

Bananas or Water? Resource Use Conflicts in the Uluguru Mountains

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In the recent past (as recently as 1980) there was up to 40 sq km of forest remaining in the Public Land areas high above Morogoro in the Uluguru Mountains (see Figure 1). In the early 1990s it was observed that these forest areas were being degraded through the activities of pitsawing teams. Between 1994 and 1997 previous WCST projects in the area noted that the forest was being fragmented and converted into farmland, but the scale of the problem was not appreciated.

Surveys by the WCST Uluguru Mountains Biodiversity Conservation Project in late 1999 and early 2000 have indicated that much of the Public Land forest has now been cleared, or partially cleared and underplanted with banana and other crops. Walks along the boundary of the Catchment Reserve indicate that in many places the farmland is being cleared right to the boundary. The best areas for growing bananas are recently cleared and partly cleared forest areas.

The local reasons for the conversion are compelling. The Public Land forest on the Kitundu Hills above Kinole provided free medicines and woody products, but these can also be obtained for no cost from smaller forest areas on rocky outcrops, and especially from the Catchment Forest Reserve (see Figure 1). In comparison, the trade in bananas generates money, and in quite large quantities for some people. Lorries from Dar es Salaam come to Kinole market to collect the bananas. Each lorry can potentially carry a load of bananas worth around 1 million TSH, and after costs are paid, the profits can be around 300,000 TSH per trip. About 10 lorries visit Kinole every week when the roads are passable. Of course there are also losses when a lorry breaks down, when the rains come and lorries cannot reach Kinole, and when there is oversupply in Dar es Salaam and the prices fall. Hence the profits cannot be guaranteed.

However, it is not only economics which is driving the conversion of the Public Land forest to farmland. The breakdown of the authority of the traditional leader (chief Kingalu, see next article) over the past 10 years has resulted in the village government allocating plots to local farmers, who are then able to buy and sell these plots as their own property. The farming technique is to partially clear the forest, leaving some canopy trees and then underplant with banana plants. The bananas prefer the moist conditions under the trees and the nutrients from the decaying trees also makes them grow well. A few more trees can be felled from time to time to provide more nutrients, but this gradually reduces the canopy cover until there is none remaining. After some years (the number of years is not well known) the banana growing is no longer profitable and the entire area is converted to subsistence fields of maize and rice. From this point on the chances for forest to return are very low and most of the fields in the area become infested with bracken fern (*Pteridium aquilinum*) which makes the fields only usable on a long period rotation (3-5 years) and with very low productivity. This is the normal farming system outside the remaining forest patches and large areas of the hillsides.

Although the local reasons for the conversion of the forest are clear, we believe that they raise some critical issues for the residents of Dar es Salaam, and for the Tanzanian government. The provision of cheap bananas (and many other types of food) from the Ulugurus to Dar es Salaam is a clear benefit to the residents of that city. However, the forests which are being cleared to grow many of the bananas form part of the only catchment for the river which brings water to Dar es Salaam. A reduction in the water supply to Dar es Salaam city would cause the residents and the local industries many problems.

Villagers above Kinole already complain that streams have dried during the dry season in the forest area converted to farmland. The water that flowed from these streams to the Ruvu River and hence to Dar es Salaam has now been lost. Analysis of aerial photographs allows the forest loss on the Public Land in Uluguru North to be estimated as 20 sq km between 1977 (using aerial photographs) and 2000. This is about 17% of the remaining forest area in the northern part of the Uluguru Mountains. Historically far more forest has been lost from the Ulugurus (Figure 2). This loss is still continuing today and soon only the forests within the Catchment Forest Reserves will remain.

A recent visit by members of the WCST Science and Project Committee and the WCST Secretariat in Dar es Salaam and Morogoro confirmed the scale of the current deforestation in the area. Given the huge water problems for many residents of Dar es Salaam, then we believe that further deforestation in the Ulugurus is not in the national interest.

A further problem is that when the Public Land forest has been exhausted then the pressure to convert the forests of the Catchment Forest Reserves to banana plantations and for growing other 'cash crops' will intensify. We have already witnessed first-hand encroachment inside the Catchment Reserve boundary above Morogoro (for banana farming and for cabbage farming). There are even small houses on, or just inside, the boundary. Given the small manpower of the Catchment and District forest services it is hard to stop these encroachments over an area the size of the Ulugurus.

WCST will be continuing to collect data on the remaining extent of forest in the Ulugurus, in collaboration with the Catchment Forestry and Regional Natural Resource Offices. Further information on the loss of forest outside the reserves (and inside if this is found to be the case), and the degree of disturbance within the reserve will be assessed and reported here. We hope that our efforts can assist to reduce the problems that we have found in Uluguru North, but we also request the members of WCST to take the problems we have discovered seriously, and for those based in Dar es Salaam to ask them selves the following question:

Can I afford to live without water?

Or

Can I afford to pay a few shillings more for bananas?

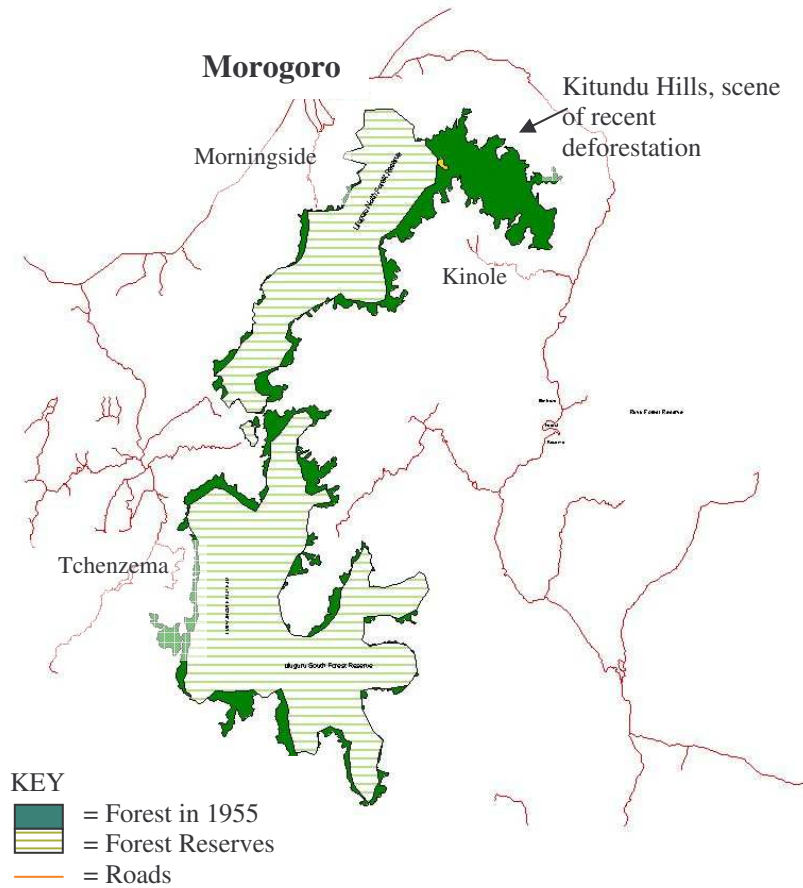


Figure 1. Forest cover in 1955 in the vicinity of Uluguru North (top), Bunduki (middle) and Uluguru South (bottom) Catchment Forest Reserves. Forest is now almost confined to the Forest Reserves, except on the southern margin of Uluguru South, and some fragments. The location of the Public Land forest which has been largely destroyed since 1955 (mostly in the last 10 years) is highlighted.

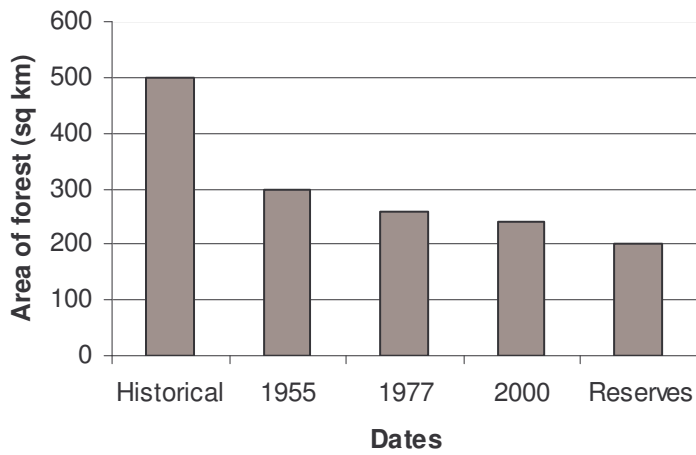
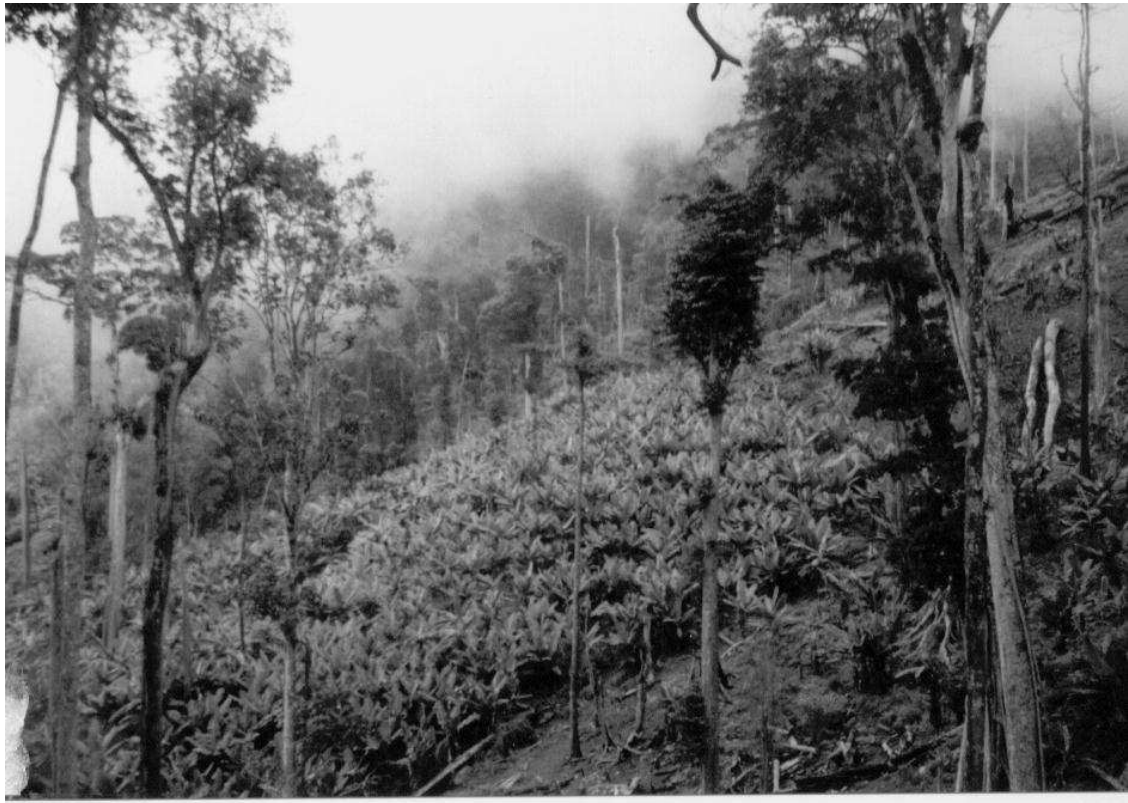
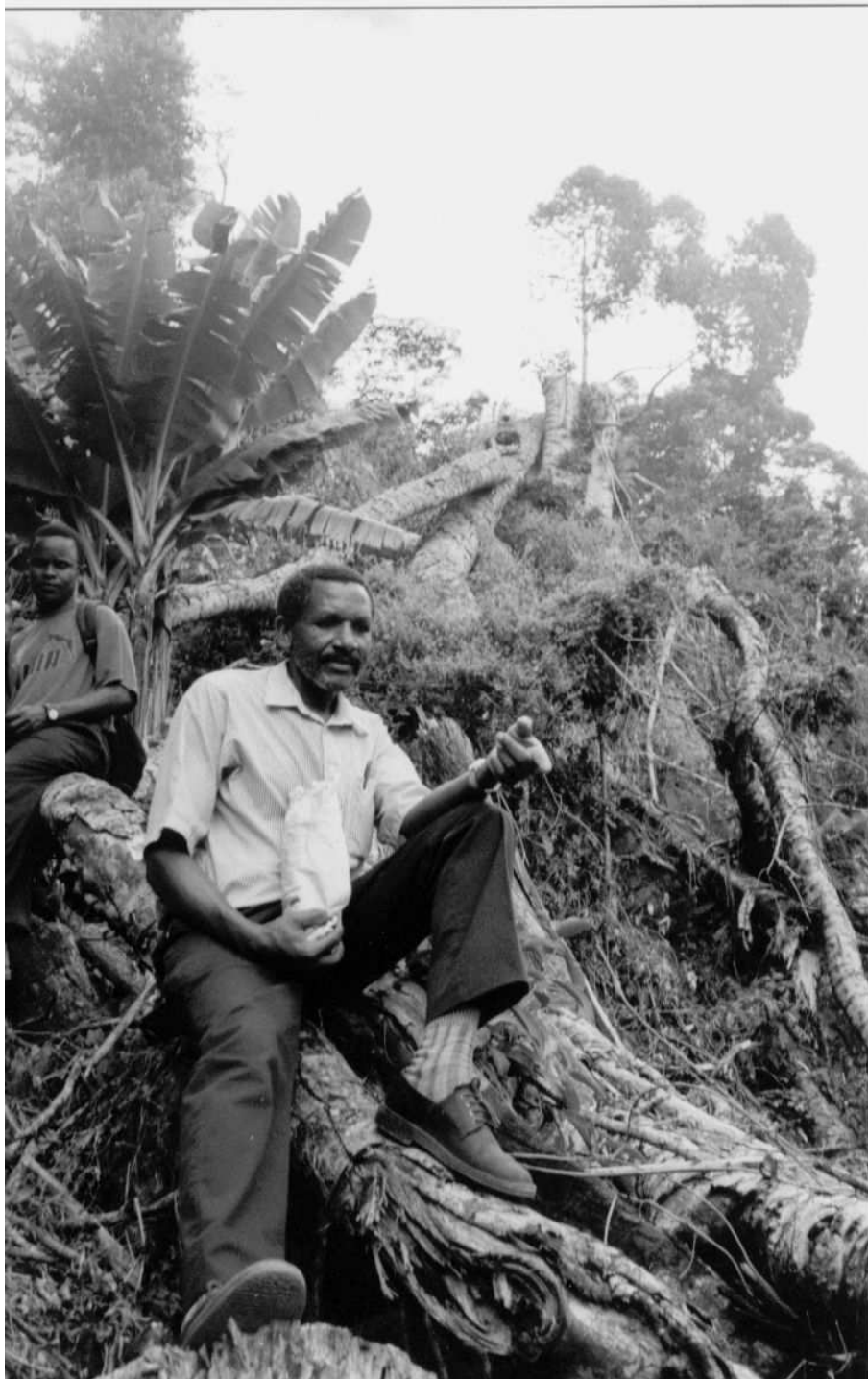


Figure 2. Changes in the area of forest on the Uluguru Mountains. 'Historical' is estimated from climate and the extent of lowland forest patches which are assumed to have been originally joined. 'Reserves' is an estimate of the minimum forest area if the present reserves are maintained, with little encroachment, but all forest outside is lost (around 20 sq km of the Uluguru Forest reserves is upland grassland, some is rock, and some has no forest cover).

Picture 1. Public Land forest on the Kitundu Hills above Tandai Village. Here much of the forest has been removed and underplanted with bananas and other crops for transport and sale in Dar es Salaam.



Picture 2. Paul Nnyiti, Conservation Officer for WCST Dar es Salaam, sits astride one of the large forest trees felled for growing bananas. Even the timber is left and simply burned by the banana farmers.



Picture 3. Banana lorry loading for the trip to Dar es Salaam, Tandai village.



Picture 4. Felled timber trees left to rot on the Ulugurus.

