

GENERAL DESCRIPTION OF THE EAST USAMBARA

- East Usambara is part of the Eastern Arc Mountain Range which is considered one of the twenty five biodiversity hot spots in the world. The East Usambara rain forests are one of the most valuable conservation areas in Africa and one of the biodiversity hot spots and centers of plant diversity of the world. Their biological significance has been compared to the Galapagos Islands.

- The East Usambara Mountains are known world wide for the diversity of flora and fauna, and for the exceptionally high degree of endemic plants and animals found in the forests. These rain forests also secure the water supply for the surrounding local community and Tanga urban population of more than 300,000 people. Local people in the mountains depend on the forests for many of their daily needs and monitoring.

An Overview of The East Usambara Biosphere

Reserve (EUBR) in Tanzania:

- In November 2000, the East Usambara Mountain forest area was designated as a UNESCO *Man and the Biosphere (MAB) Reserve*, and was recently named as the *East Usambara Biosphere Reserve (EUBR)*, this biodiversity hot spot area offers living environment for more than 100,000 villages.

The biosphere reserve, which covers an area of about 83,600 hectares, consists of sub-montane rain forest and lowland wooded grassland. It is characterized by high concentrations of endemic flora (including many medicinal plants) and is the home of thirteen and endangered bird species.

BR Map

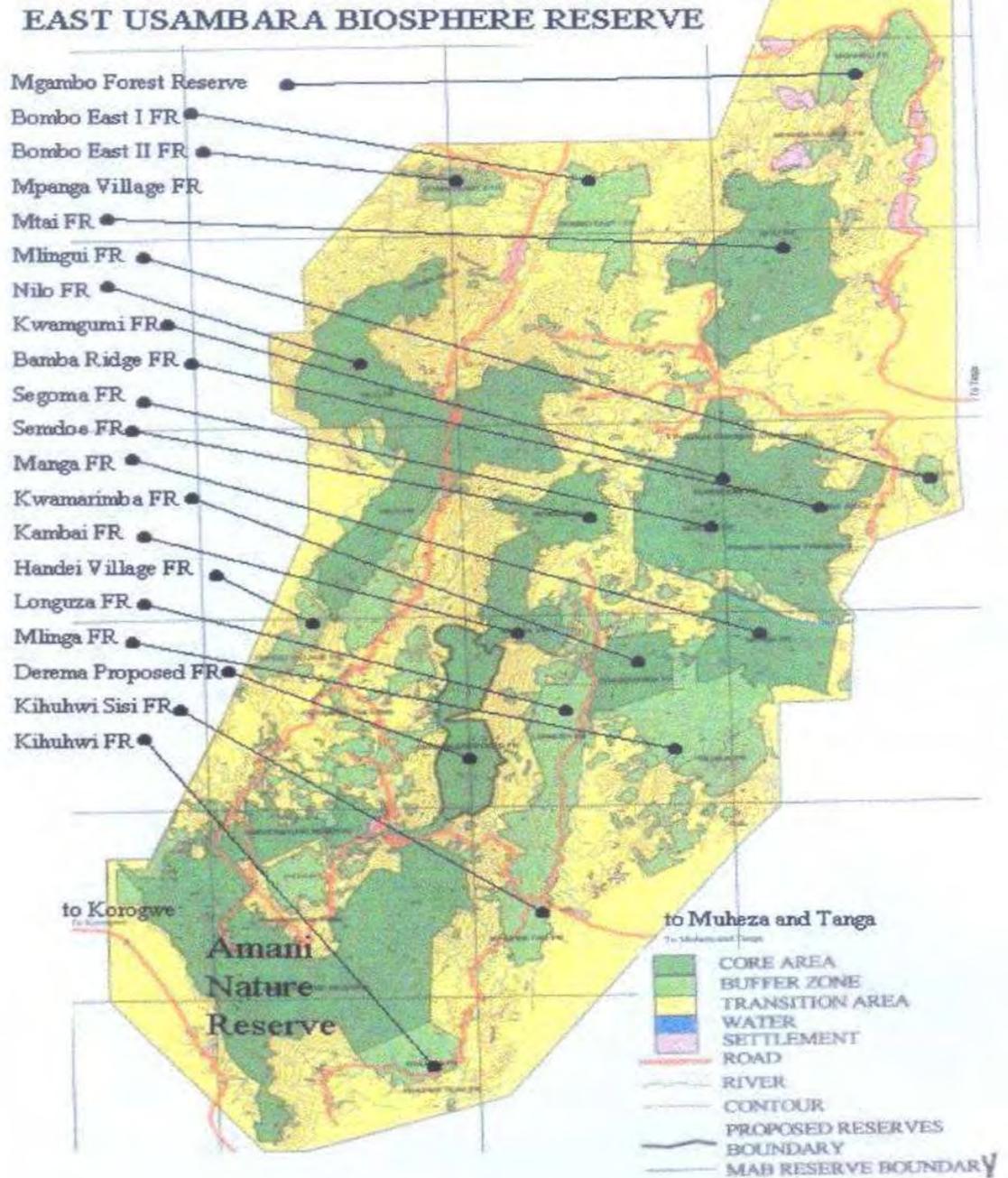


Fig 5. East Usambara Biosphere Reserve zoning map (EUCAMP 2000).

The transition area of the biosphere reserve includes commercial forest plantations as well as sisal and tea plantations. Small-scale farming and cattle breeding are also important economic activities of the approximately 155,000 people in the area (1999).

The biosphere reserve aims at promoting ecotourism as an alternative or additional source of income for local populations and establishing local village forest reserves. The biosphere reserve includes the Amani Nature Reserve, Nilo nature reserve and the Amani Botanical Garden, which are the sites of extensive biodiversity research.

Basically, a MAB Reserve is intended to be a flexible tool for the advancement of better forest governance i.e. to reconcile various interests and actors. Today, development issues and conservation targets are basically in every biologically significant forest area in the developing world, and Tanzania is not an exception.

A crucial question to be solved is how to finance the overall management of this new MAB Reserve after the main donor Finland withdrew in December 2002. In the East Usambaras the MAB system is just in the initial stage and its delineation is much based on the existing Amani Nature Reserve, Nilo nature Reserve and other remain 14 protected forest reserves.

Biosphere Reserves are defined as areas of terrestrial and coastal ecosystems, which are internationally recognized within the framework of UNESCO's Man and Biosphere Program and its global network, which has over 400 Biosphere Reserves.

The basic idea behind these areas is to conserve the diversity of our living biosphere while, at the same time, meet the material needs and aspirations of an increasing number of people who settle in these areas.



Thus Biosphere Reserves are extraordinary for their nature, but also they are established in order to combine interests of local people, administration and scientists, and others, into comprehensive development strategies for these areas.

In short, the central goal is to reconcile the global and national conservation targets with the local, sustainable use of forests. Biosphere Reserves can be considered to differ from most other protected areas in being open to, and actively seeking, the participation of residents and neighbouring populations into their decision-making forests.

A MAB Reserve is expected to benefit from its status in various ways, for instance:

1. Its reputation is elevated internationally, attracting more researchers and eco tourists who also bring more money to the area and its conservation;

2. Its Coordinator and other staff members can learn from international MAB seminars and apply various new practices and ideas to their own area;

3. Also, can get some funding to mapping and income generating activities from UNESCO. In its best, MAB could offer a good context to make a long term planning and visioning for better forest governance, in which various stakeholders (local communities/farmers, private companies, foresters, scientists, government decision-makers and

Benefit cont....

agencies, NGOs etc.) are considered and negotiated. MAB comprises three land management zones: the core area, the buffer zone and the transition area, all of which ought to have their own management plans.

Currently, as EUBR is still in its initial stages, it could be more useful for making further planning and implementation procedures for the reserve. In general, usually when a MAB Reserve has been established, the possible contribution of researchers has been found to be very valuable for its success. Thus it is most important to include social scientific researchers in the management process from the beginning in the East Usambaras as well.

Despite various population growth related pressures that it has been facing in recent years, social scientific research has been quite scarce in the area. Thus it is fairly well researched in terms of natural sciences, but socio-economic issues, culture and history have not been among the main interests of the researchers. In all, the most fundamental idea of MAB is to combine local inhabitants' needs with forest conservation, and thereby social scientific research at this stage would be most vital.

One important task of this multidisciplinary research effort is to help formulating policy recommendations for the EUBR governance in the near future. The leading research question is: *how could the MAB system benefit the East Usambaras in the way that both the local inhabitants' development needs and the global conservation aims are fulfilled?*

Geographically, this research combines the forest adjacent communities to regional and national level forest governance issues, and ultimately, to global biodiversity conservation interests.

Creating more effective and innovative poverty reduction methods

In order to decrease the use of forest resources, it is utmost vital to develop old and new, alternative livelihood and income generation practices (e.g. through agro forestry, improved cooking stoves', beekeeping, fishponds, butterfly farms, ecotourism and domestication of *Allanblackia* tree species in farmers land).

poverty reduction methods cont....._

Many of these are directly or indirectly connected to the deforestation rate, in other words, by facilitating the villagers to achieve these improvements in their livelihoods, it could help the target of conserving the forests resources.

poverty reduction methods cont.....

Improving very poor land use methods that cause severe deforestation: increasing the soil productivity, improving agro forestry, and controlling forest fires which are gradually consuming the forest at large.

Developing JFM and VFR systems

Connected to the previous theme, people's participation must bring them enough benefits, and not only responsibilities. How to improve the current situation especially in JFM areas? In general, due to the recognition of the importance of water resources and good microclimate to their farms, villagers seem to understand the meaning of conservation.

SUSTAINABLE CONSERVATION OF BIODIVERSITY IN THE EAST USAMBARA MAN AND BIOSPHERE RESERVE (EUBR) THROUGH LOCAL INCOME GENERATING ACTIVITIES (LGAs).

- In order local community to be able in participating in Forest Conservation and Management activities, we should look for alternatives of income generating activities to them which will assist to raise their income in order to meet their daily needs. If we succeed to have an alternative of income generating activities, then it will reduce pressure towards the Biosphere Reserve in the East Usambara .The major aim of our sustainable forest conservation will be met and therefore improve our Biodiversity conservation.
- In the East Usambara Man and Biosphere Reserve, we have developed different Income generating activities as follows:

➤ **Butterfly farming.**

- Farmers were trained how best can do to deal with the butterfly farming activities and the way they can benefit from this monthly. We agreed that to follow this up together with technical staff practically for the implementation in the field. The business of butterfly is to sell pupae to USA and UK. In average a farmer can get 150 – 200\$ dollar monthly. Right now we have more than two hundred (200) farmers dealing with this activity.

➤ **Keeping the diary Cattle**

- It is another income generating activity developed and farmers were happy because they have experience with it and agreed to engage immediately on this activity. Related institutional staff agreed to cooperate with farmers and train them the best method to practice for the activity. Right now we have more than 600 farmers dealing with dairy cattle business. Farmer can get 100\$ dollar monthly. The activity is conducted in and around the East Usambara Man and Biosphere Reserve; in that case the zero grazing system is adopted.

➤ **Establishment of Fish ponds**

- This is the third activity for income generating, farmers also were happy with this since they have practice it for a long time. They request to be assisted with resources and training to re establish the activity. We all together agree to support each other and we have more than 300 fish ponds in the farmer's area in villages. The product farmers got from this activity they sell to get money and surplus used for domestic purpose. It is estimated that, each farmer can get around 45\$ dollar monthly.

➤ **Beekeeping activity**

- The activity is also experienced with the most of the farmers. The activity in most cases is done in Lowland areas in the East Usambaras. Discussions on this were made and agreed that more training will be conducted to the farmers to have more know ledges on this. The staff from relevant field agree together to give more training for the development of the beekeeping activity in order to realize its profit. In the present we are having more than 350 farmers dealing with beekeeping activity each farmer having more than 15 bee hives. Each farmer expected to get 35\$ dollar per month, but the activity is not yet well developed.

- **Domestication of (*Allanblackia stuhlmanii*) tree sp.**
- This is the best activity very well interested by farmers, since *Allanblackia* fruits have its nuts which produce edible oil. The cooking oil has a potential market in the Netherlands. It was insisted by foresters to plant more seedlings of this tree species especially during rain season. Farmers have been given free tree seedlings during the rain season of April- June this year. A total of 10,000 tree seedlings were planted by individual farmers. During the peak season a farmer can get up to 750 kg of nuts, which fetches about 280\$ dollar per a farmer.

➤ **Other small Income generating activities discussed at length including:**

- To establish village community groups, e.g. Village Community Bank (VICOBA).
- -Groups of people used to be organized and find a loan then deposit it in bank and try to find ways of raising the income through different development activities.
- -To establish burnt bricks small projects for selling in the villages, to start building improved stoves which they are using less fuel and saving energy. The essence is to use little fuel wood and reduce pressure towards the forests.

- -To establish more tree nurseries for individuals, groups, women groups, different institutions/schools, religious groups etc. The tree seedlings can be sold to the peoples who are eagerly to grow them in their farms.
- Others the have there tree nurseries for the purpose of getting tree seedlings for enrichment planting in their wood lots farms. Continuous supply of fuel wood building materials and other forest products in additional to land use planning are the necessary factors to attain the balance looking for an alternative sources of income to finance nature conservation cannot be avoided.

- The farm forestry activities are conducted in buffer zone villages in compliance with Village Natural Resources Management Plan (VNRMP) and priority conservation areas identified. This will ensure local people get their necessities outside the protected area (core area)
- Tree planting activity is promoted and local people assisted in species selection for various purposes such fuel wood, timber, poles, agro forestry and fodder production.
- Useful multipurpose trees were sought out and farmers sensitized during extension activities. Success of these initiatives will guarantee availability of products and minimize reliance on the reserve.

- The use of fuel-effective stoves has been encouraged in order to reduce fuel wood consumption which will automatically reduce the intensity of collection in the reserve. Moreover, the use of fuel-effective stoves improves the health of the family by reducing the smoke. Alternatively, the released smoke might be used in drying products such as fish, preservation of food crops like maize and assisting in curing banana and other fruits.
- Various alternatives to improve income of local people should be considered. On developing these alternatives the use of local available resources should be given priority. Other stakeholders including local Government Authority, NGO's and private sector should be sensitized to support.

- Areas including beekeeping, fish farming, diary cow, new cash crops including spices and fruits, handcrafts, furniture, establishing and management of woodlots should be given of high priority.
- Local people may develop other alternatives and being considered to be supported provided that these alternatives are in line with objectives of EUBR. The promotion of beekeeping practices and fish farming should be insisted and encouraged more. This will ensure sufficient and sustainable products are obtained in the farms hence reducing the disturbances in the reserve.

- Modern bee lives and bee keeping techniques should be promoted and hence local people should be discouraged to use fire and traditional beehives in both keeping and harvesting the products. Fish farming should be encouraged in wetland areas where there is enough space that will not jeopardize conservation of wetlands. Introduction of superior species of fish should be promoted in order for realization of early returns and convincing yields. The EUBR aims at frequent communication between its Management and local communities in the implementation of the management plan and on decision making.

- The Management should be transparent in order to guarantee active participation..
- Community participation in decision making should be considered in all three levels namely in implementing daily activities at village level (Environmental Committee),
- Co-ordination and overseer of implementation in all villages and in decision making at all levels.

Challenges;

- Illegal timber harvesting (minimal)
- Illegal harvesting of small animals and insects e.g. beetles, chameleons, etc (minimal).
- Inadequate resources to enable sustainable conservation.
- Inadequate revenue to share.

- Poor infrastructure (visitors, tour guides, and tourist facilities needs to be improved, including renovation of ANR – Building).
- Gold mining (illegal gold mining inside and out the area formally it was very alarming issue).

- Fire out break in the south western Part of the reserve is a threat to the nature reserve.
- Picnic sites, view points, historical sites and cultural sites, drive roots and nature trails needs to be developed and improved.

Thanks for your Attention

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