**The development of Collaborative Forest Management in the Uluguru Mountains, some early experiences from the Uluguru Mountains Biodiversity Conservation Project**

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## Background

The Uluguru Mountains and located in Morogoro District of Morogoro Region. They rise rapidly from the coastal plain at around 300-500 m up to peaks of more than 2000 m altitude (over 2600 m at the highest point). The lower slopes of the mountains contain some remnant patches of lowland evergreen forest, and some further areas of drier and degraded woodland vegetation. However the majority of the area is comprised of farmland, supporting a high population density of people in most areas. Human population actually increases at higher altitudes as the climate and rainfall becomes more conducive to farming all year round. Evergreen montane rainforest covers the higher parts of the mountains, and on a high plateau area at around 2300-2400 m in Uluguru South Forest Reserve there is an area of grassland. This area is the Lukwangule Plateau and the grassland is believed to be largely a natural grassland, although it has probably been made larger by fires. It is wholly surrounded by forest.

The farmland areas continue right to the forest boundary in all areas the project has so-far surveyed. In many cases the forest boundary is also contiguous with the Forest Reserve Boundaries of Uluguru North and Uluguru South Forest Reserves. The only portion of the forest which remains outside the FR boundary is found in Mkuyuni Division in the northern part of Uluguru North. Here there was until recently a quite extensive area of forest, but this is being rapidly cleared for farmland, as is described later.

## Global and National Values of the Uluguru Mountains

*Global values*. The Uluguru Mountains are a part of the Eastern Arc Mountains of Tanzania and southern Kenya. Recent analyses of biological values by BirdLife International, Conservation International, World Wildlife Fund, The University of Copenhagen and others have all ranked the Eastern Arc as a whole as being of global importance for the conservation of biodiversity.

Analyses of the biological values of the Uluguru Mountains on its own have ranked this mountain area as one of the three most important Eastern Arc forests (with the East Usambaras and the Udzungwas). The Ulugurus have also been ranked in an analyses of the whole of Africa's animals as one of the top 20 sites for biodiversity conservation in the continent.

Presented here are data on the number of endemic and near endemic species in the Ulugurus, and also on the relative ranking of the different Eastern Arc mountains in terms of their endemic species. The Ulugurus are shown to be an extremely important area for biodiversity conservation. This biodiversity is concentrated in the mountain forests above the farmed area, and also to a lesser extent in the remaining patches of lowland forest and the montane grasslands of the Lukwangule Plateau. Most of these habitats and the species they contain are found within Forest Reserves.

*National Values*. The Uluguru forests are probably the most important water catchment forest in Tanzania. The Ngerengere, Mgeta, Ruvu, Mvuha, Morogoro and Mbezi rivers which all have their sources in the forests of the Ulugurus, join to form the Ruvu River which flows to the Indian Ocean at Bagamoyo. Huge amounts of water are extracted from the Ruvu river and piped to Dar es Salaam. This water forms the most important water source for the 3-4 million people living in Dar es Salaam and for many others in Coast and Morogoro Regions. It also supplies most of the needs of the industries in Dar es Salaam and Morogoro towns.

The agricultural land of the Ulugurus is also of major importance for the production of tropical and temperate vegetables and fruits, many of which are then transported to Dar es Salaam and Morogoro

for sale in the markets there. In the lowland tropical areas pineapples, bananas, sugar cane, spices, oranges etc. are grown. In the cooler and higher areas cabbages, carrots, peas, beans, potatoes, leeks etc. are grown, along with a few plums and peaches. The agriculture is possible in this area due to the favourable climate and the reliable rainfall and the possibility to undertake irrigation in the area.

**Some issues of relevance to the development of collaborative forest management in the Ulugurus**

Collaborative Forest Management is a wholly new concept to the people living in the Ulugurus. They have since German times (the reserves were demarcated in 1908) been used to respecting the authority of the government which designated the reserves, marked the boundaries and made the entrance of the local people to the reserves illegal. This history and the changes to it which would be entailed by Collaborative Forest Management are a major issue to be overcome and considerable awareness-raising programmes are required to go hand-in-hand with the development of collaborative management approaches.

A major additional consideration in the development of collaborative management in the Ulugurus is the ownership and management status of the forested land. Three categories of forest land ownership have been recognised and mapped. These all require a different approach to the development of collaborative management agreements, as outlined below:

1) Catchment Forest Reserve. This includes Uluguru South and North Catchment Forest Reserves where the majority of the water catchment functions and the majority of the globally important biodiversity is found. It also includes the smaller Bunduki Forest Reserve in the saddle of the two main mountain blocks, and the Kimboza Forest Reserve in the lowlands at around 300 m altitude. Here the legal owner of the land is the Central Tanzanian Government via the Forest and Beekeeping Division of the Ministry of Natural Resources and Tourism. Here an agreement share benefits from the reserved forest would have to involve the Catchment Forestry Project (representing the Government) and the local people. In such an agreement the owner of the land would remain the government, but some rights might be given to the local people to conduct certain activities inside the forest. Such an agreement would have to be signed by the Director of Forestry in Dar es Salaam. To date the UMBCP project has started to collect data on the Uluguru North, Uluguru South and Bunduki Catchment Forest Reserves. This information covers - the area of forest remaining, its condition, the uses which are already made of the forest locally (and currently illegally), and the uses that the local populations would like to have rights to conduct in the CFR. Similar activities are going on for the Kimboza Forest Reserve, in this case with sponsorship by NORAD. In both cases the development of a collaborative forest management agreement which is then signed by the Director of Forestry will take some years.

2) Local Government Reserves. These reserves are owned and managed by the District of Morogoro, under the Ministry of Regional and Local Government, with advisory input from the District Forest Office. There are a number of these reserves on the slopes of the Ulugurus, all at low to medium altitudes and mostly quite small in area. Some of them contain woodland habitat and are of low biodiversity and water catchment values. Some of the others are known to contain evergreen lowland or montane forest, but the values of these areas for biodiversity conservation (or water catchment) are unknown. For a few there is no information on what kind of vegetation they contain, or even if they are now wholly used as farmland. Any agreement on the collaborative management of these reserves would have to involve the District of Morogoro, through the District Forest Officer, and the local populations. Such an agreement would have to be agreed by the District Council. Under such an agreement the owner of the land would most likely remain the District but with rights to conduct certain activities given to the villages which surround the reserves. However, the District could choose to give the land to the village for their management as a village forest reserve. The UMBCP is mapping these Forest Reserves and will undertake brief resource assessment surveys in them to establish their vegetation cover (or if they are farmland) and their biodiversity values. Once these are documented then a better idea of the potential for collaborative management agreements will be available.

3) Forests on General (formerly Public) lands. The forests which are found on general (unclaimed) lands are under the control of the village where that land falls. If the village allocates that land to

individual farmers then they become the owners of the land in the eyes of the village government. There was until recently a large area of montane forest of high biodiversity and water catchment value in the Kinole village land to the north of Uluguru North CFR. Much of this has been converted to farmland over the past 10 years, a process which is rapidly continuing. Any agreement to protect the remaining forest in this village land would require the village government to agree to set aside parts of the forest as village forest reserve. Thereafter these village forest reserves would need to be surveyed and the relevant papers prepared for submission to the village and after their agreement to the District Council for final verification. In these cases the village would remain the owner of the land and certain rights of use would be allocated to farmers. Regulation of the agreement would be from within the village, although forestry or NGO staff could assist in this process. The UMBCP is mapping the remaining areas of Public Land forests in Kinole village lands and also assessing the major reasons for the conversion of the forest to farmland. The project is also asking village leaders to identify areas in the remaining forest which could be set aside as village forest reserves. The same leaders are also identifying areas of deforested land which could be set aside as village forest reserves, and then reforested to provide resources needed by the local populations.

**Some additional considerations**

The 1998 Tanzania Forest Policy Document provides useful guidance over the development of some of the approaches towards collaborative forest management. The most relevant policy statements are reproduced below. A new Forest Act (Ordinance) is also in an advanced draft state and is planned to replace the 1953 Ordinance as law during 2001. This will put detail on the 1998 forest policy document and in particular will further develop the legal framework to allow the collaborative management of Forest Reserves between the government (the owners) and the local populations (who could receive some user rights). In addition, guidelines for the development of Joint Forest Management involving Forest Reserves and local populations are in preparation and will assist greatly in developing these management approaches further in the coming years. This document will contain examples of agreements which have been used, in different circumstances, and will also provide examples of ways in which agreements can be established and monitored.

The UMCBP is involved in the early stages of developing collaborative agreements over the management of forest reserves in the Ulugurus. These collaborations will take different forms depending on the existing status (and therefore ownership) of the forested land. The easiest place to start with the development of agreements and the testing of methodologies for collaborative management is in the remaining areas of public land forest, which is also being rapidly cleared for farmland. Development of agreements for the local government reserves and the two large Catchment Forest Reserves (Uluguru South and North) is more complex as it will involve the government authorities and the villagers. This will take information, time, meetings and continuous follow-up for a number of years.

The UMBCP also recognises that the Uluguru North and South Catchment Forest Reserves have such a high importance in terms of their biodiversity and their water catchment values that all collaborative use agreements need to be very carefully constructed and monitored. Indeed the status of Nature Reserve, with certain allowed uses might be relevant for these two reserves given their huge values for Tanzania and the international community.

The project also recognises three critical issues which need to be addressed if forest conservation is succeed in the Ulugurus. The first issue is the huge demand for fire-wood, which is currently mainly being collected (illegally) from the Uluguru North and South Catchment Forest Reserves. Very serious attention need to be given to providing fuelwood trees on farmland. The second issue is the relative inefficiency of much of the agriculture on the Ulugurus, with poor agricultural technique leading to soil erosion, declining yields, and the desire to seek new (and more productive) farmland from the remaining forest areas. Very serious attention to the development of improved agricultural systems is therefore a priority activity in all areas of the Ulugurus. The third problem is the proximity of the Ulugurus to the major markets of Dar es Salaam and Morogoro. The huge urban populations need food and the Ulugurus are the closest area where many of the required food crops can be produced. Hence there is a large pressure to produce food crops for export, and in areas such as Kinole the remaining areas of forest have been allocated to the production of some of these food crops, in

particular bananas. Attention needs to be given to the relationship between the provision of food from the Ulugurus to Dar es Salaam, and the loss of forest with the consequent loss of water which also supplies Dar es Salaam.