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Community-based Ecotourism as a Sustainable  
Development Option in the Taita Hills, Kenya

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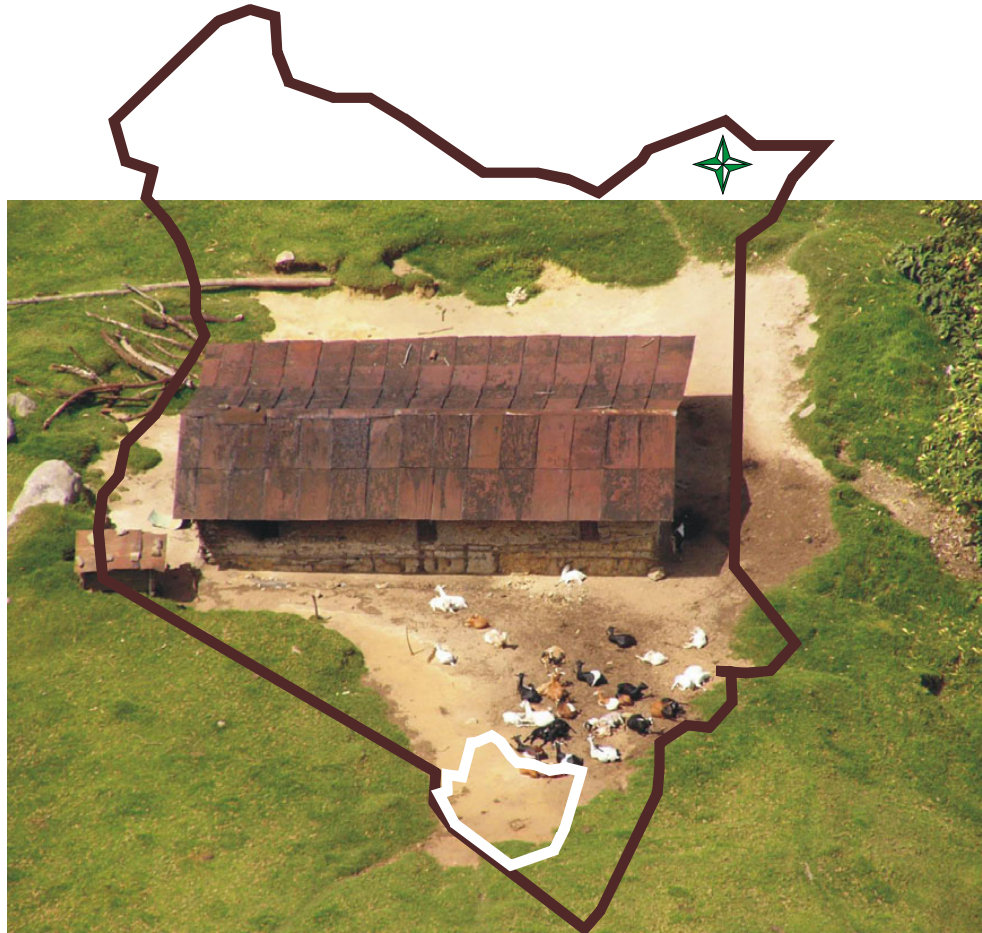
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# **Community-based Ecotourism as a Sustainable Development Option in the Taita Hills, Kenya**

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**Master's thesis**

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**2006**

**University of Helsinki**

**Department of Geography**

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Tiivistelmä – Referat ) Abstract			
<p>This study aims at identifying the existing and potential resources, as well as recognizing the hinderances, for community-based ecotourism development in the Taita Hills in south-eastern Kenya. The indigenous mountain rain forests on the hills are rich in biodiversity, but severely degraded because of encroachment caused by the dynamics of increased population, socio-politics and economics.</p> <p>The research problems are based on the hypothesis that there is no tourism in the Taita Hills generating income for the local economy and high population density combined with poverty creates a need for alternative employment opportunities as well as for sustainable ways of forest resource management.</p> <p>The data for this study was gathered during two field trips in Kenya, in January-February 2004 and 2005, as a part of the Taita Project within the Department of Geography at the University of Helsinki. The qualitative methods used consist of RRA and PRA techniques, in-depth interviews, a structured questionnaire and literature analysis as well as attendance on excursions and a workshop with conservation experts and officials. Four case areas in the Taita Hills are studied.</p> <p>The study concludes that alternative livelihoods are needed among the Taita Hills´ rural population and community-based ecotourism is seen as a way of bringing financial benefits for households as well as reviving the fading cultural traditions and indigenous knowledge about forest use. The governmental policies, district level development plans and some NGOs support ecotourism development. The Forest Act 2005 forms base for local participation in forest management. The unique natural features, the welcoming Taita-culture and the location in the coastal tourism circle favour Taita Hills.</p> <p>However, this kind of development has its risks, such as too rapid change of sorest usage level and the exposure of communities to an “ecotourism treadmill” –process. The cost-benefit ration of marketing for hard ecotourists is generally low and the tourism infrastructure needs upgrading in the Taita Hills. More tight collaboration is important between the different level stakeholders working for conservation and development. Community-based ecotourism in Taita Hills, when carefully planned and managed, could be one opportunity for Kenya to diversify its tourism product supply and for forest-adjacent communities to gain tangible benefits on a sustainable basis from forests.</p>			
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		Sivumäärä – Sidoantal – Number of Pages <b>134 s.+ liitteet 10 s.</b>	
Tiivistelmä – Referat ) Abstract  <p>Tässä tutkimuksessa pyritään tunnistamaan olemassaolevia ja potentiaalisia voimavaroja sekä esteitä yhteisöpohjaisen ekoturismien kehitykselle Taita-vuorilla, kaakkois-Keniassa. Alueen alkuperäiskasvillisuutta edustavat vuoristosademetsät ovat biodiversiteetiltaan rikkaita, mutta väestönpaine sekä monenlaiset sosiopoliittiset ja taloudelliset tekijät ovat johtaneet metsien pirstoutumiseen ja monimuotoisuuden alenemiseen.</p> <p>Tutkimusongelmat perustuvat hypoteesiin, jonka mukaan Taita-vuorilla ei harjoiteta paikallistaloutta hyödyntävää matkailua ja korkea väestömäärä sekä köyhyys luovat tarpeen niin vaihtoehtoisille toimeentulomuodoille kuin kestäville metsänkäytön muodoille.</p> <p>Tutkimusaineisto on kerätty kahden Kenian matkan aikana, tammi- ja helmikuussa vuosina 2004 ja 2005. Työ kuuluu Helsingin yliopiston maantieteen laitoksen Taita-projektiin. Laadulliset tutkimusmenetelmät koostuvat RRA- ja PRA-tekniikoista, syvähaastatteluista, strukturoidusta kyselystä ja kirjallisuusanalyysistä. Suojeluasiantuntijoiden ja virkamiesten lausuntoja on kerätty osallistumalla ekskursioille ja työpaja-seminaariin. Ekoturismipotentiaalia tarkastellaan neljän tapaustutkimuksen kautta.</p> <p>Työssä todetaan, että vaihtoehtoisia toimeentulomuotoja tarvitaan Taita-vuorten pienviljelyyn erikoistuneen väestön keskuudessa. Yhteisöpohjainen ekoturismi nähdään talouden kohentamisen keinona samoin kuin hiipuvien kulttuuristen traditioiden ja metsien käyttöä koskevan perinnetiedon esille nostavan voimana. Hallituspolitiikka, kuntatason kehityssuunnitelmat ja useat hallituksesta riippumattomat järjestöt tukevat ajatusta ekoturismien kehittämisestä. Vuoden 2005 metsälaki luo pohjaa paikallisasukkaiden osallistumismahdollisuuksille lähimetsiensä hallintaan. Ainutlaatuinen luonto, ystävällinen Taita-kulttuuri ja sijainti rannikolta luonnonpuistoihin suuntautuvan turistikehän piirissä, suosivat Taita-vuoria matkailumielessä.</p> <p>Ekoturismikehitys alueella sisältää kuitenkin riskejä, kuten metsien käyttöasteen liian nopean muutoksen ja paikallisyhteisöjen ajautumisen ”turismimylly”- prosessiin. Matkailuinfrastruktuurin kohentaminen on välttämätöntä ja kovan linjan ekomatkailijoiden koukuttelu alueelle vaatii hyöty-suhteeltaan kallista markkinointia. Suojelun ja aluekehityksen eri tasojen toimijoilta toivotaan tiivimpää yhteistyötä. Huolellisesti toteutettuna yhteisöpohjainen ekomatkailu voisi kuitenkin olla Kenian valtiolle keino monipuolistaa matkailutarjontaa ja Taita-vuorten paikallisyhteisöille kestävä tapa hyötyä lähimetsistään.</p>			
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<b>List of Abbreviations:</b>
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<b>AWF</b>	<b>African Wildlife Foundation</b>
<b>CBNRM Management</b>	<b>Community-based Natural Resource</b>
<b>CORE</b>	<b>Conservation of Resources through Enterprise</b>
<b>DANIDA</b>	<b>The Danish International Development Agency</b>
<b>EAC</b>	<b>Eastern African Cooperation</b>
<b>EAWLS</b>	<b>East African Wildlife Society</b>
<b>EMCA Act</b>	<b>Environmental Management and Coordination</b>
<b>FINNIDA</b>	<b>Finnish International Development Agency</b>
<b>FSA</b>	<b>Financial Service Agency</b>
<b>GEF</b>	<b>Global Environmental Facility</b>
<b>ICIPE Ecology</b>	<b>International Centre of Insect Physiology and</b>
<b>IUCN</b>	<b>The World Conservation Union</b>
<b>IGAD</b>	<b>The Intergovernmental Agency for Development</b>
<b>KEFRI</b>	<b>Kenya Forest Research Institute</b>
<b>KWS</b>	<b>Kenya Wildlife Service</b>
<b>NEMA</b>	<b>National Environmental Management Authority</b>
<b>PFM</b>	<b>Participatory Forest Management</b>
<b>PRS</b>	<b>Poverty Reduction Strategies</b>
<b>SIDA</b>	<b>Swedish International Development Cooperation Agency</b>
<b>SMEP</b>	<b>Small and Micro Enterprise Program</b>
<b>TPF</b>	<b>Traditionally Protected Forest</b>
<b>TTWF</b>	<b>Taita Taveta Wildlife Forum</b>

## 1. Introduction

The regional balance between humans and nature in Kenya is well illustrated by Joe Cheffings, who arrived in Kenya in the early 1950s: “ *It was everything I dreamt of; it had a population of about five million and consisted of small islands of people surrounded by wild animals. Now its´ population is over 30 million and the country consists of small islands of wild animals surrounded by people*” (Page 2005).

Taita Hills belong to the chain of Eastern Arc Mountains, which are classified as one of the world’s 25 most important biodiversity hotspots. The indigenous mountain rainforests in the hills represent the fragmented relics of some primitive and formerly widespread forest flora and fauna not recognisable elsewhere in Africa today. Unfortunately these forests have suffered substantial loss and degradation during the last decades (Wilder & al. 1998:181). They have been encroached upon leaving small remnants on the peaks of the hills and ridges. This ecosystem like many others worldwide is threatened by extinction due to the dynamics of increased population, socio-politics and economics.

Taita Hills are surrounded by the two large Tsavo National Parks. Although the third most important foreign exchange earner for the country, tourism has scarcely benefited Taita Taveta communities. Sufficient benefit sharing mechanisms between the communities and the state have been lacking. Poverty levels have continued to rise, which has been attributed to inadequate attention to natural resource management and resulting in a fragile ecosystem.



Figure 1. Taita Hills viewed from the plains of Tsavo East National park (Himberg 2005).



The interdependence of tourism and the social and physical environment is fundamental for the future of each. A significant shift has happened in tourism industry during recent decades and interest in ecotourism has grown exponentially. Community- based natural resource management is being increasingly promoted as the way to tackle the environmental problems and to emphasize community empowerment in developing countries. This trend can be seen also in Kenya. This study provides aspects to the problems and development opportunities in the Taita Hills through an ecotourism assessment, based on the interdependency of ecosystem viability and community viability.

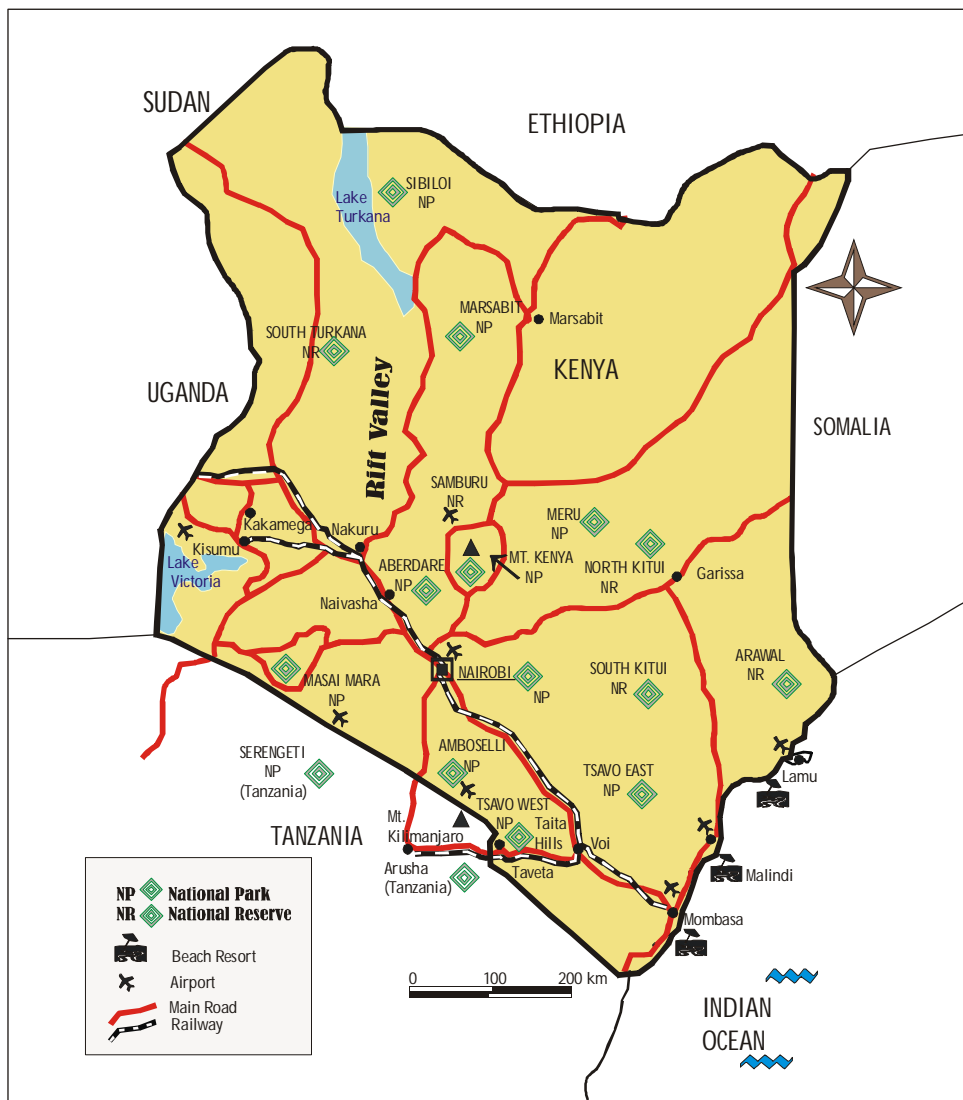


Figure 2. Kenya and its major tourist attractions. The Taita Hills are situated between the Tsavo East and Tsavo West National Parks.

## **Objectives and aims of the study**

The objectives of this study are multidimensional and interdisciplinary by character. The study aims at finding the possibilities and pitfalls of community-based ecotourism in Taita Hills.

The main research problems are: *What kind of potential for community-based ecotourism exists in the Taita Hills and in the area's forest adjacent communities?*

and

*Could ecotourism help to prevent the degradation of the indigenous forests?*

The sub-objectives are:

- 1) *to study the interdependency of the local ecosystem and community viability.*
- 2) *to study locals' capacity and level of empowerment in managing the natural resources of the area.*
- 3) *to find out the perceptions and opinions of local people about ecotourism.*
- 4) *to study what kind of ecotourism would be suitable for the area.*

The problems are based on the following hypothesis: *There is no tourism in the Taita Hills generating income for the local economy and the high population density and poverty create a need for alternative employment opportunities as well as for sustainable ways of forest resource management.*

The study aims at finding answers to the research problems from the grass root level actors as well as from the district and the national level authorities. The national policies set up the frames for local development, but the actual potential for action is to be found on the district and local level. The physical, socio-cultural and socio-ecologic features of the area form the base for the ecotourism potential.

This study should provide elements for discussion about both sustainable forest management and ecotourism potential. The focus is on today's problems and on the future possibilities, as typical for development issues. Regionally the study is zoomed in to examine the Taita Hills'

features on local scale. Zooming out is used in order to understand area's potential role in tourism in the district-, national- and international scales.

### **The Taita Project**

This thesis is prepared within a research project called Taita; carried out by the Department of Geography at the University of Helsinki (see Taita Project 2003). The project started in January 2003 and has focused on “developing land use change detection methodology in the East African highlands applying geographic information systems” (Pellikka & al. 2004). The project aims at creating a geographic database of the land use in the area. One of the objectives of the project is to study land use changes as a reflection of the human- nature interaction and population growth. That is where the issues of this study, like biodiversity conservation, sustainable forest management and alternative livelihoods for local people, come in. These soft studies applying qualitative methods, like interviews and participatory methods, add ethnographical aspects to the project data.

### **Terminology**

*Community-based natural resource management (CBNRM)* is being increasingly promoted as a solution to problems of nature conservation. The driving forces behind the adaptation of this concept especially in Eastern and Southern Africa have been the threat of species extinction due to over-utilization of resources, the inability of the state to protect wildlife, land use conflicts between rural communities in resource areas and wildlife managers. There has also been a need to link conservation and development (Steiner & Rihoy 1995: 5).

The principle of CBNRM is that of reforming the conventional “protectionist conservation philosophy” and “top down” approaches to development. In the background there is common property theory which discourages open access resource management and promotes the resource use rights of local communities (Rihoy 1995: 39). The basic idea is that local people must have power to make decisions regarding local natural resources in order to encourage sustainable development (Rozemeijer & Van der Jagt 2000).

The term *community conservation* is used to describe a range of different kind of projects and programmes, community-based natural resource management being one of them. Adams

& Hulme (2001: 13) define community conservation as “principles and practices that argue that conservation goals should be pursued by strategies that emphasize the role of local residents in decision making about natural resources”. The policy trend is toward devolving management of wild natural resources from state- centred control to local level authorities or local communities.

According to Jones & Murphree (2001: 43-45) the community conservation concept has four main elements. The first is *economic instrumentalism*, which seeks to ensure that local communities have self-interest in woodlands and wildlife management. Secondly *a devolution of authority* over local natural resources to the local owner-guardians of the land is required. The third element is recourse to a *communal property regime* as the formal basis for regulating access to the resources. This goal requires the fourth element, which is typically a long process of *policy development and legislative changes*.

The two dimensions of community conservation; participation and concern for economic welfare, form a space where various conservation interventions lie. In one extreme there are biocentric practices emphasizing the intrinsic values of the nature, meaning “conservation for its own sake”. In the other extreme the limits for human use of the nature are imposed for utilitarian reasons and refer to anthropocentric way of thinking as “wise use demands careful husbanding of resources for greater future human benefit” (Swanson & Barbier 1992). Community conservation equates with sustainable development, a policy commitment arising from the Brundtland Report (WCED 1987) and the UN conference on Environment and Development in Rio in 1992. The moral argument here is, that “conservation goals should contribute to and not conflict with basic human needs” (Adams & Hulme 2001: 15).

The idea of local peoples involvement and participation arises from the notion that local communities not only understand their problems best, but also have solutions. According to Lawrence and Green (2000: 64) “**Participatory forest management (PFM)** is used as an umbrella term covering shared forest management, joint forest management, collaborative forest management and community forestry”. Berenschot (1988) identifies different modes of local peoples participation in forestry. These are: private participation, passive community participation and active community participation.

*Private participation* can take place in various activities, like farm forestry, agroforestry, tree nurseries and forest-based small sector enterprises. Farm forestry promotes commercial or subsistence tree growing by farmers on their own land either as pure tree crop or in combination with other crops. Small forest enterprises, like collection of minor forest products or “cottage industries” such as basket-making, do not necessarily require ownership to the land.

In *passive participation* people derive certain benefits from the forest or may be involved to a limited extent in related activities, but without in any way sharing decision-making or management. This type of participation can be seen for example in welfare and relief programmes and collaborative / joint programmes. In joint programmes the initiative and impetus comes from the promoting government agency (Berenschot (1988)). The Joint Forest Management (JFM) approach was developed in the early 1980s and is based on the assumption, that the conservation of natural forests is best assured by official legal state control coupled with active involvement of local villagers. The usufructs from the forest are shared between a conservation agency and the local community. The official ownership as well as the overall responsibility for formulating and executing the management plan rests with a public forest management organization. Joint forest management between the state and the local community is mostly instituted through a village-level communal organization (Glover 2005: 25). However, in many cases of JFM there has been noted forestry agencies unwillingness to share its authority (Seymour & Rutherford 1993).

The essential components of *active community participation* are initiative and decision-making involvement. In its widest sense the involvement includes planning and goal setting, mobilization of resources, decision-making, implementation, management and administration, monitoring and evaluation as well as distribution of land, labour and other community resources. The lands can be under communal or customary ownership, public lands designated for community control or private lands pooled for cooperative management. Government has a limited role and most of the benefits accrue to the community (Berenschot 1988).

***Nature based tourism*** is tourism primarily supported by natural attractions. Thus it contains visits to destinations featuring attractions such as wildlife, flora and fauna, beautiful landscapes and geographical features. This type of tourism characterizes Kenya's tourism

industry (Ecotourism Society of Kenya 2005: 8). It is said to be one of the few service-sector activities that can stimulate sustainable economic development in peripheral regions. Nature-based tourism is a broad concept including subcategories like ecotourism and adventure tourism. It also includes captive tourism, referring to zoological parks and botanical gardens, and extractive tourism meaning hunting and fishing. The 3S tourism, which is based on sand, sea and sun, also falls into this type of tourism. Apart from ecotourism, none of these is constrained by the requirement to have a learning component or appearance of sustainability, even if those are desirable characteristics (Weaver 2001: 16).

*Ecotourism* has been variously defined. All definitions of ecotourism emphasise that it must take place in natural areas, which could include state managed protected areas, private land or communal land. The key criteria for ecotourism are: the activity must be environmentally and culturally sensitive; must directly benefit conservation and local people who in turn have an incentive for conservation; and it must be self-sustaining within the context of the natural and cultural habitats in which it takes place (Goodwin 1996: 282).

According to Hammit & Symmonds (2001: 338-341) the primary objective of ecotourism management is to conserve the natural and cultural diversity while secondarily providing for an acceptable level of tourism or recreation. This prioritising probably refers to the threats ecotourism poses if not well planned. Budowski (1976: 28) suggested that the relationship between nature oriented tourism and conservation may be mutually beneficial. However, unless the requirements of safeguarding the environment are met, ecotourism is in danger of being a self- destructive process, destroying the very resources upon which it is based. The Ecotourism Society of Kenya (ESOK) (2005) defines ecotourism as “responsible travel to natural areas that conserves the environment and sustains the well-being of the people. On development terms, ecotourism is tourism that meets the needs of the present generation without compromising the ability of future generations to meet their needs from the same resources”.

The interdependence of tourism and the social and physical environment is fundamental to the future of each. It is essential to seek the way to accommodate the needs of all parties, without control being external to those who experience its effects most directly. The features of the natural and cultural environment and supportive host communities are according to Wearing & Neil (1999: 73) the foundations of a successful industry. American academic Martha

Honey (1999: 22–24) argues that “real ecotourism” must involve seven vital interrelated characteristics: 1) travel to nature destinations, 2) minimizing negative environmental impact, 3) building environmental awareness, 4) direct financial benefits for conservation, 5) financial benefits and empowerment for local people, 6) the respect of local culture and 7) support of human rights and democracy.

Apart from Honey’s development oriented point of view, Grant (2001: 168) sees ecotourism closely related to adventure tourism and activity tourism, including natural element, cultural experience, physical activity and minimum environmental impact, but still focusing on eco-activities. The debate about the appropriate definition of ecotourism and how it compares with other types of tourism, like nature tourism, rural tourism, cultural tourism or adventure tourism, continues. According to Ecotourism Society of Kenya (2005: 7) ecotourism in general is a term referring to various forms of tourism perceived to be sensitive and responsible as far as their resource utilization, benefits generation and distribution and quality of experiences to tourists are concerned. *In this study*, the concept of ecotourism refers to the definitions presented above as well as to the idea presented in Fig. 3 including overlapping elements of ecotourism, rural tourism and cultural tourism.

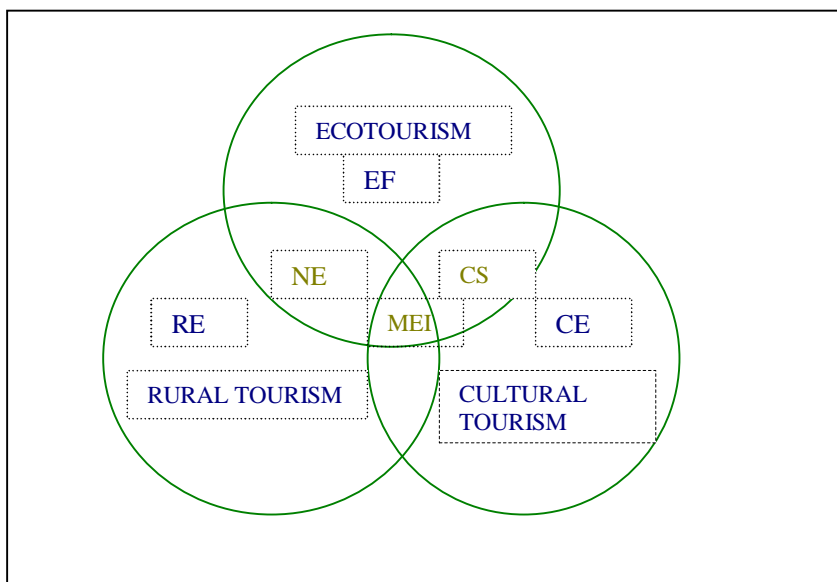


Figure 3. Characteristics of ecotourism, rural tourism and cultural tourism. EF= eco-activities as the focus, CE= cultural experiences as the focus, RE= rural experience as the focus, NE= natural element, MEI= minimum environmental impact, CS= cultural sensitivity.

**Rural tourism** means visiting and staying in places or destination areas perceived to be not influenced by urbanization and its impacts. Such places would be characterized by low industrialization, low population density, subsistence and primary economic activities and unsophisticated community life styles. Tourists visit such places to experience and participate in rural life styles and stay in rustic accommodation among other activities. Backpackers and specialist tourists favor this type of tourism (Ecotourism Society of Kenya 2005: 8).

**Cultural tourism** is characterized by visits to local communities perceived to still maintain and practice ancestral traditions and cultural ways. Tourists are attracted by peoples' traditional lifestyles, cultural practices and economic activities among other aspects of community living. Visitors may participate in dance and music, festivals, buying local artifacts and shooting photos (Ecotourism Society of Kenya 2005: 9). Cultural tourism places its' primary emphasis on the cultural component. Tour operators in Kenya have become aware of the need to diversify the country's tourism product from wildlife and beach-based attractions to include diverse aspects of people's cultures in Kenya. Lee & Crompton (1992) argue that in tourism, people are always in search of interesting, thrilling and surprising experiences. They are always aware of their state of alienation and desires to experience the environment and culture of others.

Ecotourists are not a homogeneous group, but display a range of motivations and behaviour, geographic location and demographics. They represent variable levels of anthropocentrism and biocentrism. When planning ecotourism market segmentation needs to be considered. It is a process whereby a market such as ecotourists is divided into distinctive market segments so that appropriate and cost-effective marketing and management strategies can be developed for each. This segmentation can be conducted at two levels in ecotourism: firstly by determining how ecotourists differ from consumers and tourists in general and secondly by identifying distinctive ecotourist sub-groups (Weaver 2001: 43).

Ecotourists can be segmented on a "hard to soft" continuum according to their motivation, attitudes and behaviour. The **hard ecotourist**, as an ideal type;

- has a strongly biocentric attitude that entails a deep commitment to environmental issues
- has a desire for a deep interaction with the natural environment and belief in one's activities enhancing the resource base.



- is physically active and challenging experiences involving personal contacts with nature are preferred
- does not require fancy on-site services and likes to travel in a small group
- likes to make his or her own travel arrangements so that there is enough time for undisturbed natural venues.



*Soft ecotourists* on the other end of the continuum represent anthropocentric tendencies;

- their commitment to environmental issues and desire to engage with the nature is not as deep as that of hard ecotourists
- the experiences should not be too strenuous physically
- short duration experiences on a day-only basis are preferred and should be supported by accommodation, eating facilities, parking lots and other services
- soft ecotourists typically use guided tours, interpretation trails etc
- ecotourism is only one component of a multi-purpose trip
- soft ecotourists do not mind travelling in a large group and they prefer having the travel arrangements done through agencies and tour operators

(Weaver & Lawton 2002).

### **Theoretical framework of the study**

The theoretical framework is based on two models. The first one is used for studying the interdependence of the local ecosystem and community viability and the second model acts as a backbone for analysing ecotourism potentiality in the study area. The principles of ecotourism presented above place great demands on the area studied, which is why various dimensions of ecosystem and community viability are needed to guide the study. These interacting models have been chosen for the study, as together they form an entity which brings out the broad field of aspects on sustainable ecotourism development.

The first section of the framework follows the theory by Michaelidou & al. (2002)(Fig. 4). It is based on the *interdependence hypothesis*, which suggests that ecosystem conservation and community survival are interdependent and should be given equal emphasis if both are to benefit. Thus, ignoring one of the two dimensions would compromise the other. People often emphasize either anthropocentric or biocentric dimensions when conservation and development efforts are concerned.

This framework offers a more balanced view on conservation. According to Michaelidou & al. (2002: 613) it includes factors that have been lacking and so hindered the success of many integrated projects, such as the lack of a holistic ecosystem conservation approach, the failure to address cultural factors and the lack of attention paid to external forces that impact local situations. Three dimensions form the framework: ecosystem viability, community viability and external forces.

The ecosystem viability dimension consists of three main categories: 1) species diversity, 2) water and 3) soil. Species diversity includes the factors concerning *plant diversity* and *wildlife diversity*. The focus is on the ecological integrity and viable populations of the ecosystem. Some ecosystems need reintroduction of species already extirpated from the area. The importance of species diversity for local communities for medicinal, economical, aesthetic, spiritual and cultural values is emphasized. Water plays a critical role in ecological integrity and water scarcity can lead to conflicts about access to water. *Water quality* and *quantity* are the factors emphasized. *Soil quality* and *soil fertility* determine the potential land use and vice versa. Unsuitable usage of land can lead to soil degradation due to erosion. This again leads to higher rates of precipitation runoff. Agricultural productivity decreases and generates the need for chemical fertilizers. Soil conservation practices enhance water conservation, vegetation, wildlife and human needs (Michaelidou & al 2002: 604-605).

The community viability dimension consists of four main categories: 1) culture, 2) well-being, 3) participation and 4) knowledge. According to Michaelidou & al (2002: 606) culture consists of the factors *cultural sustainability* and *social and environmental values*. The qualitative changes as opposed to quantitative changes in community conditions should be emphasized when talking about development. Project activities striving to community development should at the first place focus on “ways of life” rather than “livelihoods”. Local people should have the option to decide what kind of development if any, is desirable to them,

allowing their local beliefs and customs to guide the process of change. There might be spiritual reasons and social aspirations for the engagement in local practices and in such cases the economic incentives might be ineffective, because they fail to satisfy these needs.

Social and environmental values are shaped by the specific culture people belong to. Some cultures favour ecosystem conservation, like the Mahafaly people in Madagascar, who considered certain forests sacred and protected them for years against the destruction that occurred in surrounding forests (O'Conner 1990). Similar kind of forest conservation, based on traditional values, have been practiced in the North Pare Mountains in Tanzania (Ylhäisi 2006). Michaelidou & al. (2002: 607) points out, that even if community members do not have identical social and environmental values, it is necessary to understand the full spectrum of values within a specific community so that development projects do not erode important customs.

In this theoretical framework *well-being* consists of the factors *economic well-being* and *physiological and psychological well-being*. According to McNeely (1992: 20) it is important to address the economic well-being of local communities within or adjacent to natural areas, since those people often pay disproportionate costs for nature conservation. Even if poverty is not prevalent, for example lack of employment opportunities may force the young and educated people to migrate to cities, leaving rural villages with less viable coping mechanisms.

The economic well-being is an essential component of community viability, although it is not the only one. The viable development has also to do with psychological well-being. Whether people feel peaceful, safe and secure within their communities, matters. Rights to land increase people's sense of security and may also benefit conservation (Goodland 1991: 306). If such fundamental needs like health and security are missing, community cohesion and survival become threatened and conservation goals become hard to reach.

According to Michaelidou & al. (2002: 608-609) the third main category, *participation* includes the factors *community participation* and *community capacity*. Community participation means that local people have a central role in designing, implementing and evaluating policies and projects that affect their lives. They know how their community functions and which development activities could be effective. Several studies have shown

that when local communities are given greater responsibility to manage natural resources, local support for conservation increases (Hyndman 1994; Sibanda & Omwega 1996; McNeely 1992). Local capacity often needs to be reinforced and projects trying to enhance ecosystem and community viability should therefore aim to increase the capacity of local communities to manage natural areas.

The fourth category, *knowledge* includes the factors *environmental knowledge* and *cultural knowledge*. Communities that have lived close to nature for centuries or millennia usually have wide environmental knowledge about the ecosystem and plant and animal species inhabiting it (McNeely 1992: 19). According to Berkes (1993: 3) traditional environmental knowledge is “a cumulative body of knowledge and beliefs, handed down through generations by cultural transmission, about the relationship of living beings with one another”. Local communities also have extensive cultural knowledge about local history, customs, beliefs and mythology (Goodland 1991: 305). Unfortunately, as McNeely (1992: 21) describes, “The loss of cultures, or of traditional knowledge within cultures undergoing rapid change, is a problem which is at least as serious for humanity as is the loss of species”. The local knowledge should not only be incorporated into ecosystem and community viability efforts, but the knowledge should also be maintained. Avenues, through which the environmental and cultural knowledge can be passed to new generations, should be established (Michaelidou & al. 2002: 610).

The local communities and their associated ecosystems are part of a larger social, economic and political context and often subject to influences that originate far from the local place. Whereas a favourable external environment supports and enables local communities and natural areas thriving, an unfavourable external environment can threaten ecosystem and community viability (Barrett & Arcese 1995).

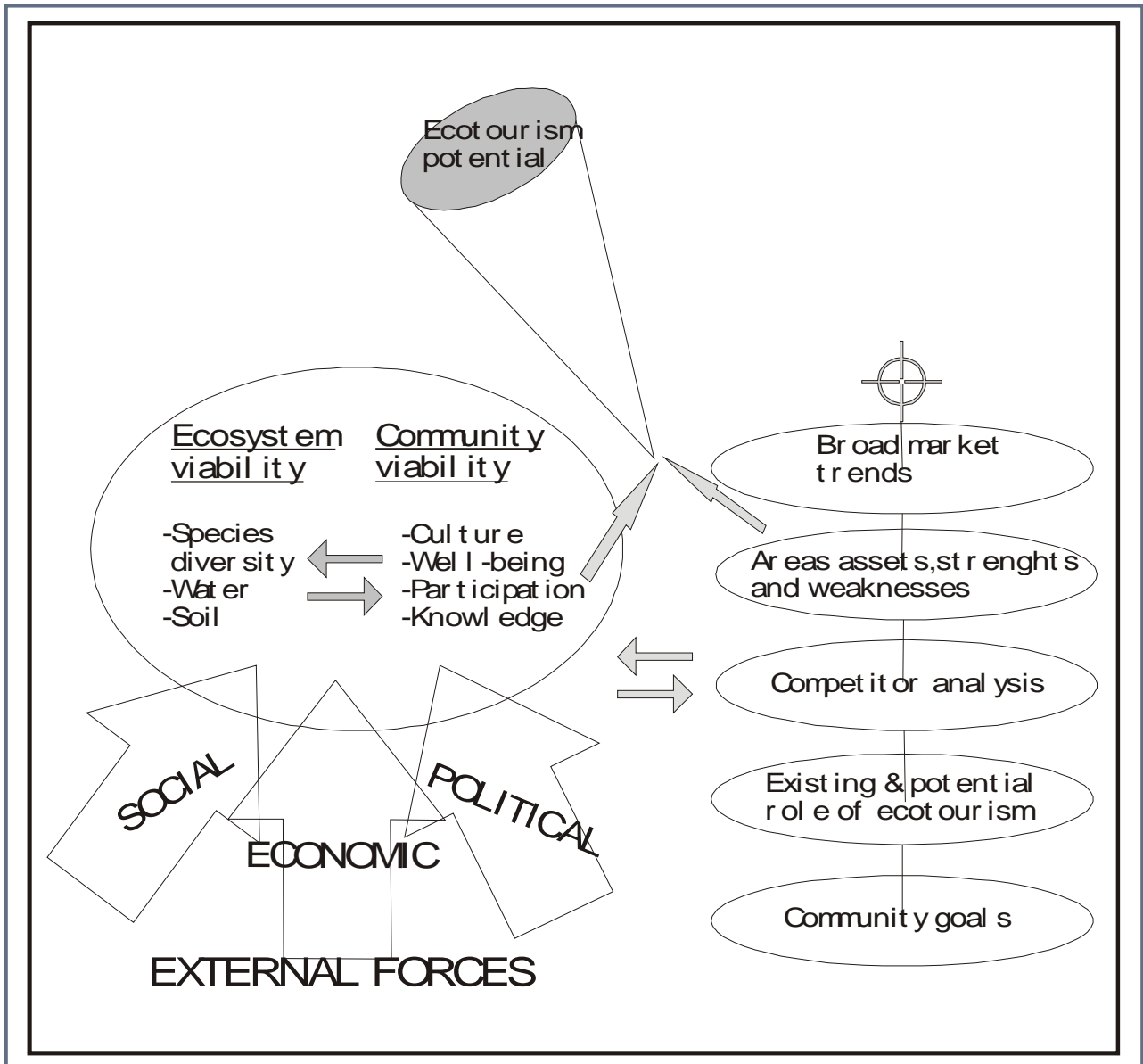


Figure 4. The theoretical framework of the study. Source: Michaelidou & al (2002: 612); Tourism South Australia (1991: 29). Composed by the author.

The long-term survival of a natural ecosystem depends not only on the support of the local people inhabiting that ecosystem, but also on espousal by the general public (Mc Neely 1995: 4). There are groups that value the conservation of natural areas, pressuring politicians to make laws favourable to conservation. On the other hand there are groups favouring fast economic growth at the expense of nature conservation. In some cases the general public places such a high priority on nature conservation that they are willing to sacrifice the sustainability of local communities. Understanding these social values of the general public,

whether they are biocentric or anthropocentric, can reveal controversies within policies pertaining to ecosystem and community viability. Understanding this also helps to predict whether certain projects will have the support of larger populations (Michaelidou & al. 2002: 610-611).

Local attempts to halt environmental degradation may be unsuccessful if the external economic forces are not addressed. The destruction of natural ecosystems according to Wells & al. (1992: xi) often has roots in “powerful financial incentives” that have little to do with the local people. In cases where locals do exploit wildlife or forest products, they sometimes respond to the demand existing in the national and international markets (Barrett & Arcese 1995; McNeely 1992).

The national and international laws and policies have according to Brandon (1997) been described as the most powerful external factors impacting ecosystem and community viability. Political forces can range from national policies to international policies, like trade liberalization and structural adjustment.

The second section of the theoretical framework follows the steps of a regional tourism planning process. Tourism South Australia (1991: 28–29) has developed an integrated planning model for tourism in the early 1990s after a notion that traditional approaches were limited. The former approaches ignored research and evaluation of tourism demand, like market needs and expectations, as well as tourism supply including resource utilisation consistent with demand preferences and environmental sustainability. Tourism South Australia wants to provide a “synergistic” tourism planning model which is goal oriented, consultative, integrative, market and resource driven and systematic.

The synergy means that the role of tourism should be clearly recognized in achieving community goals. The process includes meaningful community input to determine what is acceptable to the local population. Tourism planning should be included in the mainstream of planning for the economy, conservation, heritage, land use and infrastructure. Market driven planning meets the needs of people and can trade successfully in a competitive marketplace. Resources matter when developing assets which build on the inherent strengths of the destination while protecting and enhancing the attributes of the site. Research is considered

important in providing conceptual and predictive support for planning (Tourism South Australia 1991: 28).

The regional planning process includes 10 steps (Tourism South Australia 1991: 29), out of which only the second step, namely “potentiality analysis” is applied in this study. This section includes five topics, which assist the study, when defining the ecotourism potential of the Taita Hills in a larger regional scale. This model includes firstly the *examining of market trends* and secondly *analysing the area’s ecotourism assets, strengths and weaknesses*. Thirdly *a competitor analysis is undertaken* and fourthly *community goals are determined*. The fifth topic concerns *the existing and potential role of ecotourism in the area*.

## **2. Methods**

This study is qualitative in character and favours people from various levels of the society as sources of information. Various qualitative methods were used when collecting data. One reason for this is that there is no other economic activity that cuts across so many sectors, levels and interests as tourism. According to Boo (1990: 188) there is a need to integrate planning for ecotourism with national development plans in general and sectoral targets in particular. Ecotourism activities concern many government ministries. The integration between ministries is evident. As important is the coordination of interests from the local, through the regional, to the national level. The private sector plays a vital role in tourism along with the public sector and Holder (1992: 159) suggests that the private sector is dependent on the government, because, in the broadest sense, the country is the ecotourism product. The Government should create the conditions and business environment within which the private business can make reasonable profits.

The main idea is to divide the data sources into “insiders” and “outsiders” referring to their social and economical status as well as their geographical location in relation to the study area. These concepts derive from development studies and form the base for RRA (Rapid Rural Appraisal) and PRA (Participatory Rural Appraisal; today also called Participatory Reflection and Action) methods regularly used in development research and projects. The limitations of traditional techniques, like questionnaire surveys and statistical analysis, were noticed in 1970s along with the experience of missing the realities of rural deprivation. RRA was a cost- effective way in for outsiders (Chambers 1983: 199; Laitinen 2002: 26). RRA was

later criticized of providing the researchers with good information, but leaving the local people empty-handed when it came to the study results and learning from the process. Methodology was developed to serve the possibilities for local people to participate more fully and to leave the researcher with the role of a facilitator. As Chambers (1997: 210-211) expresses it: “putting the first last”, meaning that a challenge is presented to the uppers, the powerful and to the structures of power, to put people before things and lower before uppers. According to Brockington & Sullivan (2003: 60) PRA methods challenged and revived the research in developing countries in the 1980s and 1990s by offering techniques for ascertaining features of local groups and situations and empowering the people being researched. PRA is used with communities to assist them to come to an understanding of what is at stake and what can be done to improve the situation.

By outsiders Chambers (1983: 2) means people concerned with rural development who are themselves neither rural nor poor. This includes headquarters and field staff of government organisations in a developing country as well as academic researchers, NGO personnel, private businessmen, consultants, staff of training institutes, voluntary workers and other professionals. Often these people are trapped in urban “cores” and they only pay short visits from urban centres to rural “peripheries”.

In this study all the people involved, except the members of the local communities in the Taita Hills, are considered outsiders. The members of the local communities represent the insiders, who treasure the grassroot level knowledge and from whom the outsiders can learn. The participatory elements of the methods used were considered important in order to avoid study biases. Biases occurring in studies like this may be according to Chambers (1983: 2) caused by the fact that the study concentrates on the roadsides, not exploring the least developed and peripheral areas. Another reason for bias can be the use of data collected from a limited variety of people of different ages and gender. The general biasing factors can also be diplomatic or professional; the researcher is not seeking out the poor for fear of giving offence or she is too confined to the concerns of her own specialisation.

The methods in this study consist of RRA and PRA techniques, which represent the insider view, and expert interviews, field observations and literature analysis, which bring out the outsider aspects. In addition, a controlled, structured questionnaire was used for assessing ecotourism potential (see appendix 1). It is based on a tool developed by Fausnaugh & al.



(2004) and modified to serve the purposes of this study. This method was considered a valuable tool for interaction between the researcher and the local actors working for community development. Some data is based on oral announcements heard when attending field excursions with conservation experts in the study area. Up to- date information was also gathered for the study by attending a workshop held in February 2005 for the stakeholders on the conservation and management of Taita Hills forests. In all, the data was gathered during two field trips in Kenya, in January and February 2004 as well as in January and February 2005. The expert interviews were conducted in Nairobi and Voi.

In order to find out how the members of a local Taita community see their role in natural resource management and how they consider their need for alternative livelihoods, one village was chosen for a case study. The village of Mwanda in the north-western part of Taita Hills turned out to be a proper, rural area for the purpose as its' location is peripheral, the population growth there puts pressure on the remaining forests and the local culture and traditions are fascinating.

The research began with participatory interviews carried out on January 17, 2004 in Mwanda. The problems related to land use and living conditions were studied as a part of the Taita-project (see Pellikka & al. 2004: 114–20). The 21 participants, women and men of varying ages, evaluated the problems listed by themselves using a problem matrix. The severity of the problem was evaluated as well as the change for worse or better over time. A village map was also compiled with the assistance of the village chief Mr. Samuel Chawana and some other villagers. More data was gathered later on as it seemed fascinating to return to the village for a week's stay. In order to study the need for alternative livelihoods, including ecotourism, women group interviews were conducted. 23 women attended the session, which included semi-structured group interviews and the composition of two seasonal calendars. Women of different ages were chosen as interviewees as they in first hand do the house -keeping and work on the field.

During the stay in Mwanda, a method called “seek out the expert” proved fruitful in means of receiving data about cultural traditions as well as values related to forests. The experts were the village chief, two local farmer ladies and a village elder (in swahili called Mzee). The data is based on their oral announcements and transect- walks guided by them.

At the end of the stay in Mwanda a village meeting (in swahili *baraza*) was organized. The purpose for that was to bring together the villagers, researchers and the local officers to discuss the natural resource management and ecotourism possibilities in the village. The planning of the baraza began several days earlier by asking permission from the chief and spreading the word about the meeting. A group of local women was enthusiastic to prepare food for the crowd of attending people. The meeting worked well when it comes to awareness raising and participation. All the attendants had a chance to express their opinions, complaints and suggestions. Several speeches were held in order to spread knowledge about area's environmental values and about the organizations working for development issues in the area. The concept of ecotourism was discussed, as well as its' socio-cultural impacts. In the end of the session a matrix concerning potential ways of ecotourism accommodation management was compiled.



*Village meeting*



*"Seek out the expert"*



*Assessment tool*



*In-depth interviews*



*Own observation*



*Women group interviews*



*Workshop*

Figure 5. A collage of different study methods (Himberg 2004; 2005).

The languages spoken in the area are Swahili, Taita and English. In order to avoid language barriers and misunderstandings an interpreter was used during the group interviews and the village meeting. The sessions were also voice-recorded in order to check the outcomes afterwards.

In order to get an overall view of the state of the natural resource management and to observe ecotourism attractions in the Taita Hills area, all the largest, indigenous forests were visited. The visits were guided either by a local forester or an officer working for the East African Wildlife Society. Five forests were visited, namely Chawia, Ngangao, Mbololo, Vuria and Yale. In addition Kasigau forest, on a separate mountain massive, southeast from Taita Hills, was also visited because it is biggest in size and community-based ecotourism already exists there. The data collecting methods used were observation, interviewing on -field and the assessment tool- questionnaire. The interviewees were NGO- workers, foresters (working for the government) and members of local environmental committees. The data includes a research diary, oral announcements given during the field trips and assessment tool- answers. The questionnaire was designed in order to enable interaction. Instructions were given eye to eye before answering and the results were discussed afterwards. This was considered important, because the issue brought up many ideas and questions and needed to be concluded.

The in-depth interviews were conducted in February 2004 in the Ministry of Environment and Natural Resources and in the Ministry of Tourism and Wildlife in Nairobi. Two departments were visited in the Ministry of Environment and Natural Resources; the Forest Department and the National Environment Management Authority (NEMA). Two in- depth interviews were also conducted in Voi. Two persons were interviewed there; The executive coordinator of Taita Taveta Wildlife Forum, Mr. Donald Mombo and the chairman of Taita Hills Ecotourism Network, Mr. Francis Agoya. The Director of the Origin Safaris and Trustee of the Kasigau Conservation Trust Mr. Steve Turner was interviewed in Nairobi in February 2005.

The literature gathered during the field study consists of workshop- reports, studies, surveys and publications prepared by Kenyan ministries and research institutes as well as international and local non- governmental organizations.

## **2.1. Analysis of the data**

The in-depth interviews were lettered and the texts were segmented and de-contextualized (Tesch 1990: 113-133). This way the opinions of the interviewees and facts about the issues discussed were categorised according to the theoretical framework used in this study. The questionnaire was designed for assessment, so that it includes summary tables for regional and property characteristics measuring the ecotourism potential as well as a fourfold table illustrating the results (see appendix 1). Different features measured were also visualized using Excel and then compared with each other.

The results of the participatory study methods were analysed in various ways. Both, the problem matrix concerning land use and the matrix concerning ecotourism management options, were analysed with the help of the local people. They were regarded as partners in the study. The answers given during the women group interviews were analysed and summarised. The seasonal calendar drafts, village map and transect data were analysed and drawn in digital form.

The theoretical framework is guiding the analysis of the data throughout the study. The facts and opinions heard from the experts on the field are presented as well as author's own observations.

## **2.2. The pros and cons of the used methods**

Regarding the nature of the issues studied, it was relevant to use qualitative methods. Attitudes, knowledge and values can only be revealed through interaction between the researcher and the target group or person. This applies both to the in-depth interviews and the participatory methods. The benefits of these methods are meant to accrue for both parties. Especially when participatory methods are used, learning is mutual. One constraint of these methods is shortage of time. There never seems to be enough time when using a participatory approach. The visits and longer stays as well as making appointments need plenty of organising. Certain level of adaptation was also needed in order to get a view into the community as an outsider. In return a lot of fresh data, not found in any books or surveys, was collected.

The factors affecting the reliability of this study have to do with the dilemma of how well people understand each others while communicating. The researcher might interpret some signals and statements in a wrong or biased way, not only because of the difference of cultural background, but also because of distracting factors, such as many people talking at the same time during the group interviews. However, the reliability is tried to be maximized by triangulation, i.e. by using various methods for collecting data concerning this certain issue. The study target group people represent different social classes and differing interests, which completes the general picture.

### 3. Geographical features of the study area

Administratively Kenya is divided into seven provinces. Taita Taveta District is a part of the Coast Province in south-eastern Kenya. This District is composed of six Divisions, which are Mwambirwa, Mwatate, Tausa, Taveta, Voi and Wundanyi (see figure 6). The Taita Hills are situated in the middle of the Tsavo plains on Taita-Taveta District and they cover an area of approximately 1,000 km<sup>2</sup>, out of the district's 17,000 km<sup>2</sup> (Ministry of Finance and Planning 2002: 3–5). The Taita Hills belong to a chain of mountains called the Eastern Arc. The largest national parks in Kenya, the Tsavo national parks, cover as much as 62% of the total District area (Mombo 2004).

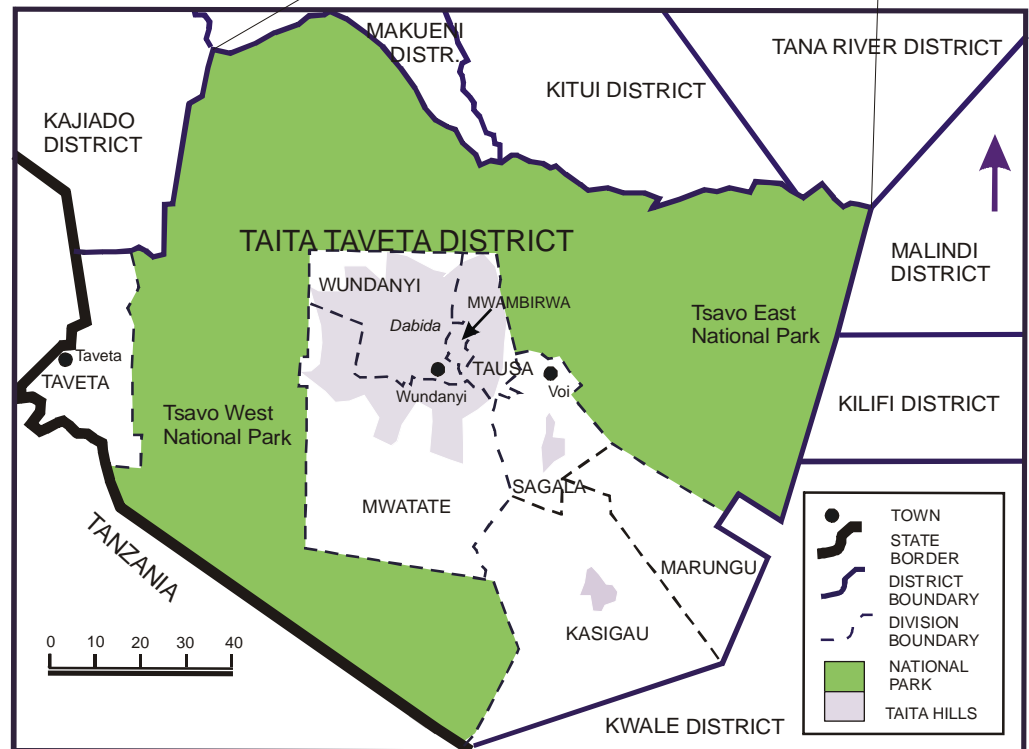
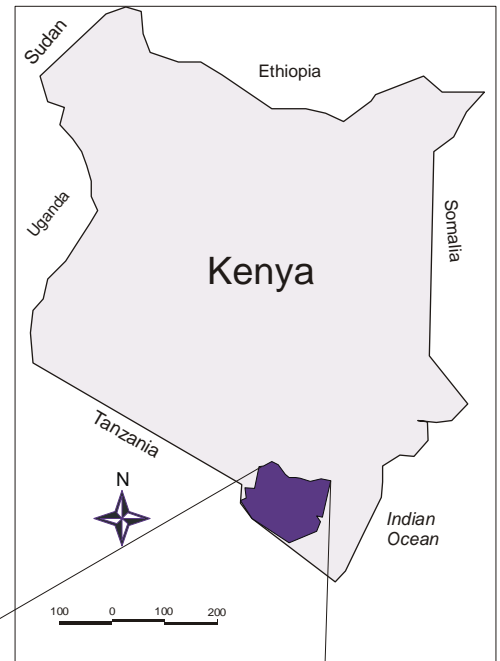


Figure 6. Taita Taveta District with its administrative boundaries. National parks cover 62% of the total district area. The Taita Hills is defined by topographical means (mountain massive areas > 1,200 m).

### 3.1. Physical features

Taita Taveta district is made up of two distinct topographical zones: Tsavo Plains, at an altitude of 400 to 600 m.a.s.l., and the mountainous Taita Hills at 1,200-2,200 m.a.s.l. The highest peak in Taita Hills is Vuria (2,208m) followed by Yale (2,115m) (Fig. 8 ). Two minor mountainous areas belonging to the Eastern Arc mountain chain are found in south-eastern part of the district. Sagala rises to 1,517 meters and Kasigau to 1,614 meters (Kenya Administrative Boundaries Map 1991). The Taita Hills area is defined by topographical means in this study, thus including the central mountain massive area called Dabida as well as Mbololo, Sagala and Kasigau.

The relatively high rainfall makes forest growth possible on these ancient, precambrian hills. The climate is due to the trade winds, bringing humidity from both north-east and south-east. The rainy seasons occur twice a year: the long rains fall on the hills from March to May and the short rains from October to December. The average rainfall up in the hills is 1,500mm or more per year and the annual mean temperature varies from 16° C to 18° C. Compared to the maximum 500 mm yearly rainfall and the annual mean temperature of 25° C on the surrounding savannah plains, the mountain massifs truly stand out as verdant areas. However, often one or even both rains fail in some parts of the Taita Hills and upset crop planting and growth (Tuhkanen 1991: 1–3).

Three types of forests are found in the Taita Hills: plantation forests, indigenous forests and traditionally protected; sacred forests called *fighis*. The total area of indigenous forest is approximately 6 km<sup>2</sup>, of which two square kilometres is forest with closed and intact canopy. The rest four square kilometres is open forest with broken and non-contiguous canopy (Newmark 2002).

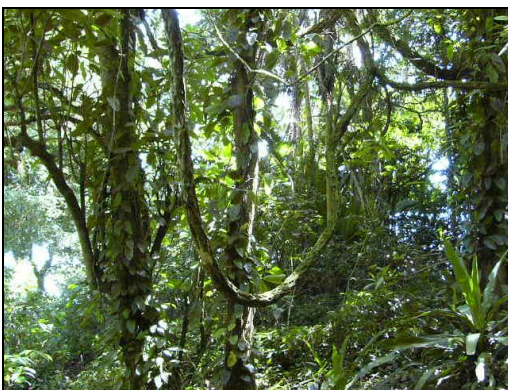


Figure 7. Inside Chawia forest (N.Himberg 2005).



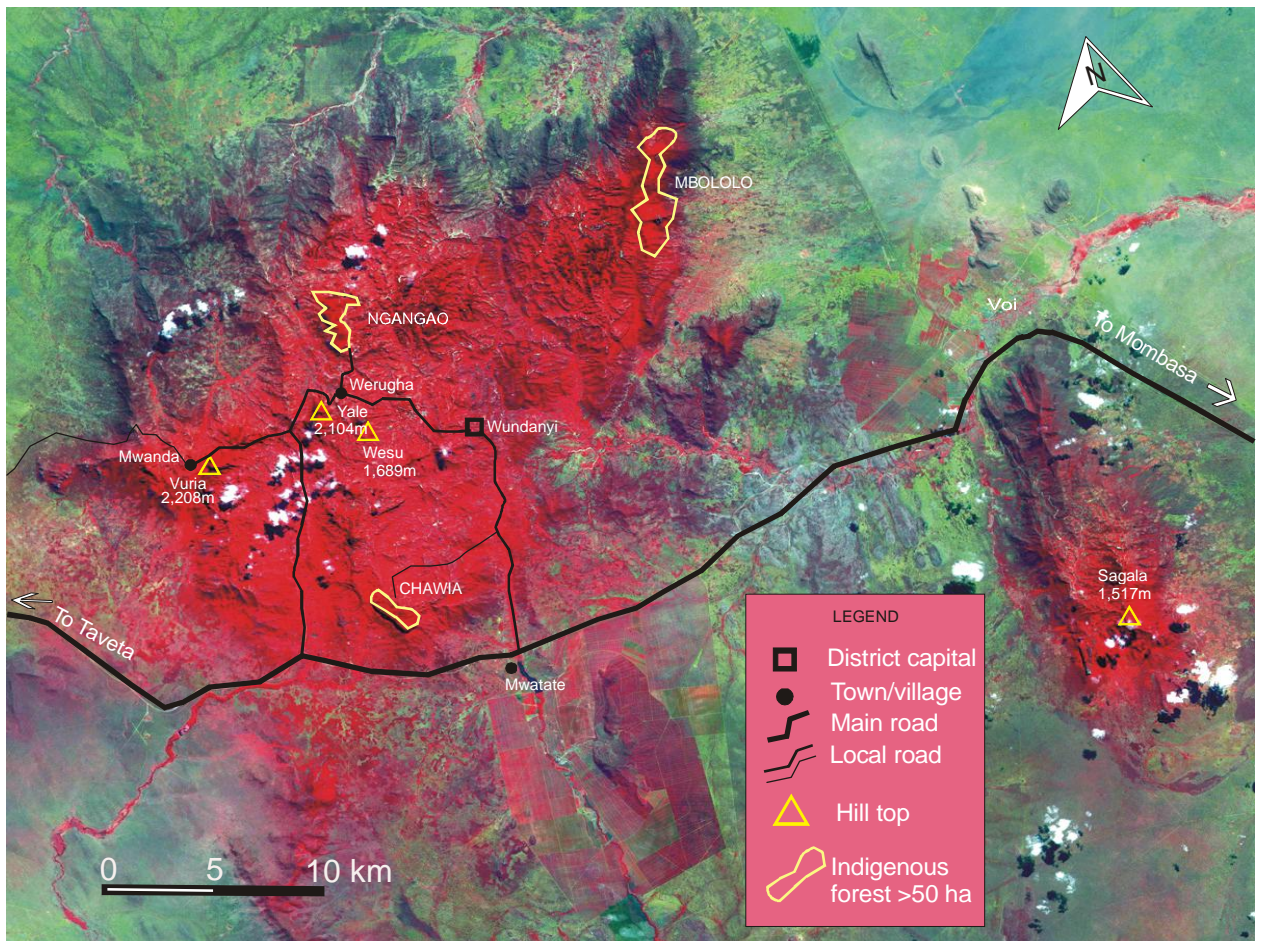


Figure 8. The largest indigenous forests and highest hill tops in the Taita Hills.

Taita Hills, SPOT XS, 1.7.1987, green, red and NIR wavelengths, false colour composition, modified by the author.

In the Taita Hills, the largest indigenous forest patches are Ngangao (92 ha), Mbololo (220 ha) and Chawia (50 ha), which accommodate a variety of endemic flora and fauna. There are twelve indigenous forest remnants, eight of which are smaller than 5 ha (Bytebier 2001). The highland areas are considered as high potential agricultural areas and most of the gazetted forests are in this zone (Soini 2005: 10). On the district scale Taita Taveta forests comprise of 52 forest patches and they vary greatly in size. Out of the 52 forests, only 24 are gazetted and three of them are surveyed (Muigai 2005:1-2).



### **3.2. Human geographical features**

The main basis of the culture in the highlands is cultivation. It includes small-scale farming for subsistence purposes and has been the main reason for cutting the forests. According to the Ministry of Finance and Planning (2002:19) the population has been increasing steadily. The population growth in between 1969 and 1979 and in between 1989 and 1999 represents an intercensal growth of 2,94 per cent and 1,74 per cent respectively. The population has doubled within 30 years and the trend shows that by the year 2008 the district will be dealing with over 288,000 people (260,000 in 2002). The highest growth rates are reported among the younger age groups. The unemployment rate is high, about 44% of the total labour force. The population density on the arable land is high and farming has become uneconomical both in terms of man-hours and returns per unit of land (Ministry of Finance... 2002: 48-50).

The national parks occupy 62% of the district and host only a small amount of people within the borders. 24% is range land suitable for ranching and dry land farming. Only 12% of the district's total area is available for rain-fed agriculture. Other areas are more or less unsuitable for agriculture, with the result that the population is concentrated in limited parts of the district, the most important being the Taita Hills. The average population density in the district is 40 inhabitants per km<sup>2</sup>, but in the high agricultural potential areas, like in Wundanyi Division, the density rises to 83 inhabitants. In Mwambirwa Division the density is 120 inhabitants per km<sup>2</sup> and it has one of the most important indigenous forests in the district. Environmental degradation through encroaching on the water catchment and forest areas will be aggravated especially in Wundanyi and Mwambirwa Divisions (Ministry of Finance...2002: 6-7, 20). The pressure on land also results in increased human- wildlife conflicts. It is estimated, that the communities living along the fringes of forest boundaries lose about 30% of their expected harvest to wildlife (Mogaka 2002: 14)

The financial and economic backbone of the district is agriculture. It is the main source of livelihood for 78% of people in the district. Considering that 66% of the population live in absolute poverty and that the urban population constitute only 97,000 people (37%), this indicates that majority of poor people in the district live in the rural areas and rely on agriculture for their livelihood (Ministry of Finance...2002: 29). Due to the decreasing landholding, zero grazing has become more common in the highlands, with 45% of the forest

adjacent dwellers having adopted the practice. The population increase without corresponding enlargement and expansion of alternative economic activities is recognised as a major threat to sustainable biodiversity conservation in the district (Mogaka 2002: 14).

The average farm size in the area is 1 acre (0.4 ha) and main food crops produced are maize, beans, cassava, cowpeas and sweet potatoes. Important cash crops are sisal, coffee, macadamia, cotton, coconuts and bananas. The main forest products are timber, construction materials and herbal drugs. Compared with the five per cent of people engaged in forest related activities, the agricultural sector is emphasized (Ministry of Finance 2002: 9). Most of the forests in the Taita Hills have been under the management of Taita Taveta County Council, but it is proposed in the Kenya National Forest Policy and Forest Bill, that all major forests in the hills should be gazetted in order to enable better conservation efforts. Ngangao forest was gazetted in 2002 and the mission is the same for Mbololo and Chawia forests (Mwangombe 2005). The lack of agricultural land and the lack of possibilities for local people to gain tangible benefits from the forests have led to forest degradation and loss (Mogaka 2002: 16).

The laws governing the forest resources and the strengthening of Christianity have changed the relations between local people and the forests during the history. Most of the Taita people are Christians nowadays. Traditional land tenure system classified land as cultivated and uncultivated. Taita people had usage rights to the land (Maundu & Ogutu 1986: 56-60). They set aside forest areas, which they respected because those places were used in many traditional ceremonies. Some of these sacred forests, *figis*, still exists in the area treasuring indigenous plant and animal species. The traditional Taita religion Wutasi was still quite strong in the early 1950's. The belief in a higher being, called *Mulungu* and in ancestor spirits; *Milungu*, played an important role in the lives of the Taita (Maranga & Mathu 1986: 43-46).

The infrastructure in the district is quite poor. An important railway connects Mombasa on the coast to Voi in Taita Taveta then leading to Nairobi and Taveta town. Most of the roads in the Taita Hills are unsealed dirt roads and motorable tracks connecting small villages and the administrative centre of the district, Wundanyi. Sealed all weather road leads from Voi to Mwatate and one also connects Mwatate and Wundanyi (Kenya administrative... 1991). Dirt roads and tracks lead through the small towns and villages, but they are easily washed away

or badly grooved by the rains. According to the Ministry of Finance (2002: 11) the number of households with electricity connection was 1,326 in 2002. Solar power is something that many locals dream of, but the panels are quite expensive. Only 0.05% of people use them. Majority (78%) still relies on firewood and charcoal for energy production.

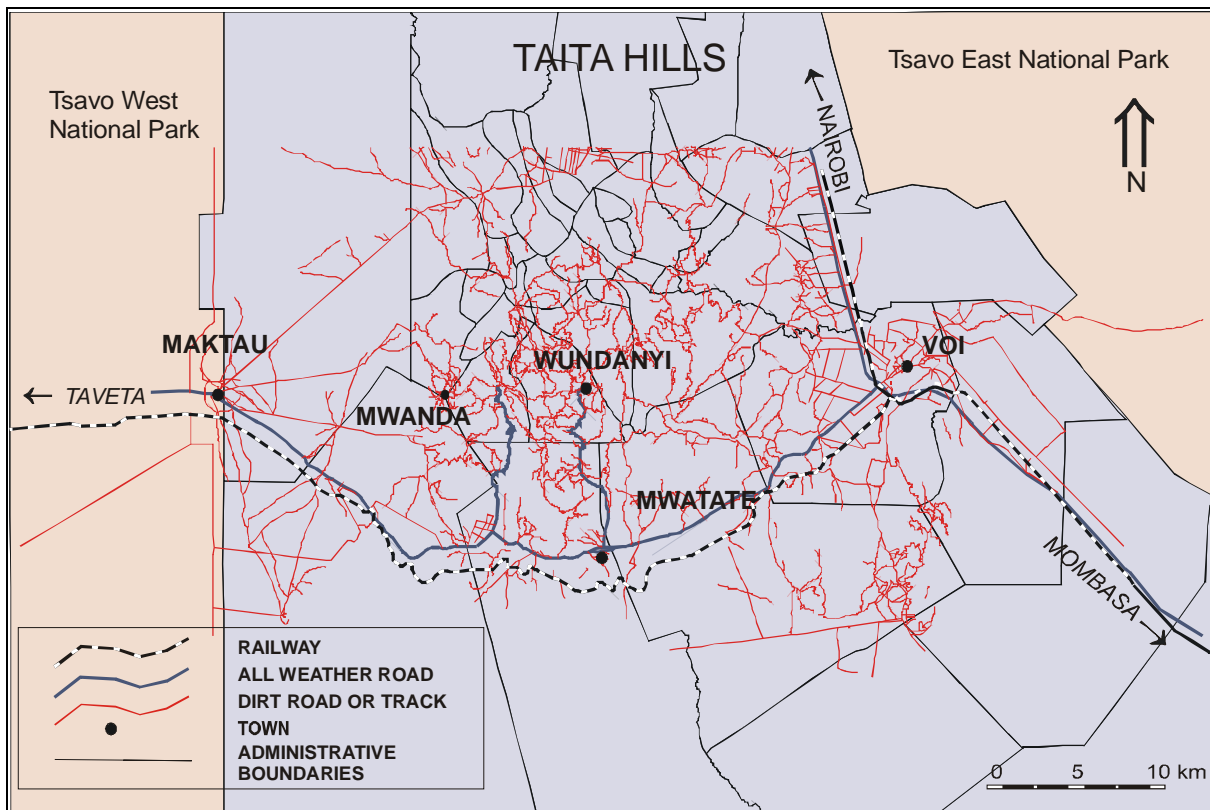


Figure 9. The road network in the Taita Hills and its surrounds. Based on a map by Broberg & Keskinen (2004), modified by the author.

Access to information has become better during the last years. Local post offices have internet connections and the coverage of mobile phone service has widened. A big change for the better has been Kenya's free primary education policy since 2003 (Unicef 2005). Families can now better afford to send their children to school. In 2001 the total enrolment rates for primary schools in Taita Taveta were for boys and girls 88,2%. The rates for secondary schools are lower, only 22.5% for boys and 20.6% for girls. The literacy level exceeds 80% among the adults in the area (Ministry of Finance...2002: 10).

#### **4. The development of nature orientated tourism in Kenya and Taita Taveta**

The Tsavo East and Tsavo West national parks cover major part of the district. Their effect on the area's development can thus not be underestimated. The wildlife attracts thousands of tourists yearly to the parks. Kenya is told to be the *mzee*, or elder statesman of nature tourism and ecotourism in Africa as the country's earliest wildlife legislation dates from 1898, when Kenya enacted regulations to control indiscriminate hunting. The National Parks Ordinance of 1945 ordered territories to be set aside for protection and included eviction of local people. The principle was to "shift in conservation policy from protection through hunting legislation to preservation through land protection". Tsavo Park was established in 1948, and from the end of British colonial rule onwards Kenya's wide-open capitalism helped the country to become Africa's most popular wildlife tourism destination (Honey 1999: 294).

By the early 1970s wildlife was seen more or less as a free gift needing little management, but in following years it was recognized that poaching was on the rise and wildlife quality was declining. Kenya thus banned sport hunting in 1977. This shift from hunting safaris to camera safaris also meant a shift from white peoples' monopoly to possibilities for blacks, enterprising Kenyans starting their own companies. The historical events, like the tragedy of railroad workers killed by lions, "The man-eaters of Tsavo" by J. H. Patterson (1919), and famous films, like "Out of Africa", have boosted tourism in the area.

Tourism in Kenya grew rapidly in the early 1980s and the growth of beach resort tourism, based in the coastal city of Mombasa, affected the business in national parks. Especially Tsavo parks located 100 kilometres west from Mombasa receive "sun, sea and sand" – orientated tourists dying to see wildlife. At present about 60% of the holiday visitors spend time on the coast, but more than 90% of all tourists visit game parks. Wildlife still remains at the core of Kenya's tourism industry (Honey 1999: 294–295). The Tsavo national parks are government -owned and managed by Kenya Wildlife Service, a semi-autonomous governmental organization. Before the establishment of KWS in 1989, the nature conservation measures were disorganised because of the division of activities between various actors and because of the non-clarity of the upper management (Tolvanen 2004: 62). The benefits accrue to the parks and conservation, but the financial benefits from wildlife and empowerment for Taita Taveta communities have been marginal.

According to Mombo (2004) the locals have been alienated from wildlife since the government parks were created in 1948. The communities sought ways of protecting their land from further gazettelement in order to maintain the possibilities for traditional livelihoods. Taita people traditionally lived and cultivated in the hills and grazed cattle in the lowlands. After independence (1963 onwards) Taita Ranches, located between Tsavo West national park and Taita Hills, were established, as a measure of legalizing the utilisation of these ancestral grazing and hunting areas (Community Development Trust Fund 2001: 1). Livestock keeping has since then been practised on the lowlands, but lack of water makes it difficult. The local shareholders have not had the expertise to make good use of the land. There is a lot of interesting wildlife outside the government's parks, both on the savannahs and in the forests, but their economic value has not been captured (Mombo 2004). The vicious circle appears by the fact that the drought in the lowlands is mainly caused by the degradation of the water reservoir forests up in the hills.

Taita Taveta with Tsavo Parks has traditionally been marketed as a big- five destination, with plenty of elephants, rhinos and lions. The populations declined and animals became scarce due to the poaching in the 1970s, so the tourists moved to areas more occupied by wildlife for a while. The marketing strategy has still stayed the same up to this date. According to Mombo (2004) poaching is still a problem especially outside the government protected areas and is a sign of the need for alternative wildlife based livelihoods.

In 1999, three Taita Ranches, namely Lualenyi, Mramba and Oza, set aside 45,788 ha of their land to create a Community Wildlife Sanctuary called LUMO. This borders to the Tsavo West National Park on one side and Taita Hills Game Sanctuary and Mwakitau Community on the other sides. Their aim is to develop a sanctuary on sustainable basis, deriving benefits for the shareholders and to improve the socio-economic status of the community at large. LUMO is also expected to reduce human-wildlife conflicts and benefit biodiversity conservation in the area. LUMO membership is solely drawn from the Taita ethnic community (Community Development Trust Fund 2001: 5).

Situated up in the hills the Taita Hills forests have not yet seen many tourists, but more of illegal encroachers. However ecotourism, as a forest value with direct benefits, has been taken into serious consideration. In Taita Taveta District Development Plan ecotourism projects

have been proposed for the Taita Hills. These projects are considered to be justified, because they are income-generating activities increasing the income of community members and they can help to realise the economic benefits from the conservation efforts (Ministry of Finance... 2002: 48-50). The non-governmental organizations have begun sensitisation of the forest adjacent communities in conservation and ecotourism issues (Mwangombe 2005).

Kasigau forest, on a mountain massive, southeast from Taita Hills, has piloted as a forest destination and had eco-tourists visiting since 2001. The Tourism Banda Project is a joint venture between the communities in five village-based companies and an outside investor. They established a mechanism for equal share of revenue. African Wildlife Foundation was the sensitiser in the beginning followed by the USAID funded CORE –program and the work of East African Wildlife Society. The visitors are provided with opportunities to live and work with the villagers in conservation and socio-economic development projects. The companies rent the bandas (traditional African huts) to the investor who is responsible for marketing. Local people are employed in management work. Part of the income goes through the Kasigau Conservation Trust to facilitate conservation and socio-economic development in the Kasigau region (Mwakio 2004). The visitors of the bandas can combine the forest experiences with savannah wildlife viewing in the Taita Discovery Centre (TDC), located in the lowlands some 30 kilometres from the bandas. The centre offers various opportunities to learn about conservation issues for those interested in participating in community projects, land management practices and conducting environmental studies (Turner 2005).

#### **4.1. Kenya's ecotourism scorecard**

Honey (1999) has appraised Kenya's ecotourism situation through the seven vital interrelated characteristics mentioned earlier (see chapter 1.3). Some of the general conclusions are discussed here. When it comes to *minimizing impacts*, Kenya's record is considered quite poor, especially in the most popular game-viewing areas. Some protected areas have suffered from too many lodges, off-road driving and poaching. Two-thirds of Kenya's wildlife lives outside the protected areas and the conflict between the expanding human population and wildlife is a huge issue nation wide. Referring to the words of Western (1997) "Kenya is better known for its tourism gone wrong, conjuring up visions of minibus congestion around lions, harassment of cheetahs, mindless destruction of habitat due to unregulated off-road driving, lodge congestion in parks and coral reef destruction by rapacious tourists. As a result,

Kenya today has the unenviable reputation of being the Costa Del Sol of the wildlife world – overcrowded, overrated and badly abused – with visitors decamping for greener pastures”.



Figure 10 . Rush- hour around a lioness  
in Tsavo East (Himberg 2005).

Another criterion for ecotourism is the *building of environmental awareness*. Kenya has excellent tour companies and naturalist guides, but still a common complain from tourists is the poor interpretive skills of the guides. Various local and international conservation and wildlife organisations have acted for a long time for environmental awareness in Kenya. However they have been dominated by white settlers and expatriates for long, catering for the black, mostly urban elite. Most Kenyans have not been able to visit national parks. In this light it is understandable, that modern environmentalism has been running shallow and wildlife protection, from an ordinary Kenyan citizen´ s point of view, is as an economic activity controlled by a small white class, wealthy foreigners and politically powerful Kenyans (Honey 1999: 330). The Ecotourism Society of Kenya, founded in 1996, has been working as a watchdog over the tourism industry and providing knowledge about standards of best practices in sustainable tourism. ESOK has developed an eco-rating scheme, Kenya´ s pioneering voluntary certification scheme for ecotourism practitioners. It is a way to brand ecotourism as a distinctive product and to address the problem of “white- or green washing” , where conventional tourism uses ecotourism as its promotion material without regard to ecotourism principles (ESOK 2006). The knowledge about the certification is much greater in Kenya than in other East African countries, such as Tanzania and Uganda. This is due to a big study undertaken in Kenya by ESOK into the potential of such a certification programme (Sallows & Font 2004: 102).

Ecotourism should provide *direct benefits for conservation*. However, through the decades of tourism being the top dollar earner in Kenya, little money has gone to environmental protection in the national parks. Corruption, mismanagement and ill-conceived projects have occurred along the way. Wildlife numbers have declined despite the hunting ban in many parks and reserves. Amboseli National Park and Maasai Mara Game Reserve can be seen as exceptions, because in these the local people get some direct benefits from tourism and wildlife protection. These areas have had government –backed, large community conservation schemes representing long-term efforts to apply ecotourism principles in national scale (Honey 1999: 330). For example, the Kenya Wildlife Service in charge of the wildlife and biodiversity in the country, established a revenue sharing programme in Amboselli called Community Wildlife Service Programme in 1992. Nearly 300 KWS' s community-based conservation projects aimed to apply ecotourism principles throughout the park system in the 1990s. It was revealed, that until 1992 the people had understood the idea of ecotourism fairly wrong (Basara 2004).

ESOK (2006) has listed the challenges and the lessons learnt from ecotourism programs. The greatest lesson has been to realize, that with awareness among the communities, comes expectations. These expectations lead to anxiety and managing the expectations is challenging. According to experiences most of the communities do not have a perspective on ecotourism, but they develop one over time. Ethnicity plays a major role in project success or failure. It is typical that donor support is treated as a right with no obligation for accountability. That accountability is not considered as a virtue, which is a cultural thing. It has been noted that local people want to be part of ecotourism, but they do not appreciate the responsibilities coming with the business. Sometimes collective responsibility seems to be nobody' s responsibility.

According to Honey (1999: 332) Kenya' s tourism industry is mainly in the hands of local whites or international corporations. There is a powerful, black elite involved in tourism enterprises, but in the mid- 1980s, when “the iron was hot and should have been stroke” in tourism business, the structural adjustment policies and trade and investment liberalization allowed foreign competition to undermine the development of local ownership. When it comes to *respecting local cultures*, Kenya has not done very well. The western social and environmental values have been different from the values and needs of Kenyan rural farmers and pastoralists. According to Akama (1996: 567) “the socio-economic conditions which led



to increasing public support of wildlife conservation and the appreciation of the aesthetic and ethical values of wildlife are, most often, non-existent in rural Kenya”. Like a community member in Amboseli had said: “Why should we care about the wildlife as we are not getting anything out of it?” (Basara 2004).

Ecotourism principles and practices should support human rights and democratic movements. Political conflicts were common during the 1990s and the struggles, especially about land use and land ownership, are still going on. The debate about who should control the parks and reserves continues (Honey 1999: 332). A recent worrying incidence occurred concerning Amboseli National Park in late 2005, as President Mwai Kibaki gave a directive to return the park to the Olkejuado Maasai community. The status will downgrade to that of “National Reserve” and the local County Council will run it instead of KWS. Ali A. Kaka (2005: 72) writes: “What is worrying is the illegal way that the announcement was made. It does not follow the steps of the Wildlife Act telling what is needed for declaring a national reserve and what needs to be done for a National Park to be de-gazetted. Moreover, worrying is that the County Councils in Kenya have a poor record when it comes to the management of National Reserves and revenue sharing among their own communities.”

## **5. Community-based natural resource management and ecotourism development – approaches and experiences of developing countries**

Economic rationality has become the main basis for conservation policies in both industrialized and developing countries. The need for combining anthropocentric and biocentric premises has occurred especially outside the official protected areas. The CBNRM concept has often been favoured in places left aside when establishing areas fencing the local people out from their traditional livelihoods (Adams & Hulme 2001). In Eastern and southern African countries, community-based natural resource management programmes have been called by different names, for example the Communal Area Management Programme for Indigenous Resources (CAMPFIRE) in Zimbabwe, Luangwa Integrated Resource Development Project (LIRD) (Hachileka 1998) and Administrative Design for Game Management Areas (ADMAGE) in Zambia (Virtanen 2003), the living in a Finite Environment (LIFE) programme in Namibia (WWF 2006), the Tchuma Tchato “our wealth” in Mozambique (IDRC 2006), the Conservation of Biodiversity Resource Areas Programme (COBRA) in Kenya (United Nations 2005) and the Ujirani Mwena “good neighbourliness” in

Tanzania (Goldstein 2005). In Botswana it is simply called CBNRM programme (Mbaiwa 2003).

The CBNRM projects vary in the ways they contribute to sustainable natural resource use, rural economic development, enhanced rural livelihoods and benefit sharing. It must be questioned, whether power has been devolved to the rural communities in relation to resource ownership and management. There are many potential challenges facing a successful implementation of CBNRM. When ecotourism is chosen as an alternative livelihood within CBNRM, even more challenges appear. Tourism as a special field of business has its benefits but also pitfalls. According to Weinberg & al. (2002: 371) ecotourism is entering into its second phase of development meaning that debates over definitions and guiding principles are through and we already know that ecotourism is the fastest growing sector of tourism industry. Neither do we need to question whether ecotourism can work, because there are cases which have proved that it does (Gould 1999; Singh & Singh 1999; Wearing & Neil 1999). What is not known too well is how ecotourism projects will change over time. There is a risk that attempts to promote sustainable community development shift back to a “business-as-usual model” after some time. The challenge is to sustain ecotourism without devolving back into masstourism.

Projects insensitive to the local culture mirror the conventional “fences and fines”- approach, which by excluding local people from protected areas, deprive those people not only of their means to survival, but also of means to reinforce their culture and way of life (Michaelidou 2002: 607). One example of a mission of combining anthropocentric and biocentric premises has been the Tchuma Tchato conservation project in Mozambique, established in the early 1990's. It was a partnership program between local communities and government forestry and wildlife authorities to protect, manage and use the local wildlife and woodland resources. There the villagers were trained as scouts and their duty is to promote sustainable resource use. The communities receive a third of the cost of each sport hunting licence issued by wildlife authorities, because the community members protect the wildlife from poachers (IDRC 2006).

In an other southern African country, Botswana, Mbaiwa's (2003) study conducted in Okavango Delta shows that the local communities have limited access and control over tourist resources. Much of the land and its natural resources such as wildlife is controlled and owned

by either a private tour operator or the government. This has resulted in a lack of meaningful involvement and participation of the local people in the tourism business. Major decisions and policy issues are taken without the full participation of the local communities. The tourism has influenced the development of infrastructure and provision of social facilities in the District, but it has been unable to promote local agricultural production or craft and manufacturing industries. Revenues accrue to private tour operators and to the government in the form of taxes. The attempts to make locals derive benefits through community-based tourism keep on failing, because people lack necessary entrepreneurship and management skills. It is suggested that the issues of local empowerment and provision of entrepreneur skills should be given priority. The tourist activities have negative environmental impacts such as creation of illegal roads and noise pollution. This indicates that the carrying capacities have not been taken into account and that an integrated management plan for the area is needed.

The two African CBNRM programs often championed as models for others are the aforementioned CAMPFIRE in Zimbabwe and ADMADE in Zambia. Community-based wildlife conservation was introduced by the National Parks and wildlife authorities in the late 1980's in communally held areas in order to avoid human-wildlife conflicts and assist rural development and conservation. These programs have acted as success stories, but they have also gained criticism lately. Virtanen (2003: 179) states that "even though individual success stories are on record, the experience does not provide replicable models for either decentralized resource management or efficient conservation of biodiversity". The superior profitability per land area was the key argument when community-based wildlife conservation was introduced and the calculations were based on the high tourism value of charismatic species like "big five" instead of maximum biodiversity of species and their habitats. It seems as if the conservation is pursued only if it can be demonstrated to be more profitable than livestock or agriculture. This approach marginalizes those anthropocentric values that escape monetary valuation and also completely neglects the intrinsic value of the nature.

The objective of the CAMPFIRE and ADMADE programs was the creation of viable local-level management institutions that enjoy wide legitimacy. However, the policy process has failed to bring about the fundamental changes needed for effective decentralization (Virtanen 2003). In Zimbabwe the state does not recognize the power of customary authorities over natural resources, which has led to endemic conflict situations. Communities have only a

consultative role, while the rural district councils and specialist agencies are officially in charge of natural resources. The original CAMPFIRE guidelines emphasize decentralization and use of existing community institutions, like traditional authorities, village development committees and wildlife committees. Still the consultations are often only used to ratify the decisions already made by the governmental authorities. The communities continue to perceive the situation being out of their hands and see the wildlife as belonging to the government or district council (Bond 2001; Mohamed-Katerere 2001).

However, even if traditional institutions can have an important role in CBNRM, they do not provide a universal cure for the problem of local participation. According to Mukamuri (1991: 155) the basis of traditional authority and its rule system is fundamentally incompatible with the liberal-democratic idea of nationwide citizenship including equality in front of the law. Under the traditional institutions, immigrants are for example in an unequal position compared to other community members. Also Hachileka (1998) sees that the role of traditional rulers in CBNRM need close examination otherwise it may hinder the devolution of power to democratically constituted institutions representing the community at large. The traditional rulers may have too much power and influence on the activities of the projects in community participation. Under traditional norms and values the subjects cannot question a Chief's decision. This may hinder full participation of all members of the community whose involvement may be the most critical for the success of any CBNRM program.

Both CAMPFIRE and ADMADE have been criticized for their dependency on external and volatile sources of revenue such as international tourism. This fact along with the lack of effective management powers on the local level reduces the sustainability of the projects (Virtanen 2003: 187).

Weinberg & al. (2002) have examined the potential for sustaining ecotourism projects over time by conducting field research in Costa Rica and New Zealand. The case of Costa Rica's Monteverde is discussed here as it has been considered as a successful ecotourism project, although also negative processes have been noted with time. Monteverde is a vast system of private reserves and constitutes a significant part of the protection of Costa Rican forests. In the 1960's research biologists came to study the ecology of the forest and recognized deforestation hazards. They purchased a tract of land, which became known as the Monteverde Cloud Forest Reserve. In the 1970's local people started to train themselves as

field guides and the first hotel was built to accommodate ecotourists. In 1986 community members formed the Monteverde Conservation League in order to protect land outside the reserve. After a lecture in Sweden given by a member about their work to a group of schoolchildren, efforts for forest preservation got started and quickly grew international. People from over 40 countries raised money for the “Children’s Eternal Rainforest”. A real ecotourism boom started in 1989 and the economy and community changed rapidly as there was a shift from agriculture to tourism.

Educational activities such as an ecological farm, a butterfly garden and an orchid garden as well as adventure activities, in which one can walk, climb or fly on cables through the rainforest tempt visitors and ecotourism has been growing exponentially. In 1972 less than 100 people visited Monteverde Reserve, whereas the number in 1999 was 60,000. Varied positive changes have occurred in the area, including more jobs and income, better services and training, a conservationist ethic and the start of recycling. On the other hand, the following negative challenges have been the result of ecotourism growth:

- urbanization
- loss of community feeling and customs and values
- waste, traffic and noise pollution
- septic system problems
- drastically increased land prices
- drug usage
- uncontrolled population growth
- unemployment in the low season
- increasing social inequality

What is most worrying, is the political powerlessness of the local communities. The money to fund projects comes from outside the community, mainly from the United States. With this outside investment comes pressure to increase tourism to ensure profitability. This exposes the economy to what Weinberg 2002: 379) calls “*a ecotourism treadmill*”, leading to a situation where the local ecotourism is mismatched with the extralocal tourism machines and greenwashing occurs. The extralocals are interested in maximizing the use of local facilities and broadening the marketing and they often displace the local entrepreneurs. After this the ecotourism growth machine starts. It is difficult to prevent ecotourism from slowly being

transformed back into mass production tourism. The local people are clearly aware of the problems of sustaining the social and ecological benefits of ecotourism. Even the technical fixes are known and available. What they lack is the political power to address and stop the negative effects.

The political process is not capable to keep the economic system in check and one reason for pessimism in the Monteverde area was a road pavement dilemma. The plan calls for linking Monteverde to the Interamerican Highway. There is a big foreign interest including mass tourism companies, who want access to forests for day trips by their clients. The Government has also supported the paving as it is pushing hard for foreign investment. The locals oppose the idea for good reasons. The 2-hour descent from forest area by an unpaved dirt road has this far weeded out mass tourists, which helps to keep the tourist type right and carrying capacity more stable. Hard ecotourists will soon lose their interest, if the species disappear because of overuse by mass tourists. Weinberg's studies suggest that the fate of ecotourism depends not so much on globalisation or technology, but rather on the development of strong democratic systems of governance in the host country.

The idea of weeding out the mass tourists has a great deal to do with inaccessibility. Usually, when planning tourism, one of the main criteria is the good conditions of roads and other infrastructure, so that travelling between the centre and the periphery can be efficient and comfortable. Centre here means an urban industrial centre and periphery a distant area servicing leisure and recreation needs. However, as Scott (2000: 59) argues: "the obstacles of geographical isolation and inaccessibility can produce a high- quality tourism product and be turned to good marketing account". This is a reason why tourism is seen as the one and only development option in some peripheral places.

The change of criteria can be explained by the fact, that the market has moved on. According to Urry (1995) the demand is growing for a different kind of tourism product. He refers to a concept of '*pleasure periphery*' and describes it as "the relationship characterised by the power of the centre, both to determine events and conditions in the periphery, and to construct the periphery as the object of the metropolitan imagination, in which the fantasy realms finds its physical location". The ruling pattern has long been the mass tourism concentrating on sun, sea, sand and sex, but since proved to be unsustainable in various ways, the fantasies have got new forms. More tourists navigate to more remote peripheries, which have special appeal, like

unspoilt landscapes and traditional cultures, and where they can experience something 'authentic'. The development, however, does not happen without contradictions and paradoxes. While the appeal of the periphery is based on offering the visitor the experience of the unspoilt, the pristine and traditional in contrast to the symbolic associations of the centre – inauthentic, spoilt and modern- the business itself can destroy the place's appeal (Urry 1995: 129-140).

There are success stories as well as lost cases when it comes to ecotourism. The reality seems to be, that people all over the world want to travel and there are not many ways to hinder that. The only option is to develop the best practices for the business. As Watkin (2003: 4) puts it: "Ecotourism has been dismissed as a fad, a marketing tool, even travel industry greenwashing. Yet despite the pundits, ecotourism has begun to affect the entire tourism industry for the better. The unexpected success of ecotourism can be explained by its conservation roots, changing tourist mores and community involvement".

## **6. Assessing the compatibility of ecotourism with protected areas**

All protected areas are not equally compatible with ecotourism. The attempts to assess protected areas for ecotourism was hindered by proliferation of protected area designations until the mid-1990s. Any jurisdiction could establish a classification structure needed for calling an area protected. It was calculated that there were at least 1,388 different categories of "protected areas" worldwide in mid-1990's (Weaver 2001: 69). The World Conservation Union (IUCN) responded in 1994 by devising a protected area classification scheme comprising six basic categories, which are now widely accepted as the international standards for protected areas. The lower the designated number of the site is, the lower is the amount of environmental modification and human intervention acceptable.

According to (IUCN 1994) the **Category I** includes Strict Nature Reserves (I a) and Wilderness Areas (I b) reserved for scientific and research purposes or environmental monitoring. They are protected and managed to preserve the area's natural condition. **Category II** means National Parks, which are "designated firstly to protect the integrity of ecosystems for present and future generations, secondly exclude exploitation or occupation inimical to the purposes of designation of the area and thirdly to provide a foundation for spiritual, scientific, educational, recreational and visitor opportunities, all which must be

environmentally and culturally compatible”. For example the Tsavo West National Park is listed in category II (Zbicz 1999: 10). However, in general the official designation given by a particular government is not needed in this scheme. Any area fulfilling the above mentioned criteria are considered as national parks.

An area containing natural or natural/cultural features, which are of outstanding or unique value because of its inherent rarity, representative or aesthetic qualities or cultural significance, falls under the **Category III**; Natural Monument. The **IV Category** (Habitat/Species Management Area) is an area subject to active intervention for management purposes striving to maintain habitats or meet the requirements of specific species. The human-nature interaction can be seen in **Category V** areas. These are Protected Landscapes or Seascapes of distinct character with aesthetic, ecological or cultural value and often with high biodiversity.

**Category VI**, Managed Resource Protected Area, contains “predominantly unmodified natural systems, managed to ensure long-term protection and maintenance of biodiversity, while providing at the same time a sustainable flow of natural products and services to meet community needs” (IUCN 1994).

Lawton (2001) combines these IUCN categories with hard and soft ecotourism as well as other tourism in order to describe the compatibility of different forms of tourism with different kind of protected areas. This model is useful also in this study, when assessing Taita Hills’ potential for ecotourism.

Category I areas hold the highest level of environmental protection, which means, that human activities and establishment of infrastructure or services is strictly restricted. These areas do not suite soft ecotourists or other forms of tourism. The Strict Nature Reserves (I a) allow only hard ecotourism that involves scientific research by universities or government or expeditions of volunteer-based conservationists.



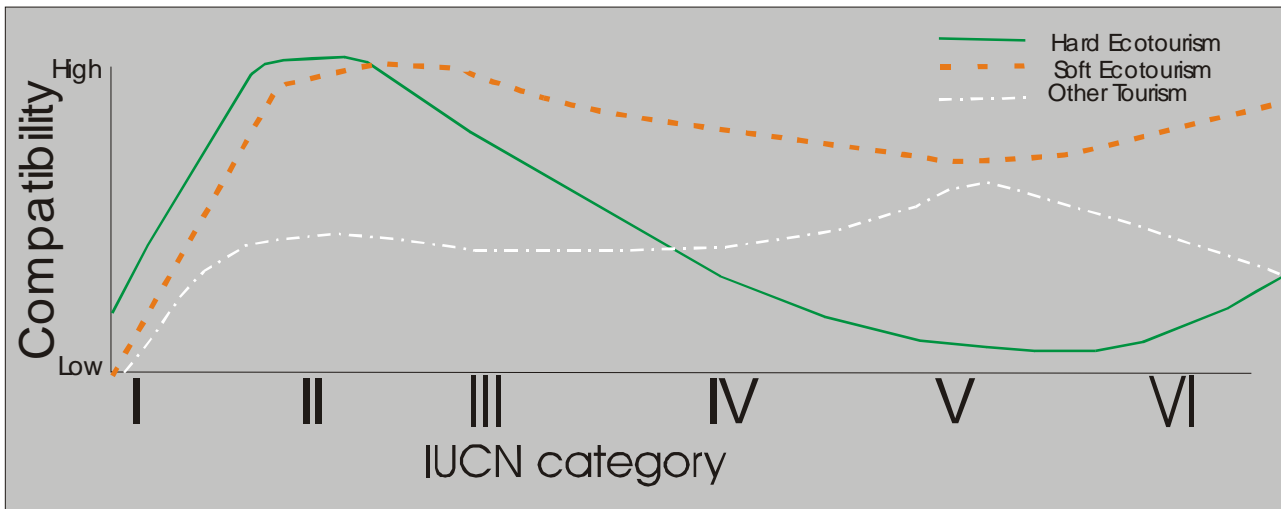


Figure 11. Compatibility of ecotourism and tourism with IUCN protected area categories according to Lawton (2001).

Wilderness Areas (I b) allow access to small numbers of hard ecotourists and adventure tourists, whose interests lie in activities like bushwalking, wildlife observation and camping (Weaver 2001: 71).

The compatibility of categories II and III for ecotourism is definitely highest. These areas have the mandate to preserve and protect relatively undisturbed environments while at the same time providing opportunities for various recreational and educational activities. Internal zoning is often used to accommodate different activities. The soft ecotourists move according to their interests, like to visit interpretation centres, while the hard ecotourists go for wilderness bushwalks in small groups. Even other types of tourists are accommodated as long as they do not conflict with environmental preservation. The National Parks are the “workhorse” of the ecotourism sector, having large visitor numbers. In terms of numbers, the soft ecotourists comprise the clear majority of the sector. However, even if the hard ecotourists comprise only a narrow slice of the total cake in terms of overall numbers, when quantified in terms of visitor-nights, they gain significantly larger proportion (Weaver 2001: 72-73).

There is a structural difference between categories II and III. National Parks protect broader integrities of one or more ecosystems as Natural/Cultural Monument- category protects specific features. Category III areas are smaller in size, which restricts their potential especially for hard ecotourism.

## 7. Ecosystem viability in Taita Hills

### 7.1. Ecosystem integrity and population viability of the species in the indigenous forests

The Eastern Arc mountains were classified one of the 25 biodiversity hotspots in the world and Taita Hills forests are one of the centres of endemism. The faulting and upheaval of these granitic mountains commenced in the Miocene, some 20 million years ago. In the past, when the climate was more humid and the forest areas were large and intact, the Eastern Arc mountains shared same species. As the climate got drier and the savannahs isolated the species on the mountains, the species started to develop endemic features. More than one thirds of the 4,000 plant species on the Eastern Arc mountain chain are endemic (Niemelä 2004).

Ngangao is the main forest fragment of Dabida (the main hill complex) comprising 92 ha of indigenous forest mixed with plantation forest. Some parts of it are still undisturbed. Chawia is the second largest fragment of 50 ha, but heavily disturbed. Both of the forests are surrounded by agricultural land.



Figure 12. Chawia forest in 2004. Aerial photograph ( Pellikka & Lanne 2004).

Vuria hill is the highest peak (2,208m) and has the westernmost forest patch (1 ha) of closed canopy forest remaining. Otherwise the forest on Vuria slopes is heavily disturbed. Yale is a rocky outcrop having two indigenous fragments (1 ha) on northern and eastern side remaining. These are disturbed and mixed with plantations.

The largest and most undisturbed forest fragment, Mbololo (220 ha), lies on a ridge northeast from Dabida. South from Mbololo one can find Ronge forest, which is a pine plantation including small indigenous patches. This forest has been suffering of several forest fires recently (see figure 13).



Figure 13. Ronge plantation forest after a fire in 2005 (Himberg 2005).

Isolated from the rest of the Taita Hills, 50 km to the southeast lies Mount Kasigau covered by undisturbed, closed-canopy forest starting from 1,400 m and extending to the top (1641m) (Bytebier 2001: 24).



Figure 14 . Indigenous mountain rainforest on Kasigau (Pellikka 2006).

The Taita Hills' forests host critically endangered animal species, like birds, amphibians, reptiles and insects. A study carried out in 1985 by the National Museums of Kenya established the existence of 13 taxa of plants and 9 taxa of animals which are endemic to these forests. Furthermore 22 species of plants and 3 of animals represented the rare Eastern Arc - type of flora and fauna. 37 more species of plants in the Taita Hills are rare in Kenya and in the world at large (Beentje 1988: 29).

The rate of decline for a critically endangered species is 80% in 10 years. At least three bird species are under this kind of threat in Taita, namely the Taita thrush *Turdus helleri*, Taita apalis *Apalis (thoracica) fuscigularis* and Taita white eye *Zosterops (poliogaster) silvanus* (Bytebier 2001: 11) The least disturbed forest fragment (Mbololo, 220 ha) has more biomass, higher stem densities, more tree species, higher diversity, higher equitability, greater canopy cover, more open shrub layer, higher leaf litter cover, and less herbaceous cover than the intermediate (Ngangao, 92 ha) and most disturbed one (Chawia, 50 ha). The habitat quality is crucial for the populations' viability (Bytebier 2001: 38-40).

The fragmentation of the indigenous forests is already causing behavioural changes of birds in different forests. For example the White Star robin (*Pogonocichla stellata*) sings with the same notes but with a different speed and rhythm in Mbololo, Ngangao and Chawia forests. It may be predicted, that there will be changes in the genotypes of the robins in the future. This kind of evolution is not desired, because the new species in small forest patches would be genetically too narrow to survive in the long run (Githiru 2005). DNA tests run on Taita thrushes have shown, that they already have undergone genetic differentiation. The level of differentiation varies between the forests. The habitat quality and the level of individual environments and genetic stress (Fluctuating Asymmetry) also correlate. In heavily degraded forests the FA levels are high and the birds have a lower fitness (Bytebier 2001: 39; Lens 2005).

Records of endemic animals include also an amphibian, Dickerson's forest gecko *Cnemaspis dickersonii* and several reptile species, e.g. Taita reed frog *Hyperolius viridiflavus* and Taita purple-glossed snake *Amblyodipsas teitana*. New species are found regularly, e.g. the Taita mountain dwarf *Galago galagoides*, a new primate representing a hitherto unknown subspecies (Perkin & al. 2002). Taita Hills forests host various butterfly species. At least two of them are endemic to Taita and classed as being "near extinction". Taita Blue-banded



Swallowtail *Papilio desmondi teita* can be found in several forests in Taita and the Taita Glider *Cymothoe teita* only in Mbololo forest (ICIPE 2004: 32).

The Taita Hills is also home to many endemic plant species, of which one most critically endangered is the African violet species, *Saintpaulia teitensis*. This wild progenitor of a universally familiar pot plant with purple-lilac flowers



can be found only on Mbololo Hill, in the higher parts of the forest. The moss-padded rock against which the flowers snug is fed by rains and mist even during the dry seasons. Some time ago storms fell big trees shadowing the habitat and the microclimate got drier. Incidences like this threaten the unique vegetation, as well as also does the human influence in the forests.

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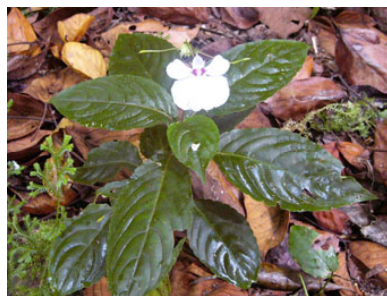


Figure 15. *Impatiens* in Ngangao (Himberg 2005)

Other endemic species found in Taita Hills are: *Ceropegia verticilliata*, *Chassalia discolour ssp. Teitensis*, *Coffea fadenii*, *Impatiens engleri ssp Teitensis* (see figure 15 ), *Memecylon teitense*, *Psychotria petitii* and *Zimmermania ovatoa*.



Figure 16. *Memecylon teitense* in Ngangao (Himberg 2005)

According to a group of local, elderly people living in Chawia location, there was an accelerated destruction of forests by felling trees from 1970 to 1980. The water resources in the catchment area decreased and people were struggling to get enough food (Lekasi & al

2005: 7). Species that have been extracted for timber include *Strombosia scheffleri*, *Albizia gummifera*, *Aningeria adolfi-friedericii*, *Millettia oblata* ssp. *teitensis*, *Syzygium sclerophyllum*, *Newtonia buchananii*, *Podocarpus latifolia* and *Ocotea usambarensis*.

For example Ngangao forest is dominated by disturbance related species that are occurring over a wide geographic range. *Tabernaemontana stapfiana* and *Albizia gummifera*, the two most important species as deduced from importance values are broadly distributed species that are known to occur in disturbed forests. *Podocarpus latifolia* and *Ocotea usambarensis* are reported to have been common but are noticeably absent in the forest as a result of extraction. The indigenous trees were partly replaced by exotic species, e.g. Pines *Pinus patula*, Cypresses *Cupressus lusitanica* and Acacias *Acacia mearnsii* (Bytebier 2001: 17).

An ethnobotanical study was conducted in Ngangao forest and over 40 uses of woody species were documented. Six use categories were identified. These are fuel wood, construction, medicinal, technology, edible and commercial uses (Bytebier 2001: 17). As the forest is gazetted (was gazetted in 2002) and entering it is forbidden without permission, at the moment these use values are very marginal.

According to the District Forestry Officer, Mr. Muigai, the local community members in general have a low awareness on the rich flora and fauna in the forests, because they provide little, if any tangible benefits. The threats facing Taita Hills' forests were identified and discussed in a stakeholders workshop in 2005 (East African Wildlife Society 2005). The threats were considered similar to other regions within the Eastern Arc Mountains. Primary concerns are:

- Encroachment;
- Over extraction of firewood and building materials;
- Poor enforcement of government policies and regulations;
- Lack of awareness among the communities living adjacent to forests;
- Fires (both deliberate and accidental) and
- Colonization by suppressive and fast growing exotic tree species.

## 7.2. Soils, land degradation and management efforts

The soils in Taita Hills are mainly well drained, moderately deep to deep, reddish brown to brown, friable sandy clay loam to clay in places with humic top soil. They are predominantly Cambisols, with considerable amounts of weatherable minerals. These Cambisols occur mainly on steep footslopes, hills and high level uplands, while Lixisols and Arenosols are found in lower level uplands and piedmont plains. According to Muya & Gicheru (2005: 3) the sharp variations in ecosystem structures, relief and topographical characteristics in the area have significant influence on the movement and distribution of nutrients and water through ecosystem gradients. These ecosystems have diverse management practices, topographical features and cover density, so erosion takes place in them at different rates. The degree and extent of land degradation was documented in the Taita Hills by Kenya Soil Survey in 2005. Different ecosystems were identified in terms of physical and chemical degradation taking place in them as well as the farming practices with potential for long-term production.

Eight ecosystems were identified and evaluated in the area:

- Natural forest on the mountain tops or crests
- Planted forests on gently sloping mountain slopes
- Poorly covered steep mountain slopes with rock outcrops
- Agroforestry on higher level uplands, hills and footslopes
- Shrubs on middle level uplands
- Annual and perennial cropping on bench-terraced middle level uplands
- Fruit trees on gently sloping footslopes
- Horticultural crops in the bottomlands

There are five degrees of land degradation; from *very low to low, moderate, high and very high*.

The natural forests on mountain crests gained a moderate degree in physical degradation as good cover reduces degradation processes. However, land conversion is a potential threat. When it comes to chemical degradation indigenous forest has the highest level of nitrogen and

organic carbon, which has a stabilizing effect, so this degree is very low. Mountain slopes with planted forest also have a moderate degree in both physical and chemical degradation. Tree cover hinders harmful processes, but cypress have poor undergrowth, exposing the soil to reduced porosity, by-pass flow, loss of nutrient bases and increased acidity.

Uplands and hills with agroforestry have a high degree of land degradation. Even if the current erosion appears to be low the current land conversion trend, caused by the population pressure, seems to lead to a severe land degradation in the future. Maize-based systems on bench-terraces are typical for uplands in Taita Hills. Many fields are stabilized with napier – grass used for feeding the zero-grazing cows. The terraces check the nutrient flows physically, but nutrient mining and inadequate fertility replenishment causes loss of nutrients and a very high degree of chemical land degradation.

According to Gachimbi & al. (2005: 21-38) there are evidences of various kinds of soil erosion in the farmlands, like rill erosion, sheet erosion and gully erosion. Most of the farms that show having signs of erosion also implement some soil and water conservation measures. In the lower zones, like Mwatate and Tausa divisions, common technology is *fanya juu* terracing while in the upper zones, like Wundanyi receiving heavier rains, *fanya chini* terraces are preferred. Other technologies are cut off drains, contour bunds and use of grass strips. If the terraces are poorly designed they are inefficient in controlling the overland flows on steep slopes. This causes non-uniformity in crop performance, the best performance being on the upper gentler slopes and the worst on the steep middle slopes (Myua & Gicheru 2005: 11).

Recent studies tell that farmers perceive that soil fertility has been declining on their farms (Gachimbi & al. 2005: 21-25). However they consider that the status of soil conservation in most of the Taita Hills farms is better than five years ago. Farmers have various options for increasing land productivity of their farms, like adding manure or fertilizers or constructing terraces. Animal manure is preferred to chemical fertilizers because the cost of chemicals is too high and many farmers consider them as uneconomical. However, there is an inadequate availability of manure constraining the efforts.

The role of trees in soil conservation and erosion control is widely discussed. The benefits extend from the single farm to the stabilizing effects of the wider ecosystem. An important influence of trees is that they reduce the rate of siltation of down-stream aquatic ecosystems,



dams and reservoirs. However, some adverse effects have come along with fast growing, exotic tree species, which place heavy demand on soil moisture. For example Eucalyptus trees need plenty of water.

The study of Gachimbi & al. (2005) was conducted in Mwatate, Wundanyi, Bura and Tausa Divisions (see figure 6) and 94% of the farms in those areas have trees. The most common trees include fruit trees like Mango, Avocado and Castard apple; trees for firewood and timber like *Grevillea robusta* and *Melia volkensii* as well as species for medicinal and shading purposes like Neem tree *Azadirachta indica*. Most of the farmers want to have woody perennials on their *shamba* (farm) because they improve soil fertility through several mechanisms, including among other things the increase in the organic matter content of the soil and a more efficient nutrient cycling. Similar tree species were considered important in a study conducted by Soini (2005: 24) covering the highland areas, on the southern side and northern side of the Taita Hills. Avocados and Grevilleas are considered especially important in the highland shambas. These species are exotic and fast growing and people can benefit from them financially. However, locals have been recommended to plant more indigenous tree species on their farms in order to enhance tree diversity and the water retention capacity of the soil (Mwarabu 2006).

### **7.3. Water – the source of life and cause for conflicts**

The Taita Hills forests serve as catchment areas supplying fresh water to over 200,000 people in the area. Deforestation has led to descending trends of water quantities, soil fertility and food production in the catchment areas (Lekasi 2005: 7-10). The following cases may enlighten the water dilemmas.

The underlying causes for biodiversity loss in Mbololo forest can be detected in the site problem tree below (Figure 17). The largest indigenous forest area in Taita Hills has difficulties in responding to the water needs of the people both up in the hills as well as those depending on it in the foothills and lowlands. The inadequate capacity among the stakeholders to enforce regulations and implement policies leads to both over abstraction of water from the forests and habitat conversion. The government is lacking power resources on site and the local communities have been lacking involvement possibilities. Increasing human and

livestock (zero-grazing and grazing) populations are depending on the water caught by Mbololo forest.

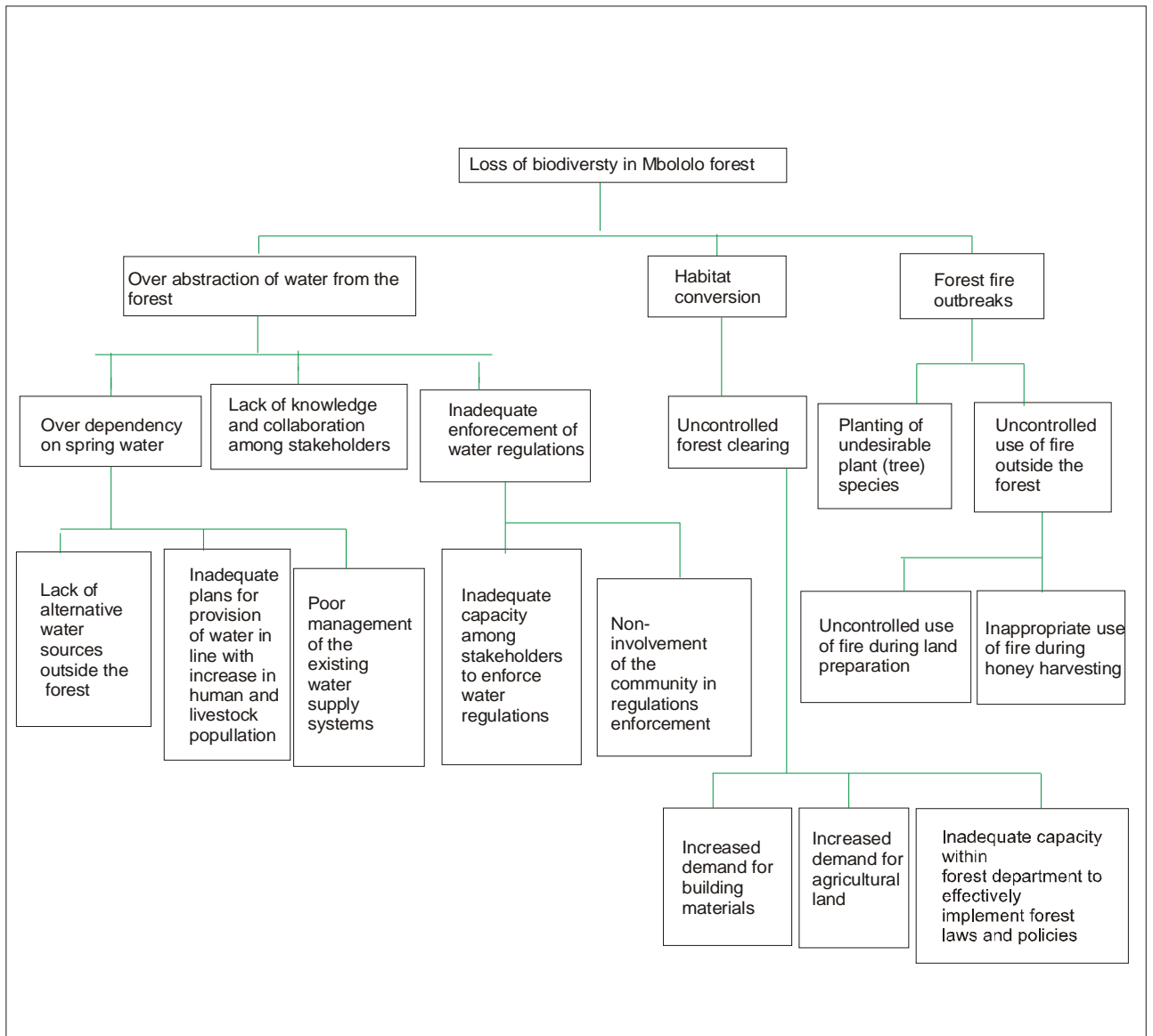


Figure 17 . Mbololo site problem tree according to Mogaka (2002: 20).

Similar problem trees could be drawn concerning other major forest areas in the Taita Hills. The local people have only recently started to realize the crucial importance of the forests to water catchment. Other water resources, like ground water, are limited in the Taita Hills (Ministry of Water ...2003: 14). People are unequally provided with water. A participatory rapid appraisal study in Wusi sublocation catchment in Chawia location produced data about the trends in water availability since 1920's (Lekasi 2005: 8-10). The farmers argued that from 1920 to 1960 there was plenty of water for domestic use and irrigation, but from 1960 to

1970 water decreased due to the destruction of forests. During the next decades water decreased further because of promotion of exotic tree species like Eucalyptus, drying out the soil efficiently. The water availability since year 2000 is described as very little and getting worse.

A similar descending trend appears in vegetation cover. According to the farmers, until 1960's the soil was covered with grass and tall and indigenous trees covered the hills. Since then there has been too much tree cutting in forests, too heavy cultivation of lands, wild forest fires, high population, frequent droughts, over-grazing and poor farming methods involved.

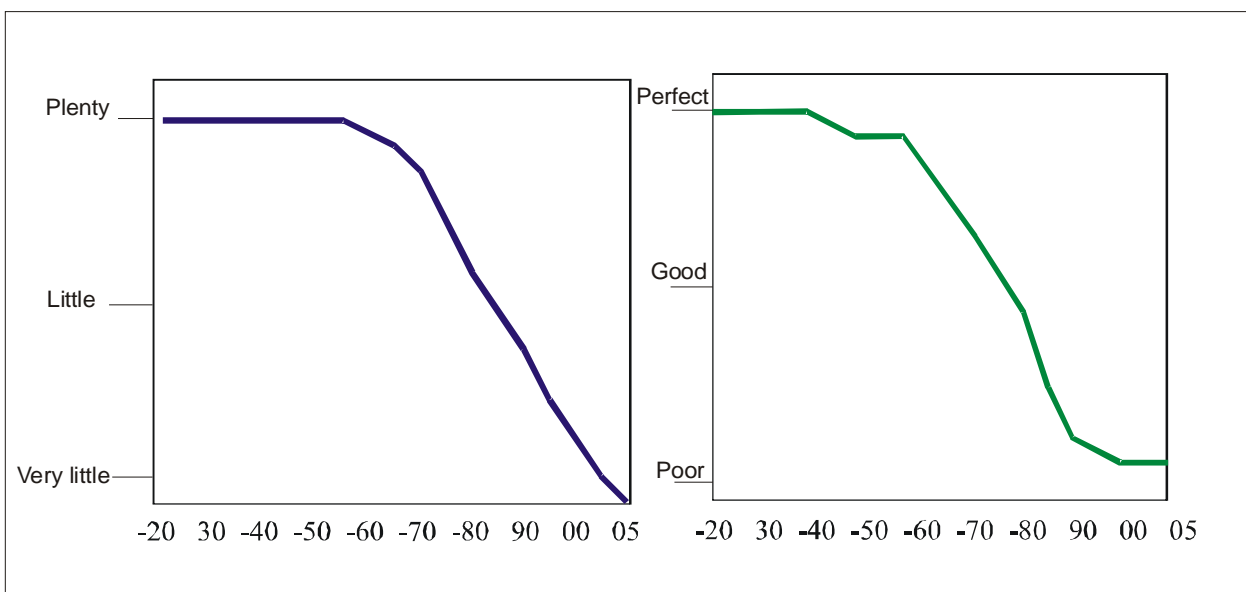


Figure 18. Water availability in Chawia 1920-2005  
(Lekasi & al. 2005:10)

Figure 19. Vegetation cover in the area  
1920-2005 (Lekasi & al. 2005: 10)

Some activities have been undertaken aiming at a rehabilitation of water catchments. Kenya Forestry Research Institute (KEFRI) in collaboration with Pact Kenya have used the principles of *Participatory Forest Management* (PFM) and the process of rehabilitation through planting of appropriate indigenous tree species in the catchment areas. Certain species are proposed for rehabilitation of an area exhibiting certain conditions. The Mbanga-ngombe catchment, near Mwanda, which has montane conditions with ridges and valleys, the proposed indigenous tree species include *Ocotea spp.*, *Ficus sycomorus*, *Prunus Africana* and *Syzygium*

*guineense*. Trees recommended to be planted on-farm for timber and fuelwood include *Cypressus lusitanica*, *Grevillea robusta* and *Pinus patula*. Grevilleas provide important fuel wood even if not being indigenous species. In the lower and drier areas the recommended species are different, like *Olea europaea ssp. Africana*, *Warbugia ugandensis* and *Cussonia spp.* It has been noticed that Eucalyptys requires lots of water and proper site matching and should not be planted in catchments. The farmers are trained on tree management on their farms (Gicheru & al. 2005: 27-30).

These rehabilitation interventions are important in order to prevent the soil erosion caused by subsistence farming in the highlands and secure the water resources for the communities in the lowlands. The catchment areas on the western side of the Taita Hills serve the touristically important LUMO sanctuary. The establishment of the conservation status of the major water sources of this ecotourism destination is vitally important.



Figure 20. The Taita Hills catching the rain and LUMO savannah suffering from drought in February 2006 (Himberg 2006).

## **8. Assessing community viability in Taita Hills**

### **8.1. The change of cultural sustainability and social and environmental values**

As mentioned earlier in the text, the change in religion from Wutasi to Christianity during the 20<sup>th</sup> century has also altered the human-forest relation. The general knowledge about Taita traditions has diminished as well as the traditional ecological knowledge. People with good knowledge for example about indigenous plants with medicinal value are hard to find. When asking people about the old religious traditions and beliefs, it seems as if they mostly like to

talk about it in secrecy. There are people believing and practicing old rituals, but nobody probably knows how many they are nowadays. According to village elder Judah Mwanjumba (2004), the clans have their own places in the forests or caves for sacrificing to higher powers. Initiation training and rainmaking rituals are practiced in these sacred forests called *fighis*. It is forbidden to cut trees or collect firewood from the holy forests. Indigenous plant and tree species can be found on the patches. These sacred forests have had many purposes. In former days they were considered as crucial in protecting the community from bad-intentioned intruders. They acted as a gateway between the homeland in the hills and the lowland areas considered dangerous.

In every social unit there has been an elder responsible for rituals. Many important preparations concerning traditional laws and village governance took place in *fighis*. For example certain plants proved to be useful in making medicine for bringing love to the community if the situation seemed unsettled. The purification of the elder, and judging and sentencing wrongdoers to death took place in a sacred forest as well. According to Ville (1994:24) the Taita ritual complex has been even something more than just protecting territory and bringing rain. The food chain was controlled by magical means to suite husbandry production and the agricultural timing was directed by the elders.

According to Ylhäisi (2006: v-vi) there are indigenous forests on North Pare mountains in Tanzania, which are traditionally protected. These mountains, also belonging to the Eastern Arc Mountain chain, show a high level of endemism and the management system in these forests derives from the pre-colonial society. The types of traditionally protected forests (TPFs) differ. There are reasons for protecting, which are directly related to spirituality. However, there are more reasons, than was commonly understood in earlier research, which have to do with secular matters and environmentally motivated factors. The most important forest type has to do with rain calling. There are also forests for hiding, trials and initiation. The integrity of the areas has been based on taboos and sanctions. The colonial landlords saw these forests only as places for paganish cults. They did not consider sacred forests as being significant in environmental management.

The performing of rituals has reduced in the past 30 years, because there are no persons left who have these skills. The cultural heritage has not been passed too efficiently. There has even occurred illegal tree cutting in traditionally protected forests. Tanzania had a new Forest

Act in 2002, which forms the base for community-based land ownership and gives the village elders the legal rights to protect the TPFs (Ylhäisi 2006:vi). The study offers a good point of comparison to the Taita Hills in means of the interdependency of culture and natural resource management.

In the Taita Hills the indigenous forests are still important places for collecting plants for medicinal use in health care means, although their value has diminished due to the growing awareness about western medicine. The knowledge about traditional use of plants has diminished during the past decades, as people seem to find it easier to buy the cure for an illness from a pharmacy and lack of proper knowledge about herbalism makes them unsure of how to treat especially children. Even if these small forest patches are traditionally protected, they also have had to make way for agriculture. Some *fighis* have been destroyed by fundamentally thinking Christians (Mwanjumba 2004). It is believed that spirits of ancestors live on the mountain peaks at Yale and Vuria, which makes those the holiest places in the Taita Hills. These places have remained untouched because of their holiness and also because the slopes of the mountains are too steep for cultivation. According to the village elder Mwanjumba, the biggest changes in forest use have occurred during the last 40 years. Local people used to respect and value certain indigenous tree species more and in general trees were felled with consideration. Nowadays agroforestry has been adopted, but the species favoured are mostly exotic and their felling more or less carefree and often dictated by a need for income.

Traditionally Taita and Taveta people venerated the skulls of their ancestors one year or more after the burial in order to avoid bad things happening. The skulls were deposited in a holy lineage skull-depository, usually in a cave (Maranga & Mathu 1986: 44-46). Some of these caves still exist even if most of them have been destroyed. Access to the caves has traditionally been denied from women and local women still do not go into them. The access for outsiders, like tourists interested to see the caves, is possible when negotiated with the village elders and the chief (Chawana 2004). It seems that the local people are willing to sacrifice a piece of the holiness on the altar of market economy.



Figure 21. Scull cave of Mwasho- clan in Wundanyi (Himberg 2005).

According to Darkwa (1986: 173-178) traditional music and dance in Taita was often performed in occasions like marriage and in ritual ceremonies like the naming a child. Drumming, singing and dancing in these contexts are more rare nowadays, but are still practiced during recreational occasions. There are at least seven traditionally important types of music and dance in Taita. To mention a few, *Mwazindika* is a religious dance-drama, performed by heavy drums, to drive away evil spirits or for other healing purposes. It is also used for praying for rains. *Kishawi* is a recreational music and dance for mixed groups during marriage or graduation ceremonies. *Gonda* dances are performed when young men and women get together to socialize and entertain themselves. *Mshondo* is a recreational music performed at night when there is a moon. There used to be dance competitions between the clans. An outsider can easily feel welcomed in Taita as the children or a group of women often perform a welcoming song for the visitor.

The traditional ceremonies have diminished among the Taita with the coming of Christianity and western education. Some of the old people still practise rituals, but most of the ritual experts like diviners, seers, defenders and rainmakers have died and have not been replaced. As most of the younger generation are Christians and have been educated in a “modern” way they are not interested in following old traditions in a thorough way (Mwanjumba 2004). What has happened is that Wutasi has mixed with Christianity and certain old Wutasi traditions and values still rule. Traditions like name giving, circumcision of boys and funeral ceremonies are accepted in Christianity. Strong respect of older people and parents, a high working morale and the spirit of harambee (cooperation) are also values that still lead the lives of Taita (Kapule & Soper 1986:13). According to the experiences in the Taita Hills, many people seem to believe that there are certain things not to be done and places not to go to in order to avoid bad luck. Most of these people consider themselves as good Christians, whilst the traditional knowledge and beliefs related to everyday life still sit tight (Himberg

2005). According to a traditional belief there is always a reason for the course of events. For example the rainmaker has performed a ritual in a wrong way and the consequence is long drought in the area. It has also happened that a man cut a tree from a *fighi* and died shortly after doing that. It is widely believed that wrong-doers get to suffer from bad spirits and this man did wrong when harming the forest sheltering an important spring (Mwanjumba 2004).

Taita symbolic ecology tells us that “*plain and hill cannot be disassociated; the dry lowland has its own way to feed the highland*”. This refers to hunting of wildlife for food, but it also refers to the solutions of human-wildlife conflicts. Separating man from wildlife is not a step towards their reconciliation; the danger is the increasing distance between these two. Taita people have traditionally used the plain areas for hunting, but remained people of the hills. As the population has expanded, many Taitas have had to move down the hills and settle on the foothills and plains (Ville 1994: 23-25). According to studies, Taitas in general show positive and utilitarian attitudes towards wildlife. One reason, when it comes to elephants, might be that Taita tradition regards the killing of an elephant as murder. Still people feel bitter about the fact that animals are government property, very little of the benefits accrued from tourism reverts back to the area and the animals destroy crops and cause major financial loss.

Using the same metaphor in reverse order, one can tell that “*hill and plain cannot be disassociated; the highland has its own way to feed the lowland*”. This again refers to the role of the hills as water towers in the area. According to Ville (1994 24-25) Dabida (Taita Hills) has always been considered as a comfortable, cool highland opposite to the dangerous, hot lowland called Kireti. Rains have been attracted to the forest covered heartland by the rainmaking rituals. The Taita ritual complex used to control all circulation between the plains and the hills and tried to ensure good dynamism and temperance in the environment. This balance has obviously been staggering due to the population growth and modernization. Yet, the development has not been all negative, since education has made youngsters conscious of environmental values and they are nowadays more aware of the importance of wildlife for tourism. Symbolically the traditional way of thinking and the natural scientific knowledge combine as one can nowadays often hear Taita people defining the forests as “rainbringers” (Himberg 2006). The avenues to pass the traditional knowledge to new generations have become narrow as the old *mzees* have passed away and little of their knowledge has been written down.



## 8.2. Well-being

According to a participatory study conducted in four villages in the Taita Hills, namely Mwatate, Dembwa, Werugha and Mwanda, there are common problems affecting the well-being of the local people (see Pellikka & al. 2004: 96-120). Community groups consisting of men and women of different ages were interviewed and by using matrixes they ranked a great number of problems related to economics, environment and social issues. Among the top six problems, common for all four villages, were:

- Expensive secondary school education
- Lack of rains and access to water
- Unemployment
- Poor land ownership
- Lack of investment possibilities and
- Poor medical facilities and high prevalence of HIV and malaria.

The poverty reduction remains a deep-rooted challenge in Taita. Absolute rural poverty affects especially the aged, the disabled, small holders with less than 0.05 ha, landless, squatters, children and female headed households. The district is not self-sufficient in food and the areas depending on rain-fed agriculture are vulnerable to unfavourable rainfall conditions. The vicious circle of poverty should be broken as it leads to low savings and investments and further to low productivity, unskilled labour and pressure on the arable land. The Taita Taveta District Development Plan (Ministry of Finance...2002: 20-21) is predicting that due to the rising population pressure on land, the encroaching on the water catchment and forest areas gets heavier especially in the Wundanyi and Mwambirwa areas.

Out of Taita Taveta 's 259,889 people in year 2002 62,100 were unemployed (24%). The major sectoral contribution to household income came from agriculture (95%) and only 2% came from wage employment. 1.5% found work in urban areas and 0.5% was self-employed in the rural context (Ministry of Finance...2002: 9). A recent study by Soini (2005) concerning livelihood strategies in Taita Hills tells that the need to supplement farm income by non-agricultural income is relatively high. Cash is crucial for many household needs, like school fees. Fifty-one households were interviewed in that study and it revealed that in 37% of the households either the mother or the father has an off-farm job. Men have an off-farm

job more often (50%) than the women (19%). Today's rural dwellers livelihoods are increasingly multi-occupational.

The Taita farmers cultivate mostly for home consumption, but selling a proportion of crops is an important cash source. According to Soini (2005: 25-26) 53% of the interviewees sell tree products, the most typical being fruits (33%) like mango, avocado, papaya and guava. 22% of the farmers sell timber and 16% sell firewood. Nuts, fodder and poles are sold as well. The most important tree species for timber and firewood sales are *Grevillea robusta*, *Cypressus lusitanica*, *Eucalyptus ssp.*, *Melia volkensii* and *Acacia sp.*



Figure 22. *Grevillea robusta* (Himberg 2006)



Figure 23. Timber sawn into boards in traditional way (Himberg 2006).

Income from milk sales is a source of money to a great number of families (33%) and due to the pressure on land most of the cows in the highlands have been put to zero-grazing.

The energy question is a part of the everyday life. 78% of the households use firewood or charcoal for energy (Ministry of Finance...2002: 11). The average distance to get firewood is two kilometres and people collect wood from bushland, roadsides, ranches or forests. 61% of the Soini's interviewees told they get enough firewood from their own land. Some people buy the firewood. Requirements for timber are more difficult to meet. Only 27% of farmers think they have enough trees.

The well-being of local people depends also on psychological matters, like a feeling of safety and security both economically and socially. People in the participatory village study (Pellikka & al. 2004) considered the lack of investment possibilities as one of the biggest

problems and 76% of the farmers interviewed in Soini's (2005) study also told that they cannot get credit from anywhere. Some self-help options for credit exist, like village or women merry-go-round groups and borrowing from friends. Other sources include the Financial Service Agency (FSA), Kenya Women Finance and Small and Micro Enterprise Program (SMEP). The strategies of coping with a sudden need of cash are few. One third of the people sell an animal and sometimes villagers help each other by arranging a village collection.

Main conflicts concerning land use in Taita Taveta include human-wildlife, land boundary and grazing area conflicts. According to a survey on sustainable land management (Gachimbi & al. 2005: 6-10) the collisions of humans and wildlife are most frequently occurring (34% of all resource conflicts). The problems are to be resolved by the provincial administration and Kenya Wildlife Service. Land disputes, jealousy and access to water are also mentioned as problems. Farmers also try to solve the disputes by themselves. They find ways of chasing trespassing animals away, form committees and search agreements among the communities, arrange family sittings and build fences.

The problems with land tenure seem to be multidimensional and form a major constraint to effective resource utilization in the district. Land consolidation and adjudication have been going on for the last thirty years. Three land tenure types can be found in the area; private, government and trust land. The communal land tenure is predominant, but the communities have the opinion that the system hinders the optimal utilization of land (Mogaka 2002: 14). There is lack of land, but at the same time many farms have some unused portions of land. The average farm size in Taita Taveta is 1 acre (Ministry of Finance...2002: 9) and the farms are traditionally and still most often subdivided among the family members. In the survey of Gachimbi & al. (2005:7) 60% of Taita farmers said that they have other land areas apart from the farm they are currently utilizing. The extra farm can be family land, joint land, rented or in sole ownership. The land management problems are often due to lack of capacity for the tilling. Most common reasons are lack of money (56%), labour shortage (33%) and the fact that the land is infertile (11%).

When it comes to technical and business skills, if 57% of the farmers in Taita Hills dream of establishing a shop or a kiosk, Soini (2005: 41) doubts that an enterprise, without any specialization, would bring any considerable change to their livelihoods. The purchasing

power in the area is not that great. The Government projects should focus on what supports enterprise development in Taita. More credit systems should be created, business and technical skills enhanced and business ideas developed. Attention should also be paid to the factors hindering the development of business, like licences and transport problems.

### **8.3. Community participation in development actions**

Community participation in forest resource planning and management is a concept being introduced in Taita Taveta through the GEF/UNDP Cross Border Biodiversity Project. This includes formation of Community Environment Committees, the members of which are charged with the responsibility of ensuring that sustainable forest utilisation practices are applied. The mission is to create a sense of forest resource ownership for the local community members (Mogaka 2002: 22). This kind of Environmental Committees already exist in the forests of Chawia, Ngangao and Mbololo. For example in Chawia the committee has put up a tree nursery where seedlings of indigenous species are grown and new trees are planted on the fringes of the threatened Chawia forest (Mwanjala 2006).

New, legal ways for community participation have been introduced in accordance with the anxiously expected Forest Act 2005 (Republic of Kenya 2005: 274-275), discussed more thoroughly in the next chapter. It provides the people a right to form and register forest associations through which they are able to get involved in the preparation of the local forest management plan and later on act in other ways within forest management. Participation has many intensities depending on the project or programme. According to McCall & Minang (2005: 342) “facilitation” can be seen at one extreme, as in cases when participation is promoted to introduce and lubricate outside programmes. The other extremity is “empowerment”, where participation is intended to prioritize local decision-making and reinforce responsibilities. When the intent for a participatory process is to trade off the interests and priorities of outside projects and local people, we can talk about “mediation” and “collaboration”. The PFM concept has landed in Taita Hills and its realization is in progress. The intensity level of participation in management issues differs between different indigenous forest areas depending on whether the area is gazetted and whether a participatory management plan has been prepared or not. According to the District Forestry Officer, Mr Muigai (2005), participatory management has particularly been emphasized and the biggest challenge is to make forest communities to value the flora and fauna in the area more.

Awareness raising and changing of attitudes can happen if tangible benefits for the locals are derived from the forests.

There is a big number of community- based organizations acting in Taita with various spheres of activities. Some of them have had an outsider organization initiating and facilitating the activities and some are self-help groups formed independently out of certain needs and motivations. For example the Chawia Community Environment Committee has new activities including bee-keeping in the forest as well as developing the butterfly-farming business. The community received help from the Biodiversity Project and ICIPE (International Centre of Insect Physiology and Ecology). In Ngangao a group of individuals decided to establish an environmental group and a tree nursery as they felt the urge to conserve the indigenous forest species. Similar activities can be found in several places in the Taita Hills. Especially women groups seem to work actively (Himberg 2006). Facilitation of the ecotourism business has been going on in communities adjacent to the Mbololo forest. Local households were given a chance to apply for a programme preparing for homestead ecotourism and nature guide skills (Mwangombe 2005).

When talking to the local people they often named the village chief and the sub-chief as well as agricultural officers as important when it comes to land management and conservation issues. Information and recommendations about forestry and agriculture are given and discussed at local village meetings, “barazas”. The Government’s role as a central provider of service came up also in a PRA-study concerning sustainable land use in Wusi, Taita Hills (Lekasi & al. 2005:16-17). The most and least important institutions were listed by the community members and six non-governmental organisations and churches ranked behind the government. That included e.g. DANIDA, SIDA, Plan International and World Vision. So, various stakeholders affect peoples’ lives and livelihoods by initiating or funding projects. The periodic work on capacity building of locals seems to be pioneered by various non-governmental organizations while the local government officers have the long-term responsibility for the well-being and possibilities to participate in decision-making processes.

## **9. The external forces**

### **9.1. The role of the Ministry of Environment and Natural Resources in the sustainable development of the Taita Hills**

The forest conservation is like a double-edged sword, when it comes to gazettment of forests. The state strives to protect the forest and control the use of it. At the same time the local people are excluded from the area and the forest resources are made unattainable for local communities. It seems, that the interests and priorities of the state administration, local administration, local communities and the non-governmental organizations are in conflict. The local administration often prioritises the people and their livelihoods as the state office prioritises conservation. NGOs act according to their own various interests (Enok 2005).

The government has decentralized forest administration because, according to Jabane (2004), one big problem has been ownership. Most of the communities living adjacent to forests think, that those forests belonging to the government do not in any way belong to them. Lack of tenure and non-access to resources have made the locals feel that they have no right to manage or protect their environment. For example if they see an outsider cutting trees illegally, they inform the government officers instead of taking instant actions locally. This is probably because for decades the people have been denied to take responsibility for government property. Forest Policy of 1957, restated in 1968, explicitly denies communities or private groups rights to gazetted forests resource ownership or management. It states that *“...in principle the government view is, that private rights in forest estate tends to endanger the objects for which the government manages the estate and such rights are therefore objectionable. The government policy is, therefore firstly to define and limit new existing rights, secondly to negotiate or adjust on a reasonable basis the final eradication of such rights and thirdly to allow no new rights to arise”* (Government of Kenya 1968). A Presidential Ban was declared in 1986, in order to protect the government owned indigenous forests as well as to ban the cutting of state owned plantation forests (Mwangombe 2005).

The forest policy of 1968 and the legislation do not provide a suitable framework for community involvement in forest conservation. According to Mogaka (2002: 8) this “preservationist” approach through the command and control approach is the main system of forest conservation and management. However, the enforcement and implementation of this

law has not always been smooth, especially in places where people have difficulties to meet their basic needs. There is a general deficit of timber and other forest products in Kenya and the forest department's capacity to prevent illegal extraction has been low. The penalties and cash fines have lost their effect during the decades due to inflation and the change from domestic utilization to commercial use of forest products (Kigenyi 2002: 21; Muigai 2005).

Disappointment was caused by another Presidential ban in 2002. The ban was declared on tree harvesting in industrial forest plantations and on the "Shamba System". This system had been introduced as there was a need for ensuring the planting of indigenous tree species. Many farmers had gone for the Shamba System, whereby they could live in a forest plantation cultivating their crops and looking after seedlings. The cultivation shifts in rhythm with tree growth and tree felling. As the trees get high and the canopy covers the plot, the farmer gets a new plot for seedlings and cultivation. After the ban the system was stopped and the farmers were left helpless (Enok 2005). According to Loeffler (2005: 5) the Shamba System was abused due to corruption. The government responded by proscribing the system, but after some years it seemed as this caused more damage than the damage it was supposed to prevent. There is now backlog in tree planting and nobody to look after the seedlings.

The most significant changes in forest policy have taken place during the last 10 years. Many East African countries have reviewed and adopted new forest policies. Kenya's future opportunities in the forest sector are defined in the new Forests Act 2005, which was passed by the Parliament. According to Loeffler (2005: 5) the new Act is promising in a development aspect, as it states that the country must be reforested: trees must be planted, so that they can be harvested, rationally and in a sustainable way, and for the benefit of the people. It also states, that especially mountain forests, acting as the country's "water towers", and those with particular ecological importance, must be preserved. The future will tell whether the arrangement with a Shamba System will also change as a result of the new policy.

According to Kigenyi (2002: 25) "a general policy shift common to all East African countries is strong emphasis on the role of communities in forest management including recognition of local ownership of forest resources and the need for security of tenure as an incentive for sustainable forest management". Ngigi also (2004) states that the natural resource management can be successful only if communities are involved in land use and management. All sectors in the government must lead activities that are in accordance with the poverty

reduction strategy. They have to show how the actions will contribute to economic development. The old forest policy did not include the aspect of poverty reduction nor did it improve the community-based progression. Along with the new Act different stakeholders, whether they are NGOs, individuals or community based groups, should be more fully able to work in forestry development. According to Odete (2004) the future lies in the forests, that are gazetted and community specialized.

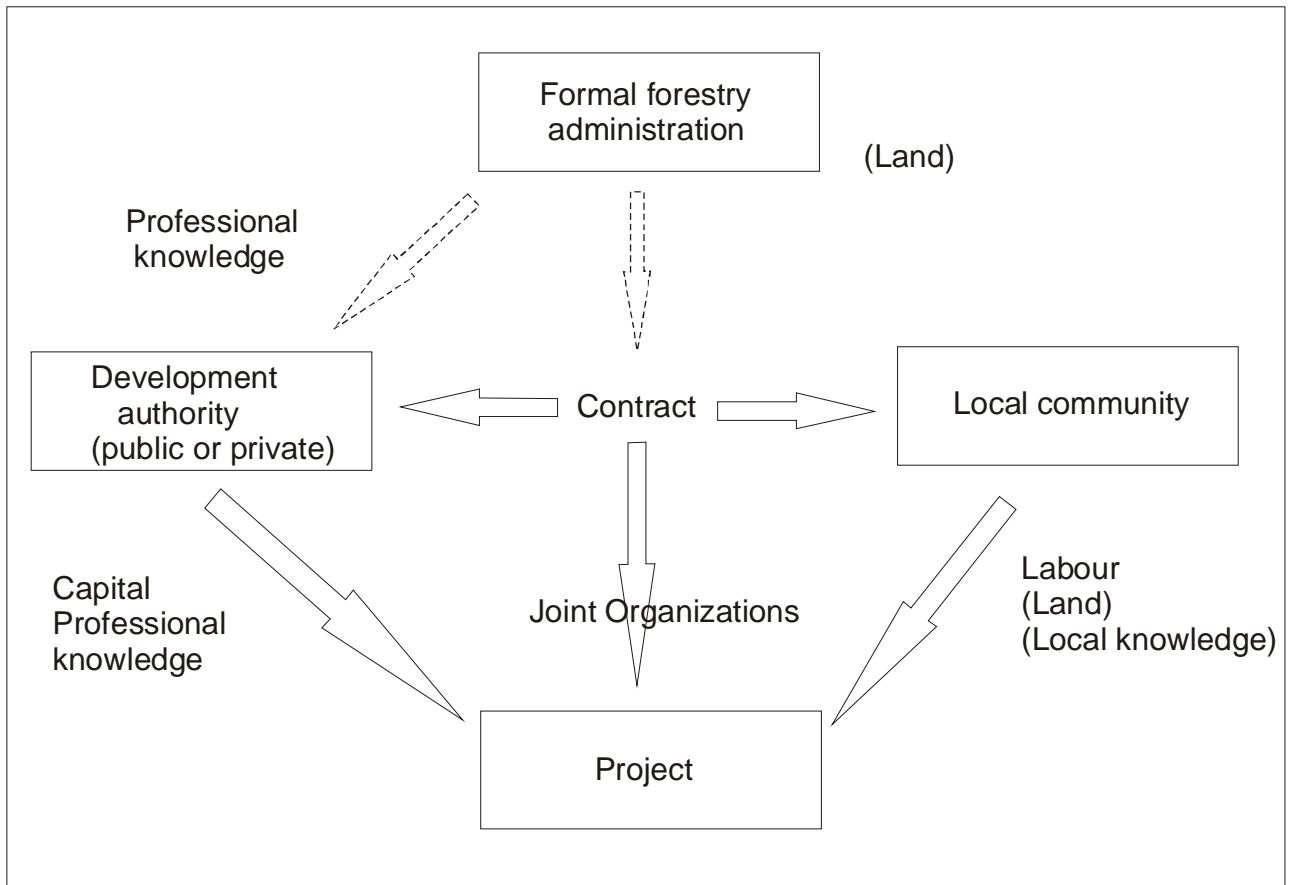


Fig. 24. Community development project supported by forest administration (institutional development model) Glover (2005: 33). This kind of model shall be applied along with the Forest Act 2005. It enables Joint Forest Management and passive and private participation of local communities.

The new forest policy was anxiously waited for as it enables the enactment of the prepared participatory forest management plans. This PFM is a relatively new concept in Kenya, but it is anticipated that it will improve the management of forest resources. The Forests Act 2005 (Republic of Kenya 2005: 274-275) includes a chapter about community participation and it provides the people a right to form forest associations.: “A member of a forest community may, together with other members or persons resident in the same area, register a community



*forest association under the Societies Act. An association registered may apply to the Director for permission to participate in the conservation and management of a state forest or local authority forest in accordance with the provisions of this Act”.*

The PFM plan is to be prepared for an individual forest stating the new rights, responsibilities and restrictions concerning its' use. This way the threatened forests are to be brought under stronger local control. The rights to local controlling mean more responsibilities, but on the other hand also user rights. The management agreement between the person appointed by the Director of Kenya Forest Service and the forest association is to confer the association all or some of the user rights below:

- Collection of medicinal herbs;
- Harvesting of honey;
- Harvesting of timber and fuel wood;
- Grass harvesting and grazing;
- Collection of forest produce for community- based industries;
- Ecotourism and recreational activities,
- Scientific and education activities;
- Plantation establishment through non-resident cultivation;
- Contracts to assist in carrying out specified silvicultural operations and
- Development of community wood and non-wood forest based industries.

For example in the PFM plan prepared for Mbololo and Mwambirwa forests in the Taita Hills, the mission for a five years period is stated to be *“sustainable forest management and conservation practices allowing continued accrual of economic social and environmental benefits to the stakeholders”*. Ecotourism development is mentioned as one potential way towards that. The forests have been divided on paper into management zones, defining what kind of practices are required or allowed within them. Mbololo has a non-consumptive use zone, a habitat restoration zone, an intervention zone and an afforestation zone (East African Wildlife Society 2004: 45). The East African Cross Border Biodiversity Project and institutions like East African Wildlife Society, Kenya Forest Working Group and Forest Department have been spearheading the realisation of the PFM concept.

It seems, that the status of the gazetted, indigenous forests in Taita will change towards more utilization. When referring to the IUCN protected area categories (see chapter 6), the current status of the forests compares to the categories I a and b of Strict Nature Reserve, allowing entrance only for scientific research or environmental monitoring purposes. Along with PFM the utilization degree will rise and the status shall compare to the other extremity of the category line. The Category VI, Managed Resource Protected Area, defines an area where unmodified natural systems and biodiversity are maintained, while providing natural products and services to meet the community needs. There will be opportunities for cultural, scientific, educational and recreational use.

The awareness creation among the citizens about their new opportunities in natural resource management is a challenge. According to Ngigi (2004) awareness creation is very expensive and requires lots of resources. It is hard to spread the knowledge from the “ivory tower”, the government headquarters in Nairobi. The knowledge needs to be taken to the grassroots and it has been noticed that the awareness is high, where there is a project, because the resources are then concentrated. According to Odete (2004) the credits for successful operations in awareness raising should be given to non- governmental organizations, because the NGOs more easily gain the trust of the local people. He thinks, that people often do not trust the government as much. It is hard to tell how aware the citizens in general are at the moment about the forest and conservation issues, but the communities moved ahead and created groups already before the new policy. There is a “hot line” in the Ministry of Environment and Natural Resources getting calls from all over Kenya from people asking instructions concerning forests. The most important duty of the government is to give the people a law that enables them to take care of their forests.

## **9.2. The political role of other governmental institutions, international, regional and national actors**

Kenya has about 77 statutes relating to the conservation and management of the environment. These include the Constitution of Kenya, the land tenure and land use legislation, forestry legislation, wildlife legislation, water laws and agriculture legislation. The constitution does not have direct environmental protection provisions, but it encompasses the right to a clean and healthy environment. Until the Environmental Management and Coordination Act of

1999 (see ahead), there was no framework for environmental legislation (Wamukoya & Situma 2003: 2-6).

A number of public bodies contribute to forest management. Some do so directly as a result of a shared mandate and others do so in an indirect way through policies. According to Kigenyi & al. (2002: 38-39) duplication of mandates has often caused agencies to conflict or compete for resources from similar sources, which might have affected management. This has been the case with wildlife and forestry agencies in Kenya. While the Forest Department and related agencies are no longer the sole sources of objective management and planning for forestry, risks to sustainable forestry are posed by the “fragmentation” of organizational responsibility without co-ordination and collaborative mechanisms. One could state that as the work assignments have been distributed, coordination and networking have become the new challenges.

### **9.2.1. The international bodies**

Bilateral and multilateral agencies mainly compose *the international bodies*. United Nations bodies and agencies of developed nations have contributed a lot to funding of forestry programmes, initiating policy changes and work plans to promote sustainable forest management. They have helped to implement programmes resulting from international conventions and agreements (Kigenyi 2002: 27). Important conventions like the Convention on Biological Diversity, Agenda 21, the UNCED’s Forest Principles and the United Nations Framework Convention on Climate Change have given attention to forest issues. The Article 8j of the Convention on Biological Diversity guides us in the following way: “ *Subject to its national legislation, respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyle relevant to the conservation and sustainable use of biological diversity and promote their widest application with the approval and involvement of the holder of such knowledge, innovation and practices and encourage their equitable sharing of benefits arising from the utilization of such knowledge and practices*” (CBD 1992). In 1992, during the Rio Summit, Kenya decided to renew its’ forest policy (Ngigi 2004).

Poverty Reduction Strategies (PRS) have been adopted as a key instrument to meet the Millennium Development Goals of halving the proportion of people suffering from extreme poverty, between 1990 and 2015. These strategies are expressed in Poverty Reduction Strategy Papers which act as a framework for setting priorities for public expenditure by governments of developing countries and for delivering international support for poverty reduction. The PRS processes have focused on the traditional social sector more than on the productive sectors like the forest and natural resource sectors. However, Kenya scored well, compared with other Sub-Saharan countries, in a forest sector incorporation study conducted in 2002 by PROFOR program (Oksanen & Mersmann 2003). It was studied how the PRSPs have included the forest sector in the document and Kenya scored 1.75 indicator points, the average being 0.61 points. The remarks were given on following issues and responses: the fuelwood issue is discussed in relation to rural poor and gender; a forestry sub-sector is addressed under agriculture and rural development; actions were made on pending forest policy; forestry institutions were set under restructuring, forest licence procedures were revised, forest resource inventory was ongoing, stakeholder involvement in local forest management was included as well as improvement of natural forests for biodiversity and water values.

One turning point for the management of Kenya's forests has been the Kenya Forestry Master Plan, financially supported by FINNIDA (Finnish International Development Agency). The plan was developed in 1994 and it identified shortcomings of the forest policy and conservation legislation of that time. It also predicted serious decline of forest-related benefits by the year 2020, due to the increase in demand, coupled with forest loss. The conditional clause for the Finnish support was a new forest policy (Luukkanen 2003; Kimini & al. 2005). According to the Master Plan an administrative reform is important. The forest use and management sector should be separate from the forest economy sector. More private forests should be established as well as new forest-related institutions specializing in education, research, planning and monitoring. This plan was not approved as the official new forest policy, but it has been considered as a valuable tool and it acted as a draft policy. (Luukkainen 2003; Ngigi 2004). Additionally, it has been stated, that the forest policy reform and legislation has been slow in Kenya and it has not always been clear whether the forest policy in operation is that of 1968 or the draft of 1994 (Mogaka 2002: 10).

One program working in Taita Taveta area according to strategic objectives of an international organization is CORE (Conservation of Resources through Enterprise). It is a USAID natural resources management program which has been implemented through Kenya Wildlife Service, African Wildlife Foundation, Pact Inc and its sub-grantee East African Wildlife Society. The goal of the CORE program is “*to improve the conservation and management of natural resources through increased benefits to community and landowners in areas adjacent to government protected areas*”. Their strategy is to strengthen or facilitate the creation of businesses that are linked to the conservation and sustainable use of natural resources (Pact Inc. 2004). The Danish International Development Agency (DANIDA) operated and funded an agricultural project in Taita Taveta for many years.

The work of these actors is highly appreciated in the area, but there should be more collaboration and coordination. There are overlapping programmes as well as research results which will never reach the target area. There is unawareness among all the stakeholders: the locals, the district administration, the researchers and the non-governmental organizations acting in the area. Despite more than 25 years of conservation and research work in the Taita Hills, the forest cover and biodiversity have continued to decline (East African Wildlife Society 2005: 2, Hermunen 2004: 92).

### **9.2.2. The regional bodies**

The *regional bodies* include those of an apolitical nature addressing cooperation among nations in Eastern Africa on various issues, often of a developmental nature. They are important in addressing the management of shared resources. The Intergovernmental Agency for Development (IGAD) comprises all countries in the Eastern African region, except Tanzania, and the Eastern African Co-operation (EAC) includes Kenya, Uganda and Tanzania. IGAD focuses on solving political disputes and conflicts and addresses issues related to food security and combats desertification. Forestry agencies in EAC countries have been trying to develop a common stand on forestry issues and implement shared programmes (Kigenyi 2002: 26).

For example the UNDP/GEF (Global Environmental Facility) funded Cross Border Biodiversity Project in East Africa. It bargains for funding for regional forest projects and influences policies at both regional and global level. The project’s executive agency in Kenya

is Ministry of Environment and Natural Resources through the National Environment Secretariat and the implementing agency is the East African Wildlife Society. This project has been going on in Taita Taveta District since 2002 and it strives to enhance biodiversity through alternative livelihood and appropriate technology strategies in focal forest areas, namely Mbololo, Ngangao, Chawia and Kasigau forests.

### **9.2.3. Agricultural policies**

The national policies in the past have favoured cultivation based agricultural production in Kenya 's rural areas. There has been a tendency to see the land not "under the plough" as unproductive and not contributing to the national development. Agricultural modernization policies have promoted food security and foreign markets have created a need for cash crop plantations (Kigenyi 2002: 17). The principle legislation on agriculture is the Agriculture Act strengthened by other legislations. Unfortunately many of the agricultural practices followed by crop and stock farmers are harmful to the environment causing a decline in the quality of the resource base. The shift from the use of exploitative practices to approaches of more sustainable productivity, that is from agri-business to agro-ecology is slowly happening. Although this can be achieved only if education changes the attitudes and norms of farmers (Wamukoya & Situma 2003: 5-6).

According to Kimini & al. (2005) despite the competition for land with forestry, agricultural programmes nowadays focus on tree planting through farm woodlots, agroforestry and maintenance of natural trees in the farming landscape. This contributes to increasing the forest cover and involves the farmers. The agricultural policies, in general, recognize the contribution of forestry to sustainable agriculture and alternative rural income. According to Ngigi (2004) a better environment for different ministries, where they can link and have dialog on, is needed and expected to be created through the new Forest Policy.

#### **9.2.4. The land use policies**

The land ownership and land use is administered and regulated by the Constitution and over fifty statutes. Despite these legal instruments, no proper and comprehensive land use planning and coordination has been implemented in Kenya. The number of squatters and landless is increasing. The land use planning activities have been addressed mainly at sectoral level (Wamukoya & Situma 2003: 3). There are weaknesses in the administrative structure complicating the procedures. The actors on the district level have ideas about an ideal land use policy, but they don't think, that they hold the power to develop it. Genuine participatory planning processes have not been developed or used in the District. The disparities of different communities and their culture also hinder the development of an ideal land use policy. There has occurred self-power of decision makers, for example large-scale landowners who have concentrated on securing their own benefits (Hermunen 2004: 104-105). The consequences of all this have been uncoordinated and unsuitable land uses, conflicts and environmental degradation, inequity in land distribution and loss of biodiversity. Very much hope for policy renewals has been laid on the government, elected in 2003.

#### **9.2.5. The decentralization policies**

Decentralization policies are meant to be a good way to empower local communities to manage their resources, but the system does not always work according to rules and ideals. The decentralization of power to local government is not necessarily followed by required human and financial resources (Kigenyi 2002:18). This may result in a mismanagement of forests, which has been the case in some forests in the Taita Hills. The forests owned and protected by the government have degraded despite the existence of government employed forest guards. The resources for control and protection activities have been minimal, which has made illegal encroachment possible. Corruption has also hindered control efforts (Mwangombe 2005; Mwandoe 2004). The local government authorities are responsible for the trust lands. They are supposed to be kind of community lands, so that locals can use them. There is a widely shared opinion, that land use becomes a problem, when the authorities do not give exact information about the precise location and boundaries of these lands in order to allow the use them for activities serving their own political or economical purposes.

### **9.2.6. National Environment Management Authority and National Universities**

Kenya got a long-expected, coordinating body for environmental issues in 1999. Environmental Management and Coordination Act (EMCA) was carried out and this law mandates a National Environment Management Authority (NEMA) to manage environmental markers in Kenya. EMCA is an umbrella law affecting all other laws along the sector lines, like forestry, water, agriculture, industry and tourism. According to the Director of Compliance and Enforcement, Mr. Maurice Mbegerea (2004), NEMA's task is not to legislate, but to coordinate the environmental laws in Kenya. The main organs under the act are committees on national, provincial and district levels. They follow the environmental action plans. This decentralization makes possible a membership from all sectors of society; the committees draw teachers, farmers, businessmen, conservationists etc. from local communities. Under the district environmental committee the communities are empowered to take a leading role in environmental issues at the district level. They can, for example, say that a certain forest should not be cut down, because the community needs it for water conservation. They can invoke the powerful EMCA.

The core of NEMA's activities is environmental impact assessment (EIA). All new projects with high environmental risks must undergo a EIA process. The challenge for NEMA is to get known by the public. The people need to know, that there is a new governmental body committed to our common environment and encouraging emancipation in environmental management. The exact laws exist and penalties of breaking them are spelled out in the act. Environmental Impact Assessment has been in process since 2002 and a lot of applications for assessment has been received. Still a lot needs to be done to raise awareness raising among Kenyans. For the first time there is a body; the public complains committee, which sits down and summons the people affected by a certain environmental injustice. The issues are discussed and settled. Through the participatory process NEMA gets external opinions and feed-back even from the most local and poorest people. NEMA is looking for cooperation with universities, colleges, schools and other institutions in environmental education (Mbegerea 2004).

The *national universities* have an indirect political influence by providing formal training of professionals managing forest sector. The findings of both basic and applied research may influence forest policies. Subjects like community forestry have been added to most



university forest department curricula. Still, only little work has been undertaken in social forestry and policy analysis (Kimini & al. 2002:39).

### **9.3. The external economical forces affecting the sustainable development of Taita**

With growing populations the firewood demand puts great pressure on the rural areas in Kenya, as well as in other Sub-Saharan countries suffering from deforestation. The direct causes of deforestation are agricultural activities, grazing, firewood gathering, logging, forest fires and urbanisation. The cropland is expanding and the export has focused on cash crops like coffee and tea. Annually about one million hectares of forest, that is 0.5% of total broad-leaved forest area, is logged for timber. About 75% of the wood harvested in African forests come from primary forests and the rest from secondary forests (FAO 1993). Still, the East African forest exports have less significance globally in comparison with West and Central Africa, who have been the major exporters. Logging can be seen regionally as serving the huge debts of the Sub-Saharan countries and by doing so accelerating deforestation. According to Curiel (2005) Kenya's external debt is estimated at 9 billion dollars. The country reportedly uses about 40% of its annual budget to pay interest on that debt.

Fifteen African countries signed a treaty establishing the Preferential Trade Area for Eastern and southern African States (PTA) in 1981. Today it has 18 members and its object is to promote development and the integration of the economies of the member states within all sectors, including the forest industry. With independence, many of these countries, Kenya included, was motivated to achieve self-sufficiency in forest products despite poor endowment of natural forest resources. Investment in industrial forest plantations was heavy (Kamau 1988). Of the estimated total of 1.8 million ha of forest plantations in Africa, nearly 1.2 million ha are in Eastern and Southern Africa. Kenya has major industrial forest plantations of 160 000ha in size, Tanzania coming second in line with 120 000 ha. The development was justified by the then existing demand and by the expectations that the forest plantations would create an industrial base for both domestic markets and export. Unfortunately these expectations have not always been met. In general more wood is produced than used, which leads to annual surpluses (FAO 2005). According to the Export Processing Zones Authority (2005) the secondary wood processing in Kenya has not developed to the full potential for world export. Developing countries count for only 8-10% of the world exports.

A study conducted in Mau forest in Kenya has identified the underlying causes of deforestation in the area. The underlying causes affect indirectly and they are based on national and international measures. The causes mentioned are:

- weak policy formulation and enforcement,
- macro-economic policies such as an increase in cash crop production for export
- structural adjustment
- population pressure and
- trade liberalization

(World Rainforest Movement 2005)

Comparable results appeared in a study concerning the causes of forest loss in Taita Taveta. Market failures and intervention failures were mentioned as the topmost reasons. An increase in resource demand along with increasing economic dependence on forest resources hinder conservation efforts as poverty incidences increase due to the population growth (Mogaka 2002: 18).

According to O´Brien and Ryan (2005) Kenya was the first country to receive a structural adjustment loan from the World Bank in 1980, and it has engaged in Bank, IMF and donor supported adjustment programs in past decades. However the implementation of policy reforms have been extremely mixed. Trade liberalization records show backtracking in the early 1980s, progress in the second half of the 1980´s and then a complete breakthrough in 1993-95. All domestic price controls were eliminated by 1994. But for structural issues, like agricultural market deregulation, public enterprise privatisation and reform has proven much more difficult. The weak implementation can be attributed to a number of factors, including a narrow circles of actors in policy formulation and the weak capacity of the government to carry out comprehensive institutional changes. There have also been people benefiting of the status quo, with their political influence and vested interests, involved.

A report released in 2000 by the World Resources Institute (WRI) concludes, that the inclusion of forest policy reforms in structural adjustment loans can help establish improved policies for forest management in developing countries. The report came on the heels of an evaluation by the World Bank, made fifteen years ago, concluding that WB has only a

“negligible” impact on reducing rates of deforestation through investments in forest projects. It states that only a small portion of loans have addressed forest-related or environmental issues. However one reason for this has been the corrupt officials and their friends in the logging industry undermining efforts of forest policy reform. Still the report shows that tying structural adjustment loans to forest-related conditions can raise the national profile of forest issues and catalyze improvements in governance. The report makes recommendations about how the World Bank should change its approach and business methods and broaden the structural adjustment lending to include environmental, equity and governance objectives. The World Bank staff proposed an “environmental adjustment” loan focusing on environmental policy reform also attempting to include civil society representatives. Unfortunately the effort was undermined by insufficient leadership in the country and inconsistent support for the concept within the World Bank (WRI 2006).

Kenya’s forest sector contribution to the Gross Domestic Product is not well articulated in the National Accounts. The reason is, that the direct and indirect contribution of forests to the livelihoods of the rural people and to the ecological protection of water and agriculture is not taken into consideration. Statistics from different sources give totally different figures about forests’ contribution to GDP. For example in FAO’s (2005) “State of the World’s Forests” it is estimated that the contribution is 19%, but Kenya’s Economic Surveys (Ministry of Planning and National Development 2005) indicate the contribution might be only 1.1%. This is because neither of them takes into account the earnings from the informal trade of charcoal, firewood and medicinal herbs, nor the environmental benefits accruing from forests.

According to Mogaka (2002: 8, 24) it is estimated that over 92% of the government budget under the forestry sector is for operations and maintenance leaving low financial resources to support development activities in the sector. In addition the financial resources for forest conservation have declined drastically since 1992. The Government allocations for development within the forestry sector dropped by 21% between 1997 and 2002. More dramatically the donor funding, on which the conservation heavily relies, declined by over 85% during the 1990s. According to Avishi & al. (2006) the Government’s expenditure on forestry is less than 0.5% of its’ total expenditure in the current financial year. The yearly budget of 2.525 billion shillings allocated to the Ministry of Environment and Natural Resources is to be shared among the Ministry headquarters, the National Environment Management Authority, the Kenya Forest Research Institute (KEFRI), Mines and Geological

Department, the Department of Resource Services and Remote Sensing and the Forest Department. Almost half of the recurrent expenditure goes to salaries. There is no budgetary allocation for development expenditure in 2005/2006.

The Taita Taveta District Forestry Officer, Mr Muigai (2005) stated at the end of his presentation about the state of the District's forests, that "a hungry man is an angry man". He meant, that the threats facing the forests areas derive mainly from poverty among the local, forest adjacent communities. The challenge is to make these communities to value their flora and fauna, which can happen if tangible benefits to the locals are derived from the forests. Additionally, according to Mogaka (2002: 7) the forest conservation in Kenya and in East African region needs the provision of adequate economic and financial incentive measures as avenues for enhanced community involvement. Three categories of incentives usually applied are: 1) the direct economic incentives encouraging engaging in forest management and conservation, 2) the indirect economic incentives and 3) the economic disincentives which discourage forest degradation and loss. The Kenya Government has so far provided disincentives in the form of penalties and forfeiting of illegally acquired products, but one can question whether these actions can guarantee forest conservation efforts in the long run. Punishment measures refer too much to the already "old fashioned" command and control - approach. Unfortunately, during the old policy, there have been only limited opportunities for communities in Kenya to gain meaningfully from forest conservation.

#### **9.4. The role of tourism in Kenya's national economy**

The impact of tourism in the economy is felt mainly through linkages expressed as demand for goods and services in the agricultural, textiles, beverage, transport and entertainment sectors. Since tourism is essentially a service industry, it provides relatively more jobs than any other economic sector. Allied improvements in tourism infrastructure catalyse other economic activities. Tourism is currently Kenya's third largest foreign-exchange earner after tea and horticulture, generating about 17.5% of the export revenues and contributing 12% to GDP. According to the Central Bureau of Statistics the tourism earnings have increased since 1988. The growth was steady from 6,986 million Kenyan shillings (376 million \$) in 1988 to 14260 million in 1992. In 1993 the increase is remarkable 24,440 million shillings, even rising to 28,1000 million in 1994 (United Nations 2005: 3). However, at the end of the 1990's several factors effected the number of tourist arrivals and earnings negatively. Safety factors

matter when it comes to foreign investments and tourism. In the 1997 elections, accompanied by violence and rioting, caused uncertainty among the travellers. Kenya also became a subject to terrorist attacks. The U.S. embassy was bombed in Nairobi in 1998. After that, the tourist numbers dropped by 50% and recovery was slow. In 2001 the national income from tourism rose to 24,000 million shillings, but yet another bombing happened in the famous beach resort of Mombasa in 2002. Travellers remained cautious, because many countries issued a travel warning to Kenya (Basara 2004). Kenya has ratified all the 12 United Nations Anti-Terrorism Conventions as well as the OAU Convention on the Prevention and Combating of Terrorism (Government of Kenya 2005).

The domestic tourism has grown substantially in the country in recent years. The exact figures about domestic tourism are missing, because an effective system of collecting them has not been developed, but for example in December 2003 the hotels in Mombasa were to 75% occupied by Kenyan residents (Basara 2004).

Tourism contributes a lot to Government revenues through licence fees, customs and exercise duty, landing fees, passenger service charge and entry fees to the parks as well as income tax levied on employees in the tourism industry. The benefits accruing from investments in such infrastructure as airports, hotels, road network, communications, power and water supply are shared with other sectors of economy. Their development enhances the overall development on the local level and also encourages greater economic diversification. Tourism is also considered important to redressing regional development and income distribution imbalances. Economic advancement can be achieved in less developed areas that are not endowed with alternative resources (United Nations 2005: 4).

The need to reinforce ecotourism capacity building in African countries was recognized when the issue was discussed at the preparatory session for the World Ecotourism Summit in 2002. Capacity building is essential if local communities are to be real stakeholders in the development of ecotourism. The role of governments was emphasized in ensuring that “communities are trained to administer joint ventures, as without capacity building it is difficult to sustain an equitable approach to management” (WTO 2006).

## **9.5. The Kenya Tourism Master Plan and Tourism Policy**

Before the millennium change Kenya did not have a plan for a sustainable tourism development. There was the Sessional Paper No 8 of 1969 on the Development of Tourism in Kenya, which defined the growth targets and outlined the areas where the Government participates jointly with the private investors in tourist industry. There was a need to harmonize tourism activities and investments with a view to fostering sustainable tourism. Kenya's National Tourism Master Plan was made in 2000 with this aim. Kenyan Government has been shifting its focus from high volume low yield tourism towards the development of alternative forms of tourism which contribute to conservation of environment. Also the traditional sectors of tourism, like wildlife safaris and sun, sea and sand- tourism are given special attention in order to control their impacts on the environment. Ecotourism and other alternative forms of tourism have been emphasized in the Master Plan and outlined in the Tourism policy framework. Some of the reformatory factors in the policy are mentioned below:

- conservation and utilisation of tourism resources in a sustainable manner;
- conservation of the environment and preservation of scenic beauty;
- provision of visitor education pertaining to available resources and their interdependence without compromising our concern on biodiversity;
- establishing active partnership with all stakeholders in tourism and at the same time respecting their rights;
- equitable distribution of benefits accruing from tourism;
- respect and safeguarding of the local customs and culture and
- harmonious development of the tourism sector in tandem with other economic sectors.

(United Nations 2005)

The strategic planning of sustainable tourism is quite a new concept and the visions have been created only lately. The Master Plan points out the key areas to be examined, but it is not to be called a strategic plan. The Ministry of Tourism defines ecotourism adapting the criteria also presented by the Ecotourism Society of Kenya, including the involvement of the host community, sharing of the revenues, gaining ownership of the tourist attraction and by these measures motivating the protection of the environment. Exact indicators of ecotourism has not yet been developed by the Ministry. However, new tourism establishments are inspected

according to certain standards including sustainable tourism elements, like issues concerning pollution, environmental protection and the percentage of foreign employees compared with local employees. There are tourism products in Kenya which could be sustainable, but the way they are managed now, they are not (Basara 2004).

#### **9.6. The roles of Ministry of Tourism and other stakeholders in viable tourism development**

Ecotourism is at a crossroads in Kenya. If current trends continue, increasing numbers of tourists will demand true ecotourism as opposed to other forms of nature tourism. This means, that ecotourism sector needs to diversify the range of products and the type of locations available. All stakeholders in ecotourism development will be required to assess their involvement carefully (Watkin 2003: 18). As the second biggest contributor to the economy after agriculture, the tourism industry is of a critical importance to the Kenyan economy. Labour intensive tourism employs up to 11 % of the work force and considering that the sector is heavily reliant on small-scale businesses, a far larger segment is indirectly relying on it. Kenya should strive toward a situation where it can promote tourism as an environmentally sustainable product. Like the Acting Senior Tourist Officer, Mr. Basara (2004), in the Ministry of Tourism put it: “Environment is considered very important, because tourism in Kenya is the passport to business”.

The Government has to understand how ecotourism differs from mass tourism and why the implementation of policy incentives that encourage ecotourism development is important. The East African Regional Conference on Ecotourism in 2002 addressed the issue of *legislation harmonization* within various sectors in national, regional as well as international scales (Watkin 2003: 18).

The role of the Ministry of Tourism is to market Kenya as a tourist destination. Its task is to come up with proper policies, policy advisory work, standardization of tourist products, inspection of tourism establishments and classifications of hotels. The Ministry also handles of the licensing of tourism establishments. It has responsibility of overseeing the operations of such State Corporations as:

- the *Kenya Tourist Board* which is charged with promotion and marketing of the destination;

- the Bomas of Kenya, which is a national conservatory of Kenya's cultural heritage;
- the *Kenya Utalii College* training manpower for the hotel and tourism sectors
- the *Kenya Tourism Development Corporation*, which advises investors in the tourism industry. Communities can apply financial help on collateral basis;
- the *Kenya Wildlife Service (KWS)*, which is not an integral part of the Ministry of Tourism. It is charged with the conservation and management of wildlife and maintenance of infrastructure within the National Parks and Game Reserves in Kenya (Basara 2004).

It has not been so much the duty of the Ministry to assist in ecotourism promotion and capacity building on the local level, as it is of non-governmental organisations. According to the United Nations (2005) report, the NGOs in Kenya work in various ways; through public education on conservation, development studies and codes for sustainable use of natural resources, publication of tourist information literature, organizing workshops and seminars on conservation issues and promoting community input in those. For example the Ecotourism Society of Kenya endeavours to help promote tourism in Kenya by projecting a positive image and encouraging high standards, green certification and carrying out consumer surveys and research (ESOK 2005). The areas where tourism is developed are under the authority of local County Councils. Their duty is to come up with incentives for tourism investments, development of visitor management systems through zoning and land use policies aimed at securing participation by the local communities. An important task is the formulation of enforcement programmes pertaining to a proper and ethical use of the protected areas. Liaison with communities on development projects is also seen as essential, especially when they are funded by the official tourism sector.

The National Environment Management Authority (NEMA) has a role to play in tourism and ecotourism. Any tourist related construction should go through an environmental impact assessment according to the new law. If the operator does not get the assessment done and the local communities feel offended, they can take the case to court (Basara 2004). The question then is, whether the communities are aware of their right to do so. If a project follows the principles of ecotourism and local communities are involved in it, the question then is whether they know when an EIA is needed.



## **9.7. The external social forces**

The general trend within forestry causes criticism. According to Mogaka (2002: 9) the forest sector at the national level is lowly regarded and not considered to make an important contribution to the national development and growth. The major reason to this is the under-valuation of the forest resources and their contribution to the national economy. Key contributions of the sector are not properly reflected within the national statistical abstracts and hence low priority is given to forest conservation and management during the national economic policy formulation process. Ngigi (2004) also states that “ Kenya wants to prioritise agriculture, then comes forestry and other sectors of development. Forests are under pressure”. It is worth noting how dependent the proper functioning of the energy sector, industrial development, tourism and agriculture are on forest ecosystem.

The espousal of general public is various when it comes to emphasizing either anthropocentric or biocentric values of forests. Some conservation organizations overseas concentrate on promoting biodiversity protection, while more local organizations try to find new, sustainable ways of gaining tangible benefits from the forests. However, most actors in Taita have adopted an approach which combines local livelihoods and conservation efforts. Examples of this are the East African Wildlife Society, the African Wildlife foundation, Danida, KEFRI, Pact- Kenya, ICIPE and the Taita Taveta Wildlife Forum among others (East African Wildlife Society 2005).

## **10. Analyses of the potential of ecotourism in the study area**

### **10.1. Broad market trends**

Tourism to areas of natural beauty has nowadays been seen as one of the fastest growing interests in many countries of the world. There is a wide variety of estimates as to the size and growth of the ecotourism market. The figures differ according to the source mainly because the consensus on the definition of ecotourism has been lacking and secondly because the destination authorities often fail to compile ecotourism market data. The figures depend on where the data collector's perception is located along the hard-soft ecotourism-continuum. The World Tourism Organization estimates, that ecotourism accounts for 10 -15 per cent of

global tourism. The growth rate is cautiously estimated to be slightly faster than tourism as a whole (Weaver 2001: 55). Weaver sees a trend of 'greening' in tourism as well as in general consumer markets, although he thinks that much of this transformation is still superficial. Those consumers who show real pro-environmental behaviour are few compared to those showing only something like shallow environmentalist sympathy. Most ecotourists reside in urban areas within more economically developed countries of Europe, North America and Oceania. The trend is towards feminisation, aging and high-education when it comes to a typical ecotourist.

The growth rates of various kinds of recreational participation can indicate changes in tourism trends. For example, when looking at the survey conducted among US adults about their recreational activities over the period of 1982 -83 to 1994 -95, birdwatching experienced the strongest growth. During the earlier period the number of people preferring that activity was 21 million and grew to 54 million by the later period. Also the number of hikers, backpackers and those liking primitive camping rose significantly (over 50%) (Cordell & al. 1995: 37).

For the most of the visitors in Kenya the purpose is vacation. Out of 1 million visitors in 2002, 733,000 were vacationers and 87,000 there for business. The rest had a transit purpose. The major source of visitors has over the years been from Europe, Germany leading in numbers and United Kingdom following. The visitor numbers of these countries increased from the year earlier, while United States' figures showed a descending trend. The hotel bed occupancy of 2002 shows that visitors stayed mostly on the coast. The number of bednights out of a total of 3.4 million was 2.3 million (66%). Nairobi had 19 % and Lodges 6.6%. Other accommodation was left with 7.9%, which might include campsites or other ecotourism facilities. Visitors from Europe preferred to stay on the coast, while the British and the Americans made an exception being the most significant utilizer of Kenya's Lodge network (Republic of Kenya 2002: 186-191).

The growing number of ecotourism products makes it challenging for a traveller to choose from the supply. Kenya has been the legendary safari tourism destination for long, but other East African countries, like Tanzania, Rwanda and Uganda have developed inviting tourist attractions as well as countries in Southern Africa, like Zimbabwe, Botswana, Namibia and South Africa. The field of rivalry has become wider. The 1990s was a hard decade for tourism in Kenya. It started to face stiff competition from its African neighbours after the Persian Gulf

War in 1990 -1991. The liberalised financial markets bring variable capital flows to Kenya. Tourism in Kenya suffered from changes in global tourism trends (Honey 1999: 297). According to Turner (2005) in the 1970's Kenya was "fully booked"; the tourist accommodation was in use to a 100% and the visitors stayed two weeks on the average. Now only approximately 8% of the beds are occupied and the time spent in Kenya only one week as the country has to share the bed nights with the neighbouring states. Turner thinks that what tourism in Kenya needs is more various ecotourism activities, not additional accommodation facilities.

## 10.2. The existing and potential role of ecotourism in the area's economy

When discussing about the demand for community-based ecotourism ventures in Taita Taveta and the Taita Hills, it is necessary to look at the estimations about the importance of ecotourism to Kenya's economy in a nation wide scale. It is important to notice the difference between the demand for soft ecotourism and hard ecotourism.

Weaver (1999) has made magnitude estimates of ecotourism in Kenya and in another ecotourism model country, Costa Rica, using eleven qualitative criteria (see below). One notable result of the study is the lack of congruency between the strong popular market image of these destinations as ecotourism destinations and the actual magnitude of such specialized facilities, tourists and activity space, as well as direct environmental, socio-cultural and economic impacts and government expenditures. There is, however, a big difference, when assessed on the basis of total tourist activity time used for ecotourism, which is estimated as substantial. Also the visitor motivation and indirect revenue generation are major phenomena, more corresponding to the public image of ecotourism.

- Specialized accommodation as a proportion of total inventory *minor*
- Number of local communities directly affected *minor*
- Direct employment *minor*
- Direct government investment *minor*
- Direct revenue generation *minor*
- Specialized ecotourist intake as a proportion of all visitors *minor*
- Activity space with significant ecotourism *minor*
- Total tourist activity time used for ecotourism *substantial*

- Ecotourism as a visitor motivation *major*
  - Indirect revenue generation *major*
  - Popular market image as an ecotourism destination *major*
- (The magnitude of ecotourism in Kenya and Costa Rica by Weaver)

Ecotourism has proved to be the most vital and strongest argument for the development of the natural park system of these two countries. As Weaver analyses the character of this ecotourism, it seems that the stereotype of hard ecotourist “treading softly through untouched wilderness” is irrelevant. This group of hardcore wanderers is too marginal in numbers to have much impact on the economy. Ecotourism here refers to more soft and casual ecotourists, who are mostly mass tourists including eco-activities into their multi-purpose trip. These visitors are very important for bringing direct and indirect revenues to the parks. Mass arrivals thus provide a strong argument for the enhancement of natural parks, but on the other hand, mass tourism has become clearly dependent upon the availability of hardcore ecotourism opportunities.

In order to increase the direct benefits, like revenues and employment in the communities, the ecotourism ventures and their management system need to move closer to the grassroots. The markets have moved on and consumers yearn for more new experiences. Even after Weaver’s study of 1999, there has been some changes of orientation in the tourism policies of Kenya. Domestic tourism is promoted as well as community-based tourism projects. The concept of ecotourism is having new and more profound definitions in the minds of the authorities planning tourism (Basara 2004). The idea of mass tourism and natural parks coming more dependent upon alternative tourism activities have grown stronger. The refinement of the ecotourism business during recent years, through learning from experiences as well as international agreements, has helped Kenyan government to search for updated guidelines for tourism development. The dissatisfaction of the communities living in the vicinity of government owned conservation areas along with land-use disputes, human-wildlife conflicts and lack of livelihoods have altered the orientation of tourism business.

The channels for marketing the “traditional” safari tourism, targeted on American and European higher income holiday-makers, have been established a long time ago. According to Turner (2005) the identification of the target groups for hard ecotourism ventures is more challenging. The hard ecotourists have various special interests and there are differences in

their financial spending power. These deeply eco-orientated travellers are difficult to find. If the ecotourism destination specializes in visitors of certain nationalities, it becomes quite vulnerable to market changes and political swings. The effects could be felt globally after the 9/11 terrorist attack in 2001 and when a travel warning to Kenya was announced in the United States, many companies lost a large part of their business. For example the Taita Discovery Centre (TDC) in Kasigau had American students as their major clients, but since the warning, the business has had to try penetrate the European market.

The change in consumer motivations offers an aspect to the ecotourism potential of the area. Fifteen years ago the tourists still expected to be sold a tourist *product*, unlike today when they yearn for *experiences*. There is a feel-good factor, that many visitors desire. Many of them want to feel they are giving back something to the nature and that they interact with the local people (Turner 2005). The assets for experiences exist in Taita Hills, although no huge, commercially orientated business may be expected to develop there. Considering, that the domestic tourism in Kenya has been growing fast during last years, may affect the visitor numbers in natural parks and rural areas. There is an urban generation having a solid financial standing, who like to spend their holidays on the coast or close to the wilderness. They or their children could be one target group interested in nature adventures, like camping and exploring the indigenous forests of the Taita Hills.

According to Turner (2005), there are several layers of issues when planning the economy of an ecotourism venture. One question is; who is promoting the product. The overall budget in small scale ventures is often so low, that the revenues from accommodation hardly cover the marketing costs overseas. Another challenge Turner has noticed is the long term motivation of the local people. The shareholders often seem anxious to receive immediate profits, although it usually takes some time for a business to take off and start bearing fruit. Some lose their interest after while. The non-governmental organizations who often act as intermediaries and facilitators between the community and the private sector are seen partly responsible for giving a biased impression about the profit possibilities. Sometimes this is done in order to make the landowners eager to go along with the business plan in the first place. The massive, community expectations then seem impossible to meet for the private sector.

It seems, that unhealthy pressure to succeed is formed from many directions. It can come from up above if there is a private investor involved, like an outsider company looking for big

profits. The vicious “ecotourism treadmill” –phenomenon might appear and pose a threat to the sustainability in the area. Neither does it sound as sustainable development if the community feels misled and the efforts put into the project prove useless. There is always room for more community involvement in the decision-making processes and there are always strings to be tied more firmly between the stakeholders on different levels. Also NGOs need to chase after funding in order to work. The interest in projects depends partly on the available finance. The continuity of a well started project depends on good long-term planning. The impression one gets on the field is, that people often say that they had a promising start in some project in the village, but the funds or technical help run out before reaching the goal. As Odete (2004) states, “the communities often trust the NGOs more than the government”. Considering this, the NGOs should have more government back-up when carrying out development projects.

### **10. 3. Tourism assets of the Taita Hills; strengths and weaknesses**

The Taita Hills is located in the middle of the South-Eastern Circuit tourism market area, which relies on coastal tourism. The respected international gateways, Nairobi and Mombasa, serve the area. The coastal tourism occupies 45 per cent of the national tourist market (CDTF 2001: 35). The visitor numbers show that the Taita Hills is surrounded by some of the Kenya’s most popular National Parks. Tsavo East had 153,000 visitors (8.6 per cent of the total), as Tsavo West welcomed 76,000 and Amboselli 92,000 visitors in 2002 (Republic of Kenya 2002: 192). A new community-based wildlife sanctuary, LUMO, was established in 2004 within the wildlife corridor between Tsavo East and Tsavo West and it is a significant dispersal area and migration corridor for elephants. Many historical events have occurred in these lowlands, like the building the famous railway and the actions of the man-eater lions of Tsavo. Mystical stories are associated with the Crater Lake Challa, located close to Taveta town, and with Lake Jipe, they offer a view to Mt. Kilimanjaro.

The Taita Hills differs from the surrounding lowland areas, specialized in safari-based wildlife tourism through its integrity of tourism. The natural conditions are also divergent; the temperate climate, lush vegetation and variable topography combined with a peripheric location create a place with a feeling of authenticity. There is an abundant wildlife; endemic flora and fauna are found there and travelling through the mountain massive offers breathtaking scenic landscapes.

### 10.3.1. The interdependence of ecosystem and community viability in Mwanda village – a case study on ecotourism potential

The village of Mwanda in the north-western part of the Taita Hills was chosen as a case study as it captured the interest of travellers despite its peripheral location. The village lies on the western foothills of the Taita Hills, in the vicinity of Vuria Hill (2208 m) and has been inhabited for ages as the area has fertile soils and rarely suffers from drought. Mwanda is called “the first wife”, because the land is suitable for various agricultural crops, unlike the lowland areas. The remaining forests on Vuria provide medicines, water for drinking and irrigation and prevent soil erosion, although the size of especially indigenous forest patches has diminished critically.

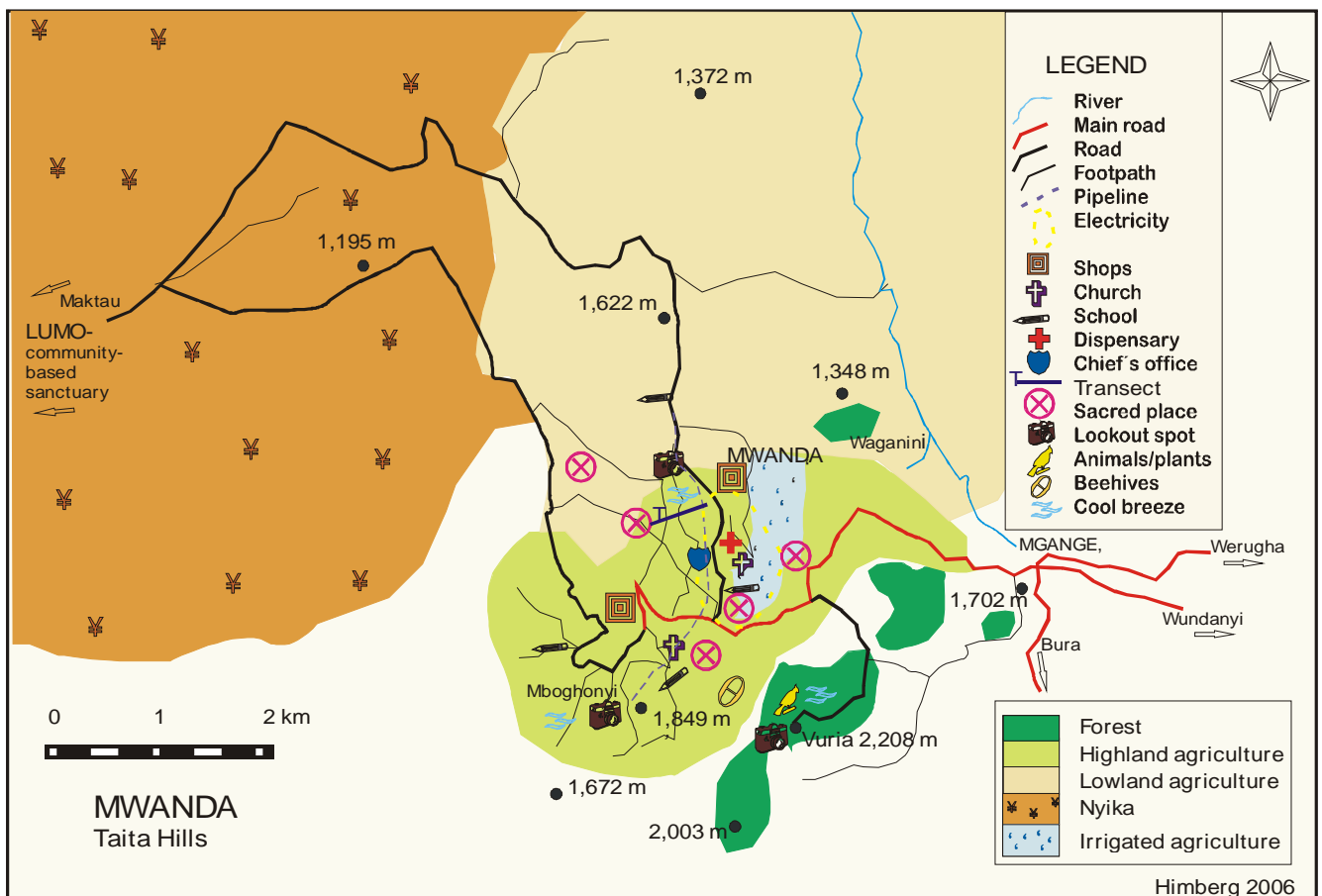


Figure 25. Mwanda village map. The original scetch map was drawn on paper by the villagers. The ecotourism attractions were added on this map according to the information given during the group interviews and transect walks.

An *agricultural transect* was made in order to study the common land use practices and livelihoods in the village. The transect was conducted in the company of two local farmer ladies and it ran through the central village, where most fertile soil is found (see figures 23 and 24). Agroforestry is practiced there, maize and beans being the most common crops and *Grevillea robusta* occurring more commonly than other tree species. Maize and beans are grown on gently sloping terraces. Bananas, sugar cane and fruit trees grow on the valley bottom. Avocados (*Persea Americana*), mangos (*Mangifera indica*) and lemons (*Citrus limon*) are important for household consumption, but also for selling. Naepia grass is needed for the zero- grazing cows. The exotic Grevillea tree is commonly planted, because it offers fuel wood and timber. It also provides shadow for the crops and prevents soil degradation.

Some indigenous tree species were also found along the transect, like Msuruwachi (*Albizia gummifera*) and Mlungu (*Erythrina abyssinica*). A typical tree growing in rain-shadow areas is *Euphorbia bussei*, which can be found in many in the north-western parts of Mwanda. Few of these trees, indigenous to East Africa, were found growing along the transect.

The indigenous trees are appreciated by the local farmers as their water retention capacity is good and they give good shadow and have various traditional and modern uses. For example the trunk of a Mlungu tree can be used for making drums. However the trend has been to plant fast- growing, exotic tree species providing more timber and firewood.

The final part of the transect is the traditionally protected forest patch, *fighi*, consisting of indigenous trees and considered as a sacred place. The size of that was estimated by the locals to be five acres and at least following tree species, with only swahili or taita name known by the author, are found there: Msungusungu, Mburughu, Mndelele, Msumi, Mvunde, Mshoshoti and Musu. The forest is still used traditionally, for instance for the initiation of boys and girls. Many plants found in the forest are used for making traditional medicines.



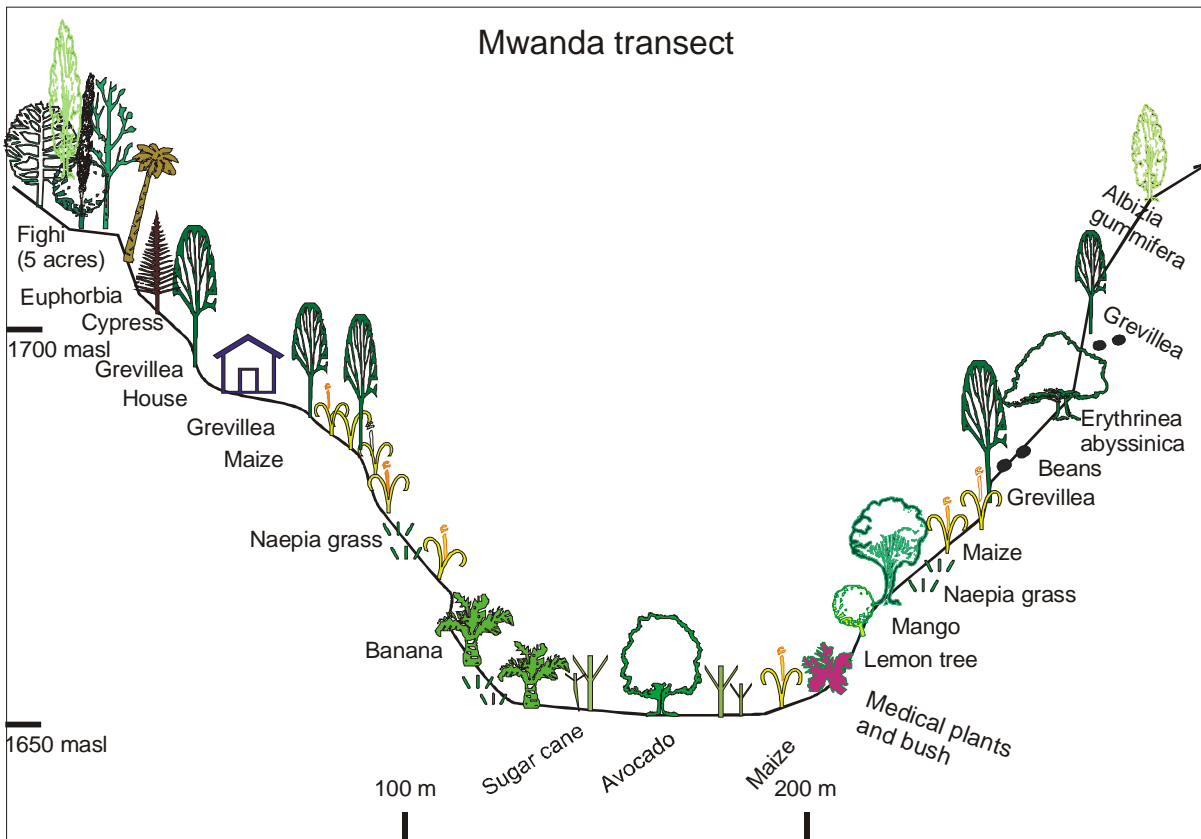


Figure 26. An agricultural transect through the fertile valley in central village of Mwanda. Agroforestry is practiced and *Grevillea robusta* dominates, but is mixed with random indigenous tree species. The *fighi* plants are protected because the forest patch is traditionally valued (Himberg 2004).

*Seasonal calendar* was used as one method in this study in order to find out the annual variations in the main characteristics of living and the need for alternative livelihoods in Mwanda. Two mixed women groups were interviewed and two calendars were drawn. All together 23 women of different ages (18 -65 years) participated. Both groups considered the annual cycle starting from January. They were asked to indicate the timings for agricultural work and major expenses. The first group came up with 14 factors and the second group with 10 factors (see figures 27 and 28).

The two calendars mainly correspond when it comes to the annual factors. Both groups considered the cold and rainy period, from April to August, to be hard because of frequent sicknesses and medical expenses. The school fees to be paid in January, April and August were considered to be high. Group number two also identified a period of expenses in June, July and August, when payments for outside fieldworkers are due.

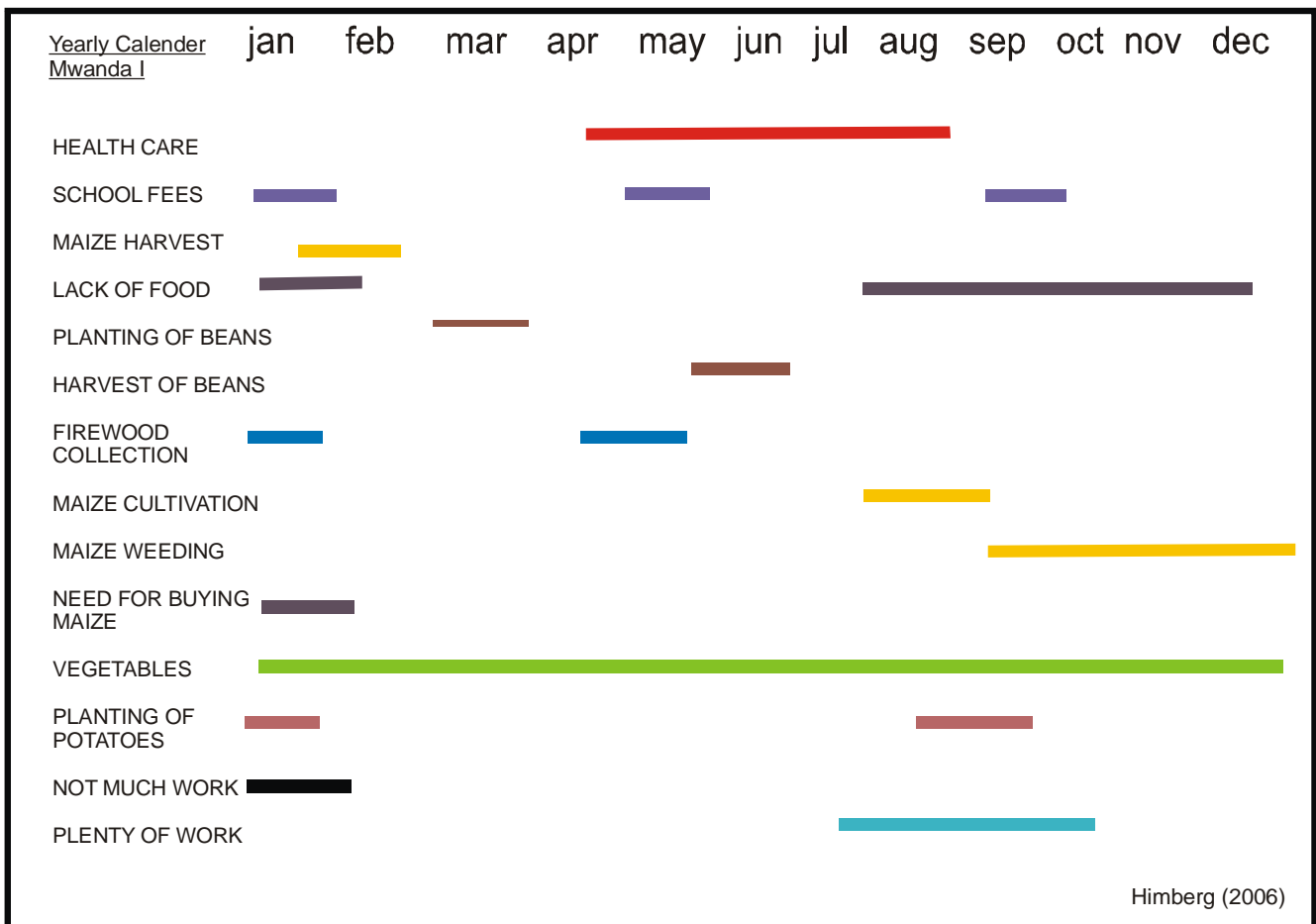


Figure 27. Seasonal calendar I. January and February are the months when outside-household income are most needed.

The busiest time of the year is from May to September, when beans are harvested and maize and potatoes are planted. There is plenty of hard work on the fields and some families need outside help. The work load is most light in January. Then there is time for firewood collection and then fields are prepared for the planting later on. Both groups said that there is a lack of food in January and February and income from outside the household is needed in order to buy staple foodstuffs. The food is lacking because of the small farm size and occasionally because of drought and crop failure. Semi-zero grazing is practised in the area, because milk gives a good income and the livestock provides security during draught. Goats, sheep or chicken are kept commonly in households.

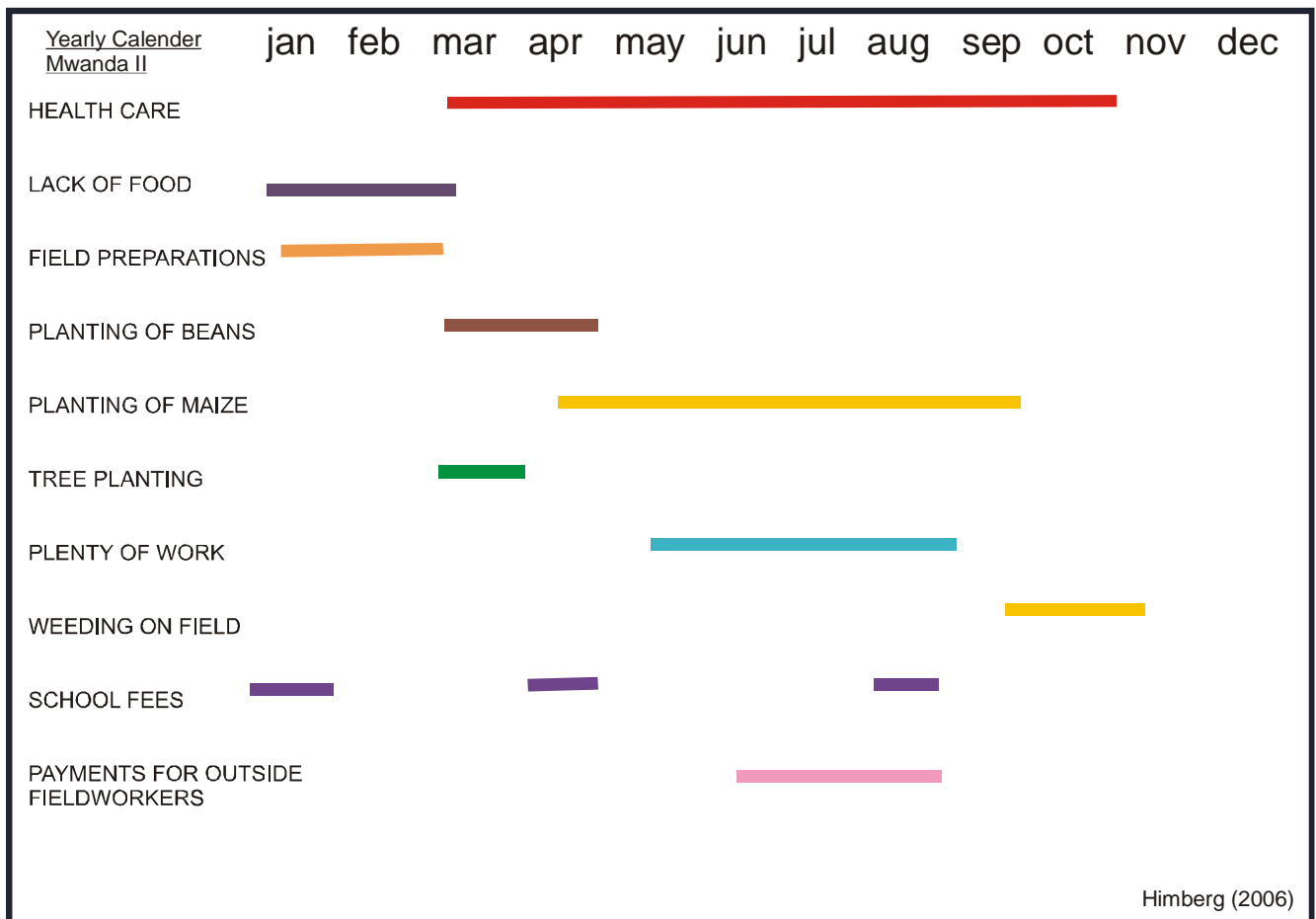


Figure 28. Seasonal calendar II. From May to September there is plenty of work on the field.

*Semi-structured group interviews* were conducted after the compilation of the seasonal calendars (see appendix 2 ). The aim was to find out what kind of possibilities these women have for outside farmland income and how they consider tourism as a livelihood alternative in Mwanda. Lively discussion took place among the groups as the questions were posed and the following data was gathered.

The women mentioned three sources of income outside the fields. 10 out of 23 said that they get money from their husband, who works outside the village. A majority (18 out of 23) earned extra money by working on some other person's field, especially during the busy season. Two participants considered milk selling an important source of income. When asked about collective activities, the women told me that they have a pot making- group and a soap group. These products are manufactured and used mainly by the villagers, but sometimes an outsider learns about them and buys some. Women used to have a group for basket making,

but marketing proved to be difficult and now the baskets and table clothes are woven only on request.



Figure 29. Hand woven baskets in Bungule (Himberg 2004).

One example of a socio-economic safety net among women in Mwanda is the merry-go-round system, in which money is collected regularly from the stakeholders and when somebody has an urgent need for financing, these savings can be used. The villagers are anxious to learn about new farming methods and the women belong to two different “vegetable groups” in which they learn from each others.

The questions about tourism arouse various opinions among the groups. Travellers are rarely seen in Mwanda. According to the women, approximately two times a year some people come to visit the scull caves, but the activity is not organized in any way. The participant were unanimous about tourism being a welcomed source of income. They considered that incomes from tourism can be relatively high. When asking about potential tourist attractions in Mwanda, the following attractions were mentioned:

- Vuria Hill
- Buffalo Ridge “*Mboghonyi*”
- Scull caves
- Sacred forests “*Fighis*”
- Wild animals, like birds and monkeys
- Drum music and traditional dance performances
- Beautiful sceneries and a nice, fresh breeze



Figure 30. View from the Buffalo Ridge (Himberg 2004).

The women came up with an idea of accommodating tourists in their homes. They all liked the idea, but more than half (14) of the participants hesitated, because they thought their homes do not have enough room for regular visitors. The idea of tourism in the area is not all new. 6 out of 23 participants are stakeholders in LUMO community-based ecotourism business located downhill from Mwanda in the lowlands. People know about the financial potentials of tourism and there has been initiatives for building a guest house in Mwanda. However the possibilities for funding have been limited. The locals consider Mwanda a safe place for outsiders. The women thought, that the best season in Mwanda for tourists would be from October to April. Other months are rather cold and humid up in the hills. The need for outside household income, for instance tourism, is most urgent from August until February, when there is a lack of food. So the timing for tourist friendly weather and local household needs seems to match.

Some doubts about tourism also occurred among the interviewees. One possible negative effect may be prostitution. The women had heard about that kind of problems in other tourist destinations. There was discussions about the cultural change and some women thought, that the local traditions have been fading during the latest decades and perhaps tourism would help in keeping the younger generations more aware of them. When the participants were asked to define the concept of ecotourism, most of them could not come up with anything or had not heard the word. Some related the concept to wildlife and to those people that come to visit the scull caves. Nobody mentioned for example the conservation aspect. The discussion moved to traditionally protected forests, *fighis*, with the help of the interviewer. There are such in Mwanda and old traditions concerning the access are still valid. According to the participants local women are not allowed to enter *fighis* until they have reached their menopause. Children, men and even tourists may enter. Access to the scull caves is also limited for local women, but tourist women are considered neutral as they represent other cultures. However, a

permission has to be got from the district officer and local village chief for such activities by the visitors.

When asked about the possibilities of ecotourism benefiting conservation in Mwanda, the participants started to tell about the problematic development on the Vuria Hill. Most of the indigenous trees have been cut and fields and houses have replaced the forest. Now original forest species exist only on the topmost parts of the hill. The fading of traditions affects the nature. It used to be widely believed, that there are bad spirits living on Vuria, so people did not dare to visit there. Nowadays the area is commonly used for collecting firewood. The fertilizers used on the fields also pose a threat to the spring water around Vuria. The Farmer's Training School in Mwanda educates farming professionals for the area, but according to the interviewees the uneducated people do not know, that it is recommendable to plant trees in the field. Another problem is the diminishing farm size; one should have a "*shamba*" of at least 2 acres in size, before it is profitable to have trees in it. The interviewees agreed, that new business like ecotourism could bring extra cash to help community development, but the idea of focusing money on conservation was not raised among the women.

The aim of holding a *village meeting i.e. "baraza"* was to bring together the villagers, researchers and the local officers and stakeholders with the aim to discuss the natural resource management and ecotourism possibilities as well as its socio-cultural impacts in the village. At the end of the session a matrix concerning potential ways of ecotourism accommodation management was compiled (see Table 1). Altogether 65 villagers attended the meeting, out of which 20 were men (aged 18 -90) and 45 (aged 20 -70) were women. The village Chief and the assistant Chief were present as well as representatives from LUMO and Taita Taveta Wildlife Forum. The occasion started with a prayer and welcoming speeches by the assistant Chief and the Chief. Taita Taveta Wildlife Forum has a local coordinator in the Taita zone, who can help community-based organizations with their initiatives, like applying for funding. The meeting offered a chance for the villagers to become aware of the work that TTWF is doing and how they can participate in the activities. There was discussions about current problems in the area, like the human-wildlife conflict, as well as about possibilities of benefiting from the Vuria Hill, wild animals and the scull caves as tourist attractions. The participants posed questions about the organizational structure and funding of the Forum.



Figure 31. The baraza was held under the hot afternoon sun in Mwanda (Himberg 2004).

There was a discussion about LUMO membership and its' benefits for the stakeholders. There were LUMO members among the group attending the baraza, and they questioned the profit of renewing the membership, because no tangible benefits had yet accrued for them during the first year of LUMO operation. It seemed that the stakeholders were very impatient for the business to start blooming.

One part of the meeting was reserved for environmental issues. Ph. D. student Jussi Ylhäisi told the villagers about the natural features of the area and about the importance of the endemic species there. He emphasized the role of the local people in a sustainable future development, both in species protection and for initiating new business ideas. This triggered a discussion about different forms of entrepreneurship and one of the elders held a speech about the benefits of private enterprise. He emphasized, that the best way for the Mwanda people is to bring forth the resources and take the internal skills of the community into use.

The meeting continued with a discussion about potential alternative livelihoods, which would combine ecological viability and economical benefits. The participants told us that they have two beehive- groups, which are making profits by selling the honey. The beehives are placed inside a forest, which adds economic value to the forest. In an ecotourism aspect, the caves were considered an important attraction. There are at least seven caves close by, some of which are traditionally used for sacred rituals and some for celebrations. Many suggestions about the new use of the cave were expressed. The villagers would like to prepare food and perform traditional music and dance in the caves. There could be shops selling fruits and handicrafts around and in the caves.

The Chief emphasized the importance of such activities for the young generation in the area, because they bring jobs and revive the traditional knowledge already forgotten. The Chief also recommended that the various community groups should cooperate more. Also some general problems in the area were brought up by the participants, like how to be able to handle the growing percentage of orphans in the area. There was a general understanding about the need to increase the possibilities for the local young to stay and be able to work in Mwanda. A community cohesion could be seen when someone in the group suggested that the caves could be prepared for visitors with united village forces and the general opinion was that before asking for outsider assistance, the locals should try themselves.

The results of the ecotourism matrix (see below) show some contradictions. The participants were asked what kind of options for ecotourism management they know. They came up with two types; outside operator and homesteads. Two other alternatives were added to the matrix by the researchers; community management and investments within the community. These concepts were defined and discussed after which the participants scored the alternatives by hand voting and ranking could thus be done. The outside operator scored most votes (148) as compared with the other alternatives. The villagers considered an outsider necessary for the sake of investment capacity. It was also thought, that marketing is difficult without an outsider. There were some doubts about the magnitude of financial benefits accruing to the locals. The homestead accommodation option ranked second, gaining 125 votes. People considered that suiting the place and culture well, as Taita people are very welcoming and like visitors in their homes. However, some people said that their houses are too small at the moment to accommodate extra persons.

The idea of community managed ecotourism accommodation scored 53 votes. The participants came up with the existing skills needed in tourism and found among the villagers. Skills mentioned were woodwork, handicraft- making, accountancy, fund managing, house-keeping and guiding. One thing considered perhaps too challenging for community forces would be marketing, because it is expensive. Nobody believed, that a local investor could be found (0 votes). The investment sums and the risks were considered too high, although there had been some people planning a guest house construction at some point.



Table 1. Ecotourism matrix of Mwanda villagers.

	Community managed	Outside operator	Investor within the community	Homesteads
Community managed	////////////////////	<b>0/ 52</b>	<b>52/ 0</b>	<b>1/ 45</b>
Outside operator	////////////////////	////////////////////	<b>52/ 0</b>	<b>44/ 18</b>
Investor within the community	////////////////////	////////////////////	////////////////////	<b>0/ 62</b>
Homesteads	////////////////////	////////////////////	////////////////////	////////////////////

- 1) Outside operator (148 votes)
- 2) Homesteads (125 votes)
- 3) Community management (53 votes)
- 4) Investor within the community (0 votes)

*An assessment tool* (see appendix 1 ) was used for getting an overall comprehension about the attractions and resources of the Mwanda area as well as the region in wider scale (including Taita Hills and nearby lowland areas). The assessment was made by two persons who were originally from Mwanda and had lived there most of their lives. A comparison assessment was made by the author in order to get an “ecotourist point of view”. The characteristics to be assessed in regional scale and the points they scored out of 25 are following:

Table 2. Mwanda regional scores.

<b>Regional Characteristics</b>	<u>Local assessment</u>	<u>Outsider</u>	
• Natural beauty	23	22	
• Cultural and social characteristics	20	18	
• Recreational facilities	21	17	
• Shopping and commercial facilities	14	16	
• Public infrastructure	15	13	
• Accessibility	19	18	
• Attitudes towards visitors	23	21	
• Existing tourism activity	21	19	
<hr/>			
Net regional characteristics score:	<b>7.8</b>	<b>7.2</b>	→ Mean value <b>7.5</b>

Following characteristics of Mwanda location were assessed:

Table 3. Mwanda property scores.

<b>Property Characteristics</b>	Local assessment	Outsider	
• Natural features	21	22	
• Built features and cultural artefacts	19	22	
• Site infrastructure	18	15	
• Human resource features	21	18	
<hr/>			
Net property characteristics score	<b>7.9</b>	<b>7.7</b>	→ Mean value <b>7.8</b>

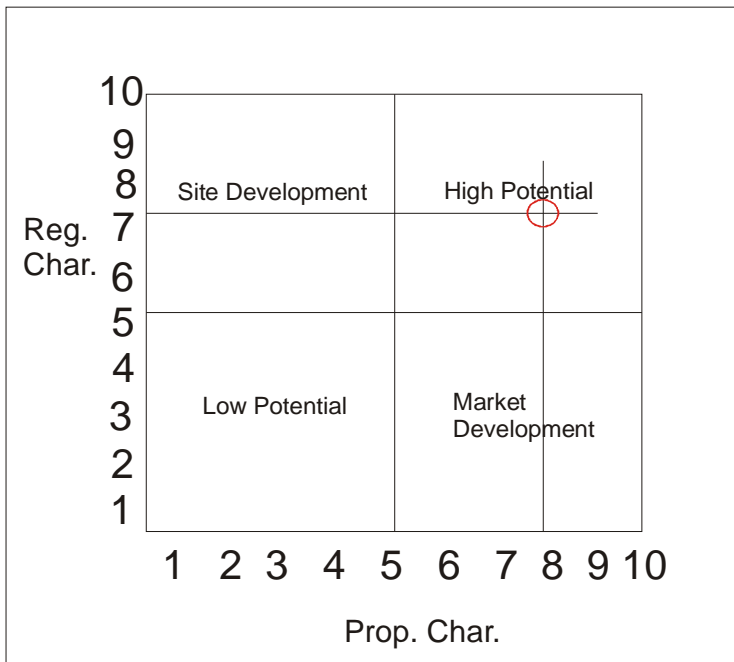


Figure 32. Mwanda scores to the high potential category with property characteristics gaining slightly higher points than regional characteristics.

The score points were summed and the gross total of the regional characteristics points were divided by 20 in order to create a standardised score. The property characteristics points were divided by 10. In average, both the regional and property characteristics score slightly less when assessed by the outsider than by the local person. However, when placed on the fourfold table indicating the overall ecotourism potentiality of the area, the numerical values locate on the high potential field in both cases. This indicates, that the ecotourism structure is balanced and Mwanda appears to have a reasonable level of ecotourism potential. The location is suitable for some form of ecotourism development and has unique natural and cultural features as attractions. Also the region has potential, even if scoring less. The fourfold table should be interpreted carefully by paying attention not only to the relevant square, but also to the position within the square. The values varying between 7 and 8 show evidence of ecotourism potential, but also raise the question; what is lacking.

The factors, that scored less, i.e. the statements on which the assessors more or less disagreed, concern tourism facilities on the region. Locally owned guest houses, lodges or hotels do not exist and neither are there any public areas like parks, wayside stops or clean and tidy toilets for travellers. The shopping facilities are for local people, selling daily consumer goods, not designed according to tourist standards. Also the safety factors like the availability of medical

services and police control were estimated rather low. The road system varies within the region, some roads being sealed all weather roads and the others mud roads, easily damaged by rains. The accessibility- and tourism infrastructure sections scored less because of these factors. Water sports as recreational facilities are also missing in the region.

The restraining factors for ecotourism in Mwanda may be the limited area of electricity distribution. Only people in the village centre are served with electricity. The sufficiency of water for tourism purposes also raises suspicion as most of the villagers need to walk one to five kilometres in order to fetch water. The pipeline also service only the central village. The assessors found it difficult to estimate whether the local ecosystem is able to absorb visitors without damage. We may ask, who would be the authority to control that. There are community-based projects going on in Mwanda, but they could be more various and cooperating more with each other.

Even if the yerly need for income outside the household and the time for less work an dnice weather correlate, it needs to be questioned whether farm work and tourism activities can be combined. Ever greater demands are placed on women in the households and the workforce serving visitor needs is away from the labour needed on the fields especially if ecotourists keep on coming all year round. Another question concerns the education possibilities of girls. Ecotourism could create jobs for local youth, but would that prohibit the scheme of educating girls, if they would be more needed in household duties?

Problems related to land use and living conditions in Mwanda were studied in January 17<sup>th</sup> 2004 as a part of the Taita– project, by a group of three geography students, including the author, and Professor Petri Pellikka. The problems are presented and elaborated in this study selectively. The full details can be found in the expedition report (see Pellikka & al. 2004: 114 -120). The study was carried out in three phases: Firstly personal information of the participating villagers was collected. Secondly the participants came up with problems occurring in the village and evaluated them by using *a problem matrix*. The number of beans indicated the severity of the problem. The change of the problem in time was also evaluated. If the change had been positive, a number of white beans was given. In case of negative change, red beans were used. The third phase included a compilation of a village scetch map (see figure 25) by the village Chief Chawana assisted by a few other villagers.

The problem matrix (see table 4 ) includes three kind of problems; technical or economical, environmental and sociological problems. Two of the three most serious problems are environmental problems; wildlife conflict and water supply. A technical/economical problem, the lack of a medical laboratory, ranks first according to the villagers. Comprehensive health care is not possible in the village and there is a feeling of insecurity because ambulance transportation is lacking. The water problem ranks third. The villagers consider that fetching water takes quite a long time as the distance to the water point varies from one to five kilometres. The pipeline brings water only to the village centre and the polytechnic school.

Apart from the matrix study, according to a report designed by the Ministry of Water Resources Management and Development (2003: 12 -14) the water resource potential is fairly poor in the area. However, several springs operate at the foot of the the Vuria Hill and Mwanda Hills. One option is rainwater harvesting, but that would require iron-sheeted roofs and water storage facilities, which are too expensive for many villagers. The total projected water demand in cubic meters per day in the Mwanda area is 93.2, out of which the human demand covers 49.7, livestock 29.8 and institutional demand 12.7. Industrial and commerce demand is marginal, only 1.0 and also projected to stay marginal (1.4) in future visions for the year 2017, whereas human consumption will increase to 80.5. This seems to reflect the idea of the area not planning any particular industry or commercial activity on the area. Ecotourism as a potential local industry would place demands on water supply.

The local people have only recently started to realize the importance of the Vuria Hill's tree cover in preserving water quality and quantity. The tree cover was preserved when traditional believes were stronger. Later on religion and management policies of the government among other things changed the situation and a great deal of the forests were felled. The small, indigenous *fighis* remain in the area, as the village elders have reminded that these should not to be touched.

While drawing the village map, there were discussions about tree species. The slow growing (mostly indigenous) trees are good for building purposes, but considered not as suitable firewood. The problem ranking seventh in the matrix is a lack of fuel, meaning that energy consumption has been growing and more wood and charcoal is needed for food preparation. The negative change of this problem is clearly seen in the matrix. Firewood is used in 90% of the cases and charcoal in 10% of cases. Firewood collection is time consuming work as the

wood needs to be fetched from the *nyika* areas on the hillslopes and on the lowlands. As the transect shows (Fig. 26), many Grevilleas have been planted on fields. These exotic, but fast growing trees offer fuel for households. However, the locals criticized the poor condition of the nearby Waganini forest, which used to be an indigenous forest, but was replaced by exotic species 50 years ago.

The human-wildlife conflict, which ranked second, has got more serious during the last decade. In Mwanda the problems occur between the farmers and baboons, monkeys and wild-boars. The animals disturb the crop production by eating and destroying e.g. maize and cassava fields. Children used to harass them away, but today most of the children have the opportunity to attend school instead of working in the fields. During exceptionally dry seasons, the elephants may wander up the hill in search of water, thus disturbing the growth of mangos and, in too many cases, injuring people. The villagers consider that this behaviour can be explained by the effects of climatic changes. The unpredictable weather also makes the planning of agricultural practices more difficult than before. Too often the rains fail to come or they are too heavy and damage the crops.

Lack of land is a multidimensional problem, ranking seventh. A family has only half an acre of land on average, even if there is more land available. First of all it is hard to buy or rent land, because it is very difficult to get a loan. Another problem, especially in large families is land allocation. Usually the first-born inherits more than the others, when transferring the farm to descendants and male inheritors are often privileged. In addition, the cultivation of land is problematic since new technology and manpower are lacking. Especially on busy seasons, more labour or machines would be needed in the fields in order to clear the areas for cultivation. Many husbands are working days outside the village and children go to school. On the other hand quite many men in the village have started to face problems due to alcohol abuse, which relates to unemployment. There is a feeling, that the community unity is not like it used to be. This shows as difficulties of community members to mobilize in crisis situations, like when facing human-wildlife conflicts. In general the women are considered to be more united than men. Lack of finance for projects is considered a problem, although the situation has improved during the last years. There are initiatives and fruitful ideas about developing the community, but the channels of applying for funds are not well enough known.

The lack of continuity of education means that many children fail to continue their education after the free primary school, due to lack of money. If they are able to finish secondary school, the only option in the area is the polytechnic school. To study elsewhere means extra costs. Many local youngsters would like to stay in their home village, but also study or work properly.

Table 4. The problem matrix of Mwanda village. The classes: T/E = technical or economical problems, E = environmental problems, S = sociological problems (Himberg & al. 2004).

Rank	Problem	Severity	Class	Positive change	Negative change	Net
1	Lack of medical laboratory	57	T/E	1	17	-16
2	Wildlife animals problem	50	E	1	19	-18
3	Water problems	37	E	6	9	-3
4	Lack of medical facilities	35	T/E	8	8	0
5	Transport and communication	31	T/E	15	2	+13
5	Lack of continuity of education	31	T/E	17	0	+17
7	Lack of fuel	29	E, T/E	2	15	-13
7	Lack of land	29	T/E	15	0	+15
9	Lack of finance for projects	27	T/E	16	0	+16
10	Lack of adequate energy	24	T/E	14	5	+9
11	Poor marketing sites	23	T/E	0	16	-16
12	Lack of unity	22	S	8	6	+2
13	Poor housing	20	T/E	9	3	+6
14	Lack of polytechnic facilities	19	T/E	0	17	-17
15	Effects of climatic changes	14	E	1	19	-18
Total change		113		136		-23



Figure 33. Baboons harass the crop production in Mwanda (Himberg 2004).

### **10.3.2. Assessment tool results and community goals of the case areas Chawia, Mbololo and Ngangao**

The three largest indigenous forest areas with their surroundings were chosen as cases in order to study their attractions and magnetism. The same assessment tool was used as in Mwanda village. There were three assessors per area giving their opinions; one local resident, one conservation professional and the undersigned. Information about ecotourism initiatives and other alternative livelihoods was given by the NGO –staff working in the area as well as the forest guards. Outsiders point of view was conceived by exploring and photographing the forests. The results of both regional and property characteristics are presented numerically below. The property characteristic results are inspected firstly by case area, secondly in relation to each other and finally the regional characteristics are analysed as a whole.

The natural features in *Chawia* score well. The forest itself is the smallest one of the case forests, but big enough for a half days hike. Chawia is disturbed by exotic tree species, but there are still natural habitats, indigenous plants and native animals. Spectacular sceneries over the lowlands can be viewed from the southern and western edge of the Bura Bluff Cliff on which Chawia is located.





Figure 34. Sisal plantations seen from Bura Bluff (Himberg 2005).



Figure 35. Fauna of Chawia (Himberg 2005).

The place is ideal for a visitor interested in butterflies and birds. The local environmental committee has many projects going on, like keeping a tree nursery, producing honey and farming butterflies. These activities could be interesting attractions for an ecotourist.

Table 5. Chawia regional scores

<b>Regional Characteristics</b>	<u>Local assessment</u>	<u>Outsider</u>	
• Natural beauty	15	22	
• Cultural and Social Characteristics	18	18	
• Recreational Facilities	19	17	
• Shopping and Commercial Facilities	8	16	
• Public Infrastructure	10	13	
• Accessibility	17	18	
• Attitude towards visitors	20	21	
• Existing tourism Activity	21	19	
<hr/>			
Net Regional Characteristics Score	<b>6.4</b>	<b>7.2</b>	→ Mean value = <b>6.8</b>

Table 6. Chawia property scores.

<b>Property Characteristics</b>			
• Natural Features	25	22	
• Built Features and Cultural Artefacts	21	20	
• Site Infrastructure	18	12	
• Human Resource Features	25	17	
-----			
Net Property Characteristics Score	<b>8.9</b>	<b>7.1</b>	→ Mean value = <b>8</b>

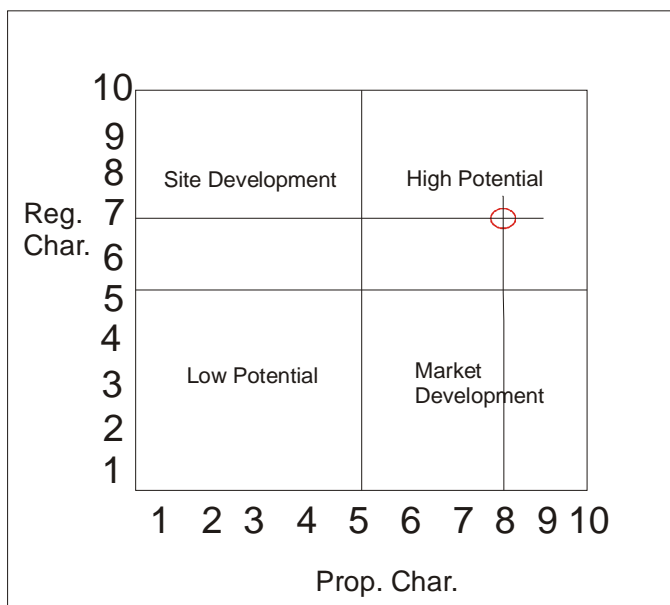


Figure 36. Chawia

Human resource features were assessed also with high marks. There are skilled, local people, who can interpret the natural and cultural features of the area. The assessors assumed, that the educated, young people could be interested in developing business management skills if needed. The ownership rights among the locals were considered to be sufficient in general. Chawia is planned to have a participatory forest management plan in the near future. After the plan preparation, it will be seen whether the local people are interested in making ecotourism initiatives or if they emphasize other alternative forest livelihoods. It is to be remembered, that the conservation efforts have cost implications especially for the people living along the forest periphery. According to Mogaka (2002: 24) the economic costs of conservation in

Chawia include reduced farm productivity, lost crop production opportunity and time loss. The environment committee which is charged with the responsibility of carrying out forest patrols has not been compensated in any way. This may influence community attitudes towards conservation in the long run.

The site infrastructure did not score as well as the other sections, because of the lack of electricity on site. Also the sewage treatment facilities should be upgraded if more people visit the area. The road leading from the Mwatate-Wundanyi main road to Chawia is vulnerable to weather conditions and a four-wheel drive is needed to get there. The lag from the main road needs some adventurism, but the location of Chawia is relatively close to the Voi-Taveta road compared with other case forests. One target group for Chawia could be the soft ecotourists travelling to game parks like LUMO and Tsavo West, who are interested in short duration experiences not too strenuous physically. To see a mountain rainforest ecosystem would be only one component of a multi-purpose trip and after the day the tourists could move on and find accommodation in a more western style-catered surrounding.

*Mbololo* is the least disturbed forest patch in the Taita Hills. The distant location from the main roads makes the forest challenging to reach and a four-wheel drive vehicle is recommended. However, the natural features on spot will reward the visitor. The rugged hills can be viewed from the top of Mbololo and a wide range of native flora and fauna can be observed in the forest. The natural features score most of the property characteristics and the human resources follow. The potential of the area has been recognized by the Taita Taveta Wildlife Forum, which initiated a program for community-based ecotourism in 2005. Locals can apply for the program and households were selected according to their location and their capacity to accommodate visitors. The facilities, like the number of rooms, the sewage treatment system and general hygiene as well as the host family's attitudes mattered. Motivated local people were also selected for a nature guide course. The venture is planned to be totally owned by the community. However, business management skills need to be taught and upgraded. There are many unemployed, but educated youths in the area. The program facilitates the preparations for ecotourism based on the visitors possibilities to experience farm life, have profound cultural interaction with the host family as well as explore the wonders of the indigenous forest.



Figure 37. Semi-zero grazing cow on a farm in Mbololo (Himberg 2005).

There are some shrines and caves in Mbololo and rock climbing is one possibility for “dare-devils”. Many of the community members have engaged in conservation activities and small scale businesses like bee-keeping, biogas production and growing tree seedlings, which are interesting attractions for nature-oriented visitors. The realization of the participatory forest management system should bring new challenges along with management rights for the community.

The site infrastructure lacks scores, because electricity is not available in the Mbololo area and there is no community-wide sewage treatment system. Each homestead has been assisted and advised how to handle sewage. Some households in the area use solar panels for electricity and these are a possible, ecological option also for the homesteads. The fairly distant location and primitive infrastructure along with the unique natural habitats make Mbololo a destination well suited for hard ecotourists. The hard ecotourists, whether travelling single or in small groups, suite Mbololo best in means of forest’s carrying capacity. For example the forest inhabits with the threatened, endemic *Saintpaulia teitensis*, should not be disturbed by big tourist groups trampling around. The forest offers nice experiences for a visitor with a desire for a deeper interaction with nature, like for bird-watching or botany.

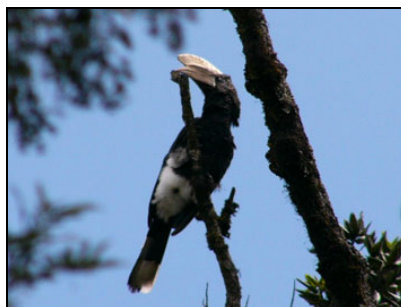


Figure 38. Great Hornbill in Mbololo (Himberg 2005).

Table 7. Mbololo regional scores.

<b>Regional Characteristics</b>	<u>Local assessment</u>	<u>Outsider</u>	
• Natural Beauty	19.5	22	
• Cultural and Social Characteristics	13.5	18	
• Recreational Facilities	18	17	
• Shopping and Commercial Facilities	13	16	
• Public Infrastructure	15.5		
• Accessibility	17	18	
• Attitude towards visitors	18	21	
• Existing tourism Activity	10.5	19	
<hr/>			
Net Regional Characteristics Score	<b>6.25</b>	<b>7.2</b>	→ Mean value <b>6.7</b>

Table 8. Mbololo property scores.

<b>Property Characteristics</b>			
• Natural Features	21.5	22	
• Built Features and Cultural Artefacts	16.5	22	
• Site Infrastructure	14.5	14	
• Human Resource Features	19.5	19	
<hr/>			
Net Property Characteristics Score	<b>7.2</b>	<b>7.7</b>	→ Mean value = <b>7.5</b>

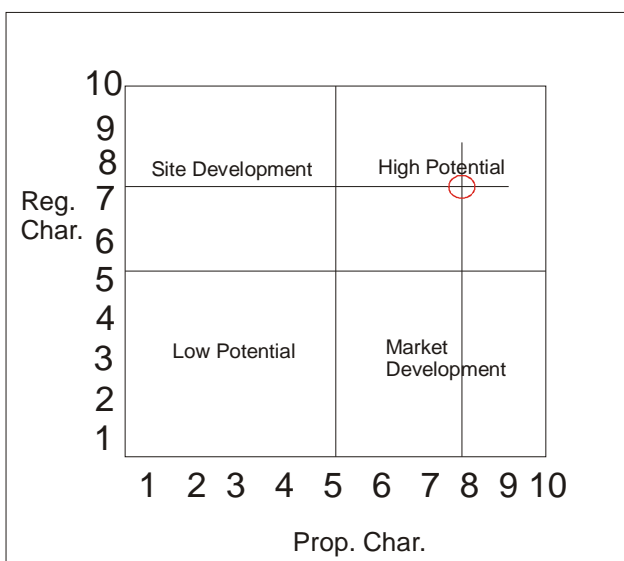


Figure 39. Mbololo

The natural features in *Ngangao* score best. Indigenous flora and fauna are abundant and they can be quite easily spotted with the help of a local guide. There are many tracks leading through the forest. A 360 degree view of the Taita Hills opens from the Ngangao top. Ngangao hosts a giant *Newtonia Buchananii*, the “Mother tree”, which is one nice depot on a hike through the forest. There are some small waterfalls by which butterflies like to stay. Animals posing a threat for visitors do not exist in the forest. Built and cultural features score next. There are caves, which were used traditionally by locals for religious purposes as well as for maintaining social order in the community. The forest adjacent dwellers are mostly conservation oriented and know the value of forest. There are active environmental groups and locals guard the forest from intruders. Tree-nurseries can be found on forest fringes.



Figure 40. The “Mother tree” in Ngangao has been saved from illegal cutting (Himberg 2005).

Some members of the community have planned a place and facilities for ecotourism, because they have seen the demand for accommodation in the area. Many researchers have visited Ngangao, but have been accommodated elsewhere. The preliminary plan for the facility is that it would be owned by the community members through purchase of shares and that the prime investors come from the community. Unemployed, educated youth can be hired from the forest adjacent communities and be given courses in business management and tour guiding.

Electricity and water are available in the area, although not yet reaching the proposed ecotourism facility site. A sewage treatment system should also be developed. The road from Wundanyi to Ngangao is mainly a mud road, but easily reached by a two-wheel drive during the dry season. The forest has plenty to explore for a nature lover and subsistence farming is practiced in the areas around the forest. Homestead tourism on local farms could be one

alternative in Ngangao, but locals seem to be more interested in building a guest house. The target groups accommodated there could be researchers and biology students coming for excursions from abroad as well as from other parts of Kenya. Ngangao is a nice destination even for a one day hike and located along the scenery route leading from Mwanda or Kibushe to Wundanyi and onwards (see figure 43).



Figure 41. Ngangao has dense canopy and a view to Mount Kilimanjaro (Himberg 2004).

Table 9. Ngangao regional scores.

<b>Regional Characteristics</b>	<u>Local assessment</u>	<u>Outsider</u>	
• Natural Beauty	20.5	22	
• Cultural and Social Characteristics	12.5	18	
• Recreational Facilities	15.5	17	
• Shopping and Commercial Facilities	16.5	16	
• Public Infrastructure	16		
• Accessibility	18	18	
• Attitude towards visitors	19	21	
• Existing tourism Activity	12	19	
<hr/>			
Net Regional Characteristics Score	<b>6.5</b>	<b>7.2</b>	→ Mean value <b>6.9</b>

Table 10. Ngangao property scores.

Property Characteristics			
• Natural Features	22.5	22	
• Built Features and Cultural Artefacts	15	22	
• Site Infrastructure	17.5	16	
• Human Resource Features	18	18	
-----			
Net Property Characteristics Score	<b>7.3</b>	<b>7.8</b>	→ Mean value = <b>7.6</b>

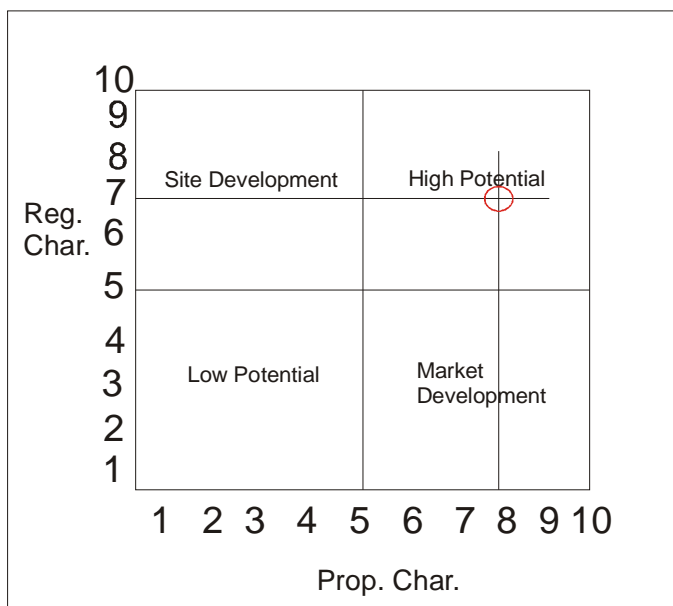
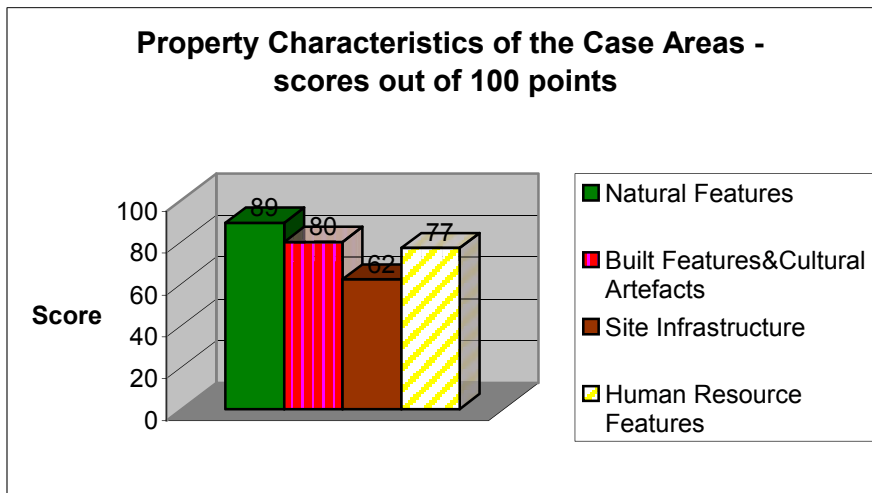


Figure 42. Ngangao

It can be concluded, that all three forest areas, as well as Mwanda village, score points that entitle location on the high potential square. Only slight differences can be seen. All of them score between 7.5 and 8 points and locate close to the centre of the square. The mean values of all four case areas' sectional characteristics were summed and are presented in the figure below. That enlightens the strengths and weaknesses of the case areas in general. The natural features get highest points (89) and built features and cultural artefacts the second highest (80). Human resource features score slightly less (77) and site infrastructure least (62).

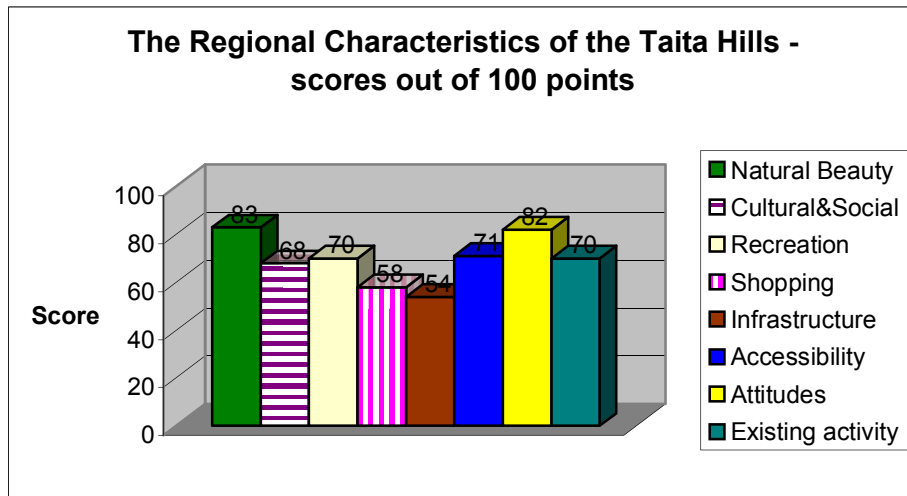




The regional characteristics score less than property characteristics in all the case areas. This indicates, that the case areas are seen to have fairly high potential for ecotourism, although the region needs to be upgraded on the factors that are weakening the overall balance. The factor hindering the development is primarily the lack of a public, tourism supporting infrastructure (see figure below). This refers to a lack of tourist information centres, sign posts, public wayside stops and tidy toilets. More crucial is the lack of adequate emergency services to maintain the safety and security of visitors. There is a common responsibility on Kenya's tourism. A tourist destination country cannot afford to lose its reputation because of some mysterious accident happened to a visitor in the countryside.

Shopping and commercial facilities exist in the areas, but they are not targeting tourists. There are skilled people, who can make traditional handicrafts, but their marketing is a problem since not many tourists visit the Taita Hills. Banking and internet services can be found in the district capital, which is centrally located. The mobile network is working well. The accessibility scores 71 points and it poses challenges when it comes to regional planning. The main road from Voi to Wundanyi is a all-weather sealed road. Otherwise the roads in the Taita Hills are mud roads or sand asphalt. The mud roads leading to the forest areas can be affected by heavy rainfalls. The Taita Hills is close enough to other attractive regions, like LUMO sanctuary and Kibushe Ranch, to ensure that ecotourists can find it rewarding to visit the Hills. The visitors passing through should be ensured an easy access by coating the roads best suited for a tourist route. Special attention should be paid to the road conditions at the entrance points in the western and north-western side of the Taita Hills. On the other hand, Mbololo represents an ecotourist destination where one is not supposed to be travelling too

easily. The unpaved, bumpy dirt road is supposed to weed out hard ecotourists from soft ones travelling in masses. This helps to keep the forest carrying capacity stable.



The cultural and social characteristics are lacking in points mainly because the historic settings and the indigenous culture are seen to suffer from degeneration. The preservation of remaining indigenous sites is not actively promoted in the region. Most of the shrines are neglected and those remaining are protected by the few people who still respect or practise traditional religion. Christianity has transformed the local culture and left very little space for traditional believers. They fear for ostracism by other community members. Apart from the places of religious history, the historical settings, like buildings or monuments in Taita Hills are few. What still exists, is knowledge about traditional celebrations and skills to make music and crafts, even if more or less hibernating.

Recreational facilities are loosing scores, because the region has no proper facilities for water sports. On the other hand there would be many possibilities for adventurous people to pursue activities like rock-climbing or hang-gliding. The facilities for hiking and biking are there in means of natural conditions. However, before the trails in the case forest areas could be taken into recreational use, an assessment on the carrying capacity of the forests should be done.

There are possibilities for cultural interaction in the region, as the locals' attitude towards visitors is generally very friendly and welcoming. The spirit of working for community development with united forces still lives on in the Taita Hills, which can be seen in form of various initiatives and work of the community- based organizations. The "harambee"-spirit

exists more or less in the communities, whether or not the groups are organized and registered. Interaction between nature orientated tourists and local environmental groups could be fruitful. Ecotourists could participate in working on tree nurseries and become acquainted with butterfly farming or bee-keeping. This would offer possibilities for visitors to raise consciousness on nature conservation issues. The Taita Hills could offer authentic experiences of life on a Kenyan farm. Those visitors interested in taking part in a Taita family's everyday life could be accommodated in local homesteads (Himberg 2005).

The existing tourism activity scored medium points. There was a hesitation about whether the current tourist market in the region is large enough for new businesses and competing tourism products. However, the level of economic competitiveness was considered high due to the unique features of the Taita Hills, not found in other places nearby. The opportunities to create alliances with existing tourism enterprises in Taita Taveta were considered to exist in many. It was suggested, that alliances could be formed with the Tsavo Parks and Sanctuaries, so that visitors could enjoy two completely different products within one area.

When it comes to raising awareness in conservation issues and environmental education, the crucial weakness in the region is the lack of a public meeting place for all the stakeholders working for the environment and developing new practices for natural resource management. There are many community-based organizations scattered around the Hills, but they do not know about each others work or innovations. A lot of scientific data, in various disciplines, has been produced through the years concerning the Taita Hills, but it has hardly ever reached the local people. There is a need for a forum, perhaps an education centre, where the research done by the "outsiders" and the grass root level actors' work can meet. For example, there has been confusion and wondering among the forest adjacent residents about the outsiders rights to enter the gazetted forests. Strange and often western people may visit the forests in research means, while the locals may not. Most of the locals do not know what these strangers do inside there and some fear that valuable natural resource discoveries are made without informing the locals. These mysterious rumours would fade out if proper information would be available.

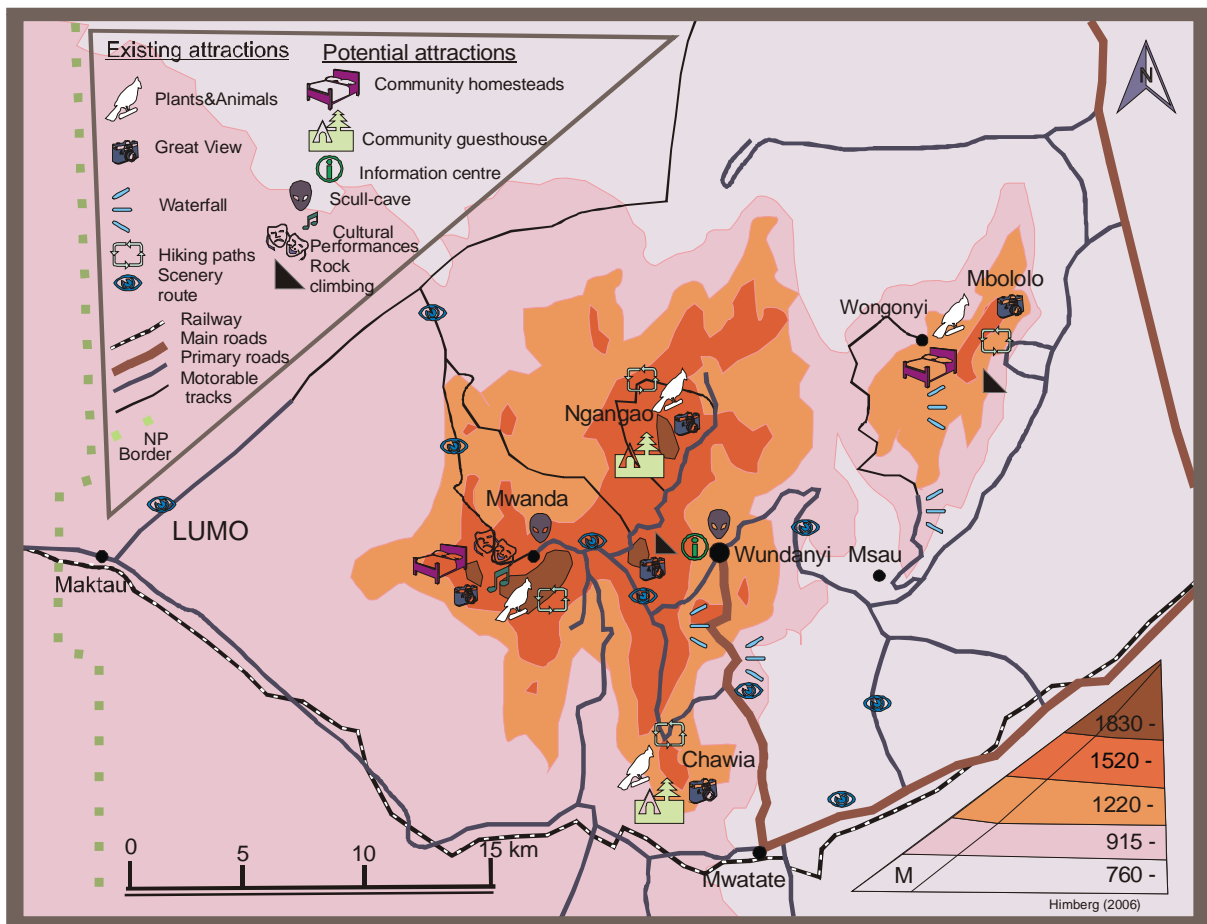


Figure 43. The existing and potential ecotourist attractions in the Taita Hills.

This kind of education centre would serve people from all ages and social classes, both locals and tourists. The local school classes could visit there and perhaps produce educational material concerning their nearby forest. Data about traditional environmental knowledge as well as Taita cultural traditions could be collected and presented in the centre. This place could be a conference centre for the stakeholders working for conservation, forestry and agriculture. The latest innovations in these fields could be presented there. The community groups with small scale businesses, like selling of tree seedlings and honey, could market their products at the centre. The marketing of whatever is always challenging and especially expensive. The knowledge is too hard to spread around from the periphery, so a centre from which the information can spread is more efficient and this being the case, needed.

The education centre should primarily serve the needs of the local communities and organizations in enabling and ensuring the efficient spread of information. Additionally, it could act as an information centre for travellers, offering interpretation of local attractions and knowledge about conservation issues. The local nature guides could be based in the centre and

their services could be coordinated from there. The local craftsmen and –women could bring their product for sale there (Himberg 2005).

#### **10.4. Competition or cooperation?**

According to the District Development Plan the number of hotels in Taita Taveta is 37, of which the number of tourist class hotels is 10 (Ministry of Finance and Planning 2002: 12)(see figure 44). Considering the abundant wildlife in the area, it is obvious that most of the accommodation are lodges and camps. The results of the ecotourism assessment tool show, that the Taita Hills region is still in an infant stage of development when it comes to tourist facilities, like accommodation and information. However, the Hills can easily compete with the surrounding areas as a unique entity of natural features and Taita culture. The only ecotourist destination in the area offering mountain rainforest experiences is Kasigau. The business idea in Kasigau is combining education, conservation and communities. In addition to forest adventures, the opportunity for game viewing is left available. According to Turner (2005) in the end of the day wildlife is the biggest draw for ecotourism. He scales the forest wildlife from interesting to spectacular and then adds, that the spectacular is what people want to see.

Similar kind of potential is found in the Taita Hills and some individual travellers have already found and enjoyed the place. The challenge is to make the visitors stay longer. As Turner stated: "There is nothing so easily vanishing than a tourist. If you give a tourist a car, off he goes to the nicest accommodation place". Taita could have an advantage in being able to offer hard ecotourist homestead accommodation for longer stays. Joint venture deals could be planned with other ecotourism entrepreneurs, considering the day trippers interested in forest environment and agricultural landscape. The close location and operating principles of LUMO Community Wildlife Sanctuary make it seem like a potential business partner more than a potential competitor in ecotourism.

The visitors' expectations often seem to be hard to meet in the tourism business. Turner (2005) paints a picture of an ever-demanding westerner asking for more services, but not being willing to pay more. The segment of hard ecotourists interested in ecotourism experiences in rustic, local surroundings, are to be marketed through more specified channels,

because these people do not necessarily search their travel destination among the package tours, thus avoiding to travel with the masses. When identifying the differences between the interests of soft and hard ecotourist, the Safari Lodges in the surrounding areas should not pose a threat for potential ecotourism in the Hills in the sense of competition. Certainly the businesses in the area compete with each other for customers in general and during the low seasons it may seem that beds are empty even in many Lodge belonging to a globally marketed hotel chain. However, a small scaled, community-based ecotourism venture may have opportunities among the “big boys”, if bringing an extraordinary product to the market. The overall upgrading of the Taita Hills for visitor purposes would have multiplier effects on the local economy and it would support the popular market image of the whole Taita Taveta as an ecotourism destination offering various opportunities. This could serve the common interests of tourism entrepreneurs in the area.

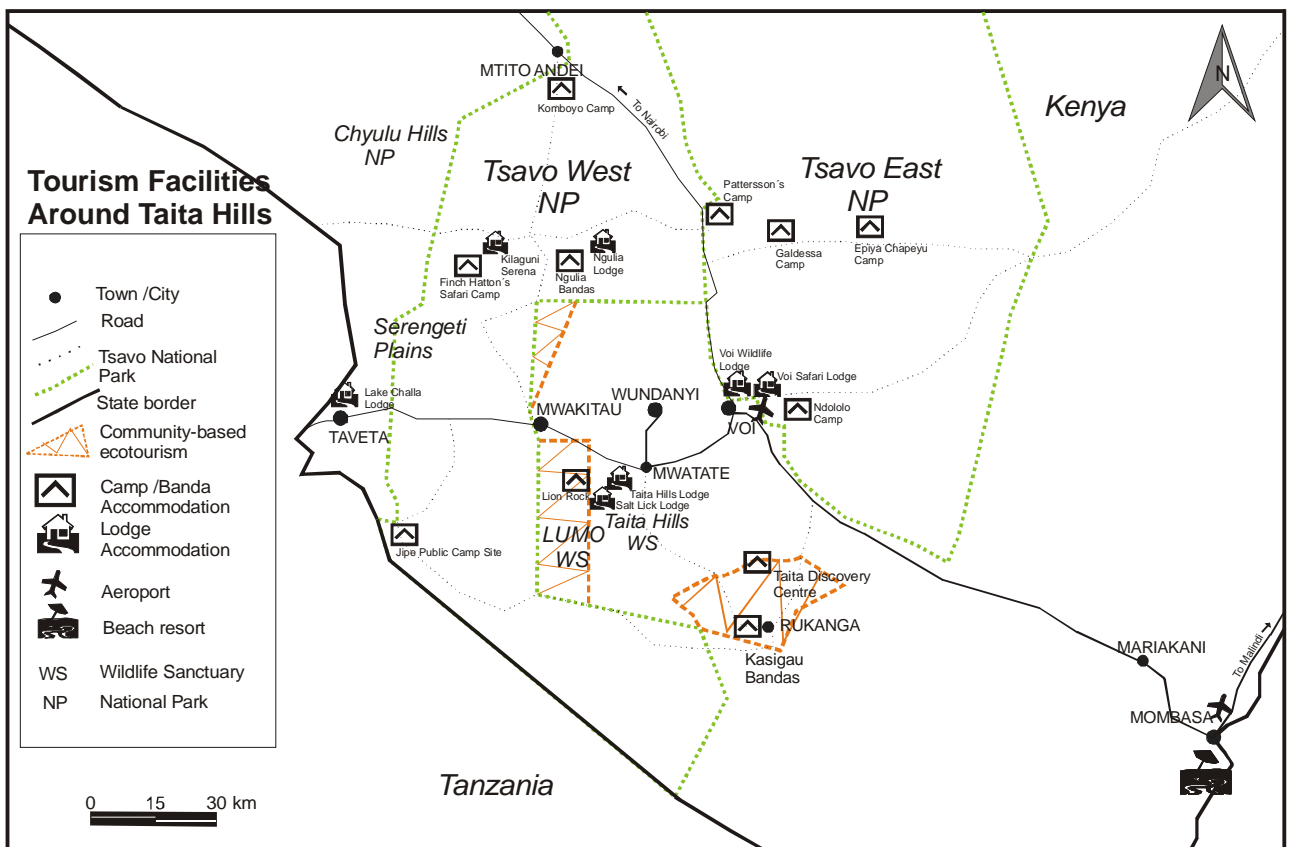


Figure 44. A range of accommodation possibilities from top end to budget are found in Taita Taveta, apart from Taita Hills. Drawn according to ACC (2001) and Fitzpatrick & al. (2003: 312).

## 11. Conclusions

This study aimed at identifying the existing and potential resources as well as recognizing the hinderances for ecotourism development in the Taita Hills. The question posed was; what would be the trade-offs in Taita Hills between ecotourism image, ecotourism development and sustainability. The answers have revealed through the collage of knowledge, experiences and opinions of different level stakeholders heard in this study.

Taita Hills has potential for ecotourism development. Regionally it has a lot to offer for a nature loving traveller and it is located suitably in order to be included into the coastal tourism circle. The local people interviewed in this study considered the new business as a welcomed idea and thought that it would bring financial benefits needed in households. They emphasized the role of ecotourism as a stimulant for the fading indigenous knowledge about cultural traditions and forest species. There seemed to be a common concern of traditions fading in Mwanda. Only the elderly people are well aware about history and traditional ways of life. The middle-aged people confess, that their capacity to tell their children about these things is rather limited, even if they wish they could do that. The young people again learn facts about the environment and history at school, but this kind of learning and emphasizing of issues differs from learning indigenous knowledge within one's own family.

Even if Mwanda is known to be one of the villages still fairly much sticking to traditions, there have been signs of cultural degradation. Sacred sites, like the scull caves, have suffered from mischief and the *fighis* have been encroached with such intensity that some of them can be easily recognized in the landscape otherwise occupied by farmland. A question has to be raised about whether the traditional protection will be enough for the sacred forests and other sites in the future. If the traditional values are not passed to the next generation, a big amount of cultural heritage shall disappear along with the shrines. Some *fighis* in the Taita Hills are located in gazzetted forests, but there is a concern about the viability of those on trust lands, only protected by traditionalistic thinking people. In order to establish any ecotourism ventures, profound studies about the ways of usage and protection of the sacred sites should be conducted.

The governmental policies and district level development plans as well as the actions of the NGOs working in the area support ecotourism development. It is seen as one possible

alternative livelihood for forest adjacent communities. The participatory forest management plans, when prepared, will guide the initiation of the future forest- based livelihoods in Ngangao and Mbololo as well as in Chawia. The revenue sharing mechanism in ecotourism needs careful planning. A venture should benefit the communities in a common way, not only some individual families. It would be important to create awareness and motivation for forest protection among local farmers in a large scale, not only among the ones living on forest fringes.

In order to set up ecotourism business, outsider guidance and funding are needed in the Taita Hills. In Mwanda the optional alternative was considered to be an outsider investor, who would invest the prime capital and take care of the marketing, while the locals would prepare their homesteads for accommodation and come up with cultural performances. The East African Wildlife Society and Taita Taveta Wildlife Forum have been facilitating and empowering people on these issues in the Taita Hills. The first steps to educate ecotourism entrepreneurs have been taken in Mbololo.

Another research question was, whether ecotourism could help to prevent the degradation of indigenous forests. There are evidences of the risks that come with tourism business, like cultural degradation and an increase in the common price level in the area. The global tourist flows are varying in time. However, the trend of people yearning for new experiences will probably never change. The communities in the Taita Hills should not consider adapting ecotourism as their main revenue source, but it could bring the extra direct benefits like wages and employment in the communities as well as cause indirect money circulation in the region. This could lead to the establishment of other alternative forest related businesses.

The benefits of ecotourism even more important in means of sustainability would be the raising of awareness. The ideal situation would be, that ecotourism brought along a strong environmental education factor, which would reach the Taita communities in large and create a common feeling about the various forest values and about the importance of sustainable agro- forestry practices. In a phase, like the one that Taita is going through, when the bond is weak or cut between the generations in means of passing traditional knowledge, some new efforts are needed to revive this capacity. The employment opportunities for young people would keep them in their native areas.



What remains to be seen is, how the big step from a restricted forest use of indigenous forests to a community-led forest management will succeed. The level of usage in gazetted forests can be referred to the IUCN category I of Strict Nature Reserves and Wilderness Areas. When the PFM becomes a reality, there will be zones enabling usage like in IUCN categories II (Natural Park), IV (Habitat Management Area) and VI (Managed Resource Protected Area). The identification of these zones needs to be done along with an assessment of the carrying capacity of the forest in order to involve low impact travel and minimal disturbance. There are knowledgeable people in the communities, who have visions about sustainable forest use, but *what is the common level of indigenous knowledge and the capacity for forest management, is not known well*. A need for further studies on these issues exists.

The coastal tourism circuit seems to be mutually dependent on mass tourism and ecotourism. The big challenge is to ensure that all options are pursued in a sustainable manner. The Taita Hills could benefit from both types of tourism by offering different kind of experiences. Those travellers, who prefer sitting in a car to bush walking, could enjoy a scenery tour in the Taita Hills on their way from one National Park to another to see the game. They could pay short visits to see community-run businesses, like tree nurseries or butterfly farms and have an opportunity to stop in the (future) information centre to study the area and buy local handicrafts. The hard ecotourists are up to more profound interaction with nature and local people, so they need to be treated with opportunities to stay a longer time in the destination. There is thus potential for various user groups, but in means of ensuring the steady carrying capacity, *the main target group would be hard ecotourists*.

A SWOT –analysis is done here in order to summarize the primary factors affecting the potential for sustainable ecotourism development in the Taita Hills.

<p style="text-align: center;"><b>STRENGTHS</b></p> <ul style="list-style-type: none"> <li>• Unique natural features</li> <li>• Welcoming Taita culture</li> <li>• Active community-based organizations</li> <li>• Active non-governmental organizations</li> <li>• Plenty of research done in the area</li> <li>• Location in the Coastal Tourism Circle</li> <li>• Locals' positive attitude towards ecotourism</li> <li>• The timing for the need of extra household income correlates with the tourist favouring season (in means of sunny weather)</li> <li>• The different level policies encourage ecotourism development</li> </ul>	<p style="text-align: center;"><b>WEAKNESSES</b></p> <ul style="list-style-type: none"> <li>• The infrastructure needs upgrading</li> <li>• The security of travellers is difficult to guarantee</li> <li>• The shopping facilities are not targeting tourists</li> <li>• Lack of unity in communities</li> <li>• The different level stakeholders working for conservation and development lack collaboration</li> <li>• Lack of government capacity to spread the knowledge about new policies and their possibilities and responsibilities</li> <li>• Only few forests are gazetted in Taita Hills</li> <li>• The political instability in the country</li> <li>• The marketing for a special target group (hard ecotourists) has a cost-benefit- ratio of low productivity</li> </ul>
<p style="text-align: center;"><b>OPPORTUNITIES</b></p> <ul style="list-style-type: none"> <li>• The Forest Act of 2005 makes Participatory Forest Management possible</li> <li>• The Act forms base for new empowerment possibilities in communities</li> <li>• Community-based ecotourism can increase the formation of other forest-based enterprises and support enterprise development in the region in general</li> <li>• Ecotourism could raise awareness about various forest values among the communities</li> <li>• Opportunity for Kenya to diversify its tourism product supply</li> </ul>	<p style="text-align: center;"><b>THREATS</b></p> <ul style="list-style-type: none"> <li>• The inadequacy of the Forest Act and PFM to truly empower people</li> <li>• The “fragmentation” of organizational responsibility without co-ordination and collaborative mechanisms in forest management</li> <li>• Taita Hills exposing to “ecotourism treadmill”-process</li> <li>• Too rapid change of forest usage level</li> <li>• Lack of patience in communities during ecotourism development projects</li> <li>• Conflicting values among the community members (chritianity vs. traditional believes)</li> <li>• Inadecuacy of traditional protection of sacred sites on trust land</li> <li>• New terrorist attacks in Kenya</li> </ul>

The increased possibilities for communities in decision-making and management of forests seem to enhance the commitment to conservation. Already in recent years, as the NGOs and local officers have started facilitation on forest conservation and management issues, environmental groups have been born in Taita Hills. Some were created with outside assistance and some spontaneously. What still remains to be seen is *how wide legitimacy the local level management institutions shall enjoy in PFM*. In the Zimbabwean case of CAMPFIRE program, which was supposed to emphasize decentralization and use of community institutions, the local communities feel that they have only a consultative role, while the rural district councils and specialist agencies are officially in charge of the natural resources. At the moment it seems that the PFM plans for the Taita Hills reflect the principles

of passive participation. Like in the Joint Forest Management approach, the future of the Taita Hills forests is based on the assumption, that the conservation of natural forests is best assured by official legal state control coupled with an active involvement of local villagers.

Initiating ecotourism, even if small-scaled, is a business with many horizons. Every community has to think about what is the most suitable form of combining conservation and business. Not all community members, for example in Mwanda, had a perspective on ecotourism. It could develop over time, but also includes risks and proper facilitation is needed to minimize those risks. It is worth analysing whether there is capacity enough in the community itself or if there is a need for an outside operator. The responsibility of evaluating and enhancing the human resources of the communities has more or less been laid on the shoulders of the non-governmental organizations. NGOs are also sometimes seen as responsible of raising too high hopes in locals when it comes to gaining profits. The common problems in ecotourism usually occur firstly at the first place when it comes to investing and marketing. The capacity building is one challenge as no business is economically or ecologically sustainable in the long run without proper management. If cooperating with outside investors, Taita communities ought to strive towards an agreement allowing community members as much power as possible.

As gazed through the theoretical framework it can be stated, that the Taita Hills with its rural population strongly depending on the land, represent a place where paying regard to the interdependency of the ecological viability and community viability is crucially important. Increased cooperation with different level stakeholders and local empowerment along with new policies can lead to efficient biodiversity conservation efforts. However, this development should be realized forth as we have seen the rate of species extinction as well as the degeneration of traditions being fast. Joe Cheffing's illustration of a biased human-nature balance; the small islands of wild animals surrounded by people; mirrors the current state of the Taita Hills' indigenous forests. The local knowledge as well as the results of various research projects need to be taken into use in order to create stepping stones between the forest islands so that animals can migrate. Community-based ecotourism could at its best act as a cultural stepping stone for traditions to be passed to younger generations.

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## Appendix 1.

### Assessment tool for ecotourism potential

Name: \_\_\_\_\_

Place: \_\_\_\_\_

#### Part A: Regional Characteristics

This section helps you measure your region's attractiveness by examining essential aspects of magnetism. These are:

- 1) Natural beauty
- 2) Cultural and social characteristics
- 3) Sport and recreational facilities
- 4) Shopping and commercial facilities
- 5) Public infrastructure
- 6) Attitudes towards tourists
- 7) Accessibility
- 8) Existing tourism activity

Five statements measure each of these aspects that you rate on a scale of zero to five reflecting how well they describe your region. **A score of five indicates that you strongly agree with the statement, and a score of zero indicates that you strongly disagree** (that is, the statement does not describe your region at all)

Strongly agree	Agree	Somewhat agree	Somewhat disagree	Disagree	Strongly disagree
5	4	3	2	1	0

#### 1. Natural beauty of Your region

The region has a diverse range of geographic features such as gorges, cliffs, rock formations, watercourses or estuaries, soils, colours and landforms.	
The region has an abundance and variety of native animals that are easily visible to visitors.	
The vegetation in the region is very diverse, with an abundance of flowering plants, interesting trees or shrubs, and untouched habitat areas for native wildlife.	
Water is available in the area; natural and man-made water features exist and offer opportunities for recreational activities.	
Travelling through this region is a visually stimulating experience	
<b>SUBTOTAL</b>	

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## 2. Cultural and Social Characteristics of Your Region

The region has a rich history and contains many historic settings such as historic villages, buildings or homes.	
The region actively promotes the preservation of Indigenous sites, explorer routes and artefacts, derelict buildings and prehistoric sites such as fossil deposits.	
The cultural fabric of the area is rich with religious history, including places of worship, burial grounds, missions and Indigenous sacred sites.	
Local celebrations such as dances, race meetings, agricultural shows and special festivals (arts, crafts, music etc.) are attractions for visitors to the area.	
There are no obvious threats to the indigenous culture and traditions.	
<b>SUBTOTAL</b>	

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## 3. Recreational facilities in Your Region

The region boasts a wide variety of ecotourism activities such as nature trails, hiking tracks and bike trails.	
Water sports are well catered for with facilities for canoeing, boating, sailing, diving, swimming and the like.	
The region provides opportunities for adventurous people to pursue activities like hang-gliding, rock-climbing and ballooning.	
The region offers possibilities for cultural interaction, like accommodating by a local host family or participating community 's projects.	
The region provides opportunities for travellers to raise consciousness on nature conservation issues.	
<b>SUBTOTAL</b>	

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#### 4. Shopping and commercial facilities of Your Region

The region is serviced by a wide selection of shops including general merchants, speciality shops and shops catering local artefacts for tourists.	
The commercial needs of residents and visitors are well served with adequate banking and postal facilities.	
The region is served with landline telephone, mobile phone and internet facilities.	
The visitors are well catered for with restaurants and other food and beverage services.	
Visitors to the region can be accommodated comfortably in locally owned hotels, lodges, guest farms, bandas or homesteads.	
BTOTAL	SU

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#### 5. Public infrastructure to support tourism In Your Region

The region is well serviced by transport services including road, air and rail access.	
The health and well being of travellers is ensured by medical services including doctors, dentists and other health professionals, as well as medical facilities.	
Adequate police and other emergency services maintain the security and safety of residents and visitors to the area.	
The region assists visitors by providing tourist information centres, maps, brochures, interpretation of local attractions and features, tours, local guides, sign posting and other tourism supportive artefacts and services.	
Public areas like parks, wayside stops and toilets are clean and tidy.	
SUBTOTAL	

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**6. Accessibility of Your region**

The road system in this region is well developed, with most roads being all weather sealed roads.	
This region is close enough to other attractive regions to ensure that tourists will find it rewarding to visit here.	
There are no seasonal factors such as high rainfall, dust storms etc. that affect the accessibility of this area.	
There are many governmental initiatives and ongoing projects which will help developing the road system.	
The area can be easily reached by public transportation.	

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**7. Attitudes toward tourists in Your region**

The region is investing a lot of energy and resources into attracting tourists to the area.	
Local businesses meet the needs of visitors in a warm and welcoming manner.	
People involved in tourism related services in the region cater for visitors from other cultures in a sympathetic and understanding manner.	
Local communities running natural resource management projects, like wildlife and forest conservation, are willing to interact with nature-oriented tourists.	
When I travel within this region I am always made welcome, even though I may be a stranger.	
SUBTOTAL	

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**Part B: Property Characteristics**

This section examines the features of Your / the Community ´s property. The property features that are important for a successful ecotourism venture are: natural features, man-made structures and artefacts, the infrastructure needed on the site to support visitor comfort, and the skilled people involved in the venture.

The rating scale of zero to five is again used.

<b>Strongly agree</b>	<b>Agree</b>	<b>Somewhat agree</b>	<b>Somewhat disagree</b>	<b>Disagree</b>	<b>Strongly disagree</b>
<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>0</b>

**9. Natural features of Your/ Community´ s property**

The property contains or is adjacent to areas of spectacular beauty, eith exceptional views and interesting landforms.	
The property has a diverge range of natural flora with many examples of native vegetation, indigenous plants and natural habitats.	
There is an abundance of native wildlife on or adjacent to the property, which can be easily observed by visitors.	
The ecosystem is able to absorb a managed level of visitors without damage.	
The native wildlife does not pose a threat for the visitor safety.	
<b>SUBTOTAL</b>	

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**10. Built features and cultural artefacts on your/ community' s property**

The property includes, or is closed to important historic/ cultural features, such as historic buildings, indigenous sites, fossil deposits etc.	
Commercial, industrial or agricultural processes that would be interesting to visitors are conducted on the property.	
There are many recreational amenities close at hand, such as nature trails, hiking paths, wildlife sanctuaries, rock- climbing, etc.	
There are community-based conservation or development projects, such as restoration of buildings, tree-nurseries, apiculture and the like.	
The property has other features of interest that are considered to be of great interest either to specialists or more general visitors.	
<b>SUBTOTAL</b>	

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**11. Site infrastructure**

Electricity is available to the site.	
Sufficient water is available to meet the extra demands of the venture and can be reticulated as required.	
The sewage treatment facilities are sufficient for the extra demands placed upon them, or can be upgraded to meet the new requirements.	
Roads, pathways and parking facilities are sufficient, or can be upgraded to the needed level .	
Local materials have been used when building the accommodation/ recreational facilities.	
<b>SUBTOTAL</b>	

## 12.Human resource features

There is a sufficient level of ownership rights within the local community.	
The property/ community can supply or hire appropriately skilled labour to meet the needs of the proposed ecotourism venture.	
The owners/ community members have, or are able to develop, the business management skills.	
The owners and proposed staff have the skills necessary to effectively interpret and describe natural as well as cultural features on the area, so that visitors can learn facts about the environment and the local cultural history.	
The time demands of other routine or seasonal activities on the property are unlikely to interfere, or can smoothly be combined, with efficient operation of the proposed ecotourism venture.	
<b>SUBTOTAL</b>	

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## SUMMARY TABLES

Add up all the regional sectional scores (part A) to get a gross total for regional characteristics. This gross total should fall between 0-200. Then divide that gross total by 20 to create a standardised regional characteristics score that should fall between 0 and 10.

### Part A: Regional Characteristics

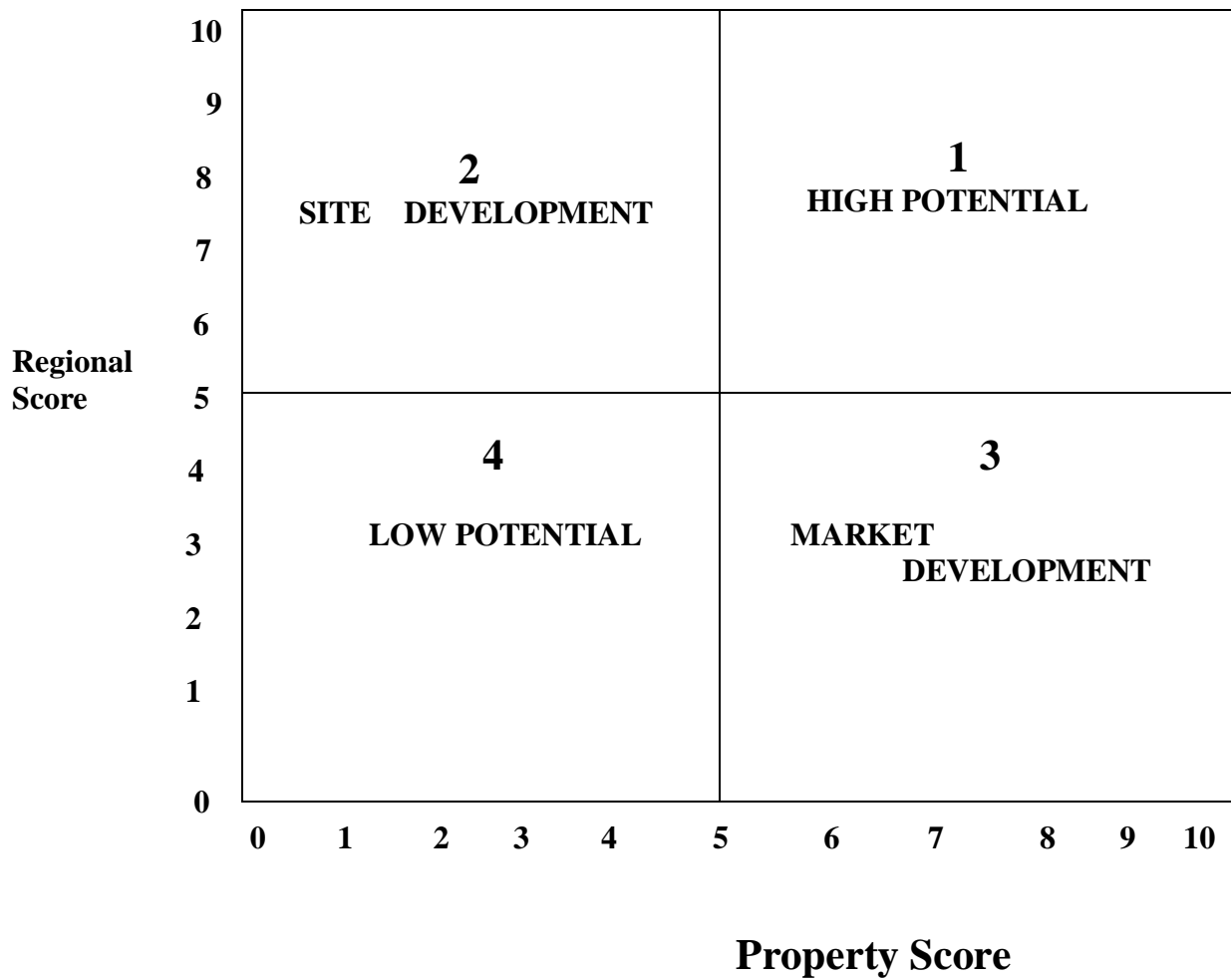
<b>1. Natural beauty</b>	
<b>2. Cultural and Social Characteristics</b>	
<b>3. Recreational facilities</b>	
<b>4. Shopping and commercial facilities</b>	
<b>5. Public infrastructure</b>	
<b>6. Accessibility</b>	
<b>7. Attitudes towards visitors</b>	
<b>8. Existing tourism activity</b>	
<b>GROSS TOTAL</b>	
Divide Gross Total by Standardising Factor	<b>20</b>
<b>Net Regional Characteristics Score</b>	

Now repeat the procedure for the property characteristics assessment, giving a gross total of between 0 and 100. This time divide by a standardising factor of 10 to arrive at a standard property characteristics score. Again, the standardised score should fall between 0 and 10.

### Part B: Property Characteristics

<b>9. Natural features</b>	
<b>10. Built features and cultural artefacts</b>	
<b>11. Site infrastructure</b>	
<b>12. Human resource features</b>	
<b>GROSS TOTAL</b>	
Divide Gross Total by Standardising Factor	<b>10</b>
<b>Net Property Characteristics Score</b>	

### ECOTOURISM POTENTIAL GRID







## **Appendix 2**

Women-group interview  
Mwanda

1. Basic facts
  - Name
  - Age
  - Years at school
  - Land ownership
2. Where do You get income except from “shamba”?
3. Do You belong to some women group? Do You wish to establish a group of some kind?
4. Do You make traditional handicrafts?
5. Do You see tourists in Mwanda?
6. How do You see tourism as a source of income?
7. What kind of things there are in Mwanda that would attract tourists?
8. Would You be interested to be involved in tourism business? In which way?
9. How do You think that things would change if many tourists would visit Mwanda?
10. What do You think “ecotourism” means?
11. Do You think ecotourism could benefit conservation efforts in Mwanda?