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Terrestrial Protected Areas and Poverty Reduction in Ghana: A Case Study of the Mole National Park and the Mognori and Murugu Communities

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Abstract. The establishment of Protected Areas (PAs) represents one of the key strategies for biodiversity conservation. Their potential to improve livelihoods in adjoining communities however remains a source of increasing controversy in conservation literature. This essay examines the socio-economic impacts of the Mole National Park on indigenous livelihoods in Mognori and Murugu – two fringe communities in the West Gonja District of Ghana. It explores the ways through which local livelihoods are affected by the park and identifies the impacts of on-going pro-poor initiatives in the study communities. The study reveals that while the park provides job opportunities, it has been less effective in ensuring the fair distribution of these opportunities among locals. Similarly, even though the PA is expected to contribute to infrastructure provision and the provision of security against human-wildlife conflicts, evidence from the field suggests otherwise. For reasons beyond the control of the park, the prevailing compensatory mechanisms are hardly adequate in cushioning victims against damages to properties and assets. This study thus, provides partial support to conservation's poverty reduction claims. Consistent efforts to explore the areas of synergies between biodiversity conservation and livelihood enhancement are necessary if local relevance of protected area establishment is to be maximised. With appropriate and well-thought schemes, PAs can potentially contribute to the twin goals of ecosystem protection and local livelihood development.

Keywords: Protected Areas, Poverty Reduction, Livelihoods, Biodiversity Conservation.

1. Introduction

Inextricably linked, efforts towards the conservation of biodiversity and poverty reduction have frequently been perceived as divergent aspirations with one often being accomplished at the detriment of the other (Adams et al, 2004; Brockington, Igoe and Schmidt-Soltau, 2006; Agrawal and Redford, 2006; Wilkie et al, 2006; Wittemyer et al, 2008; Joppa, Loarie and Pimm, 2009; Bandyopadhyay and Tembo, 2010). The debate is particularly contentious in the tropical countries of the south (Gullison et al, 2007) where the greatest concentration of biodiversity is found (McNeely and Sheer, 2001; Scherr, White and Kaimowitz, 2004).

While the establishment of protected areas has long been thought of as one of the key strategies for preserving biodiversity, their poverty reduction claims continue to attract a growing volume of literature among conservationists on one hand and social advocates on the other. Recent exchanges in Oryx (Redford and Sanderson, 2003; Brockington and Schmidt-Soltau 2004) and Conservation Biology (Romero and Andrade 2004; Price et al. 2004) confirm the controversy surrounding conservation's poverty reduction claims.

With about 90 percent of the world's poor (World Bank, 2000; Scherl et al, 2004; United States Agency for International Development, 2006) and 600 million Africans (Anderson et al, 2006) relying on woodlands and forests to meet their anthropogenic needs, environmentalists and conservationists (Oats, 1999; Wells and McShane, 2004; Wang, Lassoie and Curtis, 2006) have argued that efforts to reduce poverty is inimical to sustainable conservation efforts. The poor, by virtue of their dependence on biodiversity for a variety of ecosystem services, have thus led many (including Robinson and Bennett 2002; Brockington, 2003; McLean and Straede, 2003; Scherl et al, 2004) to conclude development is an anathema to sustainable protected area management. It is further argued that the integration of poverty reduction and conservation goals is impossible and a recipe for disappointment (Kramer et al. 1997; Wells et al. 1999; Newmark and Hough, 2000; Marcus, 2001; Barrett, Lee and McPeak, 2005; Vermeulen and Sheil, 2007).

Advancing a case for conservation-poverty reduction debate is no doubt, shrouded with considerable complexities especially in the face of little empirical evidence on which to support conclusions (Stewart, Coles, and Pullin, 2005). As a result, much of contemporary thinking on the link between conservation and poverty is based on expert opinions as opposed to well-designed monitoring studies (Sutherland et al., 2004). It is these intricacies that have informed this paper's focus to investigate and build understanding on how sustainable terrestrial forest conservation contributes to the reduction of poverty among forest-dependent rural dwellers. Specifically, the case study is the Mole National Park (MNP) and two fringe rural communities in the West Gonja District of Ghana – Mognori and Murugu. The study explores the ways through which local livelihoods are affected by the park and identifies the various livelihood impacts of on-going pro-poor initiatives in Mognori and Murugu communities.

1.2 Geographical Scope of the Study

The geographical scope of the research is in two folds. It comprises of the Mole National Park on one hand and the two study communities, Mognori and Murugu, on the other.

1.2.1 Mole National Park (MNP)

Established in 1957 (Ghana Tourism Authority, 2011), the Mole National Park is the largest natural reserve in Ghana with a total land mass of approximately 5,198 square kilometres (Mole Feasibility Study Report, 1997). The park lies largely in the West Gonja District and partly in the West Mamprusi and Wa Districts of the Northern and Upper West Regions of Ghana respectively. It is approximately 149 kilometres away from Tamale, the Northern regional capital and 15km from Damango, the district capital.

The decision to establish the park, according to the Management, was informed by a number of reasons including the protection of biodiversity, tourism promotion and the creation of an avenue for research purposes. Endowed with several species of fauna and

flora, the pull-effect has been drawing substantial numbers of tourists from various walks of life. Headquartered in Mole, the park is by far the most prestigious of the natural reserves in the country in terms of visitor attraction and tourist facilities. It is located at a place where two ancient slave raiders – Samole and Babatu – raided and wiped an entire village to the ground in the 18th century. The name "Mole" is thus traced from the name of one of the raiders, Samole. Figure 1.1 below depicts the Mole National Park in the forest map of Ghana.

Unlike other designated areas in the middle and southern parts of Ghana where numerous studies have been carried out (Abane et al, 1999; Dei, 2000; Yeboah, 2013), little research works examining conservation's rural development impacts has been undertaken in relation to the Mole National Park. The park's popularity as the country's remotest national parks seems to explain the reason why little research work has been done on it.

1.2.2 Mognori and Murugu

Located close to the south-eastern border of the Mole National Park (Figure 1.2), Mognori and Murugu are two of the numerous farming villages in the West Gonja District that have been in existence even before the establishment of the Mole National Park. The vegetation is characteristic of the Guinea Savannah Grassland with scattered trees which exhibit deciduous features. Oral history from the chiefs and opinion leaders in the study communities has it that a Moshie hunter who hailed from Burkina Faso, a country to the north of Ghana, was the first to settle on Murugu land in the early 1800s. Forced by the circumstances at the time, he later moved and settled in Mognori where he farmed, fished and assisted people travelling through the forest.

The people of these two communities speak the Hanga dialect which has its roots from the Mole-Dagbani group comprising of the Moshi in Burkina Faso, Dagomba, Mamprusi and Nanumba, all in Ghana. The name 'Mognori' was coined from the nearness of the

community to parts of the White Volta which flows across the road to Murugu. In Hanga dialect, Mognori means 'By the Riverside'. The inhabitants of this community are mainly peasant farmers and to a lesser extent, fishermen due to its proximity to the Mole River. The choice of the two communities for the study was informed by their proximity to the national park. It was assumed that the closer a community is to the park, the greater the possibility of understanding the complex relationship between conservation and local livelihoods.

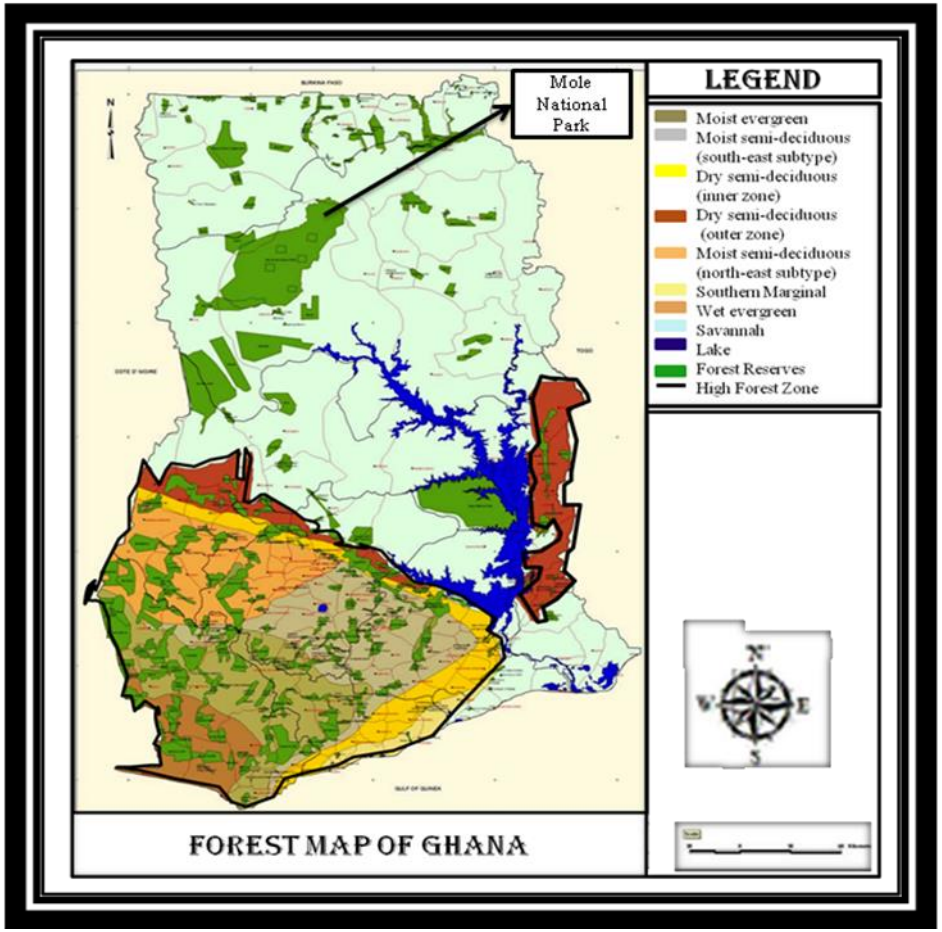

Figure 1.1: Forest Map of Ghana

Adapted from Boakye and Affum-Baffoe (2006)

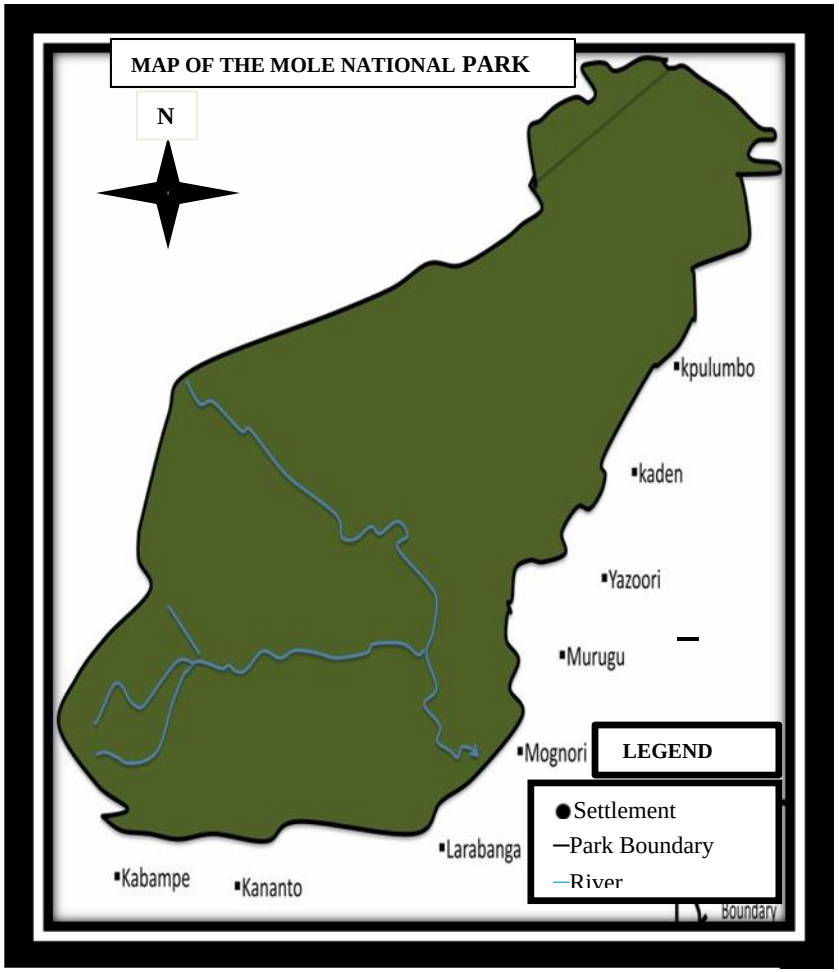

Figure 1.2: Map of the Mole National Park

Adapted from the Wildlife Department, Mole (2014)

2. Protected Areas and Poverty Reduction: A Review of Literature

The quests to sustain the environment and reduce poverty remain two of the most sensitive and yet, contradictory priorities of the new millennia (McNeely and Miller, 1984; Ferraro, 2002; Redford and Sanderson, 2003; Andam et al, 2010; Di Minin et al, 2013). As the global need for protected areas (PAs) continues to gain prominence, their socio-economic impacts on neighbouring communities is arguably one of the most controversial debates in conservation policy. Towards preserving the environment for the benefit of generations, the need for the establishment of protected areas has been variously espoused as a key strategy towards which global, regional and national conservation efforts are sought (Pimbert and Pretty, 1997; Davenport and Rao, 2002).

Notwithstanding the inter-temporal significance and potential socio-economic benefits associated with protected area management, the limits they impose on agricultural development, natural resources exploitation (Bruner et al, 2001; Andam et al, 2010) and the overall survival of fringe communities have been well documented. The focus of this section therefore, is an exploration of the protected area management concept, the management categories based on IUCN classifications and the potential socio-economic benefits and costs of such categorisations. Case studies on the impacts of PAs in some developing countries have also been examined.

2.1 Protected Area (PA) Management

From extensive learning and practice, various definitions of what a protected area is, have emerged. Nonetheless, the IUCN's definition is universally accepted. According to them, a Protected Area (PA) is "a clearly defined geographical space, recognised, dedicated and managed through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values" (Dudley, 2008:8). Protected Area Management is therefore an umbrella term that involves the protection of locations and natural resources – including marine and

coastal areas, land, inland water or a mixture of these – because of their recognised natural, ecological and socio-cultural values.

Aside their increasingly recognized significance in the provision of ecosystem services and biological resources, PAs are also considered as key strategies in the mitigation of climate change and in some cases, as mediums for protecting places of immense cultural and spiritual uniqueness or threatened human communities. With a coverage of about 12 percent of earth's land mass (Chape et al, 2003), the world protected area system represents a special future commitment and a beacon of hope in what sometimes appears to be a murky slide into social and environmental decline.

In order to provide an important worldwide point of reference for protected area establishment and management, the IUCN in 1994 classified protected area management into various categories with distinct objectives for designations. The following section explores these protected area typologies as defined by the International Union for Conservation of Nature.

2.2 IUCN Protected Areas Categories System

The IUCN categorizes protected areas into six main classifications in accordance with their management objectives and the definition developed in 1992 at the Fourth World Congress on National Parks and Protected Areas in Caracas, Venezuela (Green and Paine, 1997; Dudley, 2008). These categories represent a compromise between the needs, situations and circumstances of countries around the world. While it is understandable that these classifications may fit all areas, the main essence, argue Phillips and Harrison (1999), is to reduce possible confusion of terminology; to emphasize the importance of protected areas; and to provide a comprehensive international standard that facilitates world-wide accounting and comparison. These categories as recognized by IUCN (1994) serve a number of valuable purposes and are as detailed below:

2.2.1 Strict Nature Reserve and Wilderness Area (Category I)

This category refers to protected areas strictly reserved to protect biodiversity as well as geological or physiological spots/sites and or species where human use, impacts and visitation are stringently restricted to guarantee maximum protection of conservation values. Such PAs are mainly managed for science and wilderness protection and thus act as vital points of reference for scientific and environmental exploration and monitoring. They are typically large slightly modified or unmodified areas that retain their natural characteristics and influence, with little or no significant habitation.

2.2.2 National Park (Category II)

Category II PAs are primarily managed for the protection of ecosystem as well as for recreational purposes. They are large natural or near natural areas or sites, conserved to protect the environmental worth of ecosystems and to ensure intra and intergenerational equity in terms of access to biological resources. More often than not, they prohibit occupation or exploitation that are detrimental to the motives of their designations and provide foundations for educational, spiritual and recreational opportunities that are ecologically and culturally compatible. The Mole National Park, the focus of this paper, is a typical example of this category of protected areas.

2.2.3 Natural Monument or Feature (Category III)

The management objective of this category of PAs is to conserve specific natural monuments and other physical features containing specific natural, cultural or a combination of both characteristics. They are uniquely held to be of outstanding value largely due to their aesthetic qualities, rarity, representativeness and cultural worth. These protected area categories take myriad forms including landforms, submarine cavern, sea mount and geological formations such as an ancient grove or even a cave. More often than not, they have high visitor value and normally cover a relatively smaller land mass.

2.2.4 Habitat/Species Management Area (Category IV)

The underlying aim of the fourth category of PAs is to protect specific habitats and species. Their management therefore mirrors this objective. Many protected areas that fall within this category require regular and dynamic interventions that meet the needs of particular species and maintain their habitats.

2.2.5 Protected Landscape/ Seascape (Category V)

These are mostly areas of land with coast and sea essentially managed for recreation and the conservation of landscapes or seascapes. They reflect places where people-nature interactions have over time led to the production of areas with distinct characteristics, significant aesthetics, high ecological diversity and cultural value. The conservation of these long-established interactions between humans and nature is central to the safety, maintenance and evolution of the areas and their associated environmental significance.

2.2.6 Managed Resource Protected Area (Category VI)

The final category of protected areas represents areas that protect ecosystems and habitats in addition to related conventional natural resource management systems and cultural values. Primarily, such PAs are designed to ensure a lasting protection and maintenance of environmental resources. They therefore guarantee a sustainable access and flow of natural resources and ecosystem provision services that meet societal needs and aspirations. Protected areas within this IUCN classification are usually large and have most of the areas remaining in their natural state.

2.3 The Concepts of Poverty and Livelihoods

Even as the management decisions of natural resources are increasingly discussed within the contexts of poverty and livelihoods, their clarity are not always succinctly established. The latter, according to Sunderlin et al (2005), represent the means of living whereas the former is characteristically a result-based indicator of livelihood performance. Conventionally defined as a measure of economic wealth, there is a growing recognition (World Bank, 2000) that poverty is a many-sided condition

encompassing several dimensions, both economic and social. It includes among others, susceptibility to disasters (both man-made and natural), economic dislocation and ill-health; income insufficiency, lack of opportunities for sustainable economic activities; lack of empowerment, voicelessness and lack of representation in decision-making; and inadequate capacity to promote and defend the interests of the community. Contrary to traditional perceptions, there are now various poverty assessment frameworks incorporating physical, human, natural and social capital. They require many indices covering access to life-supporting infrastructure and resources, income, the defenselessness of population to shocks and the extent of participation in development interventions and decision making.

In the tropics, Redford and Sanderson (2003) contend that the communities that bear the brunt of these challenges are found where these problems underpin each other. Natural resources stewardship, based on which many locals rely on, represents a fundamental component of building up the resilience of the poor. The ability of protected areas to improve the economic and social dimensions outlined above is therefore necessary if conservation is to remain useful in reducing poverty among people on forest frontiers.

2.4 Examining the connections between Protected Areas and Poverty Reduction

Traditional discussions on PA effectiveness have largely mirrored the objectives to decrease deforestation rates and to preserve the environment. It is only in recent times that the livelihood implications of biodiversity conservation have attracted rigorous inquiry (Coad et al, 2008). The establishments of protected areas have the potential of placing restrictions on the use of resources that had previously been seen as "commons" and freely available to local and indigenous communities. Notwithstanding the critical role of PAs in ecosystem services provision and other livelihood opportunities at the global, national and community levels, concerns have been raised in Pimbert and Pretty (1997) suggesting that protected area management can exacerbate poverty and marginalization, leading to loss of livelihoods and

dislocation of communities. This not only raises ethical and moral concerns, but also, practical questions regarding the relevance of protected area management (Salafsky and Wollenberg, 2000; Kaimowitz, 2003).

Aside the target by the Convention on Biological Diversity to extend the PA network, the emerging international discourses on Reduced Emissions from Deforestation and Degradation (REDD) as an option to mitigate the changing climate, make the potential livelihood costs and benefits on local communities take on added relevance and sensitivity. In the sections that follow, the various socio-economic impacts of protected area management to local livelihoods are explored.

2.5 The Socio-economic benefits of Protected Areas on Indigenous Communities

Conservationists have long held the belief that, the benefits derived from protected area management are numerous (Chan et al, 2006; Sims, 2010). Carefully managed, PAs, according to the 2003 Millennium Ecosystem Assessment (Alcamo and Bennett, 2003) could improve local livelihoods in a number of ways. The focus of this section is an examination of the various ways through which indigenous people benefit from protected area management. Emphasis is placed on the roles of PAs in ecosystem services provision, tourism opportunities and Payments for Ecosystem Services (PES).

2.5.1 Ecosystem Services

In the 2003 Millennium Ecosystem Assessment, the role of PAs in providing ecosystem services are broadly categorised into three – supporting and regulatory services, provisioning as well as cultural services. The supporting and regulatory functions of protected areas encapsulate the generation and maintenance of soil, carbon-dioxide fixation and sequestration, storm protection, sustainability of hydrological cycles, watershed regulation and protection, primary production, climate regulation and essential nutrients storage and cycling. Through these, the long-term contribution of PAs to the socio-economic, cultural and ecological viability of human development cannot escape mention.

In Ruitenbeek (1992) and Myers (1996), it is reported that the Korup National Park in Cameroon has been effective in sustaining downstream mangrove fisheries and provides flood control for agricultural lands. Similar observations have been made of the Annapurna Community Reserve in Nepal (Bajracharya, Furley and Newton, 2006) and the Kerinci Seblat National Park in Indonesia (Linkie et al., 2007). While improved water resources were reported in the former, about 94, 88 and 66 percent of farmers in the latter respectively contended that the protected area has helped to reduce flooding, soil erosion and attacks from insects.

Provisioning services is also one of the ecosystem benefits of PAs and include the provision of natural products such as food, medicine, fodder, construction materials, fresh water and fuel wood (Shackleton and Shackleton, 2004; Andrew and Masozera, 2010; Kiptot and Franzel, 2012; Kalaba, Quinn, and Dougill, 2013) that are directly used by local communities for their subsistence. In tropical African countries, locals also depend on PAs for charcoal and firewood especially where such harvests can be sustainably managed, usually through the use of buffer zones. These ecosystem functions are easily identifiable and quantifiable as they have visible socio-economic impacts. According to Bajracharya, Furley and Newton (2006) and Allendorf et al (2006), the extraction of timber and non-timber products has been purported to be one of the greatest benefits local communities derive from protected regions.

In their 2001 study of Lake Mburo National Park in Uganda, Infield and Namara report that 44 percent of the respondents involved in the community conservation programme confirmed the significance of the protected area in the conservation of wildlife. Similar other local benefits reported include among others, the improvement in access to animal feed and water. In their study of the Annapurna Conservation Area, Bajracharya, Furley and Newton (2006) also reveal that 72 percent of the respondents confirmed that not only has the protected area improved access to fuel wood and fodder, but also forest cover and wildlife population have increased.

An equally important benefit derived from the management of PAs is the protection of cultural traditions and religions (Dearden, Chettamart and Emphandu, 1998). This

ecosystem service is particularly pertinent to the Category III of the IUCN protected area classifications. It reflects an umbrella term for protecting particular cultural heritage and religious values, tourism opportunities and educational services. These represent intrinsic aspects of the role of protected areas in local livelihoods. In McNeely (1994), various socio-cultural benefits of protected areas are discussed. Their roles in maintaining the cultural distinctiveness of a group, preserving traditional landscapes and empowering local knowledge are some of the principal arguments supportive of PA establishments. A study of the Wolong Biosphere Reserve in China by Liu et al (2001) confirms also the importance attached to the cultural services protected areas provide. The reserve's major social benefit, they report, is that of increased cultural stability and identity.

While the above ecosystem functions are essential for the spiritual welfare of the poor and their living environment, it could be discerned that the supporting and regulating functions hardly provide immediate poverty relief for communities that are in close proximity to conservation spots. Again, whereas services like carbon sequestration, the protection of watershed and the regulation of climate tend to provide greater regional and international benefits, storm protection provided by coastal mangroves and forests offer important local benefits.

2.5.2 Ecotourism Opportunities

One of the few options purported to be the alternatives through which protected areas contribute to the reduction of rural poverty and on which community-friendly conservation and development projects within protected areas are built (Di Minin et al, 2013) is tourism. Protected areas provide livelihood support to indigenous rural folks in the form of jobs as park rangers, tour guides, and numerous other opportunities in the tourism industry. Bedunah and Schmidt (2004) and Bajracharya, Furley and Newton (2006) document local gains accruing from tourism both through benefits in the form of direct revenues such as tourist entry fees and the sale of goods and services to tourists. In countries such as Pakistan, South Africa, Zambia and

Zimbabwe, sport hunting remains one of the activities on which some local communities depend for their incomes (Jones and Murphee, 2001; Child and Dalal-Clayton, 2004). Quiet apart from that, an appreciable number of countries have also put in place legislations to guarantee that locals accrue maximum benefits from proceeds such as PA entrance charges. A case in point is the Republic of Uganda, where revenue sharing is such that about 12 percent of total revenue generated by parks goes back to the development of bordering communities (Worah, 2002; Scherl et al, 2004). Similarly, in the KwaZulu Natal National Park, South Africa, Luckett, Mkhize and Potter (2003) confirm that a Community Levy Fund has been instituted obliging tourists to contribute to the development of local communities in protected regions.

While it is suggestive from the foregoing that tourism represents one of the major sources of livelihood support to rural communities around protected areas, West, Ingoe and Brockington (2006) argue that the distribution of the socio-economic gains from tourism among communities is hardly equitable. This, they assert, are evident in Indonesia (Walpole and Goodwin, 2001), Madagascar (Ferrero, 2002) and Vietnam (Rugendyke and Son, 2005). Elsewhere in Rwanda, Andrew and Masozera (2010) also confirm that local communities receive little of the benefits arising from gorilla tracking expeditions in the Virunga National Park. They specifically argue that while about 20 million US dollars of the benefits from the park accrue to the national and foreign stakeholders, the local communities lose nearly 11.7 million US dollars. This loss, according to Hatfield (2005), is largely the opportunity cost of land occupied by the park. These notwithstanding, a 2001 study of ecotourism projects by Ashley, Roe and Goodwin (2001) in Asia, South America and Africa confirms that, benefits derived from protected areas may not necessarily be fairly distributed, but can potentially be mediums through which recipients could be lifted out of poverty and assured reasonably secure livelihoods.

2.5.3 Payments for Ecosystem Services (PES)

In recent times, Payment for Ecosystem Services (PES) according to Ferraro and Kiss (2002), Grieg-Gran, Porras and Wunder (2005) and Tschakert (2007) has also emerged as one of the mechanisms through which protected areas generate socio-economic benefits to communities and indigenous landowners in particular. It is a direct payment scheme whereby local communities or private landowners are directly paid or remunerated for the conservation of natural resources. The scheme has been cited as an example of a "win-win" initiative that directly values the protection of the environment; compensates local people for conservation-induced socio-economic costs and thus efficiently delivering measurable conservation results. According to Grieg-Gran, Porras and Wunder (2005), PES schemes make it possible for the poor to benefit from increased income, formalized land tenure, diversified livelihoods and strengthened social organizations.

In Costa Rica were the mechanism has been in operation for more than 10 years (Grieg-Gran, Porras and Wunder, 2005), local residents, according to Ferraro and Kiss (2002), are paid approximately $35 annually per hectare of forest protected. A strengthening of community associations through the programme has been reported by the beneficiaries of the scheme. Similar to this is the case of Ecuadorian farmers (Echavarria et al, 2004), where such payments by the local government constitute about 30 percent of household incomes.

Despite the growing number of PES schemes around the world, their coverage reflects only a fraction of PAs and frontier communities. The institutional intricacies needed for the successful allocation and monitoring of the payment scheme especially in remote rural communities have often been a major challenge (Coad et al, 2008). Reservations raised about the effectiveness of PES have largely focused on the fact that such payments may themselves lack a sound financing strategy in the long-term.

2.6 The Socio-economic Costs of Protected Areas on Indigenous Communities

While some commentators in the previous section support the claim that protected areas are capable of contributing to poverty reduction and development, evidence on the costs imposed on local communities is also well-documented. Usually, these costs are informed by the management categories and governance styles and range from the displacement of communities, disruption of communal structures and land tenure, restriction of access to forest resources and human-wildlife conflicts.

2.6.1 Displacement

Interpreted as the forced removal of local communities from originally occupied lands, displacement has proved to be a major cost associated with protected areas around the world. In countries where this phenomenon has been common, Cernea (1997) outlines eight major livelihood threats to displaced people. These include the dispossession of communal assets such as land, family houses and cultural space; lack of access to common resources and cultural sites; food insecurity; joblessness even when the resettled locals succeed in landing on some short-term jobs; increased morbidity and mortality; and disempowerment or disruption to social institutions. Although forced displacements are hypothesized to be less severe now than they previously were in the 1980s, Nepal (2002), Mulder and Coppolillo (2005) and Brockington (2004) argue that this has been used to underscore the divergence between biodiversity conservation and poverty reduction.

In an examination of nearly 250 "conservation displacement" journal articles by Brockington and Igoe, (2006), forced displacements, according to Geisler and De Souza (2001) and Geisler (2003), stood at between 900,000 to 14.4 million people. Though contested (Redford and Fearn, 2007), approximately 120,000 people from 12 parks in Central Africa alone, have also been expropriated of their originally occupied lands and this figure would likely rise to several thousand people if conservation policy remains unchanged (Cernea and Schmidt-Soldau, 2006). A similar instance in Nepal is reported by McLean and Straede (2003), where 2000 Tharu people were relocated from the Royal Chitwan National Park to areas with low-quality cultivable

lands and miles away from common property resources such as water and forest sources.

Elsewhere in India, Mongolia (Brockington, Igoe and Schmidt-Soltau, 2006), South Africa, and the newly established 12 national parks in Gabon (Redford and Fearn, 2007), concerns have nonetheless, been raised that the lack of rigorous documentation of the statistics of people living in protected areas, both within and around, makes it challenging to quantify the precise displacement costs associated with the establishment of protected areas.

2.6.2 Disruption of Communal Structures and Land Tenure

An equally important livelihood threat that comes with protected area designation is the potential changes to land tenure and community structures. For hundreds of years, the existing land tenure arrangements in Asia and Africa according to the World Resource Institute (2005) have strongly been characterized by significant communal control over the use of resources. With the ever-increasing prominence attached to the establishment of protected areas, traditional systems and boundaries have been given less priority and the power of community institutions to control resource use removed. Protected areas' potentials to weaken traditional community structures and cultures as well as local community institutions thus, represent a significant social cost to local livelihoods. In some cases, conflicts within and among communities may ensue, as community factions struggle for the power to control particular natural resources (Abakerli, 2001). Often too, community solidarity tends to suffer dilution as a result of the ethnic heterogeneity caused by displacements and may ignite inter-ethnic misunderstanding in resource use and ownership.

2.6.3 Restricted Access to Resources

In principle, the term "Protected Area", makes the restriction of access to common resources an inevitable outcome of protected area management. By virtue of their reliance on primarily available resources for their sustenance as well as spiritual/cultural needs, rural dwellers in many countries of the south are largely vulnerable to the establishment of PAs.

Numerous studies including the Barombi Mbo Forest Reserve, Cameroon (Ngome, 2006), Ranomafana National Park, Madagascar (Ferraro, 2002) and the Sarstoon-Temash National Park, Belize (Beltran and Phillips, 2000) confirm that the designation of protected areas results in the restriction of access to forest resources such as bush meat, building materials, fuel wood/firewood and forest leaves, vegetables and fruits. In most rural communities in the developing world where firewood represents about 70 percent of energy consumed by households (Murray and Montalembert, 1992), forest restrictions have been reported in Abbott and Mace (1999) and Vedeld et al, (2007) as particularly problematic to local livelihoods. In Central Africa where the total income generated by forest communities from hunting and gathering stands at 67 percent of household income (Cernea and Schmidt-Soltau, 2006), the vulnerability of these communities to changes in forest access cannot be over-emphasized.

Restriction in access to resources has also got a disturbing potential of causing significant changes in the diets of locals on the fringes of protected areas. Fruits, leaves, vegetables and bush meat collected from the wild remain a crucial source of rural households' nutritional needs. In the Congo Basin, bush meat for instance provides between 30 to 80 percent (Wilkie and Carpenter, 1999) of the daily protein requirements of rural communities. Where community entry into the basin is restricted, the socio-economic costs to indigenous communities could be exacting. In the case of the Ranomafana National Park, Madagascar, concerns have been raised that the community health of the indigenes may be affected (Ferraro, 2002). The Protected area potentially restricts access to local herbs, reduces indigenous access to protein from wild crayfish and reduces their ability to purchase fat and oils due to the possible reduction in household incomes from forest products. In Mexico, Leatherman and Goodman (2005) also report that the restriction of access into the Yucatan Peninsula has increased dependency on purchased items resulting in overall nutritional decline among the locals.

2.6.4 Human-Wildlife Conflicts

Human-Wildlife Conflicts have also increasingly been regarded as major livelihood threats of protected areas. Common wildlife problems communities in close proximity to restricted areas often experience fall into two main folds: threats to human life on one hand and crop raiding and livestock predation on the other.

Globally, wildlife-induced deaths represent a minor proportion of human deaths. In Macdonald and Sillero-Zubiri (2002), animals such as Hyenas, Tigers, Bears, Lions, Elephants and Leopards kill only a few people yearly, but the greatest concentration of these casualties is often localized in small regions. In the Gir forest in India, Saberwal et al (1994) report that the Asiatic Lion Conservation has between 1973 and 1991 recorded 193 cases of human attacks by Gir lions. This averages 14.8 and 2.2 cases of attacks and deaths respectively annually. Similar instances have been reported of the Jigme Singye Wangchuck National Park, Bhutan, where farmers have on several occasions been mauled to death by bears invading apple orchards (Wang, Lassoie, and Curtis, 2006). Various reasons for such attacks have been espoused in Saberwal et al (1994), Macdonald and Sillero-Zubiri (2002) and Treves and Karanth (2003) including climatic conditions, predator defense of their kill and most importantly, increased people contact arising from wild animals being lured to tourist areas using baits,

Another dimension of human-wildlife conflict takes the form of livestock predation and crop raiding. They usually take place inside farms and sometimes on the margins of restricted designations, with Elephants (Madhusudan, 2003; Kideghesho, Roskaft and Kaltenborn, 2007) and Dholes (Wang, Lassoie, and Curtis, 2006) often cited as the most damaging animals to defend against. Other species including monkeys, civet cats, baboons (Weladji and Tchamba, 2003; Bajracharya, Furley and Newton, 2006) and wild pigs (Choden and Namgay, 1996) are also frequently reported.

Illustrating how problematic human-wildlife conflict could be, several studies including Weladji and Tchamba (2003), Bajracharya, Furley and Newton (2006) and Linkie et al (2007) reveal that approximately 74 to 90 percent of farmers located at the fringes of selected national parks in Cameroon, Uganda, Indonesia and Nepal have

reported crop raiding as a major challenge to sustainable livelihoods. In India for instance, villagers living near the Bhadra Tiger Reserve report a loss of nearly 12 percent of their livestock annually to predatory wild animals (Madhusadan, 2003) whilst 28 percent and 44 percent of farmers living around the Benoue National Park (Cameroon) and the Annapurna Reserves (Nepal) have respectively reported livestock predation as a major livelihood challenge.

It is suggestive from the literature above that the poor in rural settings are the most reliant on natural resources for their anthropogenic needs. Depending on the type of protected area, there are various livelihood costs and benefits associated with protected area management. Aside the provision of ecosystem services, tourism opportunities, and socio-economic gains from schemes such as the Payment for Environmental Services, PAs often involve some livelihood costs including attacks on humans and properties; the displacement of local people; disruption of communal structures and lead to the deprivation of access to forest resources. In some cases, indigenous communities have also been denied their traditional responsibilities and rights to be stewards of community resources, thus worsening the dimensions of poverty earlier discussed.

While protected areas' potential to contribute to poverty reduction in fringe communities is supported in some literature, it suffices to admit that such claims remain contentious. This is particularly so because, impacts largely depend on the type of protected areas under consideration and their prevailing management objectives. Differing livelihood impacts could be observed. Whether the socio-economic benefits recorded in the above studies would hold for other similar protected areas in other nations remain an open question. The replication of studies in other nations or parks and the exploration of the ways in which impacts differ based on PA management category are crucial in ascertaining a comprehensive appreciation of conservation's poverty reduction claims.

It is on the basis of this that the study to investigate the socio-economic impacts of the Mole National Park on the people of Mognori and Murugu was particularly important.

It sought to offer useful contributions in building understanding on the connections between protected areas and poverty reduction. This would be explored in the analysis and discussion section.

3. Materials and Methods

In order to explore the socio-economic impacts of protected areas on the livelihoods of local communities, a study that involves fieldwork and uses multiple data sources has proven to be necessary (Hill, 1998). The study collected two main types of data from the field – primary and secondary. The primary data was collected from households and Chiefs/opinion leaders from the two communities as well as from the Management of the Park. Through a combination of questionnaire administration, one-on-one interviews and telephone interviews, the socio-economic impacts of the park on the livelihoods of the local indigenes were gathered. The decision to combine these methods was informed by the need to validate the responses and to reduce any possible biases in an attempt to establish the strength in conservation's poverty reduction claims.

In all, a total of 76 households were randomly selected from the two communities. Of this total, the number of household questionnaires administered in Mognori and Murugu were respectively 34 and 42. The respondents were selected in a manner that ensured that the sample is representative in terms of age, gender, occupational status and residential history. The chiefs of the two communities as well as 4 purposively selected opinion leaders in the communities were also interviewed one-on-one to ascertain their opinions and perceptions on the impacts of the park on local livelihoods. The data collected focused on the demographic characteristics of the respondents, possible livelihood impacts of the national park, on-going or implemented pro-poor conservation initiatives, the incidence of wildlife-induced depredation and community perceptions on the relevance of the national park to sustainable livelihoods.

In order to provide more insights into the responses and to allow for triangulation (Osuala, 2001), an institutional questionnaire was also administered at the office premises of the Mole National Park. With this, information pertaining to the background of the Mole National Park, management objectives, successes and challenges as well as on-going livelihood interventions were ascertained.

Most of the interviews were carried out at the premises of the respondents. Others happened to be on the roads when opportunity presented itself. Except the institutional questionnaire that took long to be completed, that of the households and Chiefs/opinion leaders lasted for a period of 45 minutes on the average. The major language used in the interviews was Hanga – one of the popular dialects in the West Gonja District of the Northern Region of Ghana. In the case of the institutional questionnaire however, the interview was done entirely in English.

The study also collected secondary data from journal articles, books, and some official records of the Park such as the 1997 Mole Feasibility Study Report, the Tourism Statistical Fact Sheet on Ghana, Wildlife Division Policy for Collaborative Community Based Wildlife Management and Tourists Inventory kept by the park. With the exception of the books reviewed, the rest of the documents used for the study were primarily obtained through internet downloads.

3.2 Method of Data Analysis

Having collected the responses from the field, the data was coded, entered and analysed using version 17.0 of the Statistical Package for the Social Sciences (SPSS) and Microsoft Excel. The choice of SPSS was informed by the fact that its functions allow for the descriptive analysis of a wide range of data. It also allows for an easier and faster data coding and entry. The quantitative data was presented in the form of tables and charts from which the interpretation of the data was made. The data presentation was done using both descriptive and inferential statistics (Johnson and Christensen, 2004; Kalaba, Quinn, and Dougill, 2013) and took the form of simple frequency distribution and cross-tabulations.

3.3 Ethical Issues

Unlike most other research projects that require significant need to protect and safeguard the well-being and identity of research participants and respondents, this study did not encounter significant ethical issues and difficulties. Throughout the interactions with the households, chiefs, opinion leaders and the management of the Park, consents of the respondents were sought before the start of each questionnaire administration. Accordingly, participants were made to understand the details of the research and to appreciate the fact that utmost confidentiality would be assured. They were again made aware that there is absolutely no obligation to participate in the study and that they have the option to decide on whether or not to participate or to withdraw at any time in the course of the interview.

Similarly, a reversible process whereby respondents are replaced by codes to which only the researchers are privy to the key was adopted. That way, the identities of the research participants were kept anonymous.

3.4 Research Challenges and Limitations

This research, like many others, was not without limitations. Given that the period of May to October is characterised by high amounts of rainfall in Ghana and the West Gonja District in particular, there were instances where scheduled interviews and community visits were disrupted. Due to heavy rains, about 17 scheduled interviews had to be re-scheduled. Quite apart from that, the period of the data collection coincided with the time farmers are most busy on their farms. Some of the respondents were thus not readily available at home for some of the interviews. There were also a couple of days that field visits were marred because of the shortage of fuel in the whole district. It therefore became difficult for cars and motorcycles to commute to the study communities. Notwithstanding these challenges, it was possible to get the study done within time.

The major limitation of the study on the other hand, lies in the fact that a much longer time that allows for a comprehensive study of the livelihood impacts of the Mole National Park on all the 33 fringe communities would have been much appropriate in providing a more diverse and broader insight into the conservation–poverty reduction nexus. That way, the comparison of the individual livelihood impacts in the various communities would have offered greater details into the topic. In order to compensate in part for this shortfall, the inclusion of Murugu community in the study (which was not part of the initial plan) made it possible to have a two-sided insight into the livelihood impacts of the national park.

4.0 Discussion and Analysis

Here, a comparative analysis of the responses, perceptions and opinions obtained from the two communities is done using tables and charts, where appropriate. Issues discussed include the demographic characteristics of the respondents, the socio-economic impacts of the park on local livelihoods, pro-poor conservation initiatives and households' perceptions on the relevance of the Mole National Park.

4.1 Demographic Characteristics of the Respondents

In the context of this study, the sex and age composition of the respondents, their residential history, levels of educational attainment and their occupations are some of the demographic variables examined. The sex and age composition of respondents are important variables in providing understanding on the way issues are perceived among different age groupings and gender orientations.

From the study, an unequal distribution of gender was observed. Of the 76 households interviewed, 57 and 43 percent were respectively males and females. The relatively small variation in the sex composition suggests the possibility of obtaining representative information on household perceptions, experiences and opinions on the various ways through which the socio-economic impacts of the Mole National Park are manifested. In order to allow for a more matured and well-informed responses to be gathered the respondents were drawn from a wide range of age

brackets. The study revealed also that about 91.2 and 80.5 percent of the respondents in Mognori and Murugu are more than 25 years old with 26.5 and 21.4 percent falling within the 46+ cohort respectively. This adds credence to the research as opposed to what would have been the case had the data been collected from a much younger audience.

As the ability to determine protected areas' impacts on local livelihoods very much depends on the length of time respondents have stayed in the study communities, the residential history of the research participants was also examined. It was assumed that, the longer the residential history of respondents, the more likely they will be privy to information on the extent of impact the Mole National Park has had on their livelihoods. It was gathered that 85.3 and 78.6 percent of the respondents have respectively been living in Mognori and Murugu for more than 10 years. This made them well-placed to provide useful information on the extent and nature of interactions between the park and the society.

Typical of most other rural African settings, the study again revealed that 70.6 and 64.3 percent of the respondents in Mognori and Murugu respectively fall within the "Never-attended" school category. Only few participants confirmed schooling up to the Primary, Junior High School (JHS), Senior High School (SHS) and Vocational/Technical levels. Because majority of the indigenes are least educated, employment is largely sought in the primary sectors of the local economy – farming and fishing. The numbers of participants employed in these sectors totalled 88.2 percent in Mognori and 78.6 percent in the case of Murugu. According to the Park Management, since most community members have no formal education, it has often been difficult to integrate them into the mainstream administrative roles of the Park. Only few have had the opportunity to be employed as park wardens – a task that requires little expertise.

Similarly, while petty trading could take myriad forms elsewhere in the urban communities in the district, trade in agricultural products such as yam, corn, bush meat, brooms, millet, shea butter and honey were the commonest in the two

communities. These observations suggest that most of the economic activities prevailing in the study communities and most other frontier settlements in the Mole Park (MPA) Area are nature-dependent.

4.2 Socio-economic Impacts of the Mole National Park on Livelihoods

This section deals with the socio-economic impacts the Mole National Park has on the livelihoods of the locals in the two study communities. Issues discussed include participants' perceptions, experiences and opinions on the roles the park plays and has played in attracting tourists, its contribution to household income, employment provision and opportunities, improved provision of and access to infrastructural facilities, improved access to forest products, community empowerment and participation, safety from wildlife attack, eco-tourism and the provision of ecosystem services.

4.2.1 Attraction of Tourists

One of the popular arguments by earlier studies such as Di Minin et al, (2013) in favour of the establishment of protected areas is their potentials to attract tourists from all walks of life. Invariably, tourism promotion, according to the Park Management remains one of the key goals for the establishment of the Mole National Park (MNP). The foreign exchange earned from the recreation and cultural activities visitors enjoy at the park and in the fringe communities provide funds for developmental activities in the area. In figure 4.1 below, the extent to which respondents agree to the tourist attraction role of the park in both Mognori and Murugu are examined.

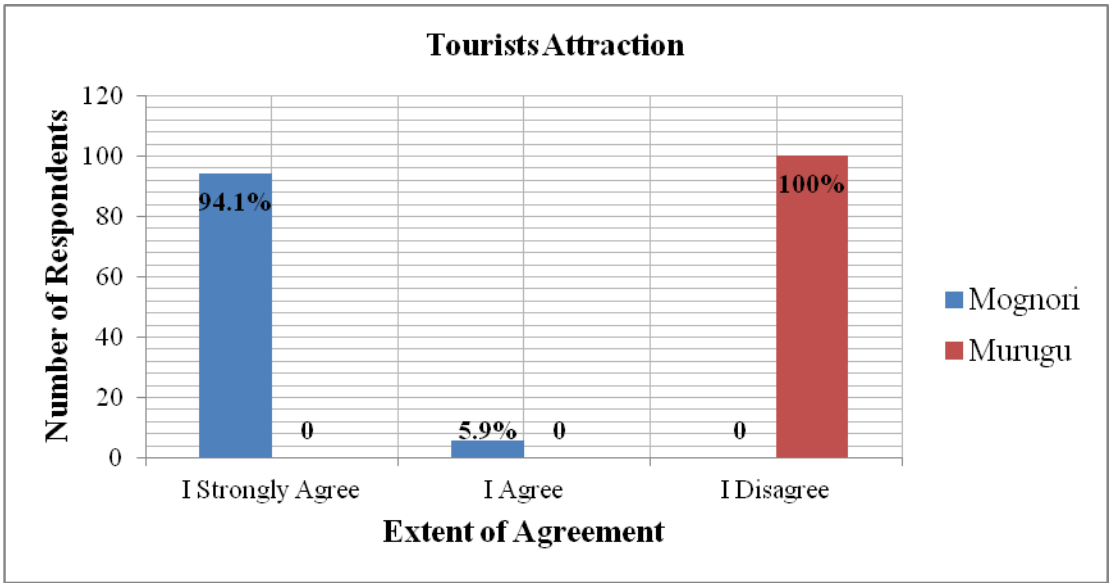

Figure 4.1: Perceptions on the Role of MNP in Attracting Tourists

Source: Author's Construct, July 2014.

Contradictory views on the tourist attraction role of the park into the two communities are observed from the figure above. While the entire respondents in Mognori agree that between 3-4 tourists visit the community daily, only one or two visit Murugu in a month. Despite the existence of evidence (Tourists Data kept by the Management of the Park) to support claims that tourists are attracted into the park itself, the extent of attraction into some of the fringe communities is minimal. With the distance from the Park to Mognori and Murugu being respectively 5 and 8 kilometres, it could be suggested that the proximity of communities to the park is key if high volumes of tourists are to be attracted. The chief of Murugu reports also that the poor nature of the road linking the park to Murugu hinders the community's ability to attract large numbers of tourists.

Similarly, tourists' interests in the fringe communities are more often than not, informed by the prevailing places of interest in such communities. The popularity of Mognori as a fine destination for canoe-riding and rich cultural displays is what attracts a relatively larger number of people into the community. Measures and infrastructure to develop the eco-tourism potentials in Murugu is thus necessary in

propelling greater visits into the community. Apart from the possible increases in foreign exchange and tourist revenue, the Park Manager expressed optimism that the influx of tourists into the communities could in the long-run improve the micro climate of the area for high crop production.

4.2.2 Increased Household Income

In Bedunah and Schmidt (2004) and Bajracharya, Furley and Newton (2006), local benefits accruing from the goods and services sold to park visitors or the sharing of revenues including tourist entry fees, represent some of the ways through which protected areas contribute to the incomes of households. Mixed opinions on the extent to which these findings are consistent with the Mole National Park were evident in the study communities. Although the Park Manager agreed strongly that community members generate income from pro-poor initiatives, and to some extent, donations from benevolent organizations, not all the households share similar view.

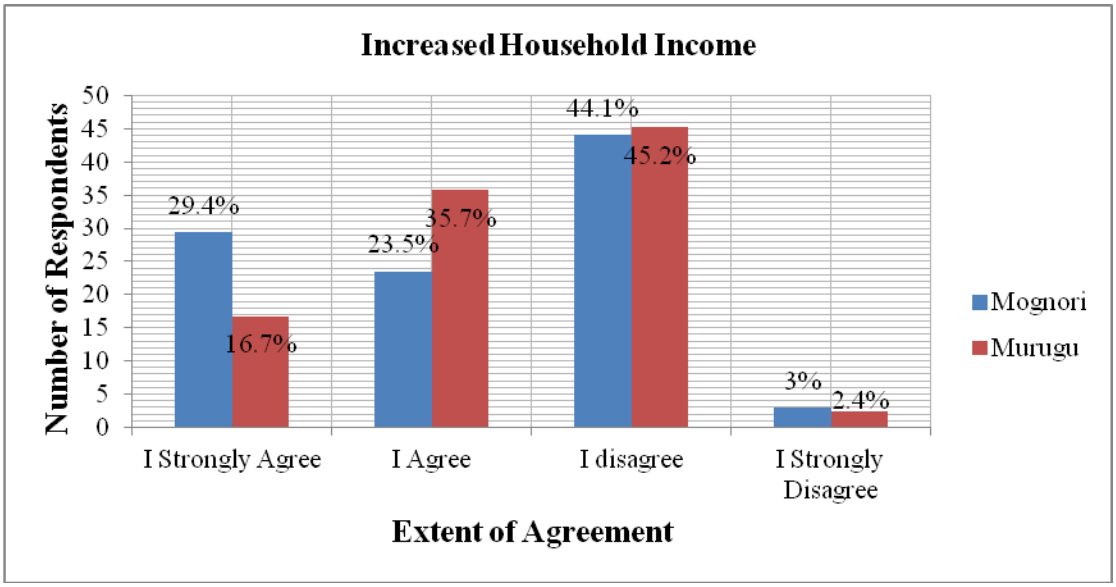

Figure 4.2: Perceptions on the Role of MNP in Increasing Household Income

Source: Author's Construct, July 2014

In figure 4.2, while a total of 52.9 and 52.4 percent of the respondents in Mognori and Murugu respectively agree with the question of whether the park has contributed to increased household incomes, an almost equivalent proportion of the participants –

Mognori (47.1%) and Murugu (47.6%) – are at variance on that. An interaction with the chiefs and the four opinion leaders confirmed that the two communities are beneficiaries of two different pro-poor interventions: Ecotourism projects in Mognori and Community Resource Management Area (CREMA) initiative in Murugu. While the basic principle underlying the initiatives is to economically empower community members, the Murugu Chief stressed CREMA is essentially operated such that selected farmers in the community are given beehives to extract honey from demarcated parts of the forest. It also allows the community to engage in hygienic picking of wild fruits for their own economic benefit whilst at the same time taking care of the wild resources.

The study again gathered from the Chiefs and opinion leaders that an eco-tourism and CREMA treasuries exist in both communities through which qualified members secure loans to engage in income-generating activities such as petty trading. Majority of the respondents who agreed they have enjoyed financial benefits from the park are directly involved in activities such as cultural displays, tour guiding, canoe riding, bee-keeping, safari and the sales of Shea butter and Gari from which they are financially incentivised. Households that are not directly engaged in the ecotourism and CREMA activities had little evidence to appreciate the impacts of the initiatives on local incomes. Whereas the discussion above suggests the park provides income to some locals, the fact that benefits are restricted to the fortunate few confirms the argument of West, Ingoe and Brockington (2006) that the distribution of the socio-economic gains accruing from tourism remains hardly equitable.

4.2.3 Job Creation/Provision of Employment

Job creation and employment provision represent one of the prominent arguments supporting conservation's poverty reduction claims. Through the establishment of protected areas, indigenous people located at the fringes of parks and reserves get employed to police and guard surrounding areas from poachers. Asked about their perceptions about the job opportunities created by the Park, table 4.1 below summarises the details obtained from the participants.

Table 4.1: Perceptions on the Job Creation role of MNP

Extent of Agreement	Frequency (Percentage)	
	Mognori	**Murugu**
I Strongly Agree	**6** (17.6%)	**6** (14.3%)
I agree	**12** (35.3%)	**16** (38.1%)
I disagree	**13** (38.2%)	**17** (40.5%)
I strongly disagree	**3** (8.9%)	**3** (7.1%)
Total (*n*)	**34 (100%)**	**42 (100%)**

Source: Author's Construct, July 2014

From the table, it is evident that while 52.9 and 52.4 percent of the respondents in Mognori and Murugu are respectively in support of the claims that the park contributes to job creation, the rest hold a different view. Even though some community members are employed as park wardens and in the Ecotourism and CREMA initiatives, it was bemoaned by some participants that a backlog exists of some community members struggling to be employed by the Park but with little success. Unsurprisingly, what this suggest therefore is that, there is a limit beyond which the park's ability to offer jobs to the locals cannot be stretched. Employment opportunities are thus, available for a limited number of local people. Besides, beneficiaries could be drawn from various other fringe communities in the district and not necessarily from Mognori and Murugu. It becomes hardly possible therefore to conclude wholly that, the establishment of PAs reduces poverty through the jobs they provide to the locals in adjoining communities.

4.2.4 Improved Access to Infrastructure

Access to infrastructural services and facilities is a sensitive development issue in most rural African communities. Towards addressing this, the establishment of protected areas (recreational spots) has proven to be one of the options through which improved access to livelihood-supporting services and infrastructure such as roads, health and educational facilities could be enhanced. By virtue of the centripetal nature of some

protected areas (for instance, the Category II PAs) in attracting tourists for recreational purposes, fringe communities have largely benefitted from some of the facilities and services that are provided to serve the purposes of protected area management. Presented in table 4.2 below is a summary of the responses gathered from the study communities.

Table 4.2: Perceptions on the role of MNP in Improving Access to Infrastructure

Extent of Agreement	**Frequency (Percentage)**	
	Mognori	**Murugu**
I Agree	25(73.5%)	**13** (31%)
I Disagree	9 (26.5%)	**29** (69%)
Total (*n*)	**34 (100%)**	**42 (100%)**

Source: Author's Construct, July 2014

When asked about their perceptions on the extent to which the Mole National Park (MNP) has contributed to or informed infrastructure provision in the study communities, contested responses were observed. Contrary to Mognori where 73.5 percent of the respondents agree that the park has improved access to educational (JHS) and health care facilities, only 31 percent in Murugu agree that the community falls within the sphere of influence of the Mole Health Centre and the Junior High School facility. Regarding the distance from the Park to the study communities, Mognori appeared better-positioned to benefit most from the health and educational services. Notwithstanding these differences in perceptions, the facilities in Mole remain the most easily accessible in the park area. Except for referrals, other facilities such as the Larabanga Health Center and the District Hospital in Damango appear too far from the study communities to be relied upon in times of emergency.

4.2.5 Access to Forest Products

One of the long-held reservations against the establishment of protected areas is the fear that they deny local communities access to forest resources. This is confirmed in the studies of Ngome (2006), Ferraro (2002) and Beltran and Phillips (2000) in the

Barombi Mbo Forest Reserve (Cameroon), Ranomafana National Park (Madagascar) and the Sarstoon-Temash National Park (Belize) respectively. They argue that PA designations result in the restriction of access to resources such as bush meat, building materials, fuel wood and forest leaves, animal feed, vegetables and fruits and thus threaten local subsistence. In table 4.3, only few respondents are of the view that the National park restricts access to forest products.

Table 4.3: Perceptions on the Restrictive Impact of MNP to Forest Products

Extent of Agreement	**Frequency (Percentage)**	
	Mognori	**Murugu**
I Strongly Agree	**12**(35.3%)	**17** (40.5%)
I agree	**20** (58.8%)	**25** (59.5%)
I disagree	**2** (5.9%)	–
Total (*n*)	**34 (100%)**	**42 (100%)**

Source: Author's Construct, July 2014

Except for some few reported cases of wild hunting and poaching in the Mole park area, information gathered from the management and the household heads revealed that the protected area presents little restrictions to communities' access to forest products. Common among the forest products households gather from the park are bush meat, shea fruits, herbs, brooms and firewood. In all, 94.1 and 100 percent of the research participants in Mognori and Murugu respectively opined that the existence of a buffer zone with similar density of wild fauna and flora have provided indigenes with a variety of forest products. Only a relatively smaller fraction (5.9 percent) of the respondents in Mognori felt the buffer zone is incomparable to a natural forest in terms of the quality and quantity of biota. On the basis of the statistics above, it could be concluded that the evidence in the study communities does not wholly support the fears that parks restrict access to forest resources. Depending on the protected area category and the prevailing management objectives, options and strategies could be explored to ensure that restriction to forest resources is kept minimal and manageable.

4.2.6 Community Empowerment and Participation

Concerns have often been raised in conservation literature (World Resource Institute, 2003; Abakerli, 2001) that PA management distorts traditional structures, culture and local community institutions in attempts to shift control over the use of local resources from the hands of indigenous communities to the state. In the case of the Mole National Park where the management of the reserve lies largely in the hands of the government, respondents' views were sought on the extent to which they are involved in decisions affecting their welfare. Presented in table 4.4 below is a summary of their opinions and perceptions.

Table 4.4: Community Empowerment and Participation

Extent of Agreement	**Frequency** (Percentage)	
	Mognori	**Murugu**
I Strongly Agree	**8** (23.6%)	**5** (11.9%)
I agree	**13** (38.2%)	**22** (52.4%)
I disagree	**13** (38.2%)	**15** (35.7%)
Total (*n*)	**34 (100%)**	**42 (100%)**

Source: Author's Construct, July 2014

From the table, majority of the participants agree that the park involves the communities in decisions that affect their livelihoods. While more than 50 percent of the participants in the two communities confirmed that Chiefs and other opinion leaders are consulted on issues of general importance, about 38.2 and 35.7 percent of the interviewees in Mognori and Murugu respectively hold a different view. They argue that such engagements have in most cases yielded little impacts. Community-park discussions, they assert, are mostly not fruitful since most grievances are not fully addressed. Even though communities are engaged in decision-making through representative participation, the effectiveness of such engagements appear less motivating. More often than not, quarterly meetings are held with the Chiefs and

appropriate committees to review the activities of the Park and to provide inputs into the park's Management Plan.

4.2.7 Safety from Wildlife Attack

In the context of this research, safety from wildlife attack refers to PAs' ability to protect indigenous communities from possible attacks on human lives, crops and or livestock. While attacks on human lives have in recent times been reported to occur on a minimal scale (Saberwal et al, 1994; Wang, Lassoie, and Curtis, 2006), the latter is very characteristic of most protected area management categories. In the Mole area, attacks on crops and livestock remain a threat to subsistence agriculture. In table 4.5 below, all the respondents in the study communities unanimously reported that they have been victims of wildlife attacks. In an interaction with the chiefs and the Manager of the Park, wild animals such as elephants, monkeys, baboons, bush pigs and hyenas were confirmed to have raided food crops and preyed livestock of local farmers.

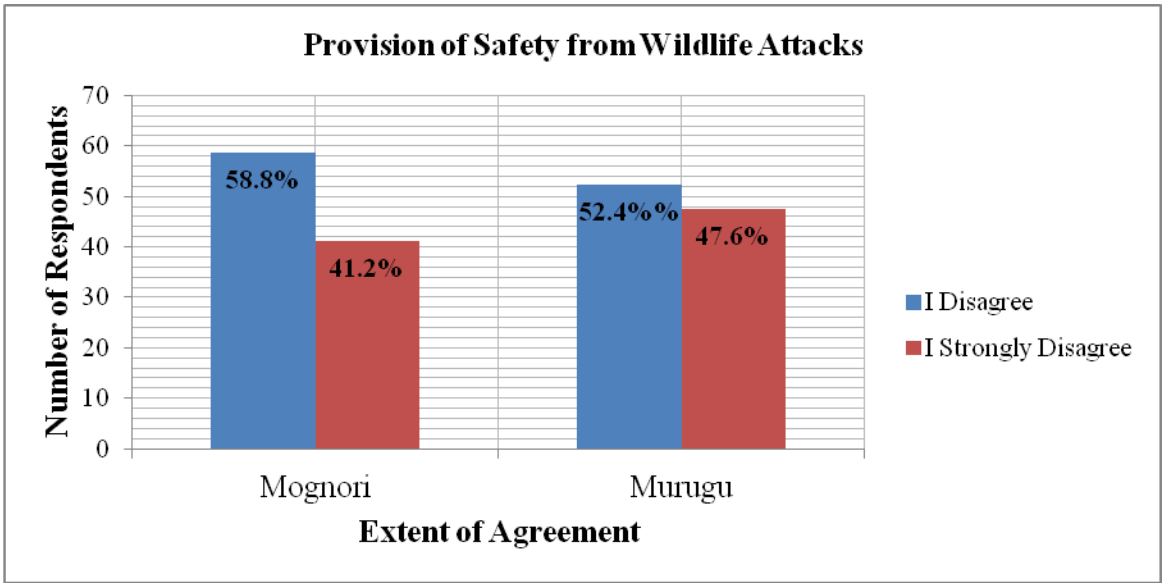

Figure 4.3: Perceptions on the Provision of Safety from Wildlife Attacks

Source: Author's Construct, July 2014

Table 4.5: Victims of Wildlife Attack

Nature of Attack	**Frequency** (Percentage)	
	Mognori (%)	**Murugu (%)**
Crop-raiding	**16** (47.1%)	**25** (59.6%)
Livestock Attack	**8** (23.5%)	**3** (7.1%)
Both	**10** (29.4%)	**14** (33.3%)
Total (*n*)	**34 (100%)**	**42 (100%)**

Source: Author's Construct, July 2014

From the statistics above, it could be discerned that almost all the respondents in the communities have unavoidably suffered wildlife attacks in one way or the other. In order to lessen the costs and console victims of such damages, the availability of compensatory mechanisms has proven to be necessary. Unfortunately in the case of Mognori and Murugu, none of the research participants is satisfied with the manner in which complaints about the destruction of properties are handled. Many a time that incidences of damages were reported, one of the respondents laments that "Management of the Park would move in to assess the extent of damages, write lengthy reports and nothing happens thereafter". In response to this, the Park Manager stressed the lack of sustainable funds and logistics such as Safari vehicles limit their ability to provide adequate and timely security and financial supports. These revelations above imply a weakness in the claim that PAs help to protect the properties and assets of the locals in frontier communities.

4.2.8 Environmental Services

With the ever-increasing prominence of environmental sustainability in recent times, the establishment and expansion of protected areas has been variously espoused as a key strategy through which sustainable development can be guaranteed (Pimbert and Pretty, 1997; Davenport and Rao, 2002). They play important roles in the generation and maintenance of soils, carbon-dioxide fixation and sequestration, storm protection,

sustainability of hydrological cycles, watershed regulation and protection, primary production, climate regulation and essential nutrients storage and cycling.

While most people in figure 4.4 below have superficially come to appreciate the role that the Mole National Park plays in providing environmental services, such claims remain less understood by 28.9 and 31 percent of the research participants in Mognori and Mur ugu respectively. Getting the local communities to comprehend the technical details of the ecosystem and environmental functions of the park is necessary if community understanding of the relevance of protected area management to poverty reduction is to be enhanced.

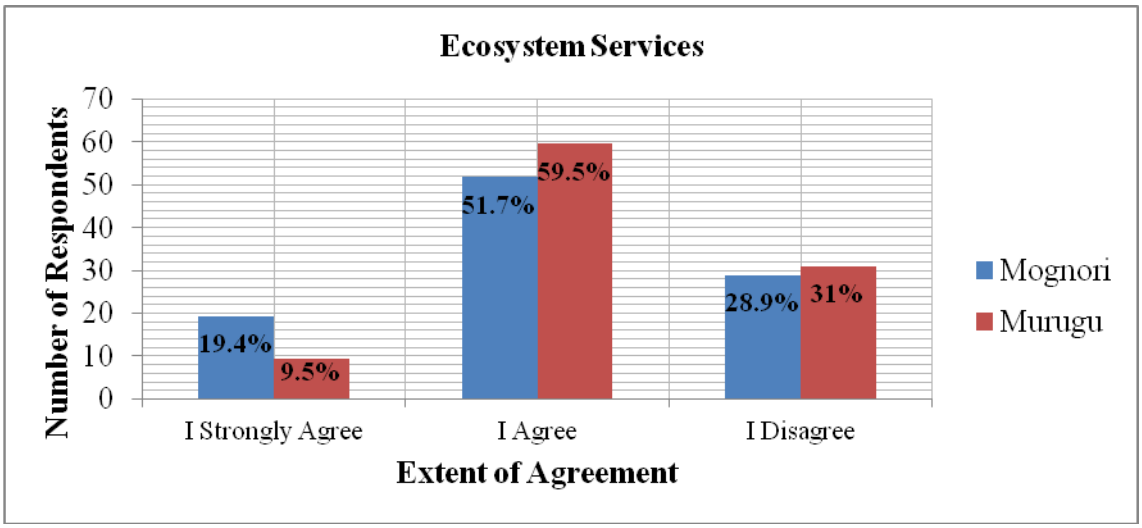

Figure 4.4: Perceptions on the Ecosystem Services of MNP

Source: Author's Construct, July 2014

4.3 Pro-Poor Conservation Initiatives

In both Ferraro and Kiss (2002) and Grieg-Gran, Porras and Wunder (2005), various pro-poor initiatives and mechanisms have emerged as being capable of generating socio-economic benefits to rural communities in protected regions. In an encounter with the Management of the Mole National Park, three main initiatives were found to be operational in the Park Area. These include the Ecotourism projects in Mognori; the CREMA initiative in Murugu and the Agro-forestry project in Kananto and Kabampe. As could be seen from the cross-tabulation below, two main pro-poor

initiatives are currently under implementation in the study communities – the Mognori Ecotourism project and the CREMA initiative in Murugu. When the participants were asked to indicate whether or not they have benefited from these initiatives, their responses are as summarized in table 4.6 below.

Table 4.6: Beneficiaries of On-going Livelihood Interventions in Mognori and Murugu

Livelihood Intervention	**Are you a project Beneficiary?**		**Total (*n*)**
	Yes	No	
Mognori Eco-tourism Project	**19** (55.9%)	**15** (44.1%)	34
Murugu CREMA Initiative	22 (52.4%)	20 (47.6%)	42

Source: Author's Construct, July 2014

Predictably, it is observed in table 4.6 that not all the research participants are beneficiaries of the two initiatives. Of the total number of 34 and 42 respondents respectively in Mognori and Murugu, there exist some households that are yet to benefit from the pro-poor interventions. This is represented by the number of "No" responses recorded.

This notwithstanding, both initiatives, according to the Park Management and the opinion leaders, have generally been successful in engendering a kind of community ownership where most people no longer engage in activities that deplete and threaten rare species.

4.4 Households' Perception of the Mole National Park

Having gained insights into the ways through which PA management impacts local livelihoods, this section explores the standpoint of the research participants on the relevance of Mole National Park to community development. Issues examined include perceptions on the eventual benefits of the park to the communities and respondents'

satisfaction with the nearness of their communities to the park. Opinions on livelihood conditions with and without the park were also elicited.

4.4.1 Eventual Benefits of Park to Community

Despite some respondents' misgivings about conservations' poverty reduction claims, nearly 100 percent of the respondents in the two communities are optimistic of greater benefits from the park in the future. They contend the Park would create more employment opportunities and contribute significantly to ecotourism and numerous other livelihood opportunities. The accumulation of proceeds from the on-going Ecotourism and CREMA initiatives would not only economically empower project beneficiaries but also, the spill-over effects could potentially help in diversifying the local economy. It was also opined that, when well managed, proceeds from the pro-poor interventions could be useful in improving access to facilities such as community bore-holes and the rehabilitation and expansion of educational and health infrastructure. The summary of the responses are as presented in table 4.7 below.

Table 4.7: Likeness for the Existence of the National Park

Extent of Agreement	**Frequency** (Percentage)	
	Mognori	Murugu
I Strongly Agree	**19** (55.9%)	**21** (50%)
I agree	**14** (41.2%)	**21** (50%)
I disagree	**1** (2.9%)	–
Total	**34**	**42**

Source: Author's Construct, July 2014

4.4.2 Satisfaction with the Nearness of Community to the Park

Arguments in favour of protected areas' potentials to benefit local livelihoods have principally been that, communities in close proximity to such areas benefit through tourism and improved access to development infrastructure. To ascertain the truth in this claim, respondents were asked to indicate whether or not they are satisfied that

their community is located close to the park. Table 4.8 below depicts the responses gathered from the field.

Table 4.8: Satisfaction with the Nearness of Community to MNP

Degree of Satisfaction	**Frequency** (Percentage)	
	Mognori	**Murugu**
Strongly Satisfied	**19** (55.9%)	**20** (47.6%)
Satisfied	**13** (44.1%)	**22** (52.4%)
Total (*n*)	**34** (100%)	**42** (100%)

Source: Author's Construct, July 2014

Despite the contradictions revealed in some earlier views on the impacts of the park on livelihoods, 100 percent of the research participants are satisfied with the fact that their communities are located near the park. Similar to the assertion of the Park Management, research participants contended the existence of the Park has made it possible for nature to be preserved for generations. In the absence of the Mole National Park, over-dependence on and mismanagement of the forest resources would have been very common. In the same way, the fact that the park attracts visitors from far and near for recreation makes life near the park particularly interesting.

Again, the nearness of the communities to the Park has improved their access to the health and educational facilities in Mole. Without the park, access to health care in particular would have been difficult as communities would have to depend on the facilities in Larabanga and Damango that are not very close. During emergency situations, community members in Mognori and Murugu are spared the difficulty of having to cover longer distances to access health care.

4.4.3 Livelihood Conditions without the Park

In an attempt to ascertain community perceptions on livelihood conditions with and without the national park, research participants were made to indicate whether or not they would have been better-off or worse-off in the absence of the Mole National Park.

76.5 percent of the participants in Mognori are of the view that, life would have been worse without the park. But for the establishment of the park, they assert, none of the on-going pro-poor initiatives would have been in existence.

Surprisingly in Murugu however, a relatively high proportion (47.6%) of the interviewees hold a different view. They are the category of people who have enjoyed little benefits from the CREMA initiative. They expressed dissatisfaction at the ineffectiveness of the park in providing safety to indigenous assets and in improving access to infrastructural facilities such as roads, schools and health facilities in the Park Area.

Table 4.9: Livelihood Conditions without the Park

Condition	**Frequency** (Percentage)	
	Mognori	Murugu
Better-off	7 (20.6%)	20 (47.6%)
Neutral/Indifferent	1 (2.9%)	–
Worse-off	26 (76.5%)	22 (52.4%)
Total (*n*)	34 (100%)	42 (100%)

Source: Author's Construct, July 2014

5.0 Summary of Major Findings and Conclusion

The focus of this study was to explore the strength in conservation's poverty reduction claims. Specifically, it examined the livelihood impacts of the Mole National Park on selected households in Mognori and Murugu, two frontier communities in the West Gonja District of Ghana. The study set out to respond to two research questions: in what ways are local livelihoods affected by the park? and what are the various livelihood impacts of on-going pro-poor initiatives in the study communities? This section provides a summary of major research findings in line with the research questions.

5.1 Major Findings

The role of the Mole National Park in ecosystem protection and as an important foreign exchange source is well-known. Its poverty reduction potential is not only a recent development but also, a topic that is widely contested in conservation literature. From the preceding, various socio-economic impacts of the park on the research participants came to light. Whilst there were instances where similar opinions on impacts were expressed by the respondents in both Mognori and Murugu, there were also times opposing responses cropped up.

Beside the direct employment it offers to locals as wardens, a reasonable number of community members have through the Ecotourism and CREMA projects secured jobs as tour guides and as active participants in alternative livelihood ventures such as bee keeping, cultural displays, canoe riding, shea butter and Gari processing among others. In both Mognori and Murugu, it was observed that the impacts of the initiatives on indigenous livelihoods are hardly any different in terms of their contribution to household incomes and job creation. These notwithstanding, there remain in both communities, a backlog of nearly half of the research participants who are yet to be absorbed into the on-going local livelihood-enhancing initiatives. Even though this sounds realistic, the findings provide impetus to argue that a threshold exists beyond which the job creation capacity of PAs cannot be over-stretched and thus, a departure from earlier claims by Walpole and Goodwin (2001), Ferrero (2002), Rugendyke and Son (2005) and Andrew and Masozera (2010) that somewhat suggested PA designations immensely reduce poverty among indigenous rural communities.

Similarly, in contrast to the works of Beltran and Phillips (2000), Ferraro (2002) and Ngome (2006), where some protected areas in Belize, Madagascar and Cameroon have been successful in denying local access to forest resources, evidence from Mognori and Murugu suggests otherwise. Except for some few cases of poaching, the adjoining buffer zone has been capable of providing local communities with timber and non-timber products such as shea fruits, herbs, brooms, bush meat and firewood. While

this research supports the concerns that PA management, in principle, implies restriction to anthropogenic resources, it argues also that such restraints arise only in the absence of sound alternatives.

The study also finds that human-wildlife conflicts in protected regions are inevitable, especially in forest-dense locations. As a measure to minimise costs arising from such attacks, the availability of compensatory mechanisms have proven to be useful in cushioning victims against possible damages to crops and livestock. While indigenous communities have been made to believe that such arrangements exist, virtually all the respondents in both Mognori and Murugu expressed dissatisfaction at the level of co-operation from the Park Management. Reported cases of damages to assets and properties have received little or no support from the Park. While the inadequacy of funds and logistics explains the seemingly lack of concern from the Park, the finding confirms a weakness in conservation's poverty reduction argument.

Whereas the findings above suggest some similarities in the perceptions and opinions gathered in the two study communities, there were instances where divergent views were reported on some impacts of Mole National Park. A case in point was when the opinions of the research participants were sought on the park's role in attracting tourists into the communities. Unlike in Mognori, the extent to which tourists are attracted into Murugu community was for a number of reasons, observed to be less encouraging. Similarly, divergent opinions on improved access to development infrastructure came to light. While not many development infrastructure and facilities exist in the two communities, the strategic location of Mognori made it well-placed to access health and educational services in Mole.

On the basis of the revelations above, it could be said with some degree of firmness that, protected area management may not necessarily be a panacea to poverty reduction among rural folks in fringe communities. Rather, it can only provide limited options through which the livelihoods of some fortunate few community members could be improved. The research thus, only partially supports conservation's poverty

reduction claims. With the availability of funds, institutional strengthening and co-operation from communities, the government of Ghana as well as local and international donors, various alternatives abound through which PAs could be made more relevant to indigenous needs, lifestyles and circumstances.

While the expansion of the coverage of the ecotourism, CREMA and Agro-forestry initiatives is necessary, Payment for Environmental Services scheme is also an option worth exploring. Evidences from Costa Rica and Ecuador highlight how effective PES schemes could be in simultaneously contributing to biodiversity conservation and poverty reduction.

5.2 Conclusion

This study is of the stance that finding common grounds to reconcile local needs and aspirations with the goals of biodiversity conservation involves a very complex and exacting set of issues. As a result, Protected Area Management and Mole National Park in particular, is far from being a magic bullet for rural poverty reduction. With appropriate and well-thought schemes however, they can potentially contribute to the twin goals of ecosystem protection and local livelihood enhancement. As a policy recommendation to address the dilemma of protecting biodiversity and indigenous livelihoods; governments, international and national donor organisation as well as other well-meaning stakeholders could deepen efforts to explore the areas of synergies among conservationists on one hand and social advocates on the other. PAs could through this, be useful in strengthening and diversifying local livelihood opportunities.

Most importantly, this would also provide enough scope for conservation policy to integrate and align indigenous needs and circumstances with environmental objectives. Therefore, in conceptualising, designing, managing and evaluating PAs, genuine and more expansive local involvement as opposed to the more common passive, material-driven and consultative/representative approach to community participation is essential if local benefits are to be maximised and costs minimised. In

the absence of this, it is feared conservation will further aggravate resource degradation, economic deprivation, social tension and loss of biota.

This study is certainly not exhaustive enough to unearth the complexities and intricacies surrounding conservation's poverty reduction claims. Depending on the type of PA category and the prevailing management objectives, future researches could focus on longitudinal studies that investigate methodologies for the standardisation of socio-economic impact assessment of protected areas. This will allow for a more extensive and reliable comparison of socio-economic impacts among similar IUCN PA categories.

Having studied the Mole National Park (MNP), it is necessary to stress that biodiversity protection and poverty reduction goals do not exist in isolation. Refusing to protect ecosystem services flow would be a barrier to development. Similarly, without the provision of a means for the development of the locals in frontier communities, biodiversity conservation will be considerably challenging especially in the tropical countries of the south where rural poverty is a common phenomenon. Mechanisms that promise maximum protection of biodiversity without posing significant costs to local livelihoods is necessary if Protected Areas are to remain relevant to the lifestyles of neighbouring communities in protected regions.

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APPENDICES

Appendix 1

Table 1(a): Age of Respondents

Age Range	Frequency (Percentage)	
	Mognori	**Murugu**
18-25	3 (8.8%)	4 (9.5%)
26-30	5 (14.7%)	6 (12.3%)
31-35	8 (23.5%)	9 (21.4%)
36-40	7 (20.6%)	7 (16.7%)
41-45	2 (5.9%)	7 (16.7%)
46+	9 (26.5%)	9 (21.4%)
Total (*n*)	**34 (100%)**	**42 (100%)**

Source: Author's Construct, July 2014

Table 1(b) Residential History of Respondents

Number of Years Lived in the community	Frequency (Percentage)	
	Mognori	**Murugu**
Less than 10 yrs	5 (14.7%)	9 (21.4%)
10-20 yrs	14 (41.2%)	12 (28.6%)
20-30 yrs	6 (17.6%	8 (19%)
30-40 yrs	3 (8.8%)	4 (9.5)
40 yrs+	6 (17.6%)	9 (21.4%)
Total (*n*)	**34 (100%)**	**42 (100%)**

Source: Author's Construct, July, 2014

Appendix 2

Appendix 2(a): Plain Language Statement

Dissertation Title: "Terrestrial Protected Areas and Poverty Reduction in Ghana: A Case Study of the Mole National Park and the Mognori and Murugu Communities"
Degree: MSc. Development Studies, University of Glasgow
Researcher: Ishak Mohammed
Email Contact: 2080276m@student.glasgow.ac.uk
Supervisor: Mr. Alexander McTier

1. Invitation to participate in the research
In partial fulfilment for the award of MSc. Development Studies in the University of Glasgow, this research is being carried out to explore the ways through which the Mole National Park has contributed to poverty reduction in Mognori. This is therefore to invite you to participate in the study and to understand why the research is being carried out. I appreciate your time and would be prepared to provide information on any issues you may need clarifications on.

2. What is the purpose of the study?
The purpose of the study is to explore the socio-economic impacts of the conservation of Mole National Park on the livelihoods of the people of Mognori.

3. Why have I been chosen?
Having lived in this community for quite some time now, it was felt that you would be able to offer some insights on how Mole National Park has contributed to improving livelihoods or otherwise, of the people in this community.

4. Do I have to take part?
There is absolutely no obligation to participate in this study. You are at will to decide on whether or not to participate. If however, you decide to take part, you are still free to withdraw at any time in the course of the interview.

5. What are the next steps if I take part?
Upon confirming your willingness to participate, the interview will take approximately 30-40 minutes to complete. The interview is composed of both close and open-ended questions to allow for interaction in the course of the questionnaire administration.

6. Will my taking part in this study be kept confidential?
The information you provide will be used only for research purposes. It will be safely kept in password-protected electronic format accessible only to the researcher. All

paper files will be torn into pieces beyond recognition following the submission of the project to the University of Glasgow and the receipt of dissertation score.

7. What will happen to the result of the research study?

The information gathered from the study will be analysed by the researcher and the recommendations could provide foundation for similar studies in the future. It is also hoped that the findings would be useful in informing policy decisions and development interventions in the district and beyond.

8. Who is organising and funding the research?

The research is principally funded by the researcher but would be partially supported by the University of Glasgow as part of its contribution to the Commonwealth Shared Scholarship.

For further information please do not hesitate to contact me via the following email address: 2080276m@student.glasgow.ac.uk. I appreciate every bit of your time reading this letter.

Appendix 2(b): Consent Form

Dissertation Title: "Terrestrial Protected Areas and Poverty Reduction in Ghana: A Case Study of the Mole National Park and the Mognori and Murugu Communities"

Name of Researcher: Ishak Mohammed

1. I confirm that I have read and understand the information sheet for the above study and have had the opportunity to ask questions. ☐

2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving reason(s). ☐

3. I agree to take part in the above study ☐

……	……	…….
NAME OF PARTICIPANT	**DATE**	**SIGNATURE**
……..	……	…….
NAME OF RESEARCHER	**DATE**	**SIGNATURE**

Appendix 3

Appendix 3 (a): Household Questionnaire

This questionnaire is a research instrument designed to collect data for an ***MSc Dissertation*** *on the topic* ***"Terrestrial Protected Areas and Poverty Reduction in Ghana: A Case Study of the Mole National Park and the Mognori and Murugu Communities"****. The objective of the research is to explore the various ways through which the conservation of the National Park contributes to poverty reduction and livelihood enhancement.*

Any information provided will be used solely for analytical purposes related to this research. Thank you for your co-operation.

NAME OF INTERVIEWER:	
NAME OF RESPONDENT *(Optional)***:**	
HOUSE NUMBER:	
TIME INTERVIEW STARTED:	
TIME INTERVIEW ENDED:	
DATE:……	**TIME:……**

SECTION A: DEMOGRAPHIC CHARACTERISTICS OF RESPONDENT

A1. Sex of the Respondent: (a) Male ☐ (b) Female ☐

A2. Age (a) 18-25 ☐ (b) 26-30 ☐ (c) 31-35 ☐ (d) 36-40 ☐ (e) 41- 45 ☐ (f) 46+ ☐

A3. How long have you been staying in this community?

(a) Less than 10 years ☐ (b) 10-20yrs ☐ (c) 20-30yrs ☐ (d) 30-40yrs ☐ (e) 40yrs+ ☐

A4. What is your highest level of educational Attainment?

(a) Primary ☐ (b) JHS ☐ (c) SHS ☐ (d) Tertiary ☐ (e) Vocational/Technical ☐

(f) Never attended ☐

A5. What is your primary occupation?

(a) Farming ☐ (b) Fishing ☐ (c) Tour guiding ☐ (d) Petty Trading ☐

(e) Carpentry/thatching ☐ (f) Pottery ☐ (g) Charcoal Burning ☐

(h) Other (specify) …….

SECTION B: SOCIO-ECONOMIC IMPACTS OF THE MOLE NATIONAL PARK ON LIVELIHOODS

For each of the following parameters, kindly indicate (*by ticking the appropriate column*) the extent to which you agree or disagree with the fact that the establishment of the Mole National Park has contributed, positively or negatively, to the livelihood of your household. Use the Likert scale below to indicate your level of agreement where, ***1= I strongly agree 2= I agree 3= Neural/Indifferent 4= I disagree 5= I strongly disagree.*** *(For each choice, provide remarks if necessary)*

Indicators of Livelihood Enhancement	Scale					Remarks / Reasons
	1	2	3	4	5	
B1: Attraction of Tourists into the community						
B2: Increased household income as a result of the tourism opportunities						
B3: Provision of Employment/ Job Creation						
B4: Improved access to infrastructure (*ie roads, health, educational facilities, water and sanitation infrastructure etc*)						
B5: Improved access to forest products (Eg. fuel wood, traditional medicine/herbs, wild fruits, building materials etc						
B6: Community Empowerment and Improved Community Participation						
B7: Safety from Wildlife Attack (Human/livestock attacks and crop raiding						
B8: Ecosystem/Environmental Services						

SECTION C: PRO-POOR CONSERVATION INITIATIVES

C1. Which of the following intervention(s) have been implemented by the **Management of the Mole National Park** to improve livelihoods in the community?

(a) Payment for Environmental Services ☐

(b) Ecotourism ☐ (c) Agro-forestry ☐

(d) Others, (specify) …….

C2. Are you a beneficiary of any of the above mentioned interventions?

(a) Yes ☐ (b) No ☐

C2 (a) If yes, in what ways have such intervention(s) impacted on the livelihoods of your household or the community?

SECTION D: INCIDENCE OF DEPRADATION TO HUMAN LIVES, CROPS AND LIVESTOCK

D1. Have you or any member of your household been a victim of damage-causing animals?
(a) Yes ☐ (b) No ☐
D1 (a) If yes, which of the following describes the nature of the depredation?
(a) Crop-raiding wild animal ☐ (b) Livestock attack ☐ (c) Attacks on human lives ☐
(d) Other (specify) …….

D2. Did you receive any compensation from the government or the management of the park?
(a)Yes ☐ (b) No ☐

D2(a) If yes, in what form? If no, why?

SECTION E: HOUSEHOLDS' PERCEPTION OF THE MOLE NATIONAL PARK

This section seeks respondents' opinion about the relevance of the mole national park. Use the Likert scale below to indicate your level of agreement where, ***1= I strongly agree 2= I agree 3= Neural/Indifferent 4= I disagree 5= I strongly disagree***. *(For each choice, provide remarks if necessary)*For each indicator, kindly yes or no and provide the remarks/explanations where necessary.

House perception	**Responses**					
	1	**2**	**3**	**4**	**5**	**Remarks**
E1: Do you think the national park will eventually help your community economically?						
E2: Do you like or dislike the existence of the national park?						
E3: Are you satisfied or dissatisfied that your village is located near the national park?						
E4: Will your household or the community be better-off without the national park?						

E5: What suggestion (s) do you consider appropriate for improved management strategies and relevance of the park?

Appendix 3 (b): Chief of Mognori/Opinion Leaders

This questionnaire is a research instrument designed to collect data for an ***MSc Dissertation*** *on the topic* ***"Terrestrial Protected Areas and Poverty Reduction in Ghana: A Case Study of the Mole National Park and the Mognori and Murugu Communities"****. The objective of the research is to explore the various ways through which the conservation of the National Park contributes to poverty reduction and livelihood enhancement.*

Any information provided will be used solely for analytical purposes related to this research. Thank you for your co-operation.

1. Can you please help with a brief background about Mognori and the relationship it has with the Mole National Park?

2. In what ways does the Mole National Park contribute to livelihood improvements of the people of the Community?

3. What are some of the implemented livelihood enhancement initiatives by the management of the Park in the community?

4. How are beneficiaries of these initiatives selected?

5. How has/have such initiative(s) impacted positively on the livelihoods of the beneficiaries?

6. Does the existence of the Park impose any negative livelihood impact(s) on the people of Mognori? (a) Yes ☐ (b) No ☐

6 (a) If yes, what are the ways through which livelihoods are negatively affected?

7. In what ways have efforts been made to address these negative livelihood impacts?

8. How does the Management of the Mole National Park involve the people of Mognori in decision-making and on which issues is the community most involved?

9. What suggestions would you recommend for improved livelihood impacts of the Mole National Park on the people of Mognori?

Appendix 3(c): Management of the Mole National Park

This questionnaire is a research instrument designed to collect data for an ***MSc Dissertation*** *on the topic* ***"Terrestrial Protected Areas and Poverty Reduction in Ghana: A Case Study of the Mole National Park and the Mognori and Murugu Communities"****. The objective of the research is to explore the various ways through which the conservation of the National Park contributes to poverty reduction and livelihood enhancement.*

Any information provided will be used solely for analytical purposes related to this research. Thank you for your co-operation.

1. What are the key management objectives of the Mole National Park?

2. What do you consider to be the key opportunities available for the sustainable management of the Park?

3. What are the key threats/challenges to the management of the park (*in order of significance*)?

4. How successful has the management been at addressing the above-mentioned threats/challenges?

5. Do communities around rely on the resources in the National Park for their livelihoods? What is the nature of the dependence?

6. What conservation initiatives have been/ are being implemented to discourage/reduce community over-dependence on the resources within the confines of the National Park? (***Emphasis on the Mognori community would be much appreciated***)

7. What are the successes and failures of such initiatives?

Successes:

Failure(s):

8. What are the key needs for capacity to ensure the sustainable management of the park?

9. How are local communities (***Mognori in particular***) involved in relevant management activities or initiatives?

10. To what extent do you agree to the contentions that conservation contributes to poverty reduction among resource-dependent population? (*Emphasis should be on how the Mole National Park affects the livelihoods of fringe communities,* ***particularly, the Mognori community***?

11. Which of the following management strategies are promoted by the Management in Mognori?

(a) Ecotourism (b) Agro-forestry (c) Sustainable Harvest of Biological Resources

(d) Payment for Environmental Services (PES) (f) Other (s), Specify ……..

12. How are beneficiaries of these management strategies selected?

13. Are there any challenges currently being faced with the above strategies?

(a) Yes ☐ (b) No ☐

13 (a) If yes, what are the challenges of these management strategies and what measures are in place to address them?

13. What are the key needs for research to reconcile the need for poverty reduction and sustainable management of the Mole National Park?