Ecotourism and Rural Livelihood Nexus: 
An Assessment of the Wechiau Community Hippo Sanctuary Reserve

Ali D. Mohammed and Kanton I. Osumanu

ABSTRACT

Ecotourism has been envisaged not only as an alternative to mass tourism, but also as a livelihood diversification strategy for rural people. Researchers have presented mixed arguments regarding the relationship between Community Based Ecotourism Projects and rural livelihoods. This study therefore examined the link between rural livelihoods by conducting an in-depth assessment of the Wechiau Community Hippo Sanctuary Reserve. The research employed a cross sectional design with a mixed research approach. Questionnaires were used to collect data from 214 respondents in Kpanfa, Pellinkpari, Dochere, Dornye, Talawona and Tuole. Series of in-depth interviews were also carried out using interview guides and field observation. The study found that, the emergence of ecotourism in the area caused the emergence of some new livelihood activities while some traditional livelihood activities saw a decline while others were completely abandoned due to the enactment of some conservation bye-laws. Respondents were dissatisfied with the contribution of ecotourism livelihood activities to sustainable livelihoods coupled with unequal sharing and distribution of ecotourism benefits among sanctuary communities. The study recommended for more sustainable livelihood options to be developed by the Sanctuary Management Board to help improve the situation of the poor rural farmer on who’s livelihood ecotourism activities have a direct bearing and to also develop and implement a strategic policy framework to facilitate benefit sharing among catchment communities.

Keywords: Conservation, Ecotourism, Livelihoods, Rurality

I. INTRODUCTION

Tourism is positioned as the largest service industry in the world, and ecotourism is its fastest growing industry, with annual growth estimates ranging from 10% to 30% (Wearing & Neil, 1999). Historically, between 2008 and 2017, tourism rose above average at around 4% per annum for eight straight years, with 2017 setting a record year for international tourism. International tourist arrivals soared for eight consecutive years; a sequence of uninterrupted growth that has not been recorded since the 1960s (UNWTO, 2017). Worldwide destinations received 1,323 million international tourist arrivals in 2017, roughly 84 million more than in 2016 (UNWTO, 2017). International visitor numbers to the continent saw an average yearly increase of 6% between the period 1995 and 2014 by an average of 6 percent per year (UNCTAD, 2017). From 2002 until the financial crisis of 2008/09, tourist arrivals recorded particularly strong growth. The financial situation resulted in a downturn in 2010; visitor numbers saw a new boost, before finally dropping in the aftermath of the Arab Spring. International visitor arrivals saw a rise since then but remain below the 2010 average. Estimates for 2015 indicate another decrease in arrivals, possibly linked to the Ebola outbreak in Africa.
Globally, several Studies including Peprah (2018), Lowman & Rinker (2004), Kiss (2004), IES (2006), and Baker (2008) identified ecotourism as a strategy that holds prospects for enhancing opportunities for tourism, biodiversity, and rural livelihoods. It supports local communities in areas such as jobs, revenue generation, entrepreneurship incentives, conservation of biodiversity, and socio-cultural revitalization (Honey, 2008; Kruger, 2005). Other studies have, however, argued that ecotourism only yields limited benefit (Agrawal & Redford, 2006). Notwithstanding, Tao and Wall (2009a) posits that the importance of ecotourism as a livelihood diversifying strategy for rural folks in peripheral areas with subjugating conditions caused by climate instability with associated factors cannot be downplayed. These communities adopt alternative survival strategies to reduce their vulnerability making ecotourism central component of a set of livelihoods and a facet of livelihood diversification. One such form of diversification is Community-Based Natural Resource Management (Synman, 2013)

Scherl et al. (2004) and Ellis (1999) asserts that typical rural societies are mainly confronted by high unemployment levels, no or low level of skill and education, chronic poverty levels and profound dependency on the natural environment to make a living. Households in rural poor regions rely primarily on subsistence farming. Nevertheless, rising populations and climate change impacts are placing severe pressure on rural livelihoods (Ellis, 1999; Morton, 2007; Nelson et al., 2009; Owino et al. 2012). The underdeveloped human resource base coupled with the unavailability of infrastructural services results in a few alternative livelihoods available and therefore fewer people gaining employment.

Havi and Enu (2013) recognized the importance of tourism as an important subsector in the services sector in Ghana identifying it as a young and promising sector. Heavy reliance on indigenous commodities shows a decline in attention with a major focus on tourism as a prospective leading foreign exchange earner.

Community based ecotourism sites draw tourists from different corners of the globe. The Wechiau Community Hippo Sanctuary is a model of such sites in Ghana. Interestingly, the influx and frequency of these tourists impact the destination areas in diverse ways. The question, therefore, is about how apt ecosystem services are able to maintain synergies with rural livelihoods to achieve the much-desired poverty reduction.

II. METHODOLOGY

The study employed the mixed method which is a combination of both quantitative and qualitative approaches. Creswell (2014) contends that the mixed method research design is a design in which the principal and complementary elements are conducted simultaneously. A multifaceted phenomenon like ecotourism and rural livelihood requires integrated research approaches to unravel its complexity. The study therefore relied on both quantitative and qualitative methods.

The research was carried out in the Wa West District. The district is located in the Western part of the Upper West Region, approximately between Longitudes 9° 40” N and 10° 10” N and also between Latitudes 2° 20 W and 2° 50’ W (Ghana Statistical Service, 2010). It is bordered to the South by Northern Region, North-West by the Nadowli District, East with Wa Municipal and to the West by Burkina Faso. Wechiau is the capital of the Wa West District and doubled as the gateway to the Wechiau Community Hippo Sanctuary. The existence of natural, cultural, historical and man-made attractions in the district is a potential for tourism attraction.

The study area (WCHS) which is made up of the twenty catchment communities was stratified into three zones namely; central, northern and southern zones. Two communities were selected from each zone leading to the selection of Kpanfa, Tuole, Talawona, Pellinkpari, Dornye and Dochere. Talawona and Pellinkpari. Household heads constituted the main respondents for the study.

It is important to recount that, the total household population for these six communities was 461 from which 214 sample size was used for the study. Proportionate sampling was adopted to apportion the appropriate sample to be chosen from each of these communities as shown in Table I below.

<table>
<thead>
<tr>
<th>Zone</th>
<th>Sample Community</th>
<th>Total Household Population</th>
<th>Sample Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northern Zone</td>
<td>Kpanfa</td>
<td>165</td>
<td>77</td>
</tr>
<tr>
<td></td>
<td>Tuole</td>
<td>39</td>
<td>18</td>
</tr>
<tr>
<td>Central Zone</td>
<td>Talawona</td>
<td>35</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>Pellinkpari</td>
<td>14</td>
<td>7</td>
</tr>
<tr>
<td>Southern Zone</td>
<td>Dornye</td>
<td>190</td>
<td>88</td>
</tr>
<tr>
<td></td>
<td>Dochere</td>
<td>18</td>
<td>8</td>
</tr>
<tr>
<td>Total Sampled Population and Sample Size</td>
<td>461</td>
<td>214</td>
<td></td>
</tr>
</tbody>
</table>

Source: Author’s own computation based on WWDA, 2019.
From the table, six communities were selected for the study with proportionate sample sizes from these communities summing up to 214 households. Additionally, Purposive sampling technique was also employed to select key informants for the study; two (2) staff members of the Sanctuary Management Board (SMB), 6 members of the SMB from the sampled communities, one (1) member of the Sanctuary Management Committee (SMC), chiefs and elders of the sampled communities (2), an official from the district assembly (1), 6 tour guides, 3 rangers and 2 boatmen. This method ensured that the key individuals who had in-depth knowledge regarding the Wechiau Hippo Sanctuary were contacted.

Both probability and non-probability sampling methods were employed. For probability sampling; multi-stage sampling; simple random and proportionate sampling techniques, were used while purposive sampling was employed as non-probability sampling technique.

Under multi-stage sampling procedure, the researcher chooses a sample in two or more stages with the reason that, either the researcher cannot simply identify the population, or the population is very large (Creswell, 2012). Wa West is made up of several communities with heterogeneous features. Stratified sampling was first employed to stratify the study area into zones based on geographical location thus north, central and southern zones. This sampling technique was selected because it is suitable for a study whose population from which a sample is to be selected does not constitute a homogeneous group (Kothari, 2012). Proportionate sampling technique was used to apportion the sample size of 214 households that was chosen from the six selected communities to form the actual sample.

For quantitative data, the study employed household questionnaire in soliciting information from different households concerning their livelihoods and knowledge on ecotourism development. The questionnaire comprised both open ended and close ended questions. Questionnaire was appropriate since it offered the researcher the opportunity to collect qualitative and quantitative data in an organized, simple, and cost-efficient manner within a reasonable time period. The questionnaires were personally administered.
to the respondents by the researcher in the form of structured interviews with the assistance of some tertiary students who were recruited to aid the researcher in data collection. Semi structured interviews; in-depth interviews and participant observation were employed by the study as qualitative data collection methods. In-depth interviews were employed in soliciting information from the various key informants such as members of the SMB with considerable knowledge in the subject area. Observation was also used in the course of data collection to visualize and record some vital features that were observed.

Quantitative data were input into statistical model known as Statistical Package for Service Solution (SPSS version 21), from which descriptive statistics were done. This led to the generation of tables and charts to ease understanding and interpretation. Qualitative data, on the other hand, was analyzed using content and thematic analysis. The qualitative data made it possible for the researcher to verify, accept and refute certain findings that emerged from the quantitative analysis.

III. DISCUSSIONS OF MAJOR FINDINGS

A. Livelihoods Activities Connected to Ecotourism in the Study Area

Household questionnaire survey was used to establish the livelihood activities that were caused by ecotourism in the study area. This is important in ascertaining whether there is a connection between livelihood activities and ecotourism development in the study area.

<table>
<thead>
<tr>
<th>Community</th>
<th>Informal culture</th>
<th>Sale of crafts</th>
<th>Formal employment</th>
<th>Employment in shea industry</th>
<th>Others</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kpanfaa</td>
<td>11(68.8%)</td>
<td>14(63.6%)</td>
<td>34(29.8%)</td>
<td>15(31.9%)</td>
<td>3(20.0%)</td>
<td>77(36.0%)</td>
</tr>
<tr>
<td>Tuole</td>
<td>0(0.0%)</td>
<td>3(13.6%)</td>
<td>8(7.0%)</td>
<td>4(8.5%)</td>
<td>3(20.0%)</td>
<td>18(8.4%)</td>
</tr>
<tr>
<td>Talawona</td>
<td>2(12.5%)</td>
<td>1(4.5%)</td>
<td>11(9.6%)</td>
<td>1(2.1%)</td>
<td>1(6.7%)</td>
<td>16(7.5%)</td>
</tr>
<tr>
<td>Pelinkpari</td>
<td>0(0.0%)</td>
<td>0(0.0%)</td>
<td>6(5.3%)</td>
<td>0(0.0%)</td>
<td>1(6.7%)</td>
<td>7(3.3%)</td>
</tr>
<tr>
<td>Dornyee</td>
<td>3(18.8%)</td>
<td>1(4.5%)</td>
<td>54(47.4%)</td>
<td>24(51.1%)</td>
<td>6(40.0%)</td>
<td>88(41.1%)</td>
</tr>
<tr>
<td>Dochere</td>
<td>0(0.0%)</td>
<td>3(13.6%)</td>
<td>10(9.9%)</td>
<td>3(6.4%)</td>
<td>1(6.7)</td>
<td>8(3.7%)</td>
</tr>
<tr>
<td>Total</td>
<td>16(100%)</td>
<td>22(100%)</td>
<td>114(100%)</td>
<td>47(100%)</td>
<td>15(100%)</td>
<td>214(100%)</td>
</tr>
</tbody>
</table>


The table indicates that majority 53.0% of the respondents saw employment as the major livelihood activity in the study area. This is probably due to the fact that community members are aware of the various employment opportunities that emerged as a result of the establishment of the WCHS. Some of these formal employment avenues mentioned by respondents include serving as tour guides, Sanctuary rangers and boatmen. This was followed by employment opportunities offered by the shea butter processing factory that was established by the Savannah Fruits Company Limited in Collaboration with the WCHS with 22.0% of the respondents identifying it as a major livelihood activity that emerged as a result of ecotourism in the study area. Also, 10.0% identified the craft industry as a livelihood activity as tourists, especially international tourists, always take interest in locally produced cultural artifacts such as beads, huts, clay, pots and baskets. Finally, 7.0% respondents identified informal employment in cultural activities, such as the performance of cultural dances to entertain visitors and 7.0% indicated other employment avenues aside those mentioned. Aside the above activities, data collated from key informant interviews and participant observation revealed additional livelihoods that were not captured during the household questionnaire survey. These include the training of people within the sanctuary communities on dry season farming, bee keeping and organic groundnut cultivation. The above finding corroborates Jones, (2005) and Stonna & Godillo, (2008) views cited in Amoako (2016) that, ecotourism yields some dividend in the form of local employment for host communities.

B. Livelihood Activities before Ecotourism Development

Data collated revealed that, traditionally, households sustained their livelihoods primarily through crop farming, hunting, fishing charcoal production and the collection of shea nuts and other fruits. The collection of shea nuts was mainly done by females while hunting was a predominantly male activity which was done to provide meat for the household. Livestock production was also mentioned by a key informant as a main livelihood activity before tourism development. Livestock such as cattle served double purposes as they were either sold directly for money income or their services were often rendered (through ploughing) for some form of income.

Fishing was mainly done by the Hausa people that settled at Talawona and Tuole while crop farming was popular with the Birifors who constitute the majority in all the six study communities. A male respondent at Kpanfaa noted that:
“In the past, people also engaged in birds trapping through the use of trap cages (a woven material produced from the stalk of maize and millet plants). The target was always ‘singing birds’ which were often sold to gain some form of income”.

An elderly woman at Tuole also revealed during the survey that oyster collection was another activity that she used to engage in before ecotourism development.

C. Livelihood Activities Lost or Declined due to Advent of Ecotourism in the Study Area

The advent of the Community Based Ecotourism Project (WCHS) has caused some lost or decline in traditional livelihood activities in the study area. Respondents were asked through questionnaire interviews and key informant interviews to make a list of the livelihood activities that have been lost or reduced as a result of ecotourism in the study area. Farming in the core zone, subsistence and group hunting, charcoal production, oyster collection, and wood harvesting were identified as some of the major livelihood activities that declined as a result of the development of ecotourism. The loss of farmlands dominated the list of livelihood activities that declined as a result of the advent of ecotourism in the study area as farming is the major livelihood activity in rural communities especially around protected areas in Ghana. This is due to the suitable climate in these areas that induces rainfall. The study corroborates Acquah (2013) revelation that the loss of farmland in and around Nature-Based Tourism sites is a major cause of concern. In a related study, Amoah & Waife (2012) reported that the creation of the Mole National Park has led to the loss of farmland in surrounding communities. This stands to reason that the development of nature and community-based ecotourism sites may result in some form of tradeoffs between traditional livelihood sustaining activities and emerging ecotourism associated livelihood activities. It is imperative to state that, traditional livelihood activities in the event of the advent of nature-based ecotourism may diminish and be replaced or may decline. For instance, it was discovered during the study that some rural livelihood activities were abandoned completely while others saw a decline. Farming in the core zone of the Wechiau Community Ecotourism Project had been abandoned completely with the area being reserved for wildlife conservation and ecotourism development. An informant noted that:

“One cannot farm in the core zone anymore since it is punishable by the laws of the sanctuary. Some of the prohibitions are being flaunted by some people, but no one can farm in the zone because it is not a daily activity that one can just undertake without being noticed by the authorities” … (65 years old man, Kpanfaa).

Another informant lamented as follows:

“I used to engage in Oyster collection as a means of making ends meet. But now, I cannot do that because of the prohibition stipulated in the Hippo Sanctuary Bye-laws making it illegal for me to do that now. This has affected and also reduced my income as I used to sell the Oyster for some money income”.

Subsistence hunting and group hunting also saw a decline according to a key informant. He exclaimed as follows:

“It is true that people are prohibited from hunting. But it is not something that has been abandoned. It is being regulated and people are sometimes permitted to hunt using a quota system” … (Tour Guide, Wechiau)

The harvesting of economic trees in the area is prohibited and has been replaced by nuts and berry collections. The felling of trees for charcoal production is a highly prohibited activity as revealed by some respondents and, therefore, charcoal production has reduced drastically. The collection of oysters was said to be abandoned completely as a result of ecotourism while fishing has also declined substantially following the advent of ecotourism in the area. A key informant indicated:

“One would not say these livelihood activities have been lost or declined. It is just a mere trade off as some alternative livelihoods were generated with more economic benefits than the traditional livelihood activities” (50 years old Ranger, Tuole).

D. Contributions of Ecotourism to Improved Livelihoods

Ecotourism is seen as a livelihood diversification strategy for local people living in eco-destinations and thus holds prospects of contributing to livelihood sustenance in these areas through job creation. Respondents were asked if they were satisfied with the livelihood options that emerged as a result of ecotourism. An overwhelming majority (81.3%) of them indicated that they were not satisfied with ecotourism livelihoods. A good number of them expressed dissatisfaction with the benefits and distribution of ecotourism employment. A respondent narrated that:

“Though the WCHS has created a number of jobs, most of the people who have been employed directly are mainly from Wechiau while we only have to rely on the indirect benefits such as performing of cultural dances and the sale of craft artifacts” (42 years old man, Tuole).
Another respondent lamented as follows:

“I have not gained anything personally from the ecotourism project. It has rather reduced my income earnings because I have been prohibited from fishing which was my major source of income” (29 years old male, Talawona).

This revelation is consistent with the observation of Emptaz-Collomb’s (2009) Namibian study who found that, the benefits that may accrue from ecotourism activities may not be recognized by beneficiaries even though this may be happening in reality. It is worth noting that, if positive outcomes are to be perceived by rural communities accruing from ecotourism, they should be able to see a direct linkage between the benefits it provides and the ecotourism itself. Sandbrook and Adams (2012) in their study put forward a suggestion that if perceived costs outweigh benefits, then no matter how benefits are distributed, there is unlikely to be sustainable widespread support for either conservation or ecotourism. However, it was observed in this study that the ecotourism benefit sharing was very significant in determining the level at which individuals and communities participate in the ecotourism project. It was discovered during the study that the project was yielding benefits to some few individuals which respondents argued have defeated the fundamental motive of Community Based Ecotourism project whose benefits should be enjoyed by the larger community. A similar finding was made by Eshun (2011) who evinced that, the revenue distribution structures at most ecotourism sites in Ghana involved a few land owners (chiefs and elders) receiving private and individual shares. Such unequal benefits distribution may arouse suspicion about the nature of ecotourism. This is evident in the account of a Wildlife Division official at Tafi Atome Monkey Sanctuary who recounted how 20 youths stormed the Tafi Atome Monkey sanctuary in 2003 on grounds of lack of accountability and transparency (Eshun, 2011)

Other respondents, who were dissatisfied with ecotourism livelihoods, acknowledged that the project was yielding some benefits even though it can still do more. Some 18.7% of the respondents were however satisfied with ecotourism livelihoods. The reason may be that this group of respondents were directly benefiting from the project. This revelation affirm the WTO’s (1999) enumerated potential benefits local communities could derive as a result of ecotourism development. It is imperative to further emphasize that, even though ecotourism may yield some benefits to rural communities, ecotourism outcomes should be such that, its benefits greatly outweigh the traditional benefits rural communities enjoy some of which may be lost due to the advancement of ecotourism.

Perceptions of respondents were further sought through household questionnaire survey to establish if ecotourism has indeed contributed to food security (Fig. 2). Majority (60.3%) of the respondents indicated that food supply has been very unpredictable, downplaying the role of ecotourism in providing food security. The unpredictable nature of food supply is attributable to the irregular rainfall pattern experienced in the region given that most of the respondents are into subsistence agriculture. This agrees with the findings of Agubeere (2014) and Njole (2011) who both found that food supply has been unpredictable and therefore food insecurity in eco-tourism destinations. On the other hand, 14.5% of the respondents had enough food to live on from one farming season to the next. This batch of respondents may have alternative sources from which they earn income or may be engaged in some form of dry season farming. However, 23.8% had difficulty in obtaining food as it is very costly while 1.4% depended on relief food for their living.

![Fig. 2. Respondents’ perception on food security (Field Survey, 2020).](image)
IV. CONCLUSION

Sustained livelihood is crucial to the wellbeing of local people. Ecotourism activities however, influences the livelihood strategies of local people in ecotourism destinations in diverse ways thereby making it a very complex undertaking. The WCHSP has altered the livelihood activities of residents in the study area as it caused a decline and abandonment of some traditional livelihood activities and the emergence of new ones whose contributions to the livelihoods of the rural households are limited. The study also concludes that ecotourism has contributed to livelihoods of the local people even though its contribution has not been significant especially in transforming the livelihoods of farmers in the study area on whose activities it has a direct bearing. The study further concludes that, respondents are not satisfied with ecotourism livelihoods and advocates for the creation of more livelihood activities while improving on the existing ones in order to enhance and sustain rural livelihoods.

V. RECOMMENDATIONS

The study recommends that, the SMB should create more sustainable alternative livelihood sources while improving upon existing ones for most communities within the “Core Zone” who had some of their livelihoods lost/reduced as a result of the bye-laws enacted by the WCHSP project. This can be done by intensifying economic linkages between tourism and other sectors, especially agriculture which was revealed as the major livelihood activity practiced by the majority of the local people, and also encouraging networking of similar and different businesses in the local area. This balance is necessary in order for the achievement of conservation practices within the core zone. If people have their traditional livelihoods replaced with new and better livelihoods, the flaunting of sanctuary regulations will be reduced if not completely eradicated. This will in the long run lead to an improvement in the quality of life of the local communities, visitor satisfaction will be enhanced at the same time while protecting future opportunities through natural resource conservation.

CONFLICT OF INTEREST

Authors declare that they do not have any conflict of interest.

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