UTAFITI [New Series] Special Issue, Vol. 4, 1998-2001: 117-130

A Forest Resources Co-Management Strategy for Tanzania: A Study of West Usambara High Canopy Forests

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Abstract

History reveals that for rural communities in the tropics, forestlands management has been, and still is, part and parcel of rural livelihoods—caring for trees for present and future generations. Forest tenurial systems in Tanzania have, up till now, been a replica of the colonial legacy. This article contributes to achieving sustainable forest resources development through a community-based resources co-management with the government in the West Usambara high canopy forests in northeastern Tanzania. The strategy is designed to accelerate the forest tenure reform process. The study focuses on the East Usambara forests. Ecologically, they belong to the Tropical Rain Forests of Tanzania, otherwise referred to as the Tropical High Forests which are important locally, nationally and globally for their cultural functions, as well as for sources of timber and non-wood products, conservation of catchment areas, and as a genetic pool of valuable species. Preliminary research findings reveal that a co-management of forestland between the stakeholders and the Government is an amicable solution to the existing tenurial conflicts. This alternative tenure regime—though a sensitive issue amongst some government officials—is but a novel strategy for local communities. Hence, by empowering rural communities to make rational decisions through provision of education and other resources concerning forest conservation, it is hoped that they will gain more economic interest in protecting forestlands and increasing their productivity. It is proposed that Participatory rural appraisal tools, when applied to local communities, will enable them to scientifically care for the forests; and by the same token become resource stewards. By working at the grassroots level, it is anticipated that promotion of the productivity of forests and reduction of environmental hazards might be intrinsically linked to improved quality of life of local communities which are stewards of forest resources.

Introduction

In Tanzania, forest programmes and policies have been designed at central government level. As a specific part of human's respective habitat, forestland forms an essential basis for human history and culture. History reveals that for

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rural communities in the Tropics, forestlands management has been, and still is, part and parcel of rural livelihoods—caring for trees for present and future generations (Report of the Independent Commission on Population and the Quality of Life, 1996).

Forest resources management regimes in Tanzania today are a function of colonial administrations (Ahlback, 1988; Neumann, 1993). The forestlands regimes established by the Germans (1885-1916) and the British (1918-61) authorities ensured that the indigenous people had no ownership rights over the forests. Hence through relevant legal instruments, forests became the property of the colonial state. This mechanism enabled only the colonisers to exploit forests and other resources, including labou,r thus underdeveloping Tanzanians.

The forest management systems therefore are, up till now, a replica of the colonial legacy. There are no significant departures with respect to the mode of relationships in so far as who has access to, responsibility and control over these resources. The current state of affairs is that more often than not, some community members living in the neighbourhoods of some forest resources benefit mainly through sale of their labour power to entrepreneurs (not indigenous to forested areas), who own licenses to exploit forest products and services.

Thus, co-management of forestland between stakeholders at grassroots level and the government has great potential to promote forest productivity and reduce environmental hazards which are intrinsically linked to improved quality of life of local communities and the nation, who are stewards of forest resources.

There are only a few tenure critics who still propound the "tragedy of the commons" thesis that enjoyed considerable support especially during the 1970s and the early 1980s. It has become more evident that unlike open access which implies an absence of property rights, community-based tenure systems reveal the presence of property rights (Lynch, 1994; Shivji, 1998). In Tanzania, the central issue is one of rights of access rather than ownership through whatever means.

As noted in the National Forest Policy of the United Republic of Tanzania (URT, 1998), local communities will be encouraged to participate in forestry activities. It is imperative, therefore, that a democratic management of forest resources envisages rural resource use patterns in a spatial continuum. In this case, a household farm be conceived as a nucleus and as part and parcel of a neighbouring forestland, just as forest resources have local, subnational, national and global importance. This is a kind of overlapping community-based rights on land resources in totality.

Based on this premise, efforts directed towards efficient and democratic forest management should address the smallholder farmer as the key stakeholder, who is also dependent on the natural resources that form part of the livelihood. The role of the state and the international community should therefore be to provide an enabling environment that ensures stable, equitable and sustainable development of the resources for the present and future generations.

We believe that for sustainable management of forest resources, it is imperative that the:

(a) stakeholders be scientifically identified;
(b) needs are objectively mapped;
(c) actual and potential of the forest resources to meet these needs scientifically are assessed; and
(d) necessary institutional setting are devised as a means of empowering stakeholders and by the same token ensuring sustainable use of these resources within a legal framework.

This article aims to contribute to a strategy for achieving sustainable development through community-based high canopy forest resources co-management in Lushoto District, northeastern Tanzania, as a way of forest tenure reform process. Given the people's traditional environmental knowledge system (TEKS), and based on the positive experiences gained by most farmers in the field of agroforestry and reforestation under the Soil Erosion Control/Agroforestry Programme (SECAP) from the mid-1970s to date (SECAP Project Manager pers. com.), it is timely to revisit the need to hand over some responsibility of forest management to the stakeholders, and indeed to communities within the forest neighborhoods and their business partners.

The ultimate goal is to secure community ownership, responsibility and control over the resources for sustainable community development and management of high canopy forests. This goal may be achieved, through strategic planning, a co-management of forests by the stakeholders and the district level government. It is hypothesized that sustainable rural development should be based on a scientific knowledge of integrated natural resources management, buttressed in the current and potential institutional organizations and their scientific and technological capacity at all spatial levels.

Tanzania High Canopy Forests Management

Status of the High Canopy Forests

According to the 1998 National Forest Policy, Tanzania has about 33.5 million hectares of forests and woodlands. A smaller part of the country, about one percent

(10000km^2) receives sufficient reliable rainfall (1000-2500mm) to allow high canopy forests to survive and about eight percent (830km^2) of the rainforest grows in the Usambara Mountains (Uppsala and Sokoine University Report for the Period 1983-1987) (Figure 1). In terms of altitude these forests occur between 1200 and 25000 metres above mean sea level.

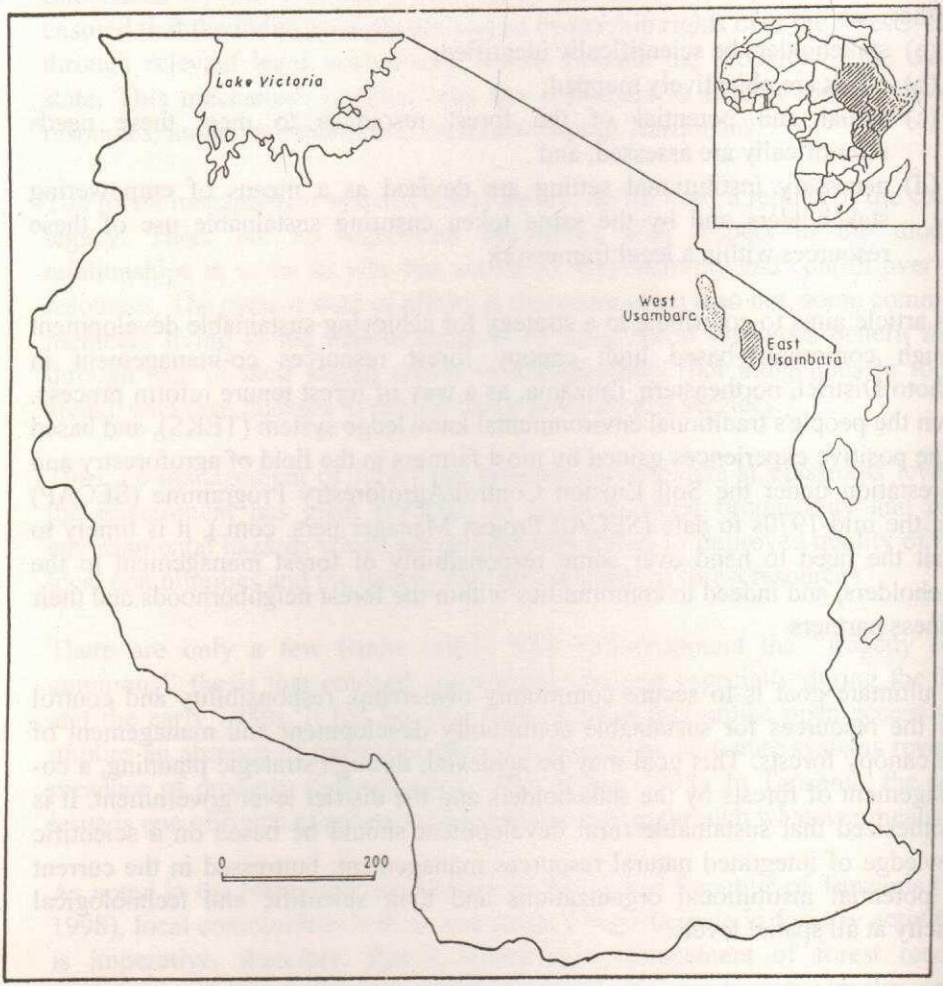

Figure 1: Location of Usambara High Canopy Forests, Lushoto District Tanzania.

The West Usambara forests belong to the tropical rain forests of Tanzania, otherwise referred to as the tropical high forests, or the high canopy forests. The single-dominant forest occurs primarily as *Juniperus procera* (Alhback, 1988; Pocs, 1989). The forests form part of the series of the eastern arc mountain forests spanning from the Pare mountains in the northeast to the Udzungwa in the southeast.

Since these forestlands are spatially isolated from each other, they have a very diverse flora and fauna. As a genetic resource, these high canopy forests contain more species than any other ecosystem (Lovett 1985). The Tanzania high canopy forests are characterized by the plants' competition for light compared to other ecosystems. The resultant structure is the creation of layering or vertical structure, whereby the topmost layer is the emergent trees followed by a continuous canopy which tends to restrict sunlight to reach layers below it, making them permanently under shade. Given sporadic windthrows, a process called phytoturbation, gaps are created in the canopy which influence the horizontal structure facilitating seedlings and saplings of the middle storey and canopy trees, shrubs and herbs to colonise the areas (Figure 2). Species of fully vertically structured forest are the primary species; and the light demanding, fast-growing colonising species, are called secondary species. The Tanzania high canopy forests characterised by a high level of endemism are hence a dynamic ecosystem.

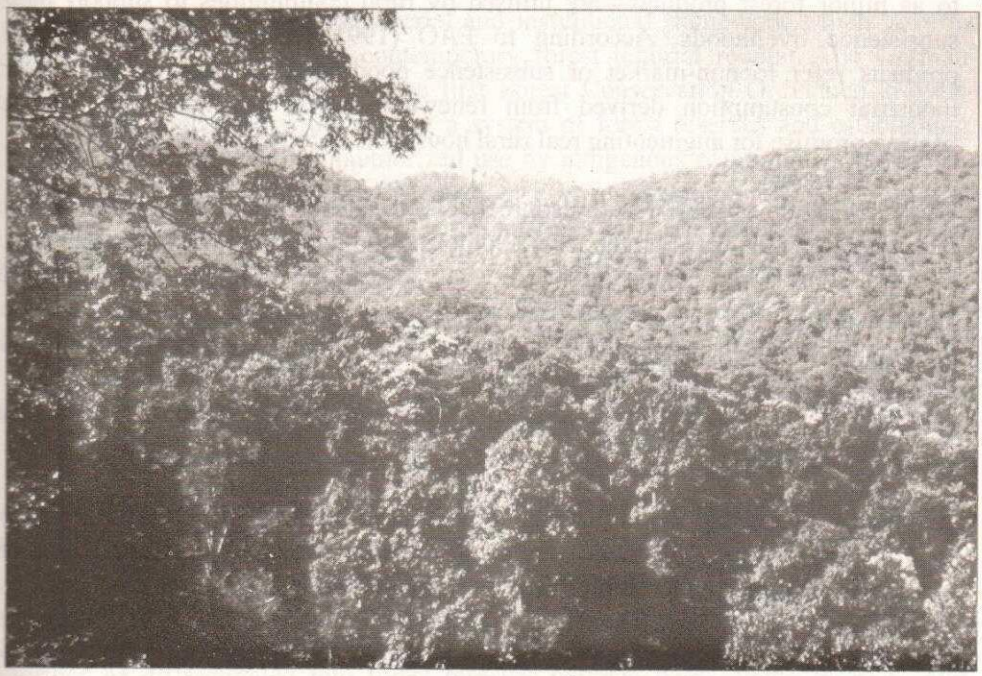

Fig. 2: The high canopy forests in Tanzania

Tanzania High Forest Resources Utilisation Systems

Some human activity processes have caused adverse effects on forest environments while searching for survival (URT, 1997). Forests are, in essence, a genetic resource due to the potential possessed by living organisms to produce commodities of value to humankind at different levels of socio-economic development. Tanzania tropical rain forests are important locally, nationally and globally for their cultural functions, as well as for sources of timber and non-wood products, conservation of catchment areas, and as a genetic pool of valuable species (Ahlback, 1988; Pocks, 1988; URT, 1998).

Other than some tree species producing valuable timber, wood is also important as a source of fuelwood and building poles. In rural areas, almost all housing structures are supported by poles. The collecting of fuelwood for cooking and/or heating, is predominantly a woman's domestic role in Tanzania, as elsewhere in Africa. It has to be emphasized that democratic ways and means be sought to mainstream gender in forest resources management policies (Skutsch, 1985). The provision of energy is one of the important activities of households living within forest neighbourhoods which calls for policy considerations.

Some forest resources—including non-wood forest products, sometimes referred to as minor forest products—are utilised by rural communities to support their subsistence livelihoods. According to FAO (1991) categorisation, non-wood products refer to non-market or subsistence goods and services for human or industrial consumption derived from renewable forest resources and biomas bearing promise for augmenting real rural household incomes and employment.

The exploitation of these forest resources for subsistence is a cultural practice that has closely existed between the local people and the forest since time immemorial. Besides, some forest locales and some tree species have been used as spiritual centers, and some tree species used for making household tools such as hoe handles, baskets and mats, pestles and pipes. Some species are used for medicinal purposes as well as for generating poisons for plants and animals, and for fodder. This unique function is largely ignored or forgotten by development researchers and policy makers.

As clearly stated by the Tanzanian government, ecologically forests regulate hydrological regimes of their catchment areas as well as microclimates and macroclimates, promote soil productivity through biochemical processes, serve as habitat for fauna and flora, as well as recreational functions (URT, 1988). Since the flora of many indigenous forests in Tanzania is still inadequately known, for every

survey, new records of interesting endemic, rare or important species are being documented (Pocs, 1989). It is also reported that 38 out of 150 species in catchment forests are endemic and hence serve as a gene pool of indigenous tree species. Further, as noted by Lovett (1985), Tanzania contains 40% of the world's wild coffee relatives with 25% of these species not occurring outside the country. Further, this resource has a great potential in improving commercial varieties with respect to breeding improved yield, aroma, pests and disease resistance. All the mentioned forest functions can best be achieved if—and only if—all the actors are democratically involved in forestry management programmes and policies (World Resources Institute 1994).

Contemporary Forest Resource Management Issues

According to Wytt-Smith (1987), effective high canopy forest resources management calls for a better understanding of the silvi-cultural characteristics of the woody species. Since most management standards concentrate on destruction or interference of the structure of closed forests, there is need for a careful contemplation of the constraints in terms of nature and area covered, intensity as well as stakeholders. Hence, forest policies and rules should, among other things, address these key issues.

There are however, some managerial and institutional framework which govern, albeit undemocratically, the contemporary forest tenurial regime. The German colonial administration enacted the first Forest Conservation Ordinance in 1904 which was concerned with creating a system of forest reserves and establishing prohibitions against their unauthorized use by indigenous communities (Neuman, 1993). It is interesting to note that the first Forest Department Headquarters was Lushoto, the present study area. It is further reported that the British, after World War 1, closely followed the exploitative forest regulations set up by the Germans.

In Tanzania, today, the major forest sector guideline is the Forest Policy of 1953, which has been adequately reviewed elsewhere (Ahlback, 1988). It emphasizes, among other things, the need to protect forests as a national asset; and managing them in the most productive way possible to meet society's present and future needs. The pieces of legislation to enforce the policy, however, does not go beyond state-owned reserves; nor does it consider indigenous peoples' customary rights of access to the resources.

In general terms, forest management may be categorised in three systems: government, private, and institutional controls. Government controlled forests may further be differentiated into forest reserves national parks, game reserves, and

game controlled areas. It should be noted that the forests in national parks are the best protected from human intervention, given the relatively higher capital investment in this sub-sector.

Clearly then, the high canopy forests in Tanzania are faced with serious problems of forest degradation (URT, 1997; 1998). The often reported causes may be referred to as immediate factors contributing to forest degradation, which include subsistence farming, fuelwood collection, acquisition of building poles, lumbering and other socio-economic activities. Essentially, there are underlying causes which have to be addressed if forest resources are to be conserved (World Bank, 1997). These issues include problems of forestland tenure and economic opportunity, that is, livelihood on the part of indigenous people; and the lack or misallocation of resources to meet the basic human needs of an expanding population on the part of the state.

People, State and Forests in West Usambara High Canopy Forests

Contemporary Forest Management Regimes in the Study Area

Social relations between people and the state with respect to forest resources were investigated in this pilot study area (Figure 1). A reconnaissance survey in parts of West Usambaras reveals major stakeholders' experiences, opinions, views and proposals relating to community level high canopy forest co-management. Some salient features documented are based on 32 stakeholders interviewed/consulted during the pilot study. The sample was drawn from the following:

- local communities as individuals and groups;
- formal and informal organizations;
- clan leaders;
- village government officials and leaders of political parties;
- private sector institutional leaders;
- ward government officials and leaders of parties;
- district and central government officials and leaders of parties; and
- GTZ donor staff at the headquarters in Dar-es-Salaam and in Lushoto.

Preliminary findings reveal four categories of forests tenurial systems. These include, the national forest reserves. These reserves which cover an area of about 29000 ha. are scattered in West Usambara Moutains and are controlled by the central government and managed under the Magamba Forest Project. The resource use system is characterized by protective rather than utilitarian principles. Consequently, the relation between communities surrounding the forests and the forest officials is hostile, to say the least.

Second, are the private forest reserves and plantations. These forestlands are owned and exploited by independent educational and commercial institutions. They were reported to be under strict control and efficient management. The third are the local authority forest reserves. These reserves are under the management of the local government at district level. Under this resource use system, communities within the vicinity of the reserves have access to some forest resources. Local people have access to forestland for subsistence and cash crops production. Smallholder farmers clear part of the forestland for growing crops such as maize, beans, cardamom; collect fuelwood, building materials, fodder, fruits and vegetables. Incidentally, the regulation of community access to the resources, in terms of rural land use planning, has not been efficient enough to sustain and/or promote the productivity of the forestlands. This state of affairs has resulted in forest resource degradation (Figure 3) that underlies environmental degradation, triggers human-induced disasters, and exacerbates rural poverty.

Figure 3: Degradation of forest resources

Apparently, in the short term the system has, nonetheless, been able to contribute to combating food insecurity and improved the quality of life of the people. It was found out however that some of the forestlands currently under subsistence agriculture are still on government records as reserves.

The fourth category constitutes the reforested lands. At the community level, and with SECAP support, about 20 new forests are being established in the formerly forested and now denuded landscapes by planting indigenous tree species through regeneration and recuperation. As in type three forests, and despite being too early to pass any sound judgement, it may be professed that these efforts will not be able to meet the needs of the stakeholders. Initially, these landscapes were controlled by the local authority (category three).

The fifth category refers to the farmlands. At household level, some croplands have been planted with trees under the agroforestry program of SECAP. The approach has been to integrate agriculture, livestock and forestry management practices so that the conservation measures from the three sectors reinforce each other in the process of environmental conservation and improvement of the peoples' quality of life to achieve synergy.

The envisaged program, in a way, seeks to gradually bring the forest to the people, and not the people to the forest. Prohibitive rules, however, have not succeeded to turn local people away from hunting and gathering some forest products from forest categories one, two, and three.

It has been found out that the cultural bond between people and the forests with regards to sound management is low. The local people no longer find it incumbent upon them to conserve these resources. The survey showed that most people's attitude to forest products is one of indifference. Most people believe that should an opportunity avail itself, they are ready to get away with everything from the forest as quickly as possible, leaving it barren. Unfortunately the situation can be likened to the Hardin's tragedy of the commons. This demonstrates a low level of awareness of the role played by the forest ecosystem on the local communities' survival, on the surface of the earth.

Clearly, an effective forest resources management is far from being achieved through state control. It is advanced that other than outdated toothless laws, the sector suffers from lack of trained manpower and financial resources to undertake a thorough monitoring and surveillance of forestlands. This limits the enforcement of prohibition rules. Given the state of the national economy, one wonders whether financial support *per se* would improve forestry management. Following the

discussion with the villagers and their leaders, the need to involve the people in protecting the forests was expressed differently by various groups. Participation of villagers in resource exploitation, however, was deplored by some top forest officials and supported by villagers and some village and district leaders. Some officials at the Ministry headquarters were arguing that the farmers do not have a technical know-how in forestry management, hence involving them in decision-making is tantamount to destruction of forest resources. This means giving power to villagers is loss of power by some top government officials as far as forest revenue is concerned. Additionally, there is need also to consider seriously the issue of combating grafting in this sub-sector of the economy as a means for achieving sustainable resource use systems.

As for the SECAP leadership at the project site, the opinion was that co-management was a sensitive issue but they were ready to support these community empowerment initiatives whenever asked to. This positive response may have been derived from their long experience in community forestry in the region. In view of the 1998 National Forest Policy framework, efforts directed to searching for a strategy for grassroots level forest resources management cannot be underestimated.

The social relations between the local people and the state institutions with respect to forest management in terms of access, responsibility, and control over the resource could be summed up as antagonistic. It is against this background that a co-management of forestland between the communities and the government is a sensitive issue amongst some government officials, and a noble idea amongst local communities. Similar experiences have been reported in some regions in Tanzania regarding land rights (Shivji, 1998) and in some Latin American countries (Peter Veit pers. com.). Based on these observations, there is an urgent need for recasting rural resource use patterns in a spatial continuum.

It is imperative that the household farm be seen as a nucleus and as part and parcel of the forestland for sustainable rural livelihoods. In this case, efforts must be made towards ensuring that the smallholder farmer, who is the key stakeholder, is responsible for the natural resources that form part of the livelihood, and the state should provide an enabling environment that ensures sustainable development of the resource for the present and future generation.

Some Suggested Practical Research Steps for Reforming Forest Management

In order to carry the tenure reform process forward, two sites have been identified in West Usambara forests for a detailed research on forest resources co-

management at grassroots level. As noted by Misana *et. al.* (1997), such a process seeks to assist stakeholders make scientific decisions on their resources. The study area has been selected on the basis of the diversity of the forest management regimes.

The sites are, first, the Mtumbi local authority forest reserve. This resource is located on Kitala ridge in Mlalo division, Lushoto district. Formerly it was a governmental reserve which has recently been under the Lushoto District Council's responsibility. The communities living in the surrounding villages include Wapare, Wasambaa, and Wambugu. The Wapare have been termed land hungry and thence leading in the deforestation process, whereas the Wambugu are said to be conservationists as characterized by their bushy enclosed homesteads. The second site is Kihitu local authority forest reserve located in Soni division. The surrounding communities live in the villages of Kihitu and Kwemihafa. The dominant communities are the Wapare and the Wambungu.

Since villages in Tanzania are political administrative units as defined by village governments under decentralization, forest resource management at this level is feasible. The village government, therefore, has powers of decision-making corresponding to three more familiar categories of central government, namely legislative, executive, and judicial (Agarawal and Ribot, 2000). Efficient resource management at village level calls for the power to:

(a) create rules or modify outdated ones,
(b) make decision about how a particular product or service is to be used,
(c) implement and ensure compliance to the new or altered rules, and
(d) adjucate disputes that arise in the process to create rules and ensure compliance.

It is emphasized here that rural people and their institutions be empowered to make decisions on utilisation and conservation of forest resources. This may be achieved by providing them with knowledge, information, and other resources pertaining to forest management and conservation (URT, 1998). In so doing, the stakeholders will be more responsible and answerable in the preservation, renewal and enrichment of forestland resources. As a result, local people are assisted in better understanding of ecological principles and institutional framework for combating forest resources degradation. Special emphasis should be placed on training and extension activities for women who perform most of the work related to forest minor products (FAO, 1991; Misana *et.al.,* 1997). It may be stipulated that once the stakeholders are assured of ownership of a resource, they will be all out to protect it against degradation. Ultimately, the forest resources will be utilised equitably and sustainably.

Conclusions and Recommendation

The study has revealed that the high canopy forest resources in the Usambaras are under a human-induced threat. It has demonstrated that current forest management systems are not capable of sustaining and/or enhancing the major forest functions. Due to the great importance of these forests to human development and to the stability and sustainability of a healthy environment, there is an urgent need to develop a middle level resource management system.

It is advanced that through working at the grassroots level, promotion of the productivity of the forests and reduction of environmental hazards may be linked to improved quality of life of communities as stewards of forest resources. It is anticipated that the success of the proposed study will form a milestone towards shaping future forest resource management systems based on democratic and participatory principles for the present and future generation, not only for Tanzania, but also for other member states of Eastern Africa.

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