

## **Socio-Economic Link between Poverty, Environment and Tourism around Protected Areas: A Case Study of Communities Adjacent to Ruma National Park, Kenya**

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### **Abstract**

In many parts of the world, the degradation of land and water resources is worsening while the social and economic conditions of people are not being improved. Among the reasons for this is the perception held by some that the sustainable management of the environment and economic development are competing priorities. Economists and social scientists concede that a causal link exists between the states of the environment vis-à-vis the levels of income in any population, particularly for underdeveloped and developing economies. Kenya's chances of realizing its vision 2030 will depend increasingly on the way the country manages its natural or nature-based assets. The implication therefore is that the environment should not be treated as a competitor but as a core component of the natural resource base of human and social development. This work assessed the nature and state of the environment-poverty-tourism relationship at Ruma National Park (RNP), Kenya. Basically, the work evaluated how existence of the park has contributed to development and poverty reduction, or the lack of them, for the adjacent communities. The study was based on the ideology that hardly will local populations conserve a natural resource that they are not benefiting from. The results revealed that despite their support for conservation of the park and the ecosystem, the general feel within the local population is that a lot needs to be done if the ecosystem is to be conserved sustainably. Based on the findings of the study, the paper recommends strategies for the realization of environmental sustainability which is the gateway to achievement of all the other UNMDGs.

key words: conservation, Poverty reduction, sustainable management, Vision 2030

## **Introduction**

Land, along with water, is a fundamental requirement for human survival and socio-economic development (Smith, 2006), and is therefore very important given the agricultural nature of the Kenyan economy (Ms Kenya, 2007). It is estimated that up to 75% of the population earn their living from an agriculturally based economy in a country where less than 20% of the population owns more than 50% of the land while landlessness is estimated at 13%. However, with only a third of Kenya's surface area being arable and a steadily rising population pressure, the outcome has been a sustained decline in agricultural productivity, encroachment of forest reserves and water catchments in a desperate search for alternative livelihood systems. It is for the goal of economic diversification that the forest reserves, and other protected areas have been fronted in the last 5 decades for tourism, an arguably important economic and consequently poverty-reduction driver in developing countries. In sub-Saharan Africa, a significant percentage of tourism occurs in Wildlife Protected Areas (WPAs). Kenya provides a good example of a third world country which has embraced tourism as an important strategy for socio-economic development (Akama, 1999). But local populations adjacent to a WPA must receive various benefits from tourism and ultimately an improvement in quality of their lives (Lindberg *et al.*, 1998). The implication is that the lack of such benefits may negatively impact on the status quo, and hence provide a platform for a vicious circle of unsustainability across various dimensions of development.

Ruma National Park is one of the 65 national parks, reserves and private sanctuaries which comprise some of the earth's most precious yet fragile biological assets (Wishitemi, 2008) that form the pillar of the Kenya's tourism industry (Akama and Kieti, 2003). Although the park is less visited by both domestic and international tourists, its branding in 2006, coupled with the rare species of the swallow bird and the roan antelope ranks it high on the receiving end if the currently spirited efforts to diversify tourism to the less visited attractions bear fruit in the long run. With a wrap up of excellent beaches, landscape and a strong cultural identity around it, the park will undoubtedly attract the increasingly independent ecotourists. Despite the immense potential that tourism has on creation of jobs and wealth and eventually contribution to economically, ecologically and socially sustainable development, its limited presence, or the lack of it at Ruma has yielded mixed expectations and perceptions and hence mixed signals as it relates to conservation of the ecosystem on which the park rests. The link between the environment (Ruma National Park and ecosystem), tourism and poverty reduction has not been vivid in the majority of the local population. The purpose of this paper is therefore to relay and interrogate findings on the environment-poverty and tourism link at Ruma and the entire ecosystem. Specifically, this paper sought to identify the causes of poverty and whether the causes are linked to the environment, to assess the diversity and status of natural resources in order to inform on their use and potential for poverty reduction, to identify the existing means of socio-economic livelihood in order to inform on resource utilization and finally to assess the viability of tourism (pro-poor tourism) as a strategy for economic diversification, ecological sustainability, and poverty reduction.

## **Methodology**

### **Study Area**

Ruma National Park is located in central location of Gwasi constituency, Suba District, in Homa Bay County, Kenya. It was gazetted in 1966 as Lambwe Valley Game Reserve and acquired national park status in 1983. The park is estimated to cover an area of 120 km<sup>2</sup>, and was established mainly to protect the roan antelope, which is not found anywhere else in the country. It is 140 km from Kisumu, 10 km east of Lake Victoria and 45 km south west of Homa Bay.

town. The park lies on the flat floor of the Lambwe valley, and is bordered by the Kanyamaa Escarpment to the south east. The soils are largely black cotton clay. The surrounding area is settled, with a mix of small scale cultivation and grassy pasture land. The climate is hot and humid and the mean annual rainfall is 1200-1600mm. Access to the park is from Kisumu via Homa Bay or Kisii via Rongo.

### **The Study Population**

The study populations included all the people living within and around the study site. For RNP the target population was 30,232 people of whom 51% were males and 49% were females (Ok, 1997; Ohito, 2005). Further, 30% of this population comprised vulnerable groups among them the jobless, disabled, landless, orphans, destitute, single women, widows and the aged.

### **Sampling procedures and sample selection**

To achieve the objectives related to human dimensions, a stratified random sampling technique (Jennings, 2001) was used to delineate the study areas into different strata based on administrative units. From these units, respective areas from which representative samples for the study were to be obtained were identified with the help of the topographical and administrative maps of the study site. The sub-location was used as the sampling unit while the household formed the unit of analysis. An up to date list of households for the study area was obtained from the central Bureau of statistics. Using the list, a representative sample for the area was chosen using a table of random numbers. The sample selected for the study comprised men, women, youths, persons with disabilities, the elderly, and orphans. Key informants among them local community leaders, resource managers, entrepreneurs, scientists, and staff of selected institutions were also interviewed. The random sampling technique was also used to identify and establish the nature of tourism and business enterprises as well as tourists visiting these areas.

To achieve the objective related to ecological perspectives, the researchers consulted secondary sources such as institutional and research reports, site visits for ground truthing, and studied and interpreted existing imageries (satellite images and resource maps).

### **Data Collection Procedures**

The study entailed collection of data on human and ecological dimensions, and followed the multiphase approach detailed by Churchill (1979, 1991). This involved literature review and internet search, site visits, questionnaire surveys, observations and interviews. Literature review was based on past and on-going studies on tourism, ecology, tourism trends at Ruma National Park (RNP), and socio-economic aspects. Sources of information included books, scientific journals, government reports, sessional papers, dissertations, workshop proceedings, newspaper articles, consultancy reports, and internet search. Site visits, desk reviews and internet search yielded background information, identified gaps in literature, and helped in delineating the focus of the study. Participatory rural appraisals were used to gain insights into the study area's socio-economic conditions and resource diversity, status and distribution. Field observations were used to gather information on the various aspects under study, and to validate and complement information gathered from other sources. The foregoing methods were further complemented with transect walks through the villages and forests. Questionnaire surveys and interviews provided both quantitative and qualitative data on various socio-economic issues (including gender, age, occupation, resource use) and ecological perspectives (such as, types of resources found and factors affecting their distribution and status). Focus group discussions were used to validate, authenticate and complement information gathered from the questionnaires and

interviews. remote sensing was used to collect data on biological diversity, resource distribution, different land uses, and land cover respectively with a view to revealing trends in the use and status of resources (swallow *et al.*, 2002). the questionnaire contained both open and closed-ended questions. the close-ended questions adopted the 5-point Likert scale to assess attitude statements pertaining to various aspects of the study.

### **Data Analysis**

The data collected on various aspects of the study (that is, socio-economic, resource and attitudes) was entered into excel and further transferred to the statistical Package for social sciences (SPSS) and arc view for analysis. Descriptive statistics guided the researchers in making inferences about various aspects of the study. regression analysis and non-parametric tests (chi square) were conducted on selected socio-economic and attitudinal variables to establish relationships. the geographical information system (gis) and arc view were used to analyse data on ecological issues and also show resource distribution, status, usage and trends.

## **Findings**

### **Demographic Characteristics of the Local Population**

The research findings revealed that 54% of the respondents were from Suba District while 46% were from Homa Bay District. The difference in district of residence was not significant ( $\chi^2=0.640$ ,  $df=1$ ,  $p=0.424$ ). Regarding gender, 65% of respondents were men while 35% were female and the difference was significant ( $\chi^2=9.000$ ,  $df=1$ ,  $p=0.003$ ). The difference in age was significant ( $\chi^2=68.588$ ,  $df=5$ ,  $p<0.001$ ) as 37.1% of them were aged between 15-30 years, 33% between 31-45 years, 19.6% between 46-60 years, 7.2% were over 60 years while 3.1% were below 15 years. a total of 70.1% of the respondents were married, 20.6% were single, 6.2% were widowed and 3.1% were divorced. The difference in marital status was significant across the respondents ( $\chi^2=68.588$ ,  $df=5$ ,  $p<0.001$ ).

In education, 47.4 % of the respondents had attained primary education, 33% secondary / high school education, 13.4% had not gone to school, 3.1% had attained university education while 3.1% were in tertiary institutions. The difference in education was significant ( $\chi^2=74.495$ ,  $df=4$ ,  $p<0.001$ ). From the findings, 50.5% of the respondents were unemployed, 35.2% were self employed, and 12.1% had salaried employment while 2.2% of them were mostly retired employees. The difference in employment / occupation was significant ( $\chi^2=52.516$ ,  $df=3$ ,  $p<0.001$ ). Most of the respondent earned less than Kshs. 3000 per month at 65.5%, 17.2% earned between kshs. 3001-7000, 6.9% earned between kshs. 7001-12,000 and 9.3% earned between ksh. 12001-20,000. only 1.1% of the respondents earned over 21,000 Kenyan shillings. the difference in income earned was significant ( $\chi^2=157.897$ ,  $df=5$ ,  $p<0.001$ ).

There were 30.9% of the respondents who resided 0-1 km from the park boundary, 20.6% resided 1-2 km from the park boundary, 19.6% resided more than 5km from the park boundary, 12.4% resided 2-3km, 9.3% resided 3-4km while 7.2% resided 4-5km from the park boundary. The difference in distance of residence from park boundary was significant ( $\chi^2=22.691$ ,  $df=5$ ,  $p<0.001$ ). A total of 69.4% of the respondents had stayed in the area for more than 15 years, 13.3% had stayed for between 5-10 years, 8.2% for 10-15 years, while 9.1% had stayed for less than 5 years. The difference in length of stay near the park was significant ( $\chi^2=153.122$ ,  $df=4$ ,  $p<0.001$ ).

In terms of family size, 40.7% of the respondents had families of between 1-5 members, 36% of them had between 6-10 members, 10.5% had 11-15 members, 7% between 16-20 members while 5.8% of them had more than 20 members in their families. The difference in size of family was significant ( $\chi^2=49.349$ ,  $df=4$ ,  $p<0.001$ ). In matters of religion, 91.8% of the respondents were Christians, 5.1% were African traditional believers and 3.1% of them were Muslims. The difference in religion was significant ( $\chi^2=151.000$ ,  $df=2$ ,  $p<0.001$ ).

### **Causes of blame for poverty around Ruma National Park**

A majority of the respondents (46.7%) blame the government for the severe level of poverty in the area while 19.8% blamed it on Kenya Wildlife Service (KWS), 15.6% blamed both KWS and the government. However, 12.7% of them blamed their traditional beliefs and practices, 3.1% blamed the local councils, while 2.1% blamed both the local councils and their traditional beliefs and practices (Box 1). The difference in blame for poverty was significant ( $\chi^2=77.000$ ,  $df=5$ ,  $p<0.001$ ).

#### **Box 1: Summary of the Causes of Poverty Around Ruma National Park**

1. government
2. Kenya Wildlife Service
3. Kenya Wildlife Service and government
4. traditional beliefs and practices
5. Local council
6. subsistence farming no added value, no commercial farming
7. culture – socio-cultural issues (girl child education, early marriages, fear of contradicting culture, religion)
8. Number of organized cooperatives e.g. fishing, sand harvesting, beekeeping
9. Lack of commercial banks
10. transport, communication, energy
11. Diseases
12. environmental degradation
13. Brain drain in place of brain gain
14. Lack of proper health care
15. community attitudes and perceptions towards development – farming inputs, savings, credit, deep rooted clanism

### **Existing means of socio-economic livelihood**

From the results, 22.2% of the respondents were involved in bee keeping projects, 15.2% of the respondents were involved in other projects such as brick-making and sunflower harvesting, 10.1% in crop harvesting and livestock farming, 8.1% were involved in tourism and conservation, 6.1% in fishing, poultry keeping and sand harvesting while 4.1% were involved in mining and tree nurseries (text box 2). The rest of the respondents (34.2%) did not engage in any named activity.

About 83.7% of the respondents were members in the various projects of whom 16.3% were officials serving in capacities of chairman, patron, facilitator, manager, organizing secretary, treasurer and secretary while the rest (16.3%) were not members of such projects. Most of the respondents (56.7%) were involved in the conservation of rNP. Among those involved in conservation of rNP, 22.8% supported conservation through tree planting while 19.3% served

as forest conservationists. 14.1% of the remainder were farmers adjacent to the park while others had been involved in putting off fire in and around the park. A further, 8.8% had been involved in bee keeping and community based organization, and 7.0% as investors. 28% did not specify the form of involvement in conservation of the park (Box 2).

**Box 2: Summary of the Existing Means of socio-economic livelihood**

1. crop farming – subsistence
2. Livestock farming
3. charcoal burning
4. Fishing
5. Fire wood selling
6. Bee keeping
7. sand harvesting
8. tree nursery business
9. Poultry keeping
10. tourism

**Potential for sound natural resource management**

On training, 80.6% of the respondents had not been trained in conservation of rnP and only 19.4% had been trained. The difference in the response to training on conservation was significant ( $\chi^2=160.032$ ,  $df=3$ ,  $p<0.001$ ). Of those who had been trained, 52.5% had been self trained, 26.3% had been sponsored by kenya Wildlife service, 10.5% by a local non governmental organization while 5.3% had been trained by community Based organizations and the kenya Forest service. The difference in sponsorship for the training was significant ( $\chi^2=15.474$ ,  $df=4$ ,  $p=0.004$ ). About 46% of the respondents strongly felt that for them to be part of these resources, they needed government assistance, proper organizational structure, inclusion in decision-making and active local participation in preservation and conservation programmes. 37.8% felt that there should be active local participation in preservation and conservation programmes, 11% of them needed government assistance, while 5.2% felt that they needed proper organizational structure so that they can play a part to conserve the locally available resources.

**Structure and impacts of existing forms of tourism**

Fifty six per cent of the respondents had come into contact with tourists while the rest had not. the difference in contact with tourists was not significant ( $\chi^2=1.469$ ,  $df=1$ ,  $p=0.225$ ). Of those who had come into contact with tourists, 43.4% of them had met both international and domestic tourists, 39.6% had met international tourists only, while 17% of them had met domestic tourists. the difference in the type of tourist met was significant ( $\chi^2=6.491$ ,  $df=2$ ,  $p<0.039$ ). For the domestic tourists met, 37.9% had been from rift Valley Province, 31% from Luo nyanza, 13.8% from Western, 6.9% from kisii while 10.3% were from other parts of the country such as nairobi and coastal provinces. the rest (38%) did not specify their places of origin. the difference in place of origin for the domestic tourists was significant ( $\chi^2=10.828$ ,  $df=4$ ,  $p=0.029$ ). Of the respondent who had an opportunity to communicate with the tourists, 62.5% of them respondent communicated in english, 27.5% in Kiswahili, while 10% communicated in Dholuo. the difference in language used for communication was significant ( $\chi^2=17.150$ ,  $df=2$ ,  $p<0.001$ ).

According to the respondents, international tourists came from the united states of america, Britain, canada, england, germany, italy and the netherlands. only 20.3% of the tourists bought items from the local people, the rest did not. the difference in those who bought and those who

did not buy was significant ( $\chi^2=20.763$ ,  $df=1$ ,  $p<0.001$ ). According to the respondents, 61.6% of the tourists met used tour vehicles, 11% used aero planes /choppers, 9.6% used taxis and boats. another 5.5% used motorbikes while 1.4% walked on foot and used water transport to visit the area. the remaining 10.9% did not specify the means of transport used to the area. the difference in the means of transport used was significant ( $\chi^2=138.438$ ,  $df=6$ ,  $p<0.001$ ). The type of accommodation that existed for tourists in the area included camps, hotels, homesteads and resorts. The difference in the type of accommodation was significant ( $\chi^2=51.500$ ,  $df=4$ ,  $p<0.001$ ). only 28% of the tourists visited local villages, the rest did not. the difference in the visit to the villages was significant ( $\chi^2=19.360$ ,  $df=1$ ,  $p<0.001$ ). Of the tourists who visited the local villages, 55.6% were normally guided by local tour guides, 25.9% used tour company guides, and 11.1% were self-guided. The difference in the guiding was significant ( $\chi^2=15.519$ ,  $df=3$ ,  $p<0.001$ ). Only 13.5% of the respondents were involved in the provision of accommodation for tourists, 86.5% were not. The difference in the provision of accommodation was significant ( $\chi^2=16.333$ ,  $df=2$ ,  $p<0.001$ ). For those involved in the provision of accommodation, 77.8% provided homesteads, 16.6% provided hotels, while 5.6% provided resorts. sixty one per cent of the respondents were aware of tourism as a potential land use activity. the difference in awareness of the potential for tourism was significant ( $\chi^2=5.042$ ,  $df=1$ ,  $p=0.025$ ) 67% of them had not benefited from tourism that goes on in RNP while 37% had. Fifty five per cent of the respondents strongly felt that potential for tourism in the area is good, while 19.1% felt that the potential for tourism was fair, 16% very good, 6.4% poor while 3.2% felt that the potential of tourism in the area was very poor. 0.3% did not respond. (text box 3).

<b>Box 3: Summary of the Structure of Existing Tourism at Ruma National Park</b>	
1.Both Domestic and international tourists:	
Domestic	From rift Valley, nyanza, Western, nairobi no evidence for eastern/north eastern/coast
international	From u.s.a., Britain, canada, germany, italy & the netherlands
2. Purchase of local items:	
Domestic tourists	Few purchases of local items by domestic tourists, such as sand, fruits, fish, basketry, roasted maize.
international tourists	there were few purchases of local items from international tourists e.g. Local fruits, artefacts (basketry - mats, ciondos, akala,), fish.
3. Mode of transport for the tourists:	
use of tour companies, boats, taxis, personal vehicles, PsV, institutional vehicles, motor bikes, bicycles, and choppers.	
4. accommodation:	
camps, hotels, guest houses, homesteads, and informal resorts.	
5. cultural interest:	
there were visits to Local Villages, school Festivals, traditional ceremonies, curios.	
6. tour guiding:	
Most of the tourists used local tour guides, some used tour company guides.	

## **Discussion**

From the findings presented, conclusions can be made to the effect that the local population around rnP is poor, tourism in the area is less developed as a means of socio-economic livelihood and the environment (natural resource base) is significantly deteriorated. Many snare hotspots also imply a great deal of poaching, resentment and possible unsustainable managed ecosystem and resultant human-wildlife conflicts.

### **Poverty around Ruma National Park**

The demographic characteristics of the local community around rnP have largely contributed to the currently high poverty levels. This confirms UNDP (2005) report that a major cause of poverty in sub-saharan africa is the human development factor. the community is characterized by large family sizes of between 5-15 members with majority of them having only primary level education. Few of the community members possess secondary school level education and the number of college and university education holders is significantly low. The large family sizes and the lack of basic education explain why the community lives in abject poverty illustrated by over 63% of the people who live below the poverty datum line (Ms kenya, 2007) and in natural resource degraded environment. This confirms studies by MS Kenya that over 52% of the country's population (largely in nyanza, coastal, north eastern and eastern Provinces) lives under the poverty datum line, estimated at kes 1,239 (us\$ 15) per month in rural areas and kes 2,648 (us\$ 34) in urban areas. the level of poverty is also explained by the occupation factor where majority of the community members are unemployed with only an insignificant self employment. this has in turn provided a platform for poor health and diseases, especially hiV/ aiDs. the hiV/aiDs pandemic which has taken toll in the area accounts for the rising number of widows, widowers and divorce cases, a factor that is in itself a catalyst to the vicious cycle of poverty through loss of productive labour, dependency burdens from infected and affected, and economic costs in treatment.

With poverty indices of 76.9% (ohito, 2005) in suba District in which rnP is located, the area ranks first on HIV/AIDS prevalence, placing the district among the poorest rural districts (unDP, 2005; 2006). the respondents also pointed out other human causes of poverty such as culture, marginalization of women and other vulnerable groups due to socio-cultural factors, lack of access to information, limited markets and credit facilities, excessive consumption of alcohol, and ignorance (unDP, 2005, and arnason and Mabuya, 2005).

From the study, socio-cultural issues hinder agriculture in the area, and culture is partly a contributor to the present poverty levels despite the area's rich agricultural potential. hiV/ aiDs has also contributed to a lack of labour and high dependency in the local community, even though arVs are currently helping in sustaining labour productivity for a longer period of time. culture was particularly pointed out as a major hindrance to poverty reduction initiatives due to the deep rooted clanism, and the strong belief that the place of a woman in the community is that of a caretaker in a polygamous setting, which has hindered women's' contribution in the area's development and the advancement of girl child education. contraceptives are also not highly acceptable in the community and fear exists against contravening culture. the youth and generally the community needs focused leadership, since the consequences, of the beliefs have been high school drop outs due to pregnancies and early marriages and the exodus of literacy from the community, where schooled brains from the region are rare to be found in the villages. there is also no clear cut denomination, and clanism is deep rooted in the locations of *Kanyamwa*, *Kayambo* and *Kabonyo*. entrepreneurship spirit in the community is low and the community



largely lacks a culture of saving for investment. all these factors reinforce each other to cement the vicious cycle of poverty in ruma.

#### **Tourism as a Socio-Economic Livelihood around RNP**

Livelihoods and economies of communities in the Lake Victoria Basin (IVB) are critically linked to natural resource base (Kahata and Gatheru, 2000). The basin and its natural resources contribute significantly to the socio-economic livelihood of local people in terms of freshwater, fish, medicinal plants, vegetable species, mining, and weaving and basketry. They also contribute to transport and tourism (Ogutu *et al.*, 2005). The RNP ecosystem possesses a wealth of potential for tourism development. This includes attractions such as the unique roan antelope, the Blue swallow bird and the spectacular scenery. It also harbours a variety of wildlife, including two of the big five (Leopard and Buffalo) and in addition has the Kuruko Peace Museum, beautiful stones and sea breeze at Litaret, beaches of Kibwoye, Roo, Ukula, Litare, Rangwe, Ngeri/Jiudendi, Kosodo, Kaluku, Gingo, Sindo gateway, Tabla and Sindo main beach. From the study however, tourism has not developed significantly to take its position as a would-be leading means of socio-economic livelihood in ruma. Reasons levelled against the lack of such development included the lack of proper and aggressive marketing (even after its branding in 2006), and the lack of tourist hotels/resorts, and a resource centre in the area. This explains why tourism ranks among the lowest means of socio-economic livelihood in ruma despite its immense poverty reduction and ecological sustainability potential.

#### **Environmental Degradation around RNP**

The Lake Victoria Basin, including ruma, has a great diversity of natural resources among them animals and plants. The area's natural resources include large tracts of habited and inhabited lands, forests, wildlife, fisheries, wetlands, water, topography, and other forms of biodiversity (Rusoke, 1995). Wildlife which represents an important resource in the three east African countries is a source of foreign exchange, food and raw materials, recreation, tourism, as well as nature studies and scientific research. RNP is an important habitat for a diversity of wildlife including hippopotamus, crocodiles, antelopes, birds, reptiles, amphibians and other flora and fauna that may be tapped and exploited to promote community based pro-poor tourism initiatives (Ogutu *et al.*, 2005). These sites lie along the Great Lakes' tourism circuits which are basically nature dependent ranging from "safari travel" to observe herds of herbivores and big cats in the Great Eastern Africa savanna to "gorilla tracking" in the afro-montane forests habitat which are contingent with equatorial forests of the Congo Basin. They should be therefore central in development of the tourism industry. However, it has been alluded that wildlife conserved in both protected and unprotected areas within the IVB, including RNP, generates little income, employment or other benefits at local levels, and on the contrary gives rise to significant costs and losses. Among the most significant of these costs to the local people are the agricultural opportunity costs of reserving land for protected areas, and the damage caused to farm crops and livestock from wild animals (Emerton and Mfunda, 1999). In view of the limited socio-economic opportunities that exist in these areas coupled with population pressure, competition over natural resources has intensified, leading to resource conflicts, environmental degradation and increase in poverty. This observation is confirmed from the study of RNP which sits on a significantly deteriorated environment. The local community largely survives on subsistence crop farming, charcoal burning and sand harvesting which constitute a framework of environmentally unsustainable means of socio-economic livelihoods.

Changing conservation approaches to encompass human dimensions in conservation has done little to change the way in which wildlife impacts on the local people and socio-economic activities. although there has undoubtedly been a growing recognition of the need to involve communities in, and benefit them from wildlife and natural resource management, and a recognition which has continuously been echoed at rnP, there has been little or no real improvement in the level to which local communities gain economically from wildlife in ruma (Barrow and Fabricius, 2002; Barrow and Murphree, 2001; emerton and Mfunda, 1999; kWs, 1994). against this backdrop it can be argued that long-term economic and environmental success can only be achieved if peoples' needs, ideas and knowledge are valued and power is given to enable grass root decision- making. From the findings, the link between poverty and the environment was not very clear to the community as there was no association of forest protection and poverty reduction through initiatives such as tourism development. Degradation of the environment is partly responsible for tropical diseases, mainly malaria, in the ruma ecosystem. this is due to the fact that forest loss increases malaria risks as intact forests have less breeding sites for mosquitoes (uneP, 2009). From the unsustainable subsistence farming at ruma, the contribution to soil loss due to erosion into IV is enormous, contributing to the national soil loss due to erosion valued at 3-4 times the annual income to the country from tourism. in the face of decreasing government budgets, increasing competition for funding and rapidly rising human needs for land, food and income, the IVB ecosystem, in which rnP lies, faces challenges that are alarming and life threatening to local human and wildlife populations (emerton and Mfunda, 1999). unless wildlife populations in RNP can generate real economic benefits to governments, business communities and the people who live within and around the park, these populations are likely to continue declining (okedi *et al.*, 2005).

### **Policy Implications for Ruma National Park in the Context of Kenya Vision 2030 and United Nations Millenium Development Goals**

From the study, poverty, and environmental degradation stand out as key issues to be addressed to realize sustainable development at rnP. the depicted poverty levels and unsustainable natural resource utilization conflict with the MDGs of reducing extreme poverty and hunger, and environmental sustainability. Around RNP, there is insufficient information and knowledge on linking conservation of natural resources with creation of economic opportunities for the rural poor who live within and around conservation areas for sustainable poverty reduction. one of the most powerful ways to help achieve the first MDG on eradication of extreme poverty and hunger is to ensure that environmental quality and quantity is maintained in the long term (uneP, 2009). achieving environmental sustainability is fundamental to achieving all the MDGs due to its significant impact on many aspects of development and poverty. Since Kenyans experience, in addition to material poverty, a situation of vulnerability to environmental degradation, deforestation, land degradation, and water pollution are among the top challenges that the country needs to address to achieve MDg 7. to this end, the kenya Vision 2030 provides a key opportunity for the kenyan government to address environmental challenges as a key element underpinning the country's sustainability in development and poverty reduction, and so much so around her goldmines, the protected areas. For the case of rnP, the following are the urgent policy implications on tourism development for environmental sustainability and sustainable poverty reduction:

## Conclusion

At a time when many of the country's economic assets are coming under rising pressure, leading to disappearing of lakes, loss of tree cover in water catchments and proliferation of mosquito breeding grounds, environmental degradation is taking its toll on Kenya's present and future development. The local community is already aware of the stock of attractions that could form a strong foundation for a stable tourism industry that is locally controlled. Despite the illusion that the park is not well advertised, and the lack of tourist hotels/resorts in the area, pro-poor tourism initiatives can still be mounted and marketed alongside the attractions in the ecosystem. The fact that the park still attracts visitors from the United States, Germany, Sweden and other countries in Europe implies an investment opportunity to the local community in local transport, accommodation, catering, culture and sports which implies potential for employment generation for the local community from tourism. This is probably the most direct way to realizing a positive link between the environmentally sustainable use of land and water resources in the ecosystem, sustainable economic development, and sustainable poverty reduction.

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