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Cost-sharing in the fringes of protected areas

Thomas Yeboah and Charles Senior Afram

Abstract

The purpose of this study was to explore the dynamics of ecotourism costs distribution at Boabeng, which is found on the peripheries of Boabeng-Fiema Monkey Sanctuary in the Nkoranza North district in the Bono East region of Ghana. Data collection instruments included schedules, in-depth interview (IDI) and focus group discussion (FGD) guides. A sample of 404 heads of households was randomly selected for the administration of the schedules, whilst 12 respondents each were purposively selected for both the FGDs and the IDIs. Household data were analyzed through Chi-square tests. The study found that there was no disparity in the distribution of ecotourism costs at Boabeng. This study recommends that Managers of the project in the community should consider the provision of social amenities using revenue from the project.

Keywords: Cost distribution, economic benefits, ecotourism livelihood, local people, household

Introduction

Protected areas are used as management tool to achieve nature conservation and also provide a range of associated economic, social, cultural and spiritual benefits. Protected areas cover about 11.9% of the terrestrial and coastal waters of the world (UNEP-WCMC, 2010). While there is widespread agreement that it is important to protect these areas, tensions arise over policies that restrict access to natural resources for local communities. The social and economic cost of maintaining protected areas have caused local conflicts around the world (Dowie, 2009).

Communities adjacent to protected areas benefit directly from the services flowing from them. At the same time, many also bear the costs of restricted access to local resources. While most people support the existence of protected areas, those in close proximity may oppose to its establishment, especially if the implementation of protected areas translates into loss of land-use rights, missed development opportunities and reduced access to life-supporting services.

Many protected areas attract tourists. This is usually considered to benefit the local community because it generates revenue. However, in some cases, conservation-related tourism rapidly changes local lifestyles and can generate largely private, unevenly distributed, benefits within communities.

Studies on costs of ecotourism development to the local communities show that the costs of ecotourism development may be borne unequally by different groups in the community (Adhikari & Lovett, 2006; Tyler, 2006) [2, 40]. Establishing equitable and effective ecotourism benefit sharing programmes requires that there should be policies with regard to the distribution of, especially, financial benefits from ecotourism. When policies are established and implemented through an organization, it can help cushion the impact of external shocks. Also, there may be a direct impact on livelihood outcomes. For example, a responsive organization can implement interventions to improve people's well-being. Policies can also help reduce vulnerability through the provision of a social safety net.

BFMS registered the highest revenue and highest visitor numbers under the Community-Based Ecotourism Project (CBEP) Phase I (USAID, 2005) [41]. The revelation of this nature at Boabeng and similar eco-destinations around the globe has made some authors believe that communities with the highest economic gain from ecotourism show the highest tendency to biodiversity conservation (Lacher & Nepal, 2010; Stem, 2001) [22, 38]. The purpose of this study is to analyse the costs of developing ecotourism and the distribution of these costs that emanate from ecotourism among residents at Boabeng.

Literature review

Sharing the costs of ecotourism development

Local people have complex livelihood strategies which are affected by ecotourism in many different ways, positively and negatively, directly and indirectly (Ashley & Hussein, 2000) ^[9]. Different people have different livelihood priorities and different types of community ecotourism ventures have different kinds of impacts. Common tourism case studies around the world often portrays negative picture of local people being excluded from their resources. There are numerous of such examples in Kenya, Namibia and Tanzania where foreign tourism operators simply established camps or lodges in communal areas, often near major water resources leading to various forms of pollution and disruption of ecological life systems. Since the year 2004, several writers such as Agrawal and Redford (2009) ^[5], Lynn (2010) ^[23], Benjaminsen and Bryceson (2012) ^[10], Neves and Igoe (2012) ^[28], Bitanyi, *et al.* (2012) ^[11] and World Wildlife Fund (WWF, 2014) ^[42], report that more than 410,000 local households in Tanzania who were predominantly dependent on natural resources for crop farming, livestock keeping and other natural resource-based income generation activities have been affected, either through eviction or loss of access to natural resources..

Ecotourism as a complex and diverse industry generates costs through multiple pathways, each of which is likely to be influenced by several variables. Understanding the costs of nature-based tourism therefore requires a more sophisticated analysis, disaggregating the ways in which people engage in tourism, the nature of costs they incur, and how such costs are distributed (Agyeman, 2013) ^[6].

The outcomes of a successful ecotourism enterprise have powerful social and ecological effects on local areas, through conservation of ecological resources, especially by communities that currently rely on unsustainable harvesting of resources in order to earn their livelihood (Parker & Khare, 2005) ^[33]. Theobald (1998) ^[39] has argued that ecotourism livelihoods impacts on locals are often lessened in literature, to maintain the market appeal for the eco-destinations.

With reference to the costs stemming from ecotourism development, initial studies show that, the costs of community-based ecotourism development may be borne unevenly by different groups in a community (Adhikari & Lovett, 2006; Tyler, 2006) ^[2, 40]. Gaining an understanding of benefit sharing therefore needs to consider who bears the costs, and the relative magnitude of costs compared with benefits for different groups.

Households involved in ecotourism development are not homogenous entities (Dorsner, 2004) ^[13], as there are always constraints to the distribution of costs in terms of fairness especially given the existing socio-economic inequalities and power relations existing in local communities (Agarwal, 2001) ^[4].

As a result, distributional issues are critical to equity and social sustainability and therefore essential to be considered at an early stage of ecotourism development (Adhikari & Lovett, 2006; Colfer, 2005; Pagdee *et al.*, 2006) ^[2]. In most destination areas in rural communities, power has been allocated to tourism management committee members who are responsible for decision making, managing the tourism process and reports directly to the entire community. Tourism stakeholders must be mindful of the power groups that exist within local communities and find a balance

between their needs and the project's objectives (Afenyo & Amuquandoh, 2014) ^[3] as such will help lessen the costs incurred by especially residents whose livelihoods are affected by ecotourism projects developed in their vicinity.

Social exchange theory

Social exchange theory is a general sociological theory concerned with understanding the exchange of resources between individuals and groups in an interaction situation (Ap, 1992) ^[8]. Personal perceived costs and benefits are the key dimensions of social exchange theory which enables residents to evaluate the socio-cultural, environmental and economic impacts of tourism from both positive and negative angles. As a result, Latkova (2008) states that the advantage of social exchange theory is being able to consider heterogeneity between communities and as such can explain the different attitudes of residents within the same community.

Gursoy and Rutherford (2004) ^[17], in support of the social exchange theory conclude that residents will have a tendency of supporting tourism development if they perceive more benefits than costs from the industry. Thus, the underlying principle of exchange theory is based on the fact that residents look for rewards and avoid costs from tourism development in their communities.

Consequently, people are motivated by profits (rewards minus costs) expectation. Rewards are not solely being considered as monetary returns, but also in social and psychological aspects. Therefore, 'perceived-costs' are the determination for an individual to decide to enter a social exchange.

Methods

Study area

Ghana falls between latitude 4,44°S and 11,11°N and longitude 3,11° W and 1,11° E. with a total area of 239,460km² with land covering 230,940km² and water 8,520km². Its climate is due to mainly the interplay between the dry Harmattan winds from the northeast and the moist monsoon from the southwest. Southern Ghana has two rainy seasons. These are April to July and September to November, with rainfall figures between 1,270mm to 2,100mm per annum. Northern Ghana has only one rainy season, occurring between April and September and with rainfall figures ranging from 1,100mm-1,270mm per annum (GSS, 2012).

The eco-site chosen for this study, to be precise Boabeng-Fiema Monkey Sanctuary is located at Boabeng which is about 22km from Nkoranza in the Bono East region of Ghana. Boabeng has a total population of 1,186 made up of 569 males and 617 females. The average population growth rate in the community is about 3.1% and an economically active part of 56% representing those aged 15 years and above (GSS, 2014).

The actual data collection exercise took place at Boabeng. Before the study began, the researcher made a phone-call to inform the management and elders in the community about his intention to conduct a study in the community on the Boabeng-Fiema ecotourism project. In the community, the first point of call was the BFMS office where the research team was welcomed by some workers of the sanctuary after which a tour guide was asked to introduce the researcher to the Chief and the rest of the members of the community.

The researcher presented official letters to the management

of the sanctuary and drinks to the chief of the Boabeng community. This was because, the community that the study was conducted was an Akan community and it was part of the tradition to present drinks whenever homage was paid to a Chief's palace. Again, it was to inform the community about the intention of the study so as to seek their consent and support. Four field assistants and a driver from Sunyani Technical University accompanied the researcher to assist in the distribution and administration of the schedules.

All the sampled members of households were contacted in their homes with the help of a tour guide from the BFMS. Upon establishing contact with the sampled member, the tour guide introduced the field assistant to the member after which the field assistant administered the interview schedule to the household heads. This method was used to complement the first until the desired sample size was achieved.

All the in-depth interviews were conducted at the place of choice of the interviewees in the community by the researcher. In all, two (2) FGDs and twelve (12) in-depth interviews were conducted. Though a total of 417 interview schedules were administered, 404 responses were obtained due to the fact that some respondents collected some of the schedules with the hope that they could answer the questions in the schedule but left a lot of the questions unanswered such that those schedules could not be used and needed to be rejected. This indicated a total response rate of about 97.0%, including both male and female household respondents from the Boabeng community.

Results and Discussions

Socio-demographic characteristics of the respondents

In terms of sex, results from the study showed that 43.1% of the respondents were males and 56.9% were females. Many of the respondents (48.3%) were between 20 -39 year aged groups, followed by 40 - 59 year aged group (38.9%), with very few respondents above 60 years (8.7%).

With respect to educational level, over half (59.2%) of the residents had only a basic education and 10.1% had completed secondary school and tertiary (4.7%) education, whilst 26% did not have any formal education.

In considering the length of stay of respondents in the study area, it was discovered that 31.9% of respondents had inhabited Boabeng for less than 5 years, 18.8% had lived at Boabeng for the past five years and 33.3% had lived for more than 20 years in the community.

The majority (60.9%) of respondents were married, 23.3% were single or never married with 15.8% ever married i.e. respondents who had married before but were either divorced or widowed. The findings showed that about 83.0% of respondents were indigenous people whilst only about 17.0% were non-indigenous.

In 2016, the daily income wage for a Ghanaian worker was about C8.0 (in that same year, one US dollar was about C3.9). Over 57.0% of household respondents in the study area had average monthly income less than hundred Ghana cedis (<C100) and about 25.0% had average monthly incomes between C100 – C199. On the other hand, only about 6.4% of respondents had an average monthly income of over C499.00.

About thirteen percent of respondents were traditionalists, with most of the respondents being Christians (86.4%) and the remaining being Muslims (0.7%). The dominant household size was more than 2 people in the community (91.8%). About 5.0% of the respondents belonged to households of 2 members, with few respondents (2.7%)

staying as single-member household.

The results of the study show that about 2.0% of respondents identified their jobs as tourism related (tour guides, wildlife officers, caretakers and cooks of the sanctuary) whilst about 98.0% of respondents identified their jobs as non-tourism related (including farmers, traders, artisans etc.).

In reviewing the power status of respondents, it was found that 4.2% of respondents were chief and elders in the community and about eighty-six percent of them which constitute the majority of respondents were ordinary citizens. 'Other' respondents made up of unit committee chairman, assemblyman, youth and religious leaders constituted about 10.0 percent of the respondents.

Types of costs generated by the BFMS

Rural development study shows that ecotourism often changes the dynamics on the three main uses of land, such as, the commercial, subsistence and socio-cultural uses of landscapes by restricting or eliminating livelihood activities including farming, hunting, collection of wild fruits and medicinal plant (Eshun, 2011) ^[15]. Using interview schedule, respondents were asked to indicate the extent to which they had been negatively affected by the costs of developing the sanctuary in the community. In this context, costs of ecotourism can simply be considered as the negative things that emanate from the development of BFMS at Boabeng.

The analysis of the data shows that about twenty-seven percent of the respondents were of the opinion that they had been negatively affected by the ecotourism project in the community. These costs induced by the BFMS generally included economic costs (18.3%), opportunity cost of land and forest products (4.7%), ecological costs (1.5%) and socio-cultural costs (2.5%) as shown in Table 1.

Economic costs

The first and the most prevalent approach to ecotourism development in local communities is the costs-benefits approach (Lee, 2013; Nunkoo & Ramkissoon, 2011) ^[29, 30]. Studies following this approach group the potential impacts of tourism into two dimensions of costs and benefits (or positive and negative impacts), generally indicating a direct negative relationship between perceived costs and support for tourism development and a direct positive relationship between perceived benefits and support (Lee, 2013; Nunkoo & Ramkissoon, 2011; Nunkoo & Gursoy, 2011) ^[29, 30].

Table 1 shows that about 18.0% of respondents were of the view that direct cost of the sanctuary to the households were mostly economic. Specifically, these economic costs from the sanctuary were seen in the form of the destruction of farm crops such as maize, groundnut, plantain, pineapple, banana and yam by especially the Mona monkeys. Meanwhile the destruction of flowers of crops such as cocoa, cashew, as well as the destruction of cocoyam and yam leaves was mainly attributed to the activities of the Colobus monkeys.

Table 1: Types of costs from the BFMS

Costs	N	%
Economic costs	74	18.3
Opportunity cost	19	4.7
Ecological	6	1.5
Socio-cultural	10	2.5
Total	109	27.0

Note: N < 404 due to non-response

There were also home raiding by monkeys dwelling in the BFMS. The monkeys visited the households to find food to eat and water to drink, especially during the dry season, and in the course of that caused damage to electric wiring at various homes (see plate 1) and also ate and destroyed household items such as kenkey, yams, eggs and potable water.

A 50 year old woman interviewee at Boabeng said

For now there are a lot of Mona monkeys and Colobus monkeys in this community. The animals, especially, the Mona monkeys, move in groups and they go to every house in this community to destroy and eat foodstuffs.

This finding is in conformity with Eshun's (2011) [15] study at Boabeng in which he found that, besides damage to crops, the Mona monkeys also drink water and eat foodstuffs in households and thus adding cost to the residents' livelihood.

Opportunity costs

Gursoy and Rutherford (2004) [17] examined the influence of economic costs, social costs and cultural costs on households' support for tourism development projects. Similar to the various costs analysis is the opportunity costs, which means, sacrificing alternatives. About five percent of respondents indicated that the cost induced by ecotourism development at Boabeng was related to opportunity costs. The implication was that, households had to sacrifice the forest products like firewood, games, mushroom, wood for burning charcoal, wood for making mortar, pestle and timber for their building projects among others for alternative like the BFMS.

In short respondents were of the opinion that they had to forgo all the numerous forest products for the development of the ecotourism project. Households also in an interview indicated that, there were lack of access to land for farming and also land for building purposes, all of which needed to be sacrificed for the development of the BFMS as shown in Table 1.

Some households expressed their anger by the threat of fines and sanctions from the wildlife officers. They perceived it to be their right to access the forests surrounding their community. With few alternatives available, they relied upon local forests for their daily needs. They felt as though their very livelihoods had been made illegal. Members in the focus-group discussions indicated that, so far, no arrangements has been made to help address the needs of households whose livelihood activities depended upon the forest restricted some years ago. This is also in support of the study by Abane *et al.* (1999) [1], in which they found that the creation of the Kakum National Park inferred an immediate cessation of entry for items like mortars, pestles, stools, drums, chewing sticks, sponges, snails, mushrooms, grass cutters, antelopes, rats, herbs, roots, tree barks and fruits.

Ecological costs

Various authors in the literature (Benjaminsen & Bryceson, 2012; Mfunda & Røskaft, 2011; Kaswamila, 2012; Nyahongo & Røskaft, 2012) [10, 21, 26] had confirmed that depending on perceived costs experienced from the ecotourism, local households will cope with it up to a

certain level. But there is a threshold where households' acceptance turns into protests and opposition towards ecotourism development.



Source: Field data (2016)

Plate 1: Electric cables brought down by monkeys in the BFMS at Boabeng

Table 1 also indicates that among the cost induced by BFMS were ecological (1.5%). Specifically, respondents linked ecological costs to monkey related accidents. They cited a situation where a Colobus monkey killed a White man who attempted to take one of the young Colobus monkeys as pet. But unfortunately for him, the mother of the young Colobus monkey was around and jumped on him and inflicted bruises on the whole of his body, which he later died at the hospital. There was also the destruction of social amenities such as electricity cables (see Plate 1) in the community by these monkeys. In an interview a 28 year old man and an electrician from Boabeng said:

Sometimes after wiring a house the monkeys will remove all the wires. When this happens the job owner would have to call me back to do the work again.

Other ecological or environmental costs from the BFMS was noted by respondents as snakebites and monkeys disturbances in the form of noise making in the community and on roof tops of households. Respondents also confirmed that there were forest related insects such as bees, tsetseflies, mosquitoes and black flies attacks and infestations which could easily transmit diseases such as sleeping sickness, skin rashes, malaria and yellow fever to the households in the community. This situation was confirmed when at about 5pm at Boabeng, the research team, in their attempt to meet one of the interviewees in his house for the in-depth interview witnessed an unfortunate incident where an old woman of about 60 years was attacked by bees in her house. All that the old woman could do was to use a piece of cloth to wave the bees off her head and run out of her house to seek shelter in a nearby house.

Households complained that there was visual pollution in the form of littering in the forest. Even though there were no reported cases of Ebola disease in the community, some respondents were of the view that they could contract the disease through the monkeys in the study area. Additionally, respondents were of the opinion that BFMS was serving as safe haven for unscrupulous activities such as the smoking of Indian hemp or "Wee" and a place of convenience for some households to ease themselves.

In an interview, a 30 year old man at Boabeng said

There is no toilet facility in this community so I go to toilet in the bush.

This finding confirms Saj *et al.* (2006) ^[36] study at Boabeng which they identified some environmental concerns at BFMS, including garbage and pit latrines in the forest.

Socio-cultural costs

Similar to the costs-benefits approach, the domain related costs benefits approach assumes direct negative relationships between socio-cultural costs and residents’ support for ecotourism projects (Dyer *et al.*, 2007; Gursoy & Rutherford, 2004; Gursoy *et al.*, 2010) ^[17]. About 3.0% of respondents indicated that there were socio-cultural costs arising out of the establishment of the BFMS in the form of household-management conflict and conflict over the ownership of the sanctuary as shown in Table 1. Conflicts were reported to exist between Boabeng and Fiema communities over the ownership of the sanctuary; as most visitors knew the site to be “Fiema monkeys” yet, the respondents at Boabeng believed that they were the first to settle in the area and therefore started the monkey sanctuary. McGehee and Andereck (2004) ^[25] believe that the first factor which indicates that tourism should be well planned is derived from locals’ mistrust for local governance of tourism development. Households reported that they had experienced ecotourism development induced social costs with respect to household-management conflicts.

Respondents revealed that the negative consequences of ecotourism development at Boabeng had reduced the livelihood options available to the local households deprived of both crop production and income generation and were more concerned about monkey raiding without any compensation from the tourism management committee members. Respondents wanted the revenue from the project to be invested in a better way.

In support, Groom (2008) ^[16] noted that, the argument about the relationship between ecotourism livelihood and households’ acceptance of ecotourism shows that households’ involvement is imperative so as to avoid more

likely uncertainties and misunderstandings about ecotourism development in an area.

Perception of households on the distribution of ecotourism generated costs at Boabeng

Households involved in tourism development are not homogenous entities (Dorsner, 2004) ^[13]. There are limits to the distribution of costs in terms of equity especially given the existing socio-economic inequalities and power relations existing in the local community (Agarwal, 2001) ^[4].

The perceived cost distribution observed by respondents was the way ecotourism had excluded some households from sites being used for BFMS project. Respondents indicated that the introduction of ecotourism at Boabeng had led to a ban being imposed on the forest that was previously free for households. The impact of this is that, it is no longer accessible to households in the community, despite the public nature of the site.

This section of the results explores the relationship between the distribution of costs from the ecotourism project and the socio-demographic characteristics of respondents. Table 2 shows the Chi-square test of independence used to carry out this analysis.

The pattern of the results shown in Table 2 suggests that many of the respondents were affected by the costs from the ecotourism project. In specific terms, the results show that there were significant relationships between income, place of residence, marital status and highest level of education, and the costs generated by BFMS to the households. This is to say that four of the socio-demographic variables (income, place of residence, marital status and highest level of education) had some statistical association with the costs generated from the ecotourism project.

The Chi-square test proved that there was significant relationship between the distribution of costs from ecotourism and respondents’ place of residence ($\chi^2=1.292$; $P = 0.050$). Results in Table 2 show that about 67% of the respondents who were indigenous people opine that they were affected by the costs from the development of BFMS whereas about forty-six percent of non-indigenous households indicated that they were not affected by the costs of developing ecotourism project in the community.

Table 2: Perceived ecotourism cost distribution by socio-demographic characteristics of respondents

Socio-demographics	Perception of households on the distribution of costs from BFMS			
	Affected by costs	Not affected by costs	X ²	P-value
Age				
< 20 yrs.	47.1	52.9	6.455	0.091
20 – 39 yrs.	60.5	39.5		
40 – 59 yrs.	70.7	29.3		
> 59 yrs.	68.6	31.4		
Marital status				
Never married	54.3	45.7	7.616	0.022*
Married	65.9	34.1		
Ever married	75.0	25.0		
Education				
No formal education	62.9	37.1	21.867	0.000*
Basic	67.8	32.2		
Secondary	73.2	26.8		
Tertiary	15.8	84.2		
Religion				
Traditionalist	51.9	48.1	4.055	0.132
Christianity	66.5	33.5		
Muslim	66.7	33.3		
Sex				

Male	61.5	38.5	1.065	0.302
Female	67.0	33.0		
Place of residence				
Indigenous	66.9	33.1	3.828	0.050*
Non-indigenous	53.6	46.4		
Household size				
Alone	72.7	27.3	1.292	0.524
2 people	54.5	45.5		
≥ 3 people	65.0	35.0		
Power status				
Chief/elder	70.6	29.4	1.628	0.443
Citizen	63.4	36.6		
Others	72.5	27.5		
Socio-demographics	Affected by costs	Not affected by costs	X ²	P value
Occupation				
Related to tourism	71.4	28.6	0.150	0.699
Not related to Tourism	64.5	35.5		
Income				
< C100	68.7	31.3	18.884	0.002*
C100-C199	68.7	31.3		
C200 – C299	60.0	40.0		
C300-C399	16.7	83.3		
C400-C499	47.1	52.9		
> C499	50.0	50.0		

Note: *significant at $P \leq 0.050$

Respondents explained that so far as households in the Boabeng community were concerned, the monkeys visited every house and destroyed whatever property they laid hands on in the house.

A 45 year old man at Boabeng said

The ecotourism project in this community has taken all our lands that we could use to build houses and has also affected our farming activities negatively. If the authorities would give us even a cup of rice at the end of the year for the troubles we go through in the hands of these monkeys, I will be happy and stop complaining.

This predicament that indigenous households go through may be different from that of the non-indigenous households as most of the non-indigenous people rarely stay in the community to experience monkey invasions among other troubles that natives experience at Boabeng.

Another significant result from the Chi-square analysis pertained to the relationship between distribution of costs from ecotourism and marital status of the respondents in the community ($\chi^2 = 7.616$; $P < 0.022$). The analysis further revealed that most of the respondents who said they were affected by the costs generated from the Boabeng-Fiema monkey sanctuary in the community were respondents who had ever married (75.0%) than their counterparts who had never married (45.7%) as shown in Table 2. This is possibly due to the fact that the ever married were single parents who relied on more of the natural assets that had been affected by the BFMS and also had more household members or dependents to feed than the never married who may have few dependents to cater for in the house. This finding is inconsistent with a study conducted by Jufare (2008) [20] who noticed that as people get married, the kinship network expands and new social connections develop, which may enhance the possibilities for mobilising extra labour and financial resources, and accessing key resources, such as

farm lands, in times of needs to help reduce the cost which may be experienced from ecotourism development projects. The results shown in Table 2 also suggest that there was significant relationship between highest level of education and the distribution of economic costs of ecotourism development in the community ($\chi^2 = 21.867$; $P = 0.000$). About 63.0% of respondents with no formal education indicated that they were much affected by the costs arising out of the development of the BFMS whilst about 84.0% of respondents with tertiary education thought otherwise. Households with tertiary level of education were of the view that they were not much affected by costs of developing the BFMS, perhaps due to the fact that most of them were salaried workers which were not so much affected by the sanctuary. This implied that the distribution of economic costs from the sanctuary were associated with the respondents' highest levels of education. The finding of this nature are not surprising since the better-paid local jobs such as tour guiding and teaching, which according to respondents, were not normally affected by the ecotourism development risks require formal schooling.

Monthly income was also significantly associated with the costs of ecotourism development in the community ($\chi^2 = 18.884$; $P < 0.002$). While most of the household who earned over GHC300 (83.3%) were not affected by the costs from the ecotourism development in the community, most of those who earned GHC 299 and below (68.7%) were affected by the costs of the ecotourism development in the community as shown in Table 2. This implies that relatively higher income earners amongst the households were not affected by the costs as compared to those who were relatively lower income earners. This was perhaps due to the fact that most of the low income earners were peasant farmers who cultivated food crops like maize and plantain among others (mostly affected by monkey invasion) near the forest since they could not afford to rent farm lands at distant places, whilst most of the high income earners were salaried workers or grew cash crops such as cashew which was not so much affected by monkey raiding.

Moreso, the high income earners could afford to rent farm lands which were far away from the forest where the raided monkeys could not visit. This confirms several studies which have found that lower income earners are more affected by costs of tourism development. Chen (2001) supposed that demographic characteristics influence residents' perceptions of tourism impacts. He argued that wealthier residents tended to view tourism more positive.

However, none of the remaining socio-demographic variables (religion, occupation, power status, household size, sex and length of stay) had any significant relationship with the distribution of costs from the ecotourism project in the Boabeng community. This finding is contrary to the literature. Various studies (Adhikari & Lovett, 2006; Tyler, 2006) [2, 40] have shown that power imbalance leads to unequal distribution of ecotourism livelihoods and costs and therefore, this result to uneasy calm in fringe communities. Studies on costs of community-based ecotourism development show that as with benefits, the costs of community-based ecotourism development may be borne unevenly by different groups in the community.

The results and discussion presented above suggest that only income, marital status, highest level of education and place of residence had significant relationships with the distribution of costs generated from ecotourism development in the community. Though other socio-demographic variables such as power, sex, age, occupation, household size, and religion did not have any statistical associations with the cost distribution, some observations were made. It was observed in the results that the households were generally of the view that the distribution of the ecotourism generated costs was fair to households in the community. This implied that almost every household at Boabeng was negatively affected by the BFMS.

The dominance of equality of ecotourism generated costs distribution among the respondents could be attributed to the difficulty that households faced as a result of monkey invasions in the community. Many interviewees were of the view that the costs generated from the ecotourism development affected the livelihoods of many of the households in the community.

However, some writers (Mansuri & Rao, 2004; Rao & Ibanez, 2003) [24] argue that elite domination is unavoidable in community-based ecotourism projects especially in local communities where the elites are often leaders who represent moral and political authority. These elites are time and again better educated, wealthy and have social contact, and hence are in a better position to interact with outsiders who might get involved with the project. A number of findings (Ijeomah, 2012; Shackleton & Campbell, 2001) [19, 37] have also found evidence to suggest that socio-demographic variables particularly sex and power status have association with the distribution of ecotourism costs.

A 38 year old woman at Boabeng was however, of the view that the cost of farming close to the sanctuary had prevented her from farming. She said:

Those of us who farm close to the sanctuary are not taking anything (crop yield) from the farms due to monkey-crop raiding. In my view, every household in this community is adversely affected by the BFMS and this affects our survival.

Table 2 shows that, most of the respondents who were not

affected by the ecotourism generated risks were non-indigenous households (53.6%). This goes to buttress the fact that those who resided closer to the sanctuary felt more of the negative impacts of the ecotourism project than those who stayed far away from the Boabeng fiema monkey sanctuary. In terms of place of residence, Naughton-Treves (1997) [27], observed that people residing near national parks bear disproportionate costs of wildlife conservation, whether they lose crops and livestock to raiding wildlife, or must forgo access to natural resources.

The implications of these findings are that households at Boabeng were being prevented from accessing economically significant sites which are now being utilised for the BFMS. Again they are being denied of the comfort of staying in their own home by the monkeys in the BFMS. These have the potential to aggravate host-guest relations, as residents may resent the ecotourism project for denying them comfort and access to these sites, reducing support for ecotourism, and potentially increasing the exodus of residents as the costs generated from the BFMS increases the costs of living in the Boabeng community and as a result, reducing the livelihood outcomes of households thereby increasing vulnerability, and reducing household support for the development and conservation of BFMS.

Conclusion

Among the costs of the ecotourism project included opportunity costs, economic costs, ecological costs as well as socio-cultural costs. Evidence from Boabeng indicated that almost every household in the community was affected by the costs of tourism development in one way or the other. The ecotourism project had made it difficult for the community to expand in terms of size or area it occupies. The roads in the community were bad, no clinic, and no place of convenience among others.

This study found that, ecotourism impacts are making it difficult for households whose livelihood activities are located in the fringes of BFMS to engage in normal activities. Evidence from Boabeng indicates that the monkey sanctuary has mainly not generated collective benefits for the community. It has not stimulated enough infrastructural development nor provided alternative employment opportunities. Nevertheless, it has increased environmental consciousness among community members. This adds credence to and advances the notion of ecotourism advocates who support the achievement of conservational and developmental goals through tourism.

It was revealed that more opportunities were yet to be created for residents in the community to benefit directly from the project. In addition, no percentage of the revenue generated was allocated to the farmers and households whose farms and properties were negatively affected by the monkey sanctuary. This is an indicative of power issues and how they affect benefit distribution within the local community.

The study showed that, as few households benefited from the ecotourism project, and almost, every household in the community attracted, especially the Mona monkeys, the local households find it difficult to stop them from raiding both their homes and their farms. The findings from the study also show that even though the costs generated from the BFMS had affected the livelihoods of households in the community, and had brought some mistrust between households and management of the sanctuary, it had not

adversely affected the attitude of many respondents towards the existence of the sanctuary.

The perception of respondents with respect to costs and costs distribution related to the development of BFMS is rooted in the theory of Social Exchange (AP, 1992) ^[8], which enables households to evaluate among others, the socio-cultural, environmental and economic impacts of the ecotourism project at Boabeng from both positive and negative angles. The idea was that when exchange of resources is low in either the balanced or unbalanced exchange relations, the impacts are viewed negatively.

This suggests that when residents perceive positive consequences prior to the establishment of the sanctuary, they will likely welcome the establishment of the sanctuary and vice-versa. This perhaps explains why some respondents were not in favour of ecotourism activities in the community, yet had positive attitude towards the existence of the sanctuary with the hope that they will reap some benefits from the sanctuary in future.

Therefore, 'perceived-benefits' are the determination for a household to decide to enter a social exchange. Furthermore, in every exchange transaction, each household's purpose is to gain much at little cost. Consequently, social exchange theory was examined as a theoretical framework in this study to describe households' perception towards the distribution of economic costs arising out of the development of the BFMS.

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