

Local Residents' Understanding of Ecotourism in Manguo Wetland, Limuru, Kenya

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Abstract

The aim of this study was to investigate and document local residents' understanding of the concept of ecotourism at Mangua wetland. Specifically, the study sought to establish the level of understanding and participation in ecotourism, establish current use and benefits of the wetland, determine barriers to participation in ecotourism, and provide recommendations for building support and commitment for sustainable use of the wetland. Methods used included primary document analysis, a survey of participants and quantitative analysis. The analysis revealed poor knowledge and practice of ecotourism, limited information and awareness, and degradation of the wetland due to increasing human population, and aggressive and abusive use of the wetland. A range of ways to promote sustainable ecotourism are proposed including; increased community participation in wetland and ecotourism planning, training of technical local expertise, minimizing local burdens, maximizing local benefits and reducing uncertainty, government support, and partnership with the private sector to improve the image and attractiveness of the wetland. The study provides managers with strategies for managing sustainable ecotourism development and wetlands management.

Keywords: Wetland, Ecotourism, Local Community, Participation, Management and Diversification

Introduction

In many countries, tourism acts as an engine for development, source of foreign exchange and the creation of direct and indirect employment. Tourism contributes five per cent of the world's Gross Domestic Product (GDP), and it is responsible for 235 million jobs or one in every twelve jobs worldwide (UNWTO, 2006; TIES, 2006). According to UNWTO (2011), international arrivals grew by 22% reaching 982 million up from 932 million in 2010. Arrivals to developing countries accounted for 46% of all arrivals in 2010. In over 150 countries tourism is one of the top five export earners while in 60 countries tourism is number one export (TIES, 2006). Various forms of tourism exist that attract both international and domestic tourists including nature tourism, green tourism, sun-and-sand tourism, adventure tourism and ecotourism, all under the umbrella of sustainable tourism (TIES, 2006). The growth of some of these forms of tourism like nature

and beach tourism has slowed down significantly in recent years. In contrast, ecotourism has been growing at 20 to 24 per cent per year beginning in 1990s (TIES, 2006 and UNWTO, 2005). By 2004, ecotourism was growing globally three times faster than the tourism industry as a whole (TIES, 2006). The United Nations Environment Program (UNEP) and Conservation International (CI) have indicated that most of tourism's expansion is occurring in and around the world's remaining natural areas. Sustainable tourism is thus predicted to grow to 25% of the world's travel market within six years, taking the value of the sector to £250 billion (US\$473.6 billion) a year (TIES, 2006).

The origin of ecotourism is traced to the Arctic region (TIES and UNEP, 2007). The Arctic tourists were mainly interested in hunting, mountaineering and adventure, mainly attracted by abundant fisheries, exotic wildlife species and remoteness of the region. Around the world, ecotourism has been hailed as a panacea: away to fund conservation and scientific research, protect fragile and pristine ecosystem, benefit rural communities, promote development in poor countries, enhance ecological and cultural sensitivity, instil environmental awareness and social conscience in the travel industry, satisfy and educate discriminatory tourists, and, some claim that it builds world peace (Honey, 1999; p4). The first formal definition of ecotourism is generally credited to Ceballos-Lescuran (1987), who define it as: travelling to relatively undisturbed or uncontaminated natural areas with the specific objective of studying, admiring and enjoying the scenery and its wild plants and animals, as well as existing cultural manifestations (both past and present) found in these areas. From this definition, three dimensions emerge to represent the main essence of the concept, thus, ecotourism is; nature-based, environmentally educated, and sustainably managed. The last dimension is taken to encompass both the natural and cultural environments involved in supplying the ecotourism experience. The growth of ecotourism in Kenya has been spearheaded by community- based projects driven by collaboration between local community and private investors. Kenya's ecotourism industry first drew international attention in 1997, when the now-famous community lodge at *Il' Ngwesi* was a runner-up in British Airways' prestigious Tourism for Tomorrow awards. Other ecotourism properties that attract large numbers of tourists include Tortilis Camp in Amboseli, *Ol Donyo Wuas* in the *Chyulu Hills*, Kijabe Environmental Volunteers (KENVO), *Shompole* eco-lodge in Magadi and *Arabuko Sokoke* Butterfly Project in Coast Province (Macharia and Thenya, 2007). Although the origin of ecotourism in Africa dates back to less than one and a half decades, its growth in Kenya has been little short of spectacular. In the past five years, some of the world's most pioneering and promising community tourism projects have been launched in Kenya, for example, a new breed of safari camps has grown up using state-of-the-art environmental technologies, and initiatives helping local communities to benefit from their natural resources.

Tourism in Kenya is often based on wildlife-based safaris (Okello *et al.*, 2008b) in which tourists visit protected areas to view wildlife in natural habitats. Another key attraction in Kenya is culture. With the current focus on sustainable tourism development, ecotourism is receiving considerable attention from international and national conservation, development and tourism organizations, such as UNEP and the World Tourism Organization (World Wide Fund (WWF), 2001). At the same time, there has been growing local, national and international concern that ecotourism should be genuinely community-based. There are many reported incidents where forms of 'ecotourism', which are not sufficiently community focused, are having a negative impact on the environment, and where indigenous communities are not receiving sufficient benefit (WWF, 2001). Moreover, many small scale community-based ecotourism initiatives have been set up but have failed owing to lack of information and awareness, market assessment,

management, international standards, marketing and local community participation (WWF, 2001). These challenges were evident at Manguo wetland, though wetlands can be landscapes of non-consumptive use for socio-economic well-being of local citizens. Destruction of the fence is on the rise as well as signs of pollution in the form of dumping of polythene bags and wastes. If the community is to sustainably benefit from this fragile ecosystem, an evaluation of the understanding of the concept of ecotourism is necessary for its survival. Although, there are successful ecotourism projects in Kenya, there is no evidence that work has been done to gauge local community's understanding of the concept of ecotourism.

Wetlands and Local Communities

Tropical wetlands assume important functions in the landscape and contribute considerably in the welfare of large parts of the human population, and flora and fauna but they are considered free resources of land and water. Detailed wetland inventories are missing in most countries, as are plans for sustainable management of wetlands in the context of a long-term integrated watershed management. There are serious threats to the developing nations' wetlands due to population pressure and destruction, policy and planning deficiencies, limited information and awareness, and institutional weakness (Hwey-Lian, *et al.* 2004). The protection of wetlands from anthropogenic disturbance has been an imperative of conservation strategies for many years. Historically, wetland science and management has focused on the conservation of wetland-dependent wildlife species, especially migratory waterfowls (Eullis, *et al.*, 2008), and basically, citizens' positive views of wetlands were largely associated with wildlife and habitat protection (Johnson and Pflugh, 2008; Kaplowitz and Kerr, 2003). Yet, wetlands provide a host of other ecosystem services at multiple ecological scales (Mitsch and Gross-Link, 2000). These services are central to human health, security and societal well-being like nutrient cycling, food and fibre, flood mitigation, water filtration, erosion control, aesthetics and outdoor recreation (Millennium Ecosystem Assessment 2005) and carbon storage (Eullis, *et al.*, 2006). Therefore, wetlands provide both direct and indirect benefits to local communities and elsewhere (Mohapatra, 2008; Jones, 2007). However, on the whole, studies suggest that many citizens may have limited knowledge about wetlands, especially their defining characteristics, and may even lack an awareness of wetlands existing in their own community (Johnson and Pflugh, 2008).

A growing body of research and case studies examining collaborative ecosystem management (Layzer, 2008; Sabatier, *et al.*, 2005; Wondolleck and Yaffee 2000) suggest that involving citizens at the local level is critical to management success. According to Wondolleck and Yaffee (2000), collaboration in natural resource management has the potential to increase social learning, build shared sense of responsibility, and resolve natural resource conflicts and pool resources for action implementation. Sabatier, *et al.* (2005) surmise that collaboration in the form of watershed partnerships provides the means for addressing a wide range of pollutant sources, coordinating management across political boundaries on public and private lands, engaging diverse stakeholders, and integrating multiple interests into solutions. It is important that programs and policies aimed at increasing wetlands stewardship, monitoring the full spectrum of wetlands functions, and promoting collaborative partnerships must address local residents' perceptions of wetlands and wetland management. Therefore, in most developing countries lack of proper policies, deficient planning concepts, limited information and awareness, lack of engaging local citizens in planning and management of wetlands, and instructional weakness are the main administrative reasons for wetland degradation and must be overcome to improve wetland management and protection in future (Ceballos-Lascurain, 2003).

Ecotourism and Wetlands

Tourism is one of the world's fastest growing economic sectors; hence, it is considered a major vehicle for Kenya's economic development due to its vast cultural, natural and historical assets. As a natural resource, wetlands provide goods and services for health, security, welfare of uniqueness/heritage and biological diversity, which provide wetlands with values, natural and cultural landscapes which in turn provide many advantages for tourism. Kenya's road map to a middle income economy is spelled out in its vision 2030; in which tourism is one of the five pillars for realizing the objectives of vision 2030. Defining and achieving sustainable development is a major issue for policy debates in developing countries (Nyakaana, 2008). Ecotourism as an important niche market in the travel and tourism industry has been embraced by developing countries like Kenya, which is using tourism as an important contributor to national development.

Ecotourism generally refers to tourism geared towards raising ecological and environmental awareness, and includes cultural and historical sites that are closely related to the ecosystem and provide opportunities for learning about the environment (Ceballos-Lescurain, 1987). At management level, issues involve ensuring responsible travel that has low negative impacts on the environment, and addressing conservation, pollution control and waste disposal. Ecotourism emphasizes community involvement in the organization and management programs, and this way ecotourism benefits them in various ways including income generation, quality of life improvement, and sustainable development (Adair, 2001; Ashley, 2000; Herath, 2002).

Wetlands in Kenya are experiencing rapid degradation due to; increase in human population and settlements, high levels of poverty and unemployment, increasing number of marginalized people who are moving and settling in fragile wetland areas in search of new means of livelihoods, industrialization and waste disposal (NEMA, 2000). Ecotourism then becomes an attractive approach to wetland management since the success of ecotourism depends on environmental quality and there is a strong incentive for environmental protection (Jones, 2007; Mohaptra, 2008). Residents around Manguo and elsewhere are linked to the wetlands culturally, ecologically and economically. Resources harvested from Manguo wetland and used by local residents include water, clay, sand, fuel wood, herbs, fish, grass, etc. The wetland also, provide nutrient rich and sheltered habitats for migratory birds, and support livestock, provide outdoor recreation opportunities, flood control, and waste disposal site. Therefore, the development and promotion of ecotourism is crucial for sustainable management and utilization of wetland resources for sustainable socioeconomic development and local livelihoods (Nyakaana, 2008). This non-consumptive (ecotourism) utilization of the wetland resources may bring more benefits to residents than the consumptive uses (i.e. clay, sand harvesting), as ecotourism initiatives endeavour to respect and maintain environmental integrity while at the same time improving existing social and cultural manifestations for local livelihoods (Jones, 2007). If carried-out well, ecotourism provides an economic rationale for conservation and can develop a sense of stewardship among local communities benefiting from tourism.

Over time, there has been increasing global recognition of the need to sustainably preserve wetlands for the benefits of all stakeholders generally and local residents in particular (Ramachandra, 2005). Local communities' perception of tourism generally and ecotourism in particular can be explained by local communities' understanding of economic, ecological and socio-cultural benefits which are directly linked to local community participation, wise management of community ecotourism projects and benefits sharing. Community understanding can therefore be defined in three different ways. First, the economic benefits that local community will receive from the wetland and the satisfaction of their expectations (i.e. employment creation). Second, it can also be seen by the way the local communities will conserve the ecological environment

if the economic benefits outweigh the destruction of the ecological environment. Third, local communities' understanding of ecotourism will be based on the socio-cultural benefits they will receive from wetland resources including education, provision of water, sports and recreation, medicinal plants, food, among others. Therefore, once it can be illustrated that wetlands provide positive net benefits to a community, it is easier to convince the community that wetlands are worth preserving and are vital to all forms of life. This study sought to investigate local communities' understanding of the concept of ecotourism and how it may be utilized as a sustainable wetland resource for economic, ecological and socio-cultural benefits for local communities. Such investigation for this wetland has not been done earlier and is therefore critical for drafting practical and effective strategic plans for ecotourism in the area and the country. The study was guided by three objectives: to investigate the level of understanding of the concept of community-based ecotourism amongst local communities; to establish the barriers to successful community-based ecotourism initiatives; and to recommend strategies for successful community based ecotourism in the area and elsewhere.

Research Methodology

Study Area

Manguo wetland is located near the turn-off to Limuru town on the Nairobi-Nakuru highway, about 1 KM from Limuru and 35 KMs from Nairobi. It was created as a result of faulting and volcanic activity associated with the formation of the Great Rift Valley over some 10,000 years ago (Macharia and Thenya, 2007). Its surrounding is densely populated with an average of 150 persons per KM². It is predominately agricultural area whose yields are declining because of population growth and climate change. *Manguo* wetland forms a major habitat and breeding ground for both local and migratory birds. The wetland is unique in the sense that it is privately owned by about 60 individuals. This presents a unique scenario with a big departure from most other wetlands, which are held in trust by the local authorities (Macharia and Thenya, 2007). Due to constant and prolonged flooding periods, community utilization of the wetland has been restricted to grazing and recreation. It was not until late 2007 that signs of conservation were evident with the formation of *Manguo* Land Owners Association (MLOA) which with a grant from the Royal Netherlands Embassy and support from the National Museums of Kenya (Wetlands and Marine Resources Programme) and University of Nairobi erected a perimeter fence and built an observation platform (Macharia and Thenya, 2007). Great ecotourism potential therefore lies in this wetland especially with regard to its ownership, location as well as a unique destination for bird watching.

Research Design

Information was collected using questionnaires administered to local residents who were systematically sampled. A total of 241 households live around *Manguo* wetland (GoK census, 2009). Sixty households were issued with questionnaires in their areas of residence. The questionnaires covered local people's background and their views and assessment of *Manguo* wetland. Data analysis was done using SPSS. Basic tallies and percentages were done and significant differences between the tallies were analysed using Chi-Square Goodness-of-Fit test (Zar, 1999). Chi-square contingency tables were used to establish factors influencing local peoples' assessment of *Manguo* wetland. All statistically tests were done at an alpha of 5 % (i.e. with a margin of acceptable error of 0.05).

Results

The findings as shown in table 1, reveal that the level of education of the local people was significant ($\chi^2=38.13$, $df=4$, $p<0.05$), with most local people having attained basic education (77%). Further, most of the respondents were married (96.7%) and were engaged in various economic activities which were predominated by farming (48.3%). Besides, the level of income of the local people was significant ($\chi^2=35$, $df=5$, $p<0.05$), with most people earning up to Ksh. 19, 000. Local people's understanding of tourism was significant ($\chi^2= 17.1$, $df= 1$, $p<0.05$) with most people having little understanding of tourism (77%). This has led to low community participation in tourism (33.3%). The most important form of tourism at Manguo was recreation (66.7%) with most local people feeling no impact of tourism on their economic well-being (85%).

The current use of the wetland was significant ($\chi^2=39.6$, $df=6$, $p<0.05$) with most local people using the wetland for waste disposal (40%), grazing (21.7%), sports/tree planting (10%), clay extraction (8.3%) and grass harvesting/ tourism (5%). The current benefits of the wetland are predominated by economic benefits (40%) other than tourism. Local people's lack of awareness of ecotourism was significant ($\chi^2 = 26.6$, $df= 1$, $p<0.05$) with most respondents (83.3%) reporting not being aware of ecotourism. However, those who were aware identified lack of information (33.3%), credit (16.7%) and social capital (16.7%) as the main barriers to their participation in ecotourism.

Table 1: Summary of research findings

Information Sought	Responses	Frequency (% in parenthesis)	Chi-square (χ^2)	P- Value	Sample size (n)
Gender	Male	24 (40)	2.4	>0.05	60
	Female	36 (60)			
Level of Education	None	6 (10)	38.13	<0.05	60
	Primary	18 (30)			
	Secondary	28 (46.7)			
	College	5 (8.3)			
	University	3 (5)			
Marital Status	Single	2 (3.3)	52.26	<0.05	60
	Married	58 (96.7)			
Occupation	Farmer	29 (48.3)	11.7	<0.05	60
	Self-Employed	23 (38.3)			
	Employed	8 (13.3)			
Level of Income	Less than 9,999	17 (28.3)	35	<0.05	60
	10, 000- 19, 000	22 (36.7)			
	20, 000- 29, 000	12 (20)			
	30, 000- 39, 000	5 (8.3)			
	40, 000- 49, 000	2 (3.3)			
	50, 000 and above	2 (3.3)			

Understanding of Tourism	Yes	14 (23.3)	17.067	<0.05	60
	No	46 (76.7)			
Current use of the wetland	Grazing	13 (21.7)	39.6	<0.05	60
	Sports	6 (10)			
	Waste disposal	24 (40)			
	Grass harvesting	3 (5)			
	Tourism	3 (5)			
	Clay extraction	5 (8.3)			
	Tree planting	6 (10)			
Current benefits from the wetland	Economic	24 (40)	2.1	>0.05	60
	Ecological	15 (25)			
	Socio-cultural	21 (35)			
Participation in tourism	Yes	20 (33.3)	1.06	>0.05	60
	No	40 (66.7)			
Benefits from tourism	Yes	5 (8.3)	41.7	<0.05	60
	No	55 (91.7)			
Barriers to Participation	Lack of technical expertise	8 (13.3)	13.8	<0.05	60
	Lack of information	20 (33.3)			
	Lack of capital	10 (16.7)			
	Lack of ownership	7 (11.7)			
	Lack of social capital	10 (16.7)			
	Others	5 (8.3)			
Impact of tourism in community's life	Yes	9 (15)	0.266	>0.05	60
	No	51(85)			
Form of tourism practiced	Wildlife-based	14 (23.3)	16.9	<0.05	60
	Recreation	40 (66.7)			
	Eco-tourism	6 (10)			
Awareness of eco-tourism	Yes	10 (16.7)	26.6	<0.05	60
	No	50 (83.3)			

Discussion

The analysis focused on understanding the influence of information and awareness, knowledge about tourism and local residents' participation in planning and management of ecotourism and the wetland, on the socio-economic outcomes and conservation of the wetland. In particular, the results showed that there is statistical significance of consumptive use of the wetland against non-consumptive uses. This finding is in line with Nyakaana (2008) and shows that degradation was statistically significant. Findings revealed that the local community living around Manguo wetland was not aware of what eco-tourism is generally and hence most of the individuals had not participated in it. And yet, ecotourism is the fastest growing sector of travel and tourism industry which is among the world's fastest growing industries, with an estimated growth rate of 10-15% (Panos, 1997). This means that local residents may not participate and use tourism for their socio-economic, cultural and ecological well-being, thus supporting the findings of Mohapatra (2008). This makes it urgent for the government to formulate well founded principles and clear guidelines for the active involvement of local communities in ecotourism planning and management process. At the same time, those who had participated in tourism felt that it had no impact on their lives.

Besides, it was evident that the community was unaware of the form of tourism which was being practiced at Manguo wetland which pointed to the limited understanding of the concept of ecotourism. Though, the community seems to have some understanding of the benefits that would arise from tourism development at Manguo wetland, there were significant barriers to their participation. These included lack of information, credit and participatory management. Studies done by Ceballos-Lascurain (2003) and Johnson and Pflugh (2008), show that lack of: information and awareness, collaborative partnership, and credit support have led to degradation and destruction of very important resources that can otherwise be sustainably utilized for socio-economic well-being and poverty alleviation.

It is suggested that issues related to community empowerment, collaborative partnership between public/private and local residents, value conflicts introduced by ecotourism development, and dynamics among and between various community groups will need to be addressed if positive community intention to participate in ecotourism is to be encouraged. The findings showed that Manguo wetland as a natural resource is being degraded fast and there was evidence of extensive pollution in the wetland including dumping of polythene bags and other wastes influenced by lack of understanding of tourism and its benefits. The researchers saw the need to identify root causes of such aggressive and abusive activities and addressing them (Millennium Ecosystem Assessment 2005). Further, lack of community support for the wetland is mainly driven by lack of tangible economic benefits. This is also reinforced by the conceptual model that indicates that success of ecotourism projects are directly linked to participatory planning and management, investment and benefit sharing.

Conclusion

In conclusion, with rapid increase of human population, increasing marginalized people moving and settling on the wetlands and demand for land to undertake various activities in search of livelihoods and recreation, wetland are facing challenges that must be addressed. Within this broad socio-economic and ecological context, the development and promotion of ecotourism and other forms of recreational and non-consumptive uses of wetlands is crucial for long-term sustainable socio-economic well-being and conservation of resources. Ecotourism is a growing niche market within the larger travel industry with the potential of being an important sustainable

development tool. Ecotourism operates differently from other segments of the tourism industry because it is defined by its sustainable development results; conserving natural areas, educating visitors about sustainability, targeting high value tourists, and benefiting local people. However, proper planning and management are critical to ecotourism's development or it will threaten biodiversity upon which it depends. It is important that wetlands be conserved and its activities be diversified, strengthened and innovatively improved to create an image that appeals to tourists, investors, and local communities' well being. This can be achieved through supportive ecotourism policies, conservation mechanisms, provision of information, starting up various ecotourism economic activities and local community participation. This way wetlands will create employment opportunities for local people, contribute to poverty alleviation and support the objectives of Kenya's Vision 2030.

Recommendations

Given the crucial importance of wetland areas for sustainable development, a coordinated natural wetland policy is urgently required. Besides, the following recommendations are made; the government should formulate an integrated wetland management strategy that incorporates all stakeholders; business, government, non-governmental organizations (NGOs) and local community. The guiding principles, whose main goal is the conservation and sustainable use of the wetland, should include identifying the values of major ecosystems in the wetland as well as bio-physical processes on which they depend. The government should consider sustainable wetland development by use of technical options whose choice would depend on the physical sustainability benefits, community's preference and the associated environmental impacts. The survival of wetlands depends on their conservation based on a sound management plan. There is need to enhance public awareness in order to provide them with training and tools to participate in wetland conservation and development of ecotourism enterprises with clearly spelt-out benefits regime. Also, there is need for involvement of the private sector in the rehabilitation of Manguo wetland in collaboration with local communities. This way the private sector will inject needed resources for comprehensive clean-up, protection and use of resources within the local community creating an enabling environment for local community support for the wetland. Promote ecotourism regionally and nationally, develop guidelines for sustainable ecotourism practices. At the same time, there is need to carry out a market assessment to assess the viability of Manguo wetland as an ecotourism destination. Also, there is need to understand how ecotourism development can intergrate with the community's priorities, and improve the human and technical capacity to better conserve and manage the wetland, and for local community to benefit from the potential ecotourism development, there is need to invest in small boats for guided tours on the wetland, crafts, shops, restaurants for food and huts for relaxation.

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