

**Department of Commercial Crops  
Fruits & Forestry (DCCFF)**



MINISTRY OF AGRICULTURE,  
LIVESTOCK & ENVIRONMENT  
REVOLUTIONARY GOVERNMENT OF ZANZIBAR  
TANZANIA

FORESTRY TECHNICAL PAPER  
NUMBER 45

©DCCFF

All rights reserved.

No part of this publication might be reproduced or transmitted,  
in any form or by any means, electronic or mechanical,  
including photocopying, recording or any information storage  
and retrieval system, without permission in writing  
by the Department.

Ministry of Agriculture, Livestock and Natural Resources  
Commission of Natural Resources  
Forestry Sector

## **Proposed Revenue Sharing Mechanism to Mitigate Farmer-Colobus Conflict in the Jozani-Pete Area**

prepared by the Jozani-Chwaka Bay Conservation Project  
and Forestry Sector  
Commission for Natural Resources  
November 1996

### **1. Introduction**

The conservation of a nation's natural resources can bring benefits to both people and the environment. In Zanzibar, the Commission for Natural Resources' Jozani-Chwaka Bay Conservation Project strives to protect the island's precious biodiversity, ensuring the survival of viable populations of Zanzibar's wild flora and fauna. These include such rare, endangered, and endemic species and subspecies as Ader's duiker (*paanunga*) and the Zanzibar leopard (*chui wa Zanzibar*). Since many of Zanzibar's animals are unique to these islands, but are of global significance, the preservation of these species is a highly important responsibility of the people and government of Zanzibar. However, conservation efforts in Zanzibar aim to formulate and implement plans for the sustainable use of the islands' natural resources is not only for the benefit of the animals and plants themselves, but for the people. The economy of most Zanzibaris is tied to the forests, thickets, shores, and wildlife of the islands. This is true for farmers as well as for the growing proportion of Zanzibaris (and the government) who derive income from tourism. If Zanzibar's diverse natural resources are exploited without guidelines for sustainable use, the economy would suffer enormously.

Though conservation can bring benefits to an entire nation, it is also true that rural people residing around protected natural areas typically bear the main hardships of conservation. For example, in the case of the Jozani Forest Reserve, surrounding communities are prevented from harvesting such forest products as fuelwood and wild game. Moreover, the Reserve protects some animals that damage farmers' crops. Indeed, conflicts between the interests of farmers and the interests of wildlife conservation are coming to a head in the area of Pete/Jozani. Urgent action is needed to resolve the problem. This paper proposes several mechanisms aimed at redressing the difficulty. Chief among these is revenue sharing, in the form of support for community service projects, support for alternative income-generating activities, and possibly also direct compensation to affected farmers in the form of fixed annual "rental fees."

## 2. Background to the problem

Situated in the Southern Region and with a total area of about 2,512 ha of land, Jozani Forest Reserve is one of Zanzibar's few remnants of indigenous high forest, formerly distributed much more widely across the islands of Pemba and Unguja. Jozani Forest is comprised of a rich mosaic of interlocking ecosystems, including high natural tropical forest, coral rag thicket, swamp, and mangrove forest. In the face of ever-expanding agricultural activities, the forest constitutes a core refuge for a number of endemic species and subspecies. Many of these are endangered or rare.

Among these endangered and endemic species is the Zanzibar red colobus (*Procolobus kirkii*). Though it has kin on the mainland, this colobus is unique to Unguja. It is estimated that the entire population of red colobus monkeys only numbers approximately 1,500. About half of these live within the bounds of Jozani Reserve or in its immediate environs. These monkeys, some of which have become habituated to the presence of humans, are the chief attraction for tourists visiting Jozani Forest. It can be said, then, that the monkeys provide the Government of Zanzibar's State Treasury with a substantial income, in the form of visitor entrance fees. Some 6,191 people visited Jozani last year-- the majority of them with the express purpose to view the red colobus monkeys-- and they paid in total 8,048,300/- (or \$12,382).

Jozani Forest is neither ecologically isolated nor large enough sustain all the wild fauna of the island. Many species of wildlife regularly move outside reserve boundaries in order to travel to other pockets of forest or to supplement their diet of wild food sources with domesticated ones. This brings them into conflict with cultivators.

## 3. Conflict between farmers and colobus in the Pete/Jozani area

Particularly in the area of Pete and Jozani villages, at the southern perimeter of the Jozani Reserve and where a large sub-population of red colobus monkeys is concentrated, farmers have been attributing sharply declining crop yields to monkey foraging. The actual extent of crop damage as perpetrated by red colobus in this area has yet to be determined (see below), but it is clear that red colobus are causing difficulties for cultivators in the area. Frustrated farmers have voiced an intent to start killing the monkeys, though this is prohibited by law, because they see no other way of curtailing red colobus crop damage. In the interests of protecting both human and wildlife interests, the CNR has taken or is in the process of taking several steps to redress the problem:

- **Providing a forum for open communication between villagers and the CNR.** The CNR has supported the establishment of Community Conservation Committees in each of the seven villages bordering the Jozani-Chwaka Bay Conservation Area, as well as an overarching Advisory Committee. These committees offer a venue for representatives of different villages, along with CNR representatives, to discuss their conservation-related problems, short-term goals, and long-term aspirations.

- **Helping communities manage their own natural resources.** An important goal of the Community Conservation and Advisory Committees is to support villages in formulating forest management plans that include bye-laws aimed at the sustainable use of a village's natural resources.
- **Researching crop raiding.** It remains to be determined accurately what proportion of the "blame" for declining crop yields is attributable to red colobus monkeys as opposed to other factors, e.g., other animals (rodents, birds, bushpigs, Sykes monkeys), plant disease, and lowered soil fertility as a result of overly intensive cultivation. A researcher has done some important work in this area (assessing damage to coconut yields) and a red colobus crop-raiding workshop was carried out, with participation from villagers, in June and July of this year. Another, even more participatory, study is slated for November-December of this year. In this study, villagers will help decide which crops and plots to study and what criteria to use to assess crop damage. In addition, villagers will help collect data. It is hoped that this brief study will serve as a model for future more in-depth and long-term participatory studies.
- **Surveying the area.** The CNR's survey team is scheduled to survey the Jozani-Pete area in November to determine how many farmers are affected by crop-raiding and the relative sizes and locations of their mashamba in order to establish how any future revenue sharing can be effectively and fairly allocated.
- **Demarcating shared-use support zones.** The CNR is currently reviewing the existing boundaries of the reserve and pinpointing problem areas. By the end of the year, the CNR will come out with a comprehensive plan delineating areas which should be gazetted as part of the reserve, areas which should be ceded to villagers, and areas which can be used by both people and wildlife.
- **Providing technical and financial assistance for income-generating activities.** One example is the soon-to-be constructed Pete-Jozani mangrove boardwalk (scheduled for November), which will be environmentally-friendly and provide villagers with an income to be earmarked for projects benefiting the entire community. The Jozani Community Development Fund has been established, funded by tourist donations. Though visitors are evidently willing to contribute to the fund (c. 140,000/- was collected after two months), it does not seem realistic to expect future income-generating projects to derive their funding solely from tourist donations.
- **Revenue sharing.** See below.

#### 4. Revenue retention and revenue sharing

Revenue sharing would entail the retention of a percentage of Jozani Forest's visitor entrance fees by the CNR Forestry Sector for: 1) the development of community projects; 2) for the maintenance of the reserve; and 3) possibly (pending the results of further research) direct compensation.

1) Community development projects, both of the "service" type (e.g. a school, a dispensary, a well) and of the income-generating type would offer benefits to villagers at large. Such projects would serve several purposes at once by providing villagers with income and services that help compensate them for the hardships they suffer as a result of exclusion from the core of the Jozani Reserve. At the same time, villagers will come to see that the implementation of such projects is directly tied to the conservation of the forest and that conservation does benefit people in immediate and direct ways.

2) At present, the Jozani-Chwaka Bay Conservation Project (a partnership of the Governments of Austria and Zanzibar, but funded mainly by the Government of Austria), invests heavily in the management of Jozani. This investment comes partly in the form of salaries for guides, guards, watchmen, cleaners, and trail slashers. The JCBCP pays the salaries of 21 Jozani staff members. The JCBCP also pays for the production of leaflets for tourists, the training of staff, the maintenance of Jozani station buildings, and will pay for several new structures to be constructed, including a new Visitor Centre. However, the JCBCP is a relatively short-term project that is scheduled to come to a close within two years. Given the present budget allocated to the CNR by the central government of Zanzibar, the close of the project will result in the firing of all staff currently paid by the JCBCP and in a loss of funds with which to maintain visitor services. With its own budget derived from retention of a percentage of entrance fees, the CNR will be empowered to keep the reserve adequately staffed and can maintain and continue to improve visitor services. If staff are reduced and visitor services allowed to fall below current levels, it is certain that Jozani Forest will no longer be among the prime tourist attractions of Zanzibar.

3) Direct monetary compensation to farmers, to make up for what they have lost to monkeys, is a more problematic issue and requires more research and consideration, as outlined earlier. It is proposed that compensation take the form of fixed annual tree "rental" fees to affected farmers in the area south of the Reserve where tourists regularly view the red colobus monkeys.

It is proposed that funds for the above activities will come from Jozani Forest itself through the retention of a proportion of visitor entrance fees. The CNR's proposed Revenue Retention/Sharing Scheme is simple:

1) submit 20% of fee-intake to the State Treasury.

2) allow the Forestry Sector to retain 80% of the intake, to be used for forest reserve maintenance (40% of the Forestry Sector's share), community development (40%), and farmer compensation in the form of fixed annual tree rental fees that the CNR deems most appropriate pending the results of further research and surveying (20%);

3) raise the entrance fee for nonresidents from 1,300/- (or \$2) to 3,000/- (or \$5) as of 1 January 1997;

4) allow the Forestry Sector to review and raise the Jozani Reserve entrance fee to take into account fluctuations in the rate of inflation, the exchange rate, and the number of tourists, as well as to reflect improvements to the forest visitor facilities in the coming months and

years (e.g., a new Visitor Centre, a snack counter, a gift shop, handbooks, leaflets, a better toilet).

## 5. Conclusion

Earlier versions of this proposal have been discussed at length among various government bodies, but have been stopped by the Ministry of Finance, which rejects the idea of some Jozani-generated funds staying in the Jozani area. Yet, this proposal is modelled partly on the example of Zanzibar's closest neighbour, mainland Tanzania. There, the government allows Tanzania National Parks (TANAPA) to retain approximately 88% of its intake from visitor entrance fees to maintain the parks and to support community development projects.

As this paper has shown, all concerned parties would benefit from the proposed revenue retention/sharing scheme:

- **the farmers** living around the Jozani-Chwaka Bay Conservation Area would be compensated for their losses, either through direct (rental fees for damaged trees in areas where tourists visit) or indirect means (community service projects and alternative income-generating projects);
- **the CNR** would have an increased budget for preserving the integrity of the forest;
- **the State Treasury** would earn increased revenues from Jozani Forest as numbers of visitors increase due to improved services and facilities;
- **tourists** would find their experiences at Jozani even more enjoyable with the availability of better facilities, interpretive materials, and more guides;
- **the red colobus monkeys** and would benefit from decreased harassment at the hands of rural people and their stable population will continue to comprise an important tourist attraction in Zanzibar.

It is the CNR's intention herewith to ask for an urgent assessment of this proposal.