacia* and *Terminalia* species that are good for charcoal production.

Recently the old man lost his son, leaving behind five children in tertiary education institutions where school fees are exorbitant. In order to pay for school fees, the old man decided to convert ten Mvule trees into timber that he would sell to pay for his grandchildren's school fees. Within four weeks, all ten trees had been converted to timber potentially worth about $6,000.

As soon as the timber merchant had arrived to purchase the old man's timber, an official from the Forest Department who had been tipped off about the transaction appeared on the scene, declared the deal illegal, and confiscated the timber. Government trucks ferried the timber away and warned the old man never to cut the Mvule trees without a license or else he would be taken to court.

The disappointed old man resolved not to cut any Mvule trees until he sorted out matters with the assistance of his local council officials. He decided to plant 10 ha. of maize from which he could obtain money for school fees. He cleared the land and decided to convert the *Acacia and Terminalia* trees that had been cut into charcoal. He obtained 150 bags of charcoal that he would sell. Unfortunately, as he was trying to sell the charcoal, a forest guard intercepted and confiscated it, accusing the old man of having produced charcoal without a license. The old man was confused and his grandchildren could not go to school.

The case described above illustrates how the "reserved tree" policy has served to sour relationship between the individual(s) and forest department officials. In addition, the policy has served as a disincentive for individual(s) to protect and manage trees on their holdings.

### 5.2 Disincentive for Local Participation in Communal Forest Management

Large areas in Jinja District, being a more urbanized district in the region, have experienced massive tree cutting for both timber and charcoal production. Tree cover in the village has been depleted and soil erosion is now threatening the one-time fertile soils. Food production has gradually declined and fuel wood shortages are beginning to be felt throughout the villages.

An NGO identified the plight of the rural people and tried to implement a tree planting project. They urged people to establish woodlots on their land holdings and communal plantation on public land that had been recently degraded. However, the NGO realized that apart from establishing small *Eucalyptus* woodlots on their individual holdings, the communities were not willing to reforest the public land on communal basis because of insecurity of tree tenure; instead, illegal cutting of the remnants of the reserved trees was intensified. Lack of tree tenure has, as a result, discouraged local participation in communal tree planting projects.

It is not only one old man and one community who is confused about the state of private property tenure and forest policies. UFRIC has initiated a series of studies that will eventually help

to reduce confusion about the diversity of existing institutional arrangements and how these affect deforestation and biodiversity in Uganda.

## 6. Crafting a New Forest Code for Uganda

The rapid rate of deforestation occurring in Uganda and in many other developing countries where the state dominates the forest sector implies that governments cannot manage forest resources effectively without active participation of the local people.

There is a need to enact a new forest code for the country. Active participation by the local people and all forest resource users should be encouraged to take part in this process in order to avoid writing laws that are not understood by users. However, before this process can begin, a long-term study to determine the effects institutions have on incentives facing forest users and how these incentives encourage forest users to engage in sustainable use of the forest (as was observed in Namungo and Echuya forest reserves) or unsustainable use of the forest (as seen in Lwamunda, Mbale, and Bukaleba forest reserves) (Banana and Gombya-Ssembajjwe, 1994; Becker et. al., 1994) should be carried out. Our initial study indicates that forests which were less degraded were characterized by a high degree of institutional stability, greater understanding and acceptance of rules by users, high quality of monitoring and law enforcement, and local participation in the modification of operational rules. UFRIC therefore has proposed a research program (Gombya-Ssembajjwe and Banana, 1994) that will attempt to contribute essential information needed by public officials, researchers, and citizens of Uganda to craft policies of sustainable long-term development of forest resources.

## 7. Objectives of the Legislation

The overall objective of the legislation should be to diminish the role of the state and encourage local participation in management of forest resources. The specific objectives should be to:

- provide incentives to individuals and communities to plant, manage, and conserve trees using property rights and less reliance on negative sanctions such as fines

and imprisonment. The law should secure for the community and individuals the right to manage the forest resource either autonomously or with the state under a carefully-crafted co-management scheme;

- encourage local participation in forest protection and management activities on common property; and
- encourage the development of co-management schemes between local governments and user groups or local communities in managing open-access forests that no single community claim to "own".

The role of the state in the management of forest resources should be well-defined and limited to:

- providing communities, user groups and individuals, information and modern techniques needed to manage their resources on a sustainable basis;
- provide technical assistance such as joint preparation of forest management plans between local communities or private individuals, instead of acting as a "police" department; and
- help enforce rules laid out by the local communities.

Co-management of natural resources would help to marry customary rules and conventions and modern methods of forest management for better results in sustainable use of these resources. There are a lot of management techniques foresters can learn from long-enduring common-pool resources (e.g., the Menominee Indian Community in N. Wisconsin). The traditional and modern methods of management should complement and not compete with each other. This will increase the foresters' understanding of, and respect for, customary rules and conventions in management of resources as common property (Gibbs and Bromley, 1989).

In order to achieve the objectives stated above, there is a need to: (1) abolish the "reserved" tree concept, (2) carry out institutional reform, an (3) define clearly the role of the state in the management of natural resources on the different property regimes.

## 8. ABOLITION OF "RESERVED" TREE SPECIES POLICY

There is no doubt that the "reserved" tree species concept has not achieved its intended objectives of protecting these species. Instead, it has led to the deliberate destruction of these species by the communities. Many of the protected species are highly desired field trees and are planted and

protected by the farmers. By removing ownership of these trees from the farmers, even when the trees are located in their fields, acts as a disincentive for the farmers to plant or encourage regeneration of these species. However, the state should continue protecting legally specified, genuinely "endangered" species anywhere within their jurisdiction (Tabachnick and Bruce, 1994).

## 9. Institutional Reform

Changes in forest law, without changing the institutions concerned with management of natural resources, will only provide individuals and communities minimal control over their resources than they have now. The following institutional changes are essential:

1. government forest services need to retrain foresters and change their methods of operation. They need to change from being "police" men and become extension agents. This reform is going to take a long time to accomplish as it is difficult to change people's attitudes in a short time;

2. foresters should accept the fact that some communities can effectively manage their resources on sustainable basis on their own. The myth that villagers cannot be trusted in the forest should be discouraged.

3. establishment of unambiguous conflict-resolution mechanisms and rules;

4. innovation of new institutional arrangements that combine, adopt, or modify elements of "traditional" or customary rules with the more formal modern arrangements (Cousins, 1993); and

5. to consider "nesting" of local institutions within a larger structure (Ostrom, 1990) and to work out the relationships between the different hierarchy of institutions and organizations dealing with natural resource management.

The state, together with local forest users, should be involved in the development of the above institutions so that they can have legal recognition at the same time, be understood and accepted by the community. In addition, the state should assist in enforcing resource management rules that have local support but cannot be made effective because the community by itself is not strong enough to enforce those rules (Lawry, 1990).

## 10. THE ROLE OF THE STATE IN THE MANAGEMENT OF FORESTS ON DIFFERENT PROPERTY REGIMES

There are four categories of property regimes on which forest resources can be found: (1) private property, (2) common property, (3) open access resources and (4) state property. Where there is state or customary recognition of private ownership of land, the owner(s) of the land should be presumed to own the trees on the land. Property rights should be established in trees on the farmed holding and fallow. There should be no state regulation of tree use on these properties except for endangered tree species.

Where there is recognition of communal land, property rights should be established in trees on the commons. The community should own the trees on the land in common. There should be no state regulation except for endangered tree species. The state should act as an advisor. Institutional arrangements should be crafted for common property management of the forest resource, including co-management schemes with the state for the benefit of the community. Outsiders should not be issued permits by the state to harvest resources from these properties. Communities should be encouraged to write up their own rules, keep careful and open records of work done in the commons and harvesting shares. This is necessary for better decision making.

Where there is an open access forest that no single community claims to own, co-management schemes should be worked out between the different user groups and the local governments or councils. There is a great need for local government regulation of resource use in these types of forests in accordance with a local forest management plan in order to avoid the occurrence of the tragedy of the commons.

Where there is large forest serving the interest of the region or the nation, a government forest reserve may be created. In these reserves, the state may regulate commercial harvesting by granting permits to user(s) and user groups. Subsistence use of the forest by local user groups may be allowed except in areas designated as nature reserves for bio-diversity conservation.

This approach in forest management calls for the "inclusion," rather than "exclusion" of local communities as has been the practice for most of the last century. It also provides incentives for tree planting by individuals, communities, and NGOs.

Nepal, India, and the Philippines have already initiated massive people's movements in the conservation of bio-diversity, controlling of soil erosion and afforestation of degraded lands with a high level of success (Rudrappa, 1994). Similar reform of the forest code is being undertaken in Mali (McLain, 1992; Brinkerhoff and Gage, 1993), in Cameroon, Niger, and Togo (Lawry and Stienbarger, 1990).

## 11. Expected problems in implementation of the new approach

Although the revision of the forest laws is a necessary condition for improved local participation in the management of forest resources, the following social problems may be encountered:

1. Because trees can be used to establish rights to land, it is necessary to monitor who is planting trees and where in order to avoid the escalation of land disputes.

2. The ability to exclude others from the use of trees or tree products is essential if the community or individuals are to reap benefits of their investment. However, in many communities, it may be customarily or religiously wrong to exclude others from the use of the trees (Bennett, 1988).

3. Community or village boundaries are often not well-demarcated and community membership is also not well-defined in many regions.

4. Communities are often heterogenous and certain categories of users may be unable to benefit from the resource (Bruce, 1989). The poor, the women and the politically weak individuals may not have equal access to the trees in the commons and may not have land to plant their own trees.

5. Emphasis on forest management for production of timber for example, may destroy rights to other uses of the land. Grazing, cultivation, and gathering rights may be diminished.

6. There is some risk involved in placing the forests in the hands of the rural people. It is naive to assume that all communities are capable of managing their resources in a more sustainable way than the state (McLain, 1992). Therefore, there is a need to develop a monitoring plan and an institution that will monitor the performance of the different communities.

## 12. CONCLUSION

In order to retard the rate of forest degradation in Uganda and in many other developing countries, it is necessary to involve many of the future participants in resource management in crafting a new forest code. This will avoid the problem of writing laws that are not understood. The new forest code must provide incentives for individuals and communities to plant, manage and conserve trees. Trees should be the property of the land owner. It should also encourage local participation in the management of trees growing on the commons. The state should play an advisory role at the same time facilitate the development of local institutions and the integration of indigenous tree management skills with modern forestry practices.

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