

The Impact of Tourism Revenue on the Local Communities' Livelihood: A Case Study of Ngorongoro Conservation Area, Tanzania

Asantael Williams Melita¹, Samuel Mendlinger^{2*}

¹Ngorongoro Conservation Area Authority, Ngorongoro Crater, Arusha, Tanzania; ²Economic Development and Tourism Management, Department of Administrative Sciences, Boston University, Boston, USA.

Email: asante_melita@yahoo.com, *mendling@bu.edu

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ABSTRACT

The tourism industry is the world's largest industry and is being utilized for economic development and rapid growth in many developing countries. In Tanzania the tourism industry is growing at an annual rate of almost 5% and contributes 17% to GDP. Tanzanian tourism is based on wildlife tourism which requires not only programs for the conservation and protection of flora, fauna and the environment but also for job and wealth creation for the indigenous population who often pay a cost in lost land usage for conservation and tourism. Ngorongoro Conservation Area (NCA) is unique in Tanzania in that it is a conservation area but contains a population of almost 70,000 people (mostly Maasai) living in it. This paper, based on a survey of 119 local Maasai and 39 employees of the NCA's governing authority, examines whether tourism revenue directed to the Maasai pastoralist communities has an impact on their economic development and how much does this revenue complement other income sources. We found that while members of the local community are economically benefiting, many people are still not aware of tourism's potential for them.

Keywords: Ecotourism; Maasai; Economic Development; Indigenous Population

1. Introduction

Wildlife tourism via the establishment of National Parks which combine conservation with tourism has been recommended as a means of economic development for many countries in sub-Saharan Africa (SSA), especially for rural, economically depressed areas [1-5]. To date the model that has been used for wildlife conservation in most SSA parks is the "Fortress Park" model or strategy of having a park isolated and protected from any human impact. This was usually achieved by removing the indigenous population living within the park area and reserving the park only for the conservation and preservation of the indigenous flora and fauna and for use by tourists. Using the "Fortress Park" strategy, wildlife and tourists are winners but the indigenous population who had lived in the parks is a loser [6]. This model forbids the local population from using anything in the park which meant that the local population could no longer hunt, use the land for cultivation, collect firewood, graze their herds, use water sources, collect medicinal plants or any other use of flora, fauna or land.

Ngorongoro Conservation Area (NCA) was established in 1959 using an alternative strategy for a conservation area by combining the goal of conservation but with the indigenous population being allowed to continue to live in the conservation area but under land use restrictions; *i.e.* the NCA was established as a multipurpose land use area in which wildlife and people would coexist to the benefit of both. This model later became known as Community Conservation and is in contrast to the NCA's neighbour Serengeti National Park which was established at the same time but as a fortress park with its indigenous Maasai population removed, many of whom moved to the NCA. The NCA's population, almost all members of the pastoralist Maasai ethnic group, was allowed to live in recognized villages and maintain their herds of cattle, goats, sheep and donkeys but was not allowed to cultivate crops or receive land tenure. Land tenure and all decisions related to land, conservation and resource use is the legal responsibility of the Ngorongoro Conservation Area Authority (NCAA) which was created to govern and run the NCA [7-10]. Since 1959 the Maasai population has increased from 8000 to almost 70,000 today (**Figure 1**).

The NCA is one of the premier wildlife conservation

*Corresponding author.

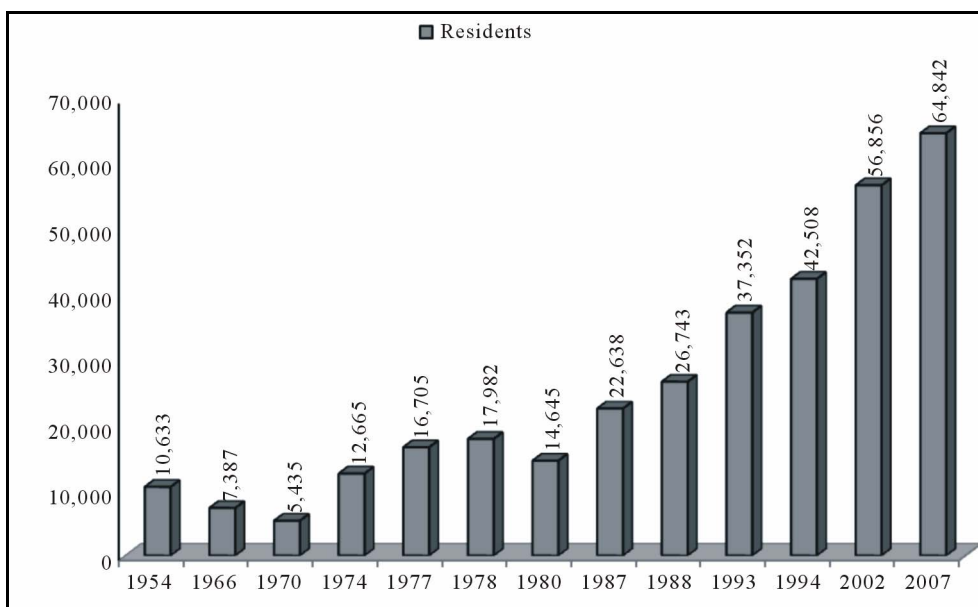


Figure 1. Population trends in the ngorongoro conservation area; Source: NCAA census, 2007.

areas in East Africa and attracts between 250 - 300,000 tourists annually. In 1979 UNESCO designated the NCA a “World Heritage Site” and in 2010 a “Cultural World Heritage Site”. The NCA is 8292 sq. km [11] and has a mammal wildlife population, depending on the season, ranging from tens of thousands to over a million. These include large herds of wildebeest, zebra, several species of gazelles and antelopes, giraffes, elephants, buffalo, rhinos, leopards, lions, cheetah, hippos and other large mammals, birds and reptile species. The “Jewel in the Crown”, and the reason for most tourists visiting the NCA, is the Ngorongoro Crater which has a stable population of 15,000 - 25,000 large mammals.

The Maasai have successfully shared this region with wildlife for hundreds of years. Nevertheless, they have lived with the economic limitations that the conservation policy produced by the NCA’s designation as a multiple land use area for wildlife, people and their livestock [12]. This has led to stunted economic development and growth for the local population and a major problem for the community’s future. The decline of livestock production (primary economic activities of the community) combined with a major increase of the population encouraged some locals to start small-scale businesses; however due to the NCA’s remoteness and limited infrastructure, there were serious limitations to the size and number of such businesses and many men are forced to migrate to other areas of Tanzania to earn a living. Hence tourism was suggested as a business alternative for both community and individual wealth creation. To date, potential tourism activities include Cultural Bomas, selling

handcraft, hiring of donkeys and providing local guides for walking safari, picture taking of individuals in traditional clothing and fees for traditional dancing.

It is still unknown how many local people actually work directly or indirectly in tourism in the NCA, what do they do and how much does tourism contribute to family and community welfare and income. This paper examines these questions via interviewing 120 local Maasai and 40 people who work for the NCAA or the locally elected pastoral council (PC) which advises the NCAA. The main objective of this study is to assess the impact of tourism revenue directed to the Maasai pastoralist community. The complementing of the communities primary economy (livestock) with other income generation sources that are conservation friendly is needed to strengthen the coexistence of the Wildlife and human activities in the NCA. The specific objectives are:

- 1) To assess whether tourism revenue directed to the Maasai pastoralist communities has an impact on their economic development.

- 2) To assess whether communities tourism activities’ compliment livestock economy and other livelihood economy of the Maasai communities in Ngorongoro.

The Ngorongoro community pastoralists have historically depended on livestock keeping as the bases of their economy. In the 1980’s when the human population was 30,000, the number of heads per person was 12:1 for cattle and 18:1 for small stocks (goats and sheep). The number of livestock started declining in the early 1990’s due to a combination of severe drought and diseases associated with the interaction between wildlife and livestock in the area; livestock per head decreased to 2:1 for

cattle and 6:1 for small stocks. The government of Tanzania in 1992 deliberately allowed small-scale cultivation to economically support the population but when cultivation interfered with core wildlife conservation areas, cultivation was stopped. The declining of the livestock economy has negatively affected the economic well being of many local families.

The main sources of NCAA income are tourists entry fees, camping fees, concession fees, vehicle entry fees, resident entry fees, filming fees, aircraft landing fees, walking safari fees, fines and compensation fees, and sales of goods and services. Others are miscellaneous income and the Ngorongoro Protection fund projects income. By 2008/09 entry fees contributed 72% of the Tshs 34 billion (USD 29.31 million) of tourism income for the NCAA. Between 1997 and 2008 the number of tourists increased by 61% (Figure 2) and their entrance reached over \$23 M dollars by 2008 of which \$1.5 M was budgeted for community development.

2. Methodology

In this study we were interested in understanding how the NCA's indigenous Maasai population as well as the staff of the NCAA (Ngorongoro Conservation Area Authority, the governing authority within the NCA) and the PC (Pastoral Council, an elected body of NCA's population which works with the NCAA) perceives tourism devel-

opment and how tourism has affected the economy of the local community and population. A separate questionnaire was developed for interviewing the local population and for the NCAA and PC staff; while some questions were used in both, others were specific for a group. The questionnaires consisted of questions on socio-demographics, income sources and perception of the NCAA and tourists. The questions were both open and closed ended.

Research assistants (local Maasai) were chosen and trained to do the interviews. Data collection was concentrated in three Wards of the NCA (Ngorongoro, Nainokanoka and Olbalbal). In each Ward, 40 interviews were administered, giving a total of 120 interviewees from the communities and plus 40 from the NCAA and PC staff. Samples from each Ward were selected from the 2007 census and run through Microsoft Excel 2007—Pop Tools 3.06 for random sampling. The NCAA and PC staff were randomly chosen from employee lists. Most interviews took about 30 minutes. The questionnaires were prepared in English and translated into Maa, the Maasai language, for interviewing. The responses were then translated into English for analysis.

Data was entered into the SPSS 16.0 template and the data analysed using the MS Excel statistical program. The data was coded and assigned numerical values and entered into SPSS 16.0, and then cleaned. Descriptive

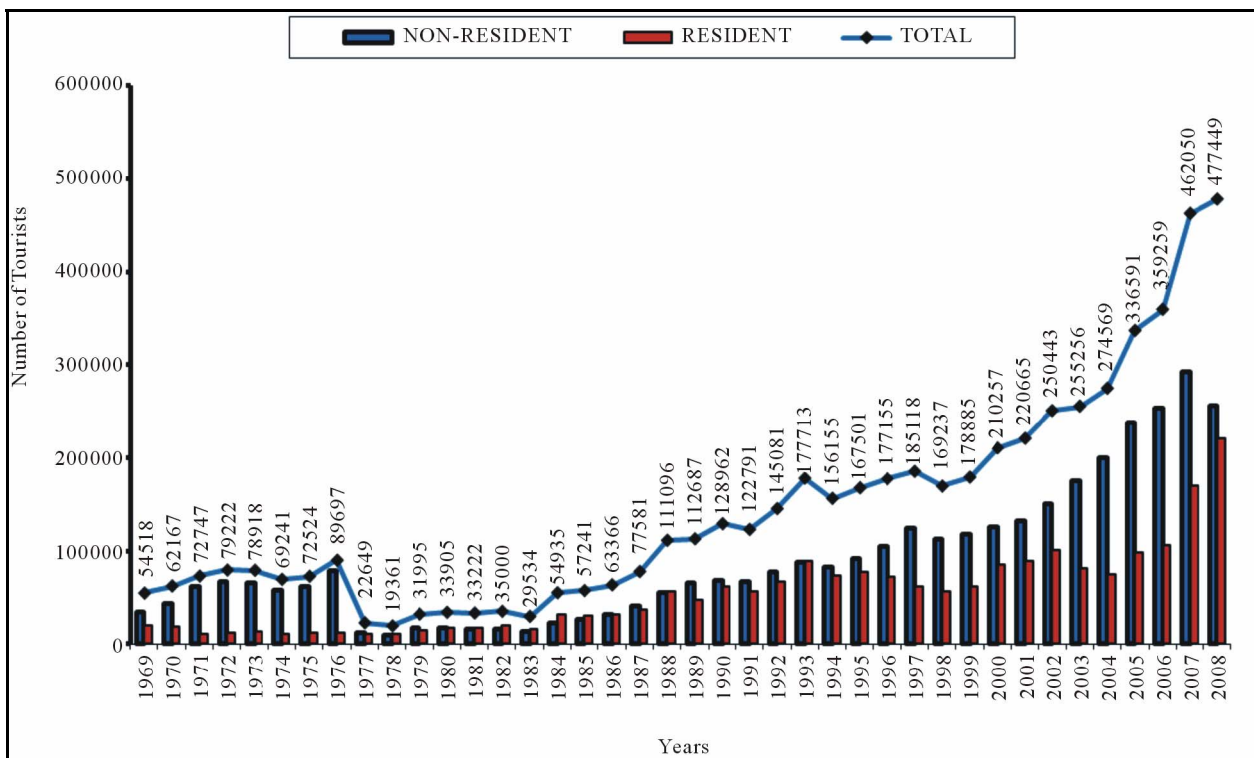


Figure 2. Tourism flow in the Ngorongoro Conservation Area from 1969-2008; Source: NCAA statistics office, 2009.

statistics were run for all questions to generate statistical information using independent and grouped variables. Aggregate analysis was done to all data from the three wards, and disaggregated for each ward (Olbalbal, Ngorongoro and Nainokanoka). The relationships through cross tabs were disaggregated for wards. Aggregate analyses were done to all data from NCA and PC staffs' questionnaires and thereafter disaggregated by sex. From the SPSS data editor, descriptive statistics analyses were run and frequency tables were formulated from the questionnaires to generate statistical information. Chi-square test was run for the variables that required comparisons, e.g. male and female respondents and wards, where data was collected. Data are presented in pie, cylinder and 3-D Column charts for interpretation whereby percentage labels from different response were expressed on the charts.

Some of the responses were run through the SPSS one ways ANOVA by comparing *n* random samples to measure the interaction of tourism activities and other communities' economic activities. A table of information available from the interview was prepared by using an interview guide and given annotations related to questionnaire codes. This semi-structured interview information used to complement the questionnaire data information in discussion section.

3. Results

A total of 119 interviewees over the three wards in the NCA was used (due to technical problems one interview was not included). There was significant difference between male and female respondents ($\chi^2 = 15.539$, *df* = 1,

$p < 0.05$) with 81 (68.1%) being male and 38 (31.9%) female. A total of 40 members of the NCA management and the pastoral council were interviewed, 37 (92.5%) male and 3 (7.5%) female ($\chi^2 = 28.90$, *df* = 1, $p < 0.005$).

Of the 119 community members 73 (61%) responded that they are not involved in tourism operations in their ward and 46 (39%) said they were as compared to 33 (83%) and 7 (17%) of the NCAA/PC staffs. However, there was significant difference between the three wards ($\chi^2 = 7.75$, *df* = 1, $p < 0.05$) when responding to how they are involved in tourism. Among the activities of the community members, guiding tourists and working in traditional Cultural Bomas exhibitions can be defined as direct involvement in tourism activities as they interact with tourists. Other activities include friendship home stays, donations and visits to woman groups, member of tourism committees, conservation and security (Figure 3).

Livestock is the primary but not exclusive economic activities of the people living Ngorongoro. In our survey, excluding the money they earn in tourism, 102 people (88%) responded that livestock was their primary economic activity, 10 (9%) said small scale business activities and 4 (3%) said cultivation, which is illegal within the NCA. Tourism was considered to be either an alternative or complementing existing community economy activity by 101 (90%) respondents. Thirty of the NCAA/PC workers ranked tourism as an alternative economic activity (Figure 4).

There was significant significance difference in responses between male and female respondents among wards ($\chi^2 = 156.069$, *df* = 2, $p < 0.005$) and NCAA/PC

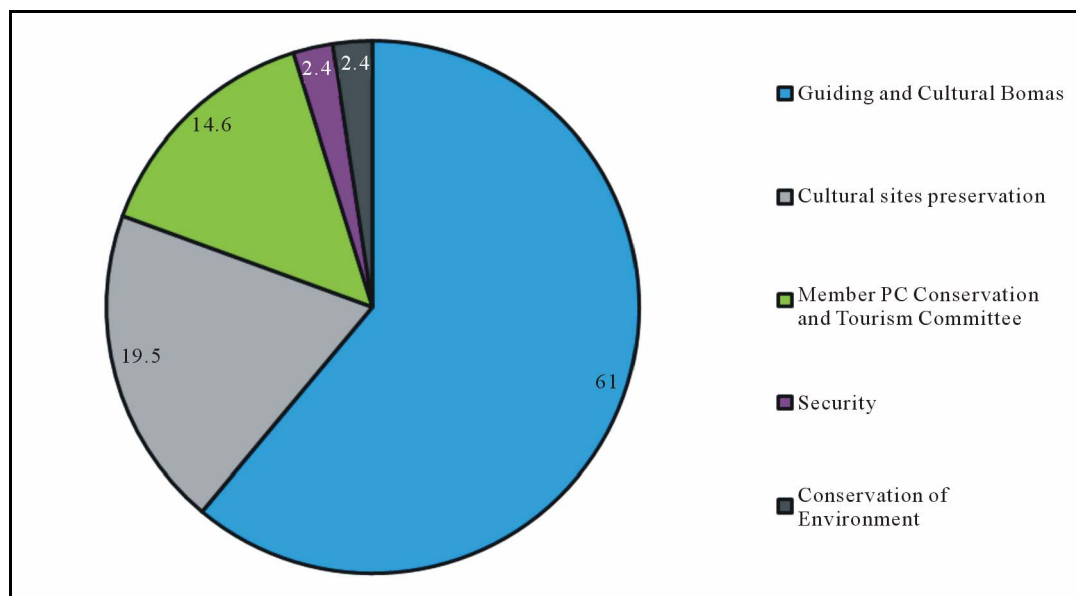


Figure 3. Breakdown of the community members involved in tourism activities in the NCA.

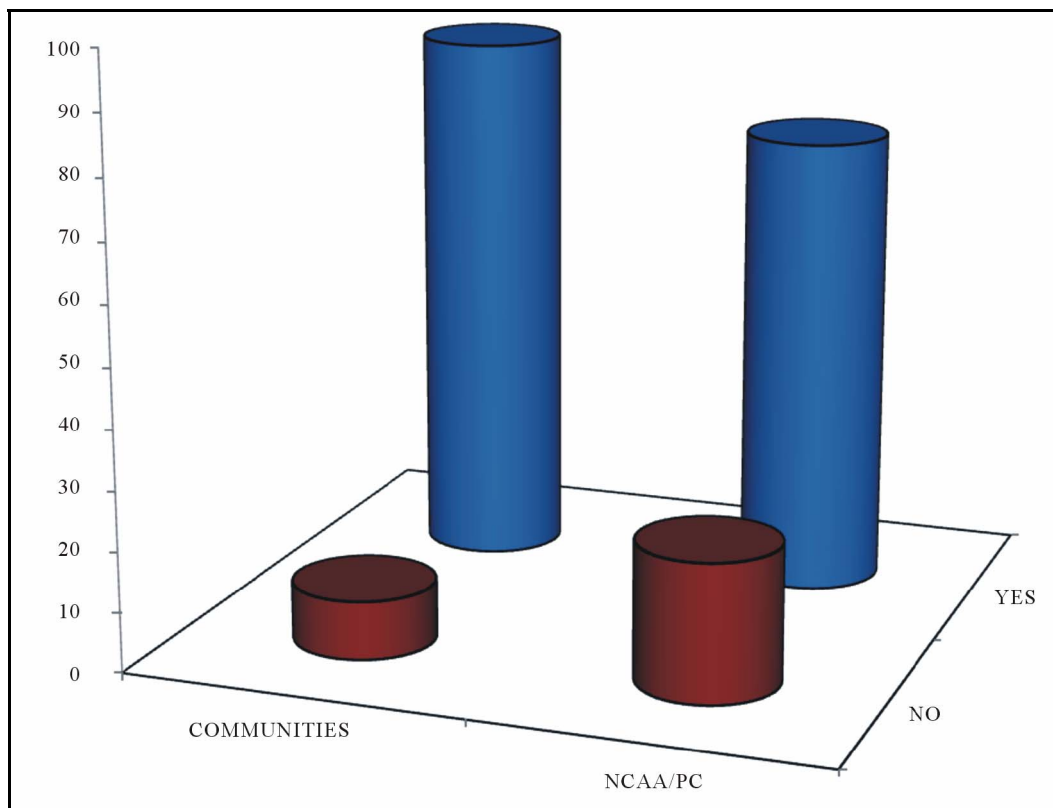


Figure 4. Responses on tourism as an alternative economic activity of the communities in NCA.

($\chi^2 = 29.432$, $df = 1$, $p < 0.005$). In total 105 (90.5%) community's respondents said that livestock keeping is highly prioritised activity in NCA, whereby only 46 (44.2%) considered tourism as a high prioritised activity followed by 35 (37.6%) for small scale business and 3 (3%) for cultivation (Figure 5). Interestingly the community sees tourism employment as only benefiting those with a good education in their society and as such is a stimulus for young people continuing their education. Communities are very aware that cultivation is not compatible with conservation of natural resources, and that they engaged in it just to survive during a high decline of their primary livestock economy.

Economic activities in the NCA need to have a high degree of reliability to communities, especially when changes like life style, declining of primary activities and unstable weather are predicted in the society's day to day life. In Ngorongoro, 57 respondents from the communities stated that tourism is a reliable activity as compared to 35 for small businesses, 21 for other employment opportunities and three for other activities (Figure 6). Twenty four NCAA/PC interviewees responded that tourism is a more reliable activity compared to six for small scale businesses and ten to employment opportunities (Figure 6). In addition the community members said that tourism has little negative impact on natural re-

sources compared to small scale business and cultivation. There was significant difference between men and women ($\chi^2 = 29.432$, $df = 1$, $p < 0.005$, men higher) community and NCAA/PC ($\chi^2 = 59.895$, $df = 1$, $p < 0.005$).

Renting of donkeys for walking safaris is an additional business that the local population can earn money from tourism. When asked, 67 (59%) had little or no involvement, 45 (40%) had some involvement, 2 (2%) were involved and 5 (4%) were very highly involve. There was significant difference between the local population and the NCAA/PC perception of the number of local people involved in donkey rentals ($\chi^2 = 13.676$, $df = 4$, $p < 0.05$) with the local population believing that fewer people earn money from this activity than actually do earn money.

When the local population was asked how involved are you in guiding tourists, 60 (56%) responded little or not involved, 23 (21%) responded somehow involved, 18 (17%) responded involved, 4 (4%) highly involved and only 2 (2%) very highly involved (Figure 7). Hence, if hiking can be expanded more people can be employed in this field. When the NCAA/PC personal were asked this question 5 (13%) responded little or not involved, 8 (21%) somewhat involved, 13 (34%) involved, 9 (23%) responded highly involved and 3 (8%) responded very highly involved.

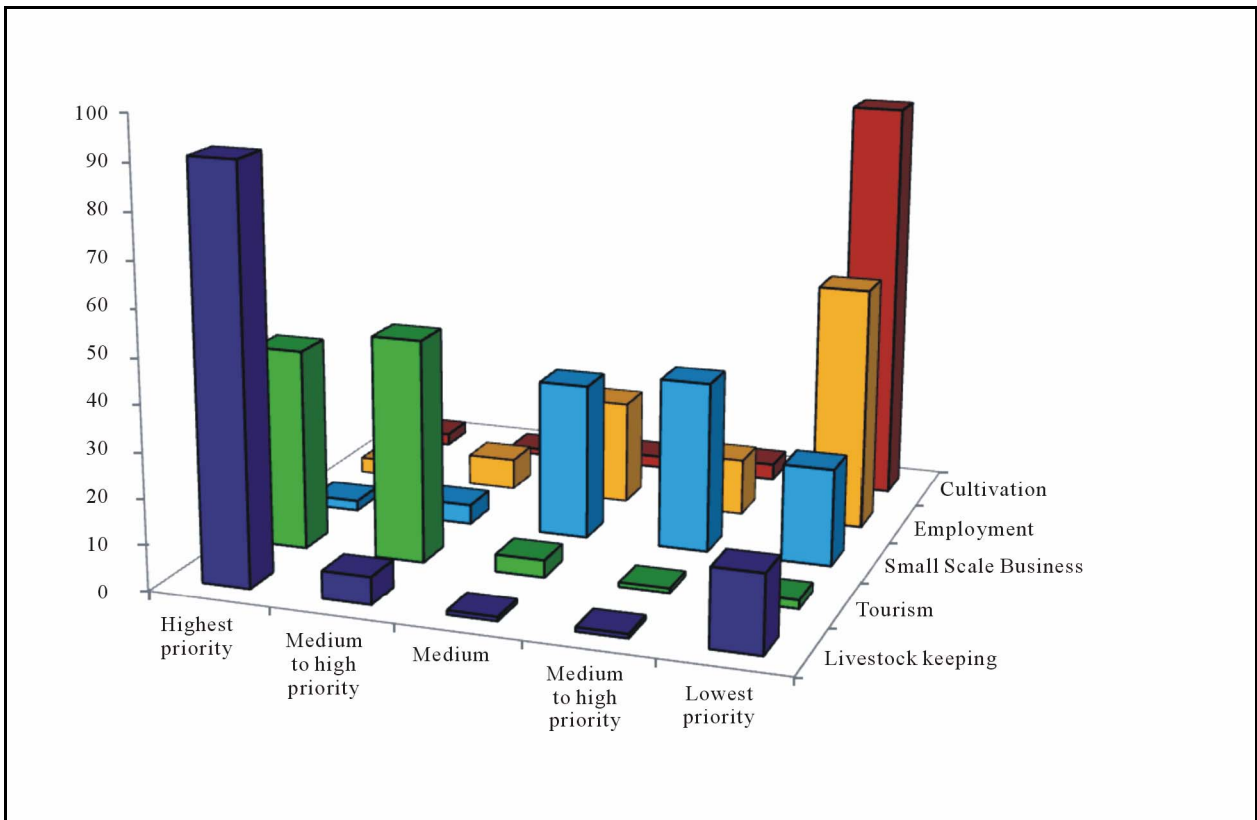


Figure 5. Community response on activities priority in the NCA.

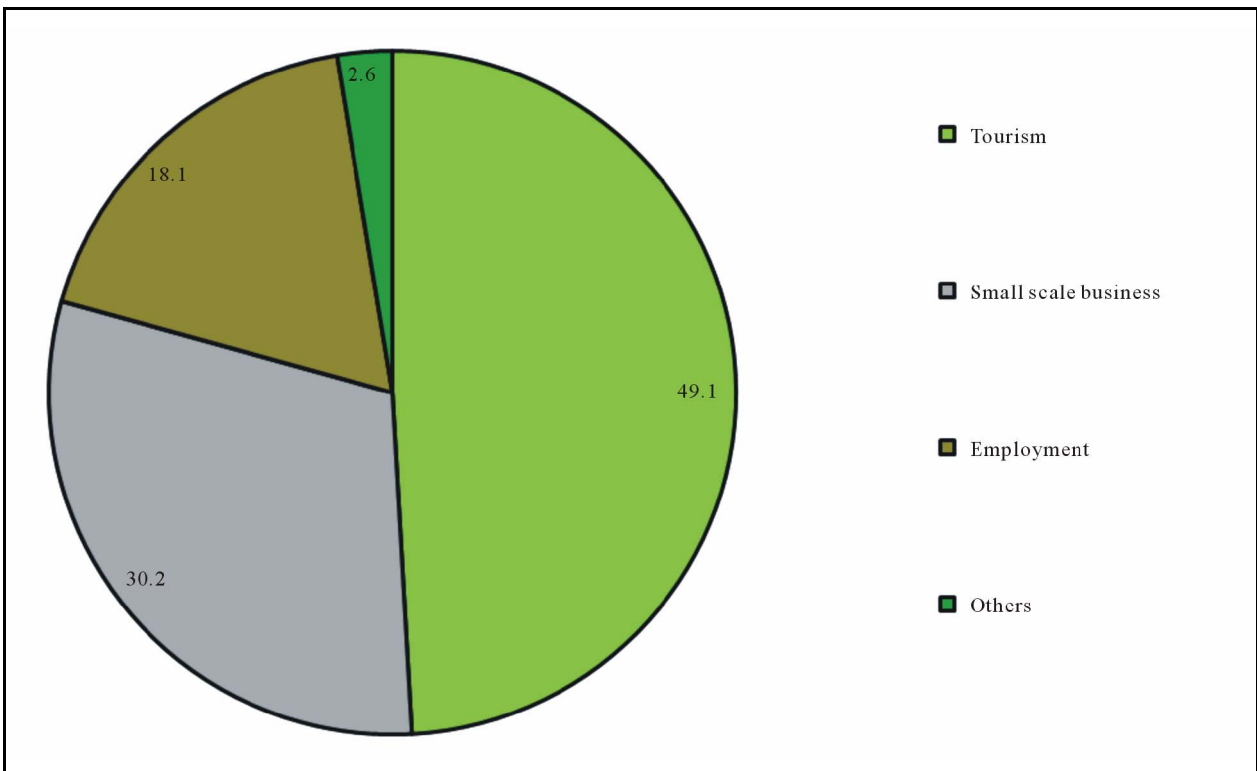


Figure 6. The percent reliability of community economic activities apart from livestock keeping.

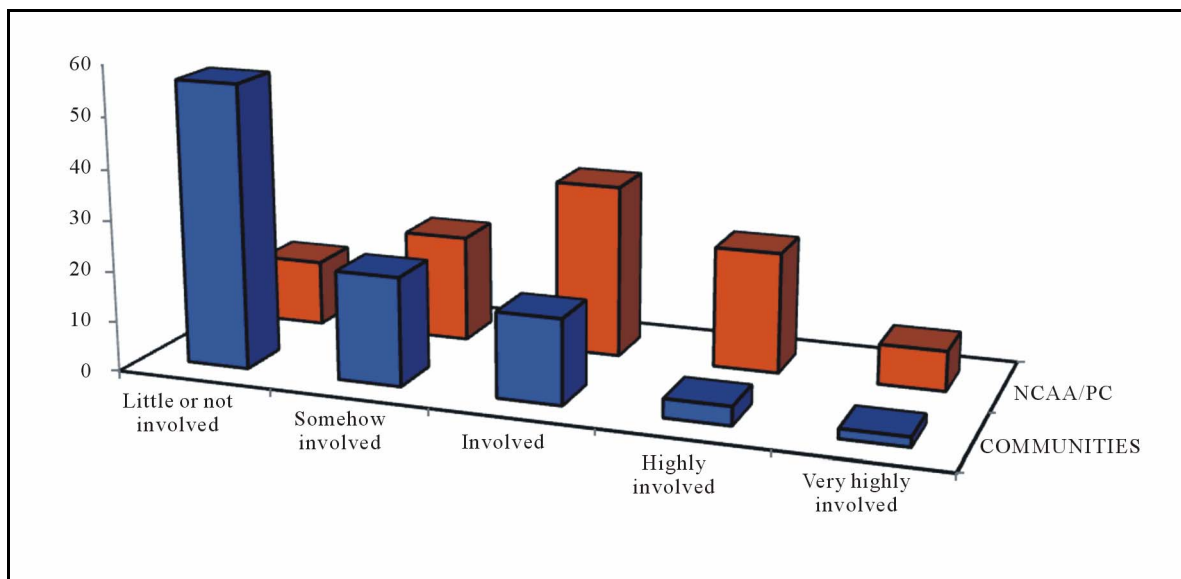


Figure 7. The degree of individual involvement in donkey guiding activities in the NCA.

The NCAA management distributes revenue to each ward through the PC which then distributes funds to villages and individuals. When asked how are funds distributed 69 (59%) responded correctly that revenue is distributed through the pastoral council, ward and village, 41 (35%) responded that revenue distribution is through individuals and 7 (6%) said through the ward and village to individuals (Figure 8). When NCA/PC personal were asked this question 36 (95%) responded correctly, 1 (3%) responded that revenue is distributed through individuals and 1 (3%) that revenue distribution is through the ward and village to individuals (Figure 8).

We measured revenue impact to determine if it was high, medium or low in the communities' livelihood in regards to restocking, education, medical services, livestock services and food security (Figure 9). The response for restocking was 40 (36%) high, 66 (59.5%) medium and 5 (4.5%) low. The response on tourism revenue support to education in the communities was 85 (75.9%) high, 21 (18.8%) medium and 6 (5.4%) low. For livestock services, the response to tourism revenue supports was 92 (80.7%) high, 17 (14.9%) medium and 5 (4.4%) low. The response to tourism revenue support to food security was 89 (76.7%) high and 27 (23.3%) medium and 0 for low.

The sharing of revenue has consequences for natural resources conservation. The survey measured the level of understanding of the communities and NCAA/PC respondents on the impact of revenue sharing on the conservation strategies in Ngorongoro (Figure 10). For the communities, 94 (81%) said that wildlife increased and 23 (19%) said it had not. In addition 84 (72%) said that the numbers of elephants and rhinos had increased in

their area. The response from the NCAA and PC staffs also believed that tourism has improved conservation (30%, 73%) and also that the number of rhinos and elephants have increased (30%, 73%).

4. Discussion

Tanzania has promoted tourism as an important component of GDP growth. Ngorongoro Conservation Area hosts almost half of the tourists that visit Tanzania every year and earns about \$30 M annually from park fees. Since the NCA's establishment in 1959 as multiple land use conservation area that includes the indigenous population (as opposed to the classical Fortress park strategy of conservation in which the indigenous population is removed from the park and settled outside of the park), community social and economic development and the welfare of the local population are important mandates of the NCAA. Revenue sharing is part of the NCAA's strategy to manage the area resources for the coexistence of wildlife and human pastoralist activities. However, revenue sharing from the NCAA to the local population and/or villages is a passive type of community development. It does not directly generate jobs and individual economic development. Recently the local population through ward, village and/or individual initiative have accepted and adapted tourism as a complementing economic activity to livestock, their primary economic activity. Financial and development transparency is an important aspect for communities' tourism economic gains and in the NCA it is achieved by funnelling all moneys and decisions through the locally elected PC which channels moneys to the villages.

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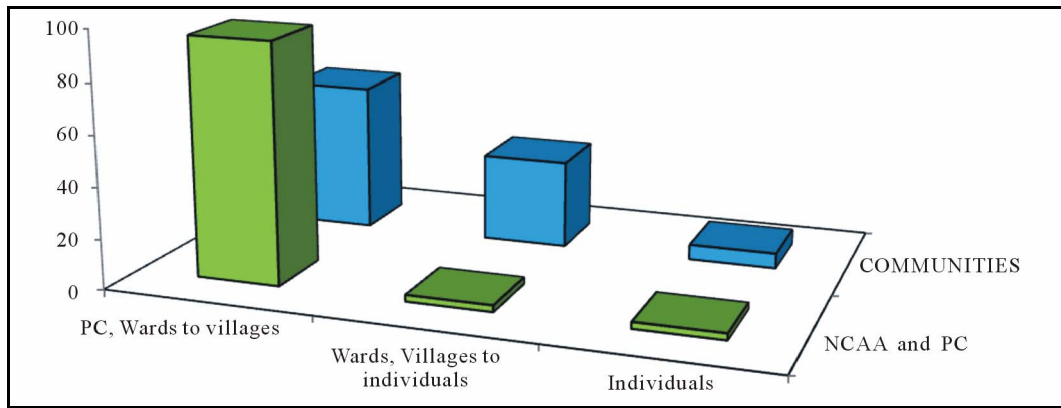


Figure 8. The response from the communities and the NCAA/PC staffs on the understanding of the revenue distribution (shares) from NCAA.

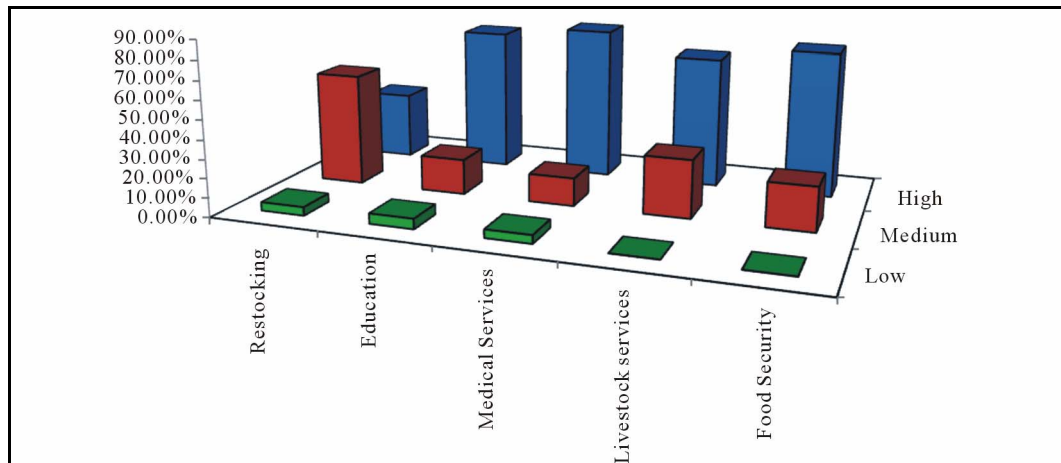


Figure 9. Impact of Tourism revenue (percent) support to the communities' livelihood.

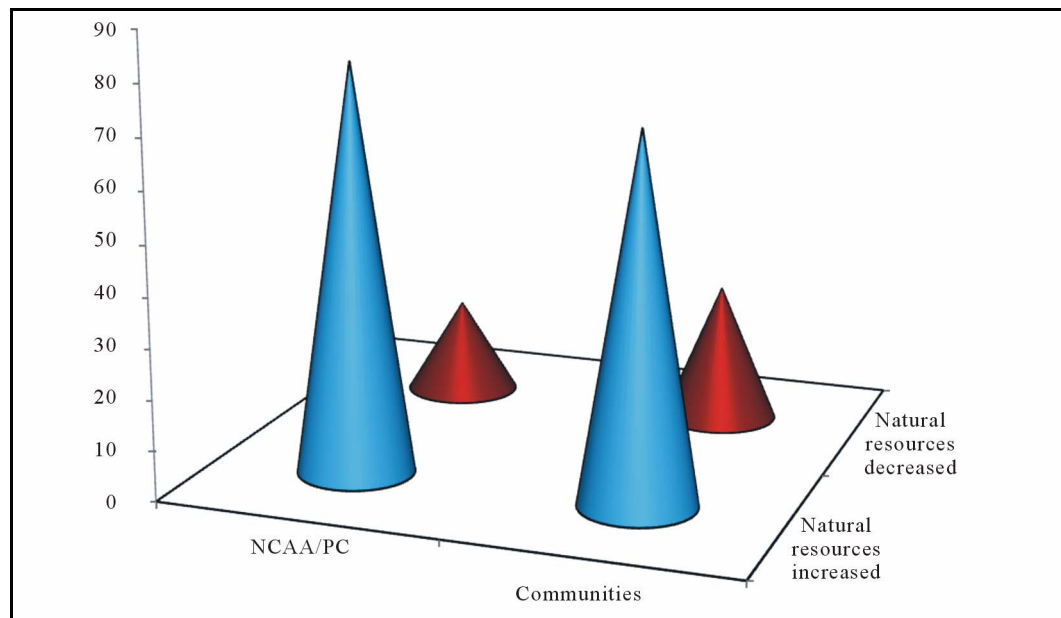


Figure 10. Impact of tourism revenue sharing to conservation strategies.

Livestock keeping is the main economic activity of the communities in the NCA. In the last decade, it has gone through several calamities and decline and the livelihood of the communities in NCA was badly affected. Subsequently tourism has been given a high priority as an alternative activity that complements the declining livestock economy. Today tourism activities contributed almost 70% to communities' money economy. [13] argued that, tourism is one of the few forms of sustainable use that can be used to enable local people to derive economic benefit from a protected area and view the site as an asset that brings additional economic opportunities to their community.

Joint involvement of the communities through conservation and tourism communities and the NCAA staff has produced a winning strategy for economic development. Direct involvement of the communities was discussed by the communities and the NCA/PC staffers interviewed during the survey. Among the successful examples were walking safaris, campsite operations and the cultural boma management. However, the level of involvement within the communities differs according to the type of activities. Cultural Boma operation seems to be the main activity that involves both sexes and considered to be more directly beneficial than walking safaris and campsite operation which require high levels of commitment and involvement with a high level of education within the communities. The survey realised that socio-economic benefits from tourism may promote individual and communities livelihoods in natural areas. (3) commented that more tourism opportunities to the communities in Okavango Delta promoted individuals and communities livelihood.

Furthermore, the involvement through organised groups, e.g. Cultural Bomas, produces positive images of tourism for the NCA's local population. The handcrafts sold in most of the Bomas are owned by the members of the communities, both those who live inside and outside the Cultural Boma, and once a property is sold the money is sent to the owner. The survey recognised this as an excellent way of sharing tourism revenue among the local population. To make tourism more of an economic activity for development in NCA, assets such as walking safaris, Cultural Boma operations and selling of handcrafts are highly promoted by the NCAA and the communities and benefits both the individuals working in that area and the community as a whole. For example in one Cultural Boma \$367,643 (USD) was earned in 2008. Tourism is helping to improve the domestic economy of the Maasai Community in the NCA.

Tourism activities were noted to have a positive impact on the other economic activities in the communities of the NCA. However, the increase of small-scale busi-

ness in the NCA may have contributed greatly to the decline of local traditional livestock economy, and if not controlled will negatively affect the management of natural resources. While cultivation was suggested as an alternative to the decline of livestock in 1991/92 it is not compatible with conservation of natural resources and wildlife and as such is illegal. The tourism activities introduced as an alternative economic activity in the NCA, well planned and utilizing the best marketing structure, changed peoples' attitudes to conservation of natural resources. This study strongly supports the hypothesis that when communities are given opportunities to work in the tourism industry, they can change negative to positive attitudes by creating programmes to encourage tourism in their area and boost their economy [14]. The NCAA and the local communities have together agreed that tourism is an incentive to conservation of natural resources.

5. Summary and Recommendations

Tourism can be an excellent alternative to or complementary to other economic activities to communities' livelihood if benefits are shared among the communities and people living in each community. Controlling leakage will allow for more revenue to remain in the communities. The more transparent are tourism's benefits to the communities, the greater the respect for tourism and the realization of its impact on peoples' lives. However it does require a greater awareness of the NCAA's activities and support for tourism among the local population. While communities in NCA acknowledge tourism revenue as being an alternative to their traditional livelihood economy, there is poor understanding of benefit sharing to the people at lower levels in the community. This can bring disagreements that may interfere with community tourism development and thereafter threaten the conservation of natural resources. This study argues that tourism revenue is a complementing source to the economy of the communities but it is not an alternative for everybody because some still don't know what it means or its significance; fewer people benefit than should. Nevertheless, tourism being a growth industry in the NCA will compensate for a decline in livestock keeping which the primary economic activity of the communities by employing young people who are the future power of the communities' economy.

Direct and indirect revenue sharing to the communities is high in NCA compared to the other pastoralist in communities outside the NCA. The impact will continue attracting immigrants into the NCA pending the resettling of immigrants outside the area. Clear procedure of who to involve in communities and how to involve them, may be a device to manage the population derived from

immigrants in the NCA. The present coordination can be improved to maintain the recent believe that tourism can complement the communities' economy in the NCA and education on the nature of the activities should be made to the communities in the NCA. It is however not clear that through the present tourism structure that communities value the conservation of natural resources [15]. The study's findings concluded that the communities value tourism because of the present benefit which possibly may not be sustainable because of the fragile nature of the tourism business. Nevertheless, if the value of tourism is to be appreciated by the communities, the benefits of keeping the resource should exceed the costs it causes and become able to reduce the level of poverty while complementing the communities' livelihood economy.

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