Kakamega Forest: ecotourism and rural livelihoods – linkages and interactions for the Kakamega Forest region, Western Kenya

O. Kambona Ouma\textsuperscript{1} & C. Stadel\textsuperscript{2}
\textsuperscript{1}Department of Ecotourism, Hotel and Institution Management, Maseno University, Kenya \\
\textsuperscript{2}Department of Geography and Geology, University of Salzburg, Austria

Abstract

Increasingly, the scientific community and practitioners have focused their attention on the complexity of ecological, economic social, cultural, and political linkages between protected areas and their surrounding regions. These interactions are complex; in some aspects and cases, they may be beneficial, but very often they are also problematic. This is particularly the case for those protected areas which have been ‘carved out’ from traditional rural livelihood systems by exogeneous actors or agencies.

This study will investigate the nature and extent of linkages and interactions between the protected area of Kakamega Forest Reserve and the adjacent densely populated rural regions. The paper will further examine the role of ecotourism in Kakamega Forest and pursue the question whether tourist activities could offer to the local population viable and sustainable economic options. Using structured and semi-structured questionnaires, in-depth interviews and participant observations, data was obtained from the adjacent Forest Community, top management of the Forest, operators of ecotourism facilities and services and selected respondents from the surrounding rural communities.

Results indicate that with the creation of the Nature Reserve of Kakamega Forest, the management of the protected area is largely controlled by the central government through Kenya Wildlife Service and Kenya Forest Service without taking much into consideration the needs and livelihoods of the local population. Traditionally rural populations depended on the multiple resources of the forest as a supplementary environment for their agricultural activities. With the imposition of the Nature Reserve, these alternative resource options of
Kakamega Forest became severely curtailed. Furthermore, with the imposing of strict wildlife protection measures, growing incidences of human-wildlife conflicts have arisen in the areas adjacent to the Kakamega Forest Reserve. The study further reveals, that the hope that ecotourism in the area could offer viable new economic horizons for the local population has so far by and large remained unfulfilled. Activities undertaken by most of the community based organizations in and around the Kakamega Forest do not seem to have a strong link to tourism. As a result, the benefits generated from ecotourism are not sufficient enough to sustain beneficial linkages and interactions between the rural communities and Kakamega Forest and to substantially enhance the welfare of local populations. 

Keywords: rainforest resource, ecotourism, forest management, protected areas, adjacent rural communities, rural livelihoods, linkages, interactions.

1 Introduction

Over the years, the agricultural land use in and resource extraction from Kakamega Forest has had to cope with increasing human population numbers which are estimated at about 850 persons per square kilometre [1]. Consequently, the agricultural resource base of the households has become scarce and insufficient. In an attempt to meet their livelihood needs, large areas of the Forest have been cleared to provide additional land for agriculture. This has resulted in a substantial reduction in the size of the Forest and a severe biodiversity loss. For instance, a number of montane forest birds that formerly lived in Kakamega Forest such as Tauraco hartlaubi and Campethera tullbergi, seem to have disappeared [2].

Conservation efforts have resulted in rather drastic resource use restrictions, while at the same time exacerbating the problem of wildlife damage to crops. especially in the Northern part of the Forest (Figure 1). Despite these restrictions on human activities, illegal use of Forest resources by the adjacent Forest Community to supplement their meagre incomes has continued. Ecotourism activities in the Forest have not been able to compensate for resource use restrictions and crop damages by wildlife incursions. Thus, the inter-relationship between the Kakamega Forest management and the adjacent rural communities has been marked by mutual mistrust and resentment. This poses a serious threat both to the rural livelihoods and conservation efforts directed to Kakamega Forest.

These pressing problems notwithstanding, so far few in-depth studies relating to the interactions between ecotourism activities, conservation priorities and rural livelihoods for the Kakamega Forest region have been conducted. However, Kokwaro [3] provided an overview of the illegal exploitation of the Forest resources including timber poaching, damages to trees (mainly stem debarking), fuel wood collection, removal of saplings and cattle grazing. Furthermore, Emerton [4] and Greiner [5] documented the current and historical importance of the Forest to the local communities and the extent and type of forest utilisation by the adjacent households. Some studies, for example Bennun and Oyugi [6]; Mutangah et al. [7];
Cords et al. [8]; Cords [9–11]; and Zimmerman [12] tend to take a somewhat biased stand in favour of the ecological aspects of the Forest.

1.1 Study setting

The study was undertaken in Kakamega Forest, Western Kenya. The Forest rises to an altitude of between 1500 metres to 1700 metres above sea level and located between latitudes 0° 10’ and 0° 21’ North and longitudes 34° 47’ and 34° 58’ East (Figure 1). The Forest is surrounded by a dense vegetation of tea plantation. The tea plantation is planted and managed by Nyayo Tea Zones, a semi-autonomous government agency. Planting of tea plantations around government forests is a management strategy that has been adopted by the Kenyan government over the years as one way of providing a buffer between the local communities and the Forest thus protecting the forests from human incursions. Adjacent to the Forest in the East is the Nandi Escarpment at 2200 metres above the sea level. Kakamega town is located on the Western side of the Forest and at about 50 kilometres to the South, lies the city of Kisumu. Kakamega Forest is the only remaining Eastern patch of the Guineo-Congolian rainforest that once stretched across Zaire, Uganda and Kenya [13–15].

The Rainforest exhibits a unique biodiversity and habitat rarity, which makes it a sanctuary for a remarkable diversity of plants, birds, insects and other forms of animal life not found anywhere else in Kenya. It is also a source to several rivers that drain into Lake Victoria [16]. The Isukha that is the predominant tribe living around the like many tribes in Western Kenya use the Forest for traditional rights of passage such as circumcision ceremonies. Thus, the Forest is of great cultural and ecological significance for Western Kenya and beyond. The Forest is surrounded by a densely populated area of predominantly farming communities and service towns with a limited economic potential. Kakamega Forest can therefore be considered as a ‘Protected Forest Island’ surrounded by a sea of marginality and poverty.

2 Theoretical considerations

2.1 Ecotourism and local communities

Ecotourism has been lauded as an attractive sustainable development alternative to mass tourism. It is perceived to have fewer negative impacts on the natural and cultural environments resources while providing incentives to adopt practices that conserve and potentially enhance the very resources it is dependent on [17, 18]. However, a universally accepted concept and practice of still seem to be elusive among ecotourism scholars and practitioners. Boyd et al. [19] identifies over 35 terms that have a link to ecotourism some of which include nature travel [20]; nature-oriented tourism [21]; special interest tourism [22, 23]; sustainable tourism and alternative tourism [24] among others. Farrel and Runyan [25], caution that the wide scope of ecotourism can merely become a catchword for almost anything that links tourism with nature. Wight [26], in turn,
emphasizes the ethical dimensions of ecotourism. In view of the several understandings of ecotourism terminology, this study looks at ecotourism from the ethical values and principles as given by Wight.

Since ecotourism greatly depends on the support and cooperation of the local communities [27], benefits accrued from ecotourism are likely to be optimised if the local people are given the opportunity to actively participate in ecotourism. Ecotourism further creates opportunities for diversification through new forms of ecological enterprises [28]. Other benefits of involving local people in ecotourism include increased employment opportunities, diversification of the
local economy, increased market for agricultural products, and improved transportation infrastructures [29].

2.2 Forests, poverty and sustainable rural livelihoods

Although poverty has in the past been expressed on the basis of income levels or consumption, these definitions are now widely accepted to be limiting as they do not adequately capture the complexity and dynamism of poverty. The World Bank [30] gives a broader definition of poverty as a pronounced state of deprivation of well-being related to a lack of material income or consumption, low levels of education and health, vulnerability and exposure to risk, no opportunity to be heard and powerlessness. In an attempt to reduce poverty, a new approach, i.e. the sustainable livelihood concept, which builds on a wide base of poverty alleviation, has increasingly received acceptability within international organisations such as the World Bank, the Food and Agricultural Organisation (FAO), the Department for International Development (DFID), among others. Sustainable livelihood addresses the capabilities, assets and activities required for a securing of adequate means of living [31]. Bebbington [32] indicates that in this broader context, assets are not just limited to resource use but should also take into account the potentials and capabilities of local people.

In the context of forest environments, the woodlands provide livelihood assets in form of timber, non-timber forest products (NTFP) and services. The NTFP include a wide range of goods for domestic use and for market, among which are charcoal, firewood, game, fruits, honey, medicinal herbs, forage, and thatch grass. Local communities may also benefit from forest services such as protection of water catchment areas [33] as well as restoration of soil fertility in agro-forestry systems [34]. Dove [35] argues that the net benefits of NTFPs may be too low to justify articulation of property rights, which in turn, may limit the incentives to invest and increase yields. This is because Natural forests are often inferior production environments with undeveloped infrastructure, high transport costs, few buyers and exploitative market chains. In view of these characteristics, he concludes that it is difficult for those people who rely exclusively upon NTFPs to escape poverty. Whether it is poverty that forces communities to use NTFPs, or it is their dependence on NTFPs that makes them poor, is still a subject of debate.

Despite the importance that forests play in poverty alleviation, it is still difficult to ascertain the extent to which people are dependent on forests, because such an assessment depends on how forest dependence is defined [36, 37]. Byron and Arnold [38] have identified three categories of forest users: forest dwellers, including hunters and gatherers; farmers living adjacent to forests including small holders and the landless; and commercial users, for example wood-based artisans, traders, small entrepreneurs and employees of forest industries. Arnold and Bird [39], in an attempt to highlight the complex link between poverty and forests, distinguish between direct and indirect causes of deforestation. They argue that forest degradation is rarely caused by direct factors alone, but by a whole array of indirect factors, some of them originating
in faraway places each more remote from the forest. They give the example of conversion of forests for agriculture which may be a result of population increase, policy failures, market deficiencies, and civil unrest, among others. Thus this scenario is highly complex with many underlying causes that are linked to and reinforce each other.

Micro-level studies by Arnold and Bird [39, p. 2] further show that poverty may result in a shortage of options forcing people to clear forests for cultivation or to use the natural resources in an unsustainable way. Nevertheless, they indicate that the poor can and do invest considerable time and resources to forest management. According to the authors, the relationship between forests and livelihoods is a matter of perspective. What might be defined as a deplorable deforestation by an ecologist can be considered as an improvement of livelihood options by local people and rural development practitioners.

3 Methods of data collection

Structured and semi-structured questionnaires, in-depth interviews and discussions were used to gather data. In addition to the questionnaire based approach, the study used participant observations and informal talks to supplement the data collected from the local people and visitors to the Forest. Data was collected on the following variables: benefits obtained by the rural community from the Forest, community involvement in forest conservation, activities of community-based organisations working in the Kakamega Forest region, type of land use in the areas adjacent to the Forest, human – wildlife conflicts experienced by the adjacent rural communities, and services provided by tour and ecotourism facility operators in the Kakamega Forest region.

The respondents from the adjacent Forest Community were selected in different settled areas of the Kakamega Forest region and the distance of homesteads from the Forest boundary. This was based on the assumption that significant interactions of the communities with the Forest take place within 10 kilometres from the Forest boundary [40]. Community members were drawn from the five settlement regions of Buyangu, Isecheno, Kibiri, Ileho (Mukhanje, Lugusi and Shanderema areas) and Ikuywa (Musasa, and Kagubdu areas) (Figure 1). The selection of homesteads was done at various distances from the boundary of the Kakamega Forest Reserve: between 0 to 3 kilometres; between 3 to 6 kilometres; and between 6 to 10 kilometres regions, using a stratified random sampling procedure. A total of 241 respondents were selected. Also, key informants from the communities participating in the in-depth interviews and discussions were selected from the five settlement regions around Kakamega Forest. In selecting the participants, consideration was given to their knowledge in conservation, tourism and development issues in the Kakamega Forest Region. Other key informants were drawn from the Kenya Forest Service, the Kenya Wildlife Service, Operators of Ecotourism facilities and Tour operators. Only Community Based Organisations (CBOs) whose activities were fully centred on Kakamega Forest were selected for in-depth interviews and discussions. According to these criteria, these were the Bukhaywa village
conservation committee; the Kambiri environmental conservation group; the Muliro farmers conservation group; the Khaega-Shibuye forest conservation community and the Kakamega Environmental Education Programme (KEEP).

4 Study findings and discussions

The research indicated that a majority of the households (69 percent, n = 241) benefit from the Forest. The number of household beneficiaries decreases with increasing distance from the Forest boundary ($\chi^2 = 25.538$, $\alpha = 0.000$, n = 241). The nature of benefits derived from the forest are in form of resource extraction (firewood, charcoal, thatch grass, vines, timber, and cattle grazing); food and medicinal items (wild honey, fruits, vegetables, medicinal plants, and fish); traditional and religious use (circumcision ceremonies); and ecological assets associated with the Forest such as water resources, scenic qualities and fresh air. Owing to the benefits obtained from the Forest, a majority of the households strongly felt that the Forest should be conserved ($\chi^2 = 96.937$, $\alpha = 0.000$, n = 241).

Activities carried out by Community based organizations (CBOs) in the Forest region include raising and selling tree seedlings, bee-keeping, fish and vegetable farming, community surveillance of Forest threats, cultivating, extracting and selling medicinal plants, environmental education programmes, research and guiding services, butterfly rearing, sale of souvenirs and re-forestation in the Forest. However, planting and selling tree seedlings and bee-keeping, though core activities for most CBOs in the region, are nevertheless operated on a small scale and greatly depend on the climatic seasons. As a result, they are not able to adequately provide sufficient viable economic alternatives. On the other hand, activities such as butterfly farming, extraction and sale of medicinal plants, and guiding services being relatively well established in the Forest, provide a more regular income to the CBOs. The Forest Management provides support to the CBOs in form of supplying land for most of the activities. From the revenue that is generated from tourism, the Forest Management has been able to build schools and provide instructional materials. This, however, has been sporadic and limited to a few CBOs in the Northern part of the Forest.

The main ecotourism facility in the Forest is Rondo Retreat. Other ecotourism facilities include a guest house run by Kenya Forest Service and Bandas (low cost grass thatched structures with mud walls) operated by KEEP, a community based organisation in Isecheno (Figure1) and Bandas operated by Kenya Wildlife Service in the Northern part of the Forest. Rondo Retreat purchases items such as decoration flowers, manure and food items, for example vegetables, meat and chicken from the local people. Even though some of these products are purchased locally, the menus that are offered to the guests have little local flair and tend to adhere to international standards. Similarly, most of the souvenirs like sculptures, pictures, and postcards sold at the Rondo Retreat depict cultures and landscapes which are not necessarily related to the Kakamega region. Rondo Retreat supports Forest management through re-forestation of open spaces in the Forest and maintenance of forest roads and trails. It has also provided employment opportunities to local people. Of the 36

Tourism and Natural Protected Areas 85

www.witpress.com, ISSN 1755-8336 (on-line)
employees in the Retreat, 31 of them are people from the local community. However, most of them are in low-level positions with almost half being employed as casual labour; having received little or no training for their jobs [41].

All six tour operation companies interviewed are owned by Kenyans. Although there are other destinations visited by the Companies in the Western Kenya tourist circuit (for example Mount Elgon National Park and Lake Turkana), each of the companies organise between 2 to 5 trips annually to Kakamega Forest. The Tour Companies indicated that they purchase most of their supplies such as food and beverage in major towns outside the Kakamega region for example Nairobi and Kisumu. Similarly, most of the companies brought along their catering staff from Nairobi. Although these practices may be convenient and less expensive to the companies, they deny the local communities opportunities to gain financially from tourism. Thus, most of the tour companies have yet to create strong linkages with the Forest region in terms of local spending and services.

Crop cultivation in the areas adjacent to Kakamega Forest is widespread, accounting for 76 percent, (n=223) of the households interviewed. This agricultural activity is not influenced by household distance from the Forest boundary (χ² =13.219, α=0.040, n=223). The main crops grown include beans, potatoes and maize. Other land use activities are mixed farming (17 percent, n=223); planting of Napier grass and ox-pulled jaggery (7 percent, n=223). Intensive crop cultivation is carried out by households owning less than 2 acres of land. Those with large land parcels tend to sell or lease some of their land. The size of land owned by households therefore significantly influences land use activities in the Kakamega Forest region (χ² =23.054, α=0.001, n=222). Majority of households (72 percent, n=222) live within 6 kilometres from the Forest boundary and primarily use their land for crop cultivation. Moreover, rural population densities are very high and that there exists a growing shortage of agricultural land. Thus, there is no doubt that the Forest is experiencing a major conservation threat.

Since land use activities influence the nature of human-wildlife conflict (χ² =29.408, α=0.003, n=143), households within 3 kilometres from the Forest boundary frequently experience damage to crops by wildlife. Of the households surveyed, 63 percent (n =143) indicated having experienced damages to crops by wildlife. Due to this problem, some households have shifted from the food crops (maize, beans and potatoes) to cultivation of cash crops such as sugarcane and tea as these crops are considered less vulnerable to wildlife damage. However, because of the vulnerability of food crops to damage by the wildlife and the high capital investment associated with cash crop cultivation, community members who are unable to cope have abandoned their agricultural lands. Such land in some areas is leased out to people often from outside the Kakamega Forest Region who use it for cultivation of cash crops. The other forms of conflict include harm to humans (7 percent, n=143), harm to livestock and wildlife (7 percent, n=143) and multiple conflicts involving at least any two of the above mentioned conflicts (23 percent, n=143). The human-wildlife conflict in the Kakamega region has adverse effects on the livelihoods of the adjacent communities. In an attempt to earn a livelihood, some of the community
members lease land for cultivation far away from the Forest where damage to crops are considered less severe. Apart from the long time that it takes to reach the leased farms, the community members also have to pay a land lease fee of between Kshs 1500 to Kshs 2000 (Approximately US$20 to US$30) per hectare. Those unable to lease land have resorted to other forms of employment, such as quarrying and bicycle taxi operations.

5 Summary and conclusions

The adjacent rural communities derive several benefits from Kakamega Forest. As a result, they are in principle inclined to favour conservation measures in the Forest, but object to the policies restricting them drastically from the traditional utilization of the Forest resources. The local CBOs aim at combining conservation policies with activities strengthening the livelihoods of local people. So far, this ambitious goal seems difficult to implement in a successful manner. The Kakamega Forest Reserve management has given support to the local communities in the form of equipping learning institutions in the area. The principal private tourism facility in Kakamega Forest, the Rondo Retreat, offers some work to local people and purchases local food products; but it seems to fail to bring the visitors in closer touch with local cultures. The Tour companies visiting the Kakamega Forest region do not spend much time in the region, and a part from occasionally employing local guides, the locals seem to benefit little from their activities in the region.

The high human population concentration around Kakamega Forest has caused land scarcity in the adjacent region, with most households owning less than 2 acres of land. These households support their livelihoods mainly from intensive agricultural activities. Since the food crops grown by the local communities are also a source of food for wildlife, more than 50 percent of the communities close to Kakamega Forest suffer from damage to crops by wildlife. As a result, households are often compelled to grow alternative, and frequently non-food crops, such as sugarcane, which is considered to be less attractive to wildlife as a source of food. Other households decide to lease land at a greater distance from Kakamega Forest in order to grow staple food crops, such as maize.

It can be concluded that the rural communities depend on the resources of Kakamega Forest for their livelihood. Owing to the high human population density around the region, Forest dependence is of a high intensity thereby posing a conservation challenge to the protected area management. Some of the forest dependence is of cultural and spiritual value. Therefore, the local population has a genuine interest in protecting the heritage of the Forest and to secure a long-term ecological integrity through appropriate conservation measure. At the same time, local population ask for a greater measure of local management input and for a better share in the promotion of tourism and other non-agricultural form of income and employment. It will be a major challenge to attain beneficial interactions between the Kakamega Forest Reserve and the surrounding impoverished rural communities and to find ways of improving their
livelihoods in a sustainable way. Developing comprehensive integrated rural development strategies which address the problem of agricultural sustainability and the precarious status of conservation efforts is essential for the region. However, an active involvement and empowerment of the Community in the management of the Forest is definitely an important pillar towards achieving the balance between conservation and rural development in the Kakamega region.

References


