

Full Length Research Paper

Borena Saynt National Park in danger of irreversible loss and community based ecotourism as a panacea

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Community based Ecotourism (CBET) has emerged as one of the fastest-growing sectors of the tourism market and protected areas are the foundation of it. Despite this trend, it is still at its toddler stage in Ethiopian national parks. This study focuses on the assessment of challenges of Borena Saynt National Park (BSNP) for CBET development. The study met this research aims through an extensive study of relevant literature and the implementation of practical research. The latter was carried out through personal observations, key informant interview and using questionnaires. The findings of the study have portrayed that constraints such as poor infrastructural developments, (roads, campsites, lodges, lack of abundant health facilities, hotels and electricity); lack of well qualified human power, lack of natural buffer zone, serious environmental degradation, very exaggerated shape, being small in size, preference of locals towards traditional use of the parks resources over conservation and development of ecotourism, population growth due to expectations of growth of social services and development around the park, settlement, unfair and against the human rights relocation and compensation system; human wild life conflict; and lack of shopping and commercial facilities are persistent challenges for ecotourism development in the area. The main conclusions drawn from this research were that controlling the challenges the park can be said an open air museum for biodiversity and geological features. Hence, for such a fragile, pristine, and comparatively undisturbed natural areas, ecotourism is a panacea as it could teach the community, help to produce funds for ecological conservation, and enable to directly profit the economic development and political management of native communities, and fosters respect for various cultures and for human rights.

Key words: Borena Saynt, Community based Ecotourism, National park, Panacea.

INTRODUCTION

Tourism is one of the largest economic sectors in the world; it ranks fourth in terms of global exports after fuel,

chemicals, and automotive products, with an industry value of US\$1 trillion a year (UNEP, 2011). Taking the

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value into account, now days, United Nations World Tourism Organization (UNWTO), UN system, as well as governments, private sector leaders, and civil societies, are working in cooperation to move tourism higher on the sustainable development and poverty reduction agendas (UNWTO, 2010).

Expressly, ecotourism has received a great deal of interest since the coining of the term by Ceballos-Lascurain in 1983. Since the late 1990s, it has become a major subject of discussion at many conferences and in professional journals, books and project reports (Weaver, 2001). Recent studies indicate that as much as seven percent of all tourism worldwide operates under some sort of "eco" label (Piclet, 2005). Cognizant with it, the number of visits to national parks in potentially important ecotourism destinations has grown dramatically over the last ten years, signaling a shift in tourist preferences from traditional popular destinations in Europe to nature destinations located mainly in the developing world (UNEP, 2001). As a result, the rise of interest into ecotourism as a conservation tool in the future is likely to be even stronger.

Around the world Ecotourism has been hailed as a panacea: a way to fund conservation, and scientific research, protect fragile and pristine ecosystem, benefit rural communities, promote development in poor countries and some claim, build world peace (Honey, 2008). However, Community based Ecotourism [CBET] is now very close to the top of the political agenda in many countries. It is taking the lion's share of the discussions because of sustainability is also a critical issue of protected areas (PAs).

Development organizations see CBET as a potential source of economic development and poverty alleviation, particularly in marginal rural areas with limited agricultural potential (Kiss, 2004). Conversely, the dilemma of conserving nature while achieving short-term economic gains to satisfy people was faced by many countries, especially those less developed (Myers et al., 2000). Conservation goals, economic necessities and poverty relief for local people, can now be considered as one of conservation biologists, environmentalists, economists, social activists and policy makers hottest 'buzzwords'. It often appeals to advocates of environmental and social responsibility. In Ethiopia the concept of CBET is being in practice in different protected areas. In striving to this direction, currently Ethiopia has established 15 national parks, 2 sanctuaries, 11 wildlife reserves and 18 control hunting areas and 54 dry ever green and 29 moist ever green priority forest reserves owned by federal and regional governments designated to conserve diverse and important biophysical resources. However, most recent information indicates Ethiopia has more than 21 national parks (Young, 2012). Among the 21 national parks, Borena Sayint National Park [BSNP] was established by the Amhara national regional state regulation number 68/2009 in May 2009.

Today the "green laws" of conservation are making people aware of how man and the environment can live symbiotically for more time to come and eco-tourism is becoming the only way to maximize the economic, environmental and social benefits of tourism. Cognizant with it, strong current trends indicate that CBET has proven itself to be an important tool for conservation, and in certain cases it has improved the quality of life of local people. Although the area provides a unique opportunity to do so, CBET is still nonexistent in BSNP. Consequently, it necessitated investigation of challenges.

There have been a number of valuable studies regarding the national park (Lakew, Fanuel, and Gizachew, 2007; Hussien, 2011; and Abebaw, 2012), all of which present evidence on a number of issues of the park's ecosystem and its biodiversity. However, none of these studies provide a portrait on the challenges of the development of Community based Ecotourism.

Thus, this study was designed to address the following specific objectives. These are:

1. To assess the challenges of developing community based ecotourism in Borena Sayint National Park.
2. To evaluate the local communities' attitude concerning the park and its future conservation endeavors.
3. To identify government strategies towards the development of community based ecotourism in the park.

The following questions were the base for this study and are described in detail.

1. What are the challenges for the development of Community based Ecotourism in Borena Sayint National Park?
2. What are the attitudes of the local communities concerning the national park and the impacts in its future conservation endeavors?
3. What strategies do the government undertake for the sustainability of the park and how far are they effective?

MATERIALS AND METHODS

Description of study area

Borena-Sayint National Park (formerly known as denkoro chaka state reserve) is found in the central Amhara development corridor of Ethiopia, which is about 600km from Addis Ababa through Debre Birhan, 300km from Bahir-Dar through Merto Iemariam and 200km south west of Dessie. The park is situated between 10°50'45.4" to 10°53'58.3" N latitude and 38°40'28.4" to 38°54'59.0" E longitude. It has different topographical features ranging from low land to highland mountains (Figure 1). The altitude ranges between 1900 to 3700m above sea level. Due to high variation of altitude, agro-climatically the park is classified within three belts of Woina Dega (temperate), Dega (cool zone) and Wurch (alpine). Being dominated by typical Sub afro alpine areas vegetation, the park is a natural habitat for large mammals and endemic birds. Sedentary agriculture, where crop cultivation complemented by a strong livestock rearing, is the primary occupation of the people. Moreover,

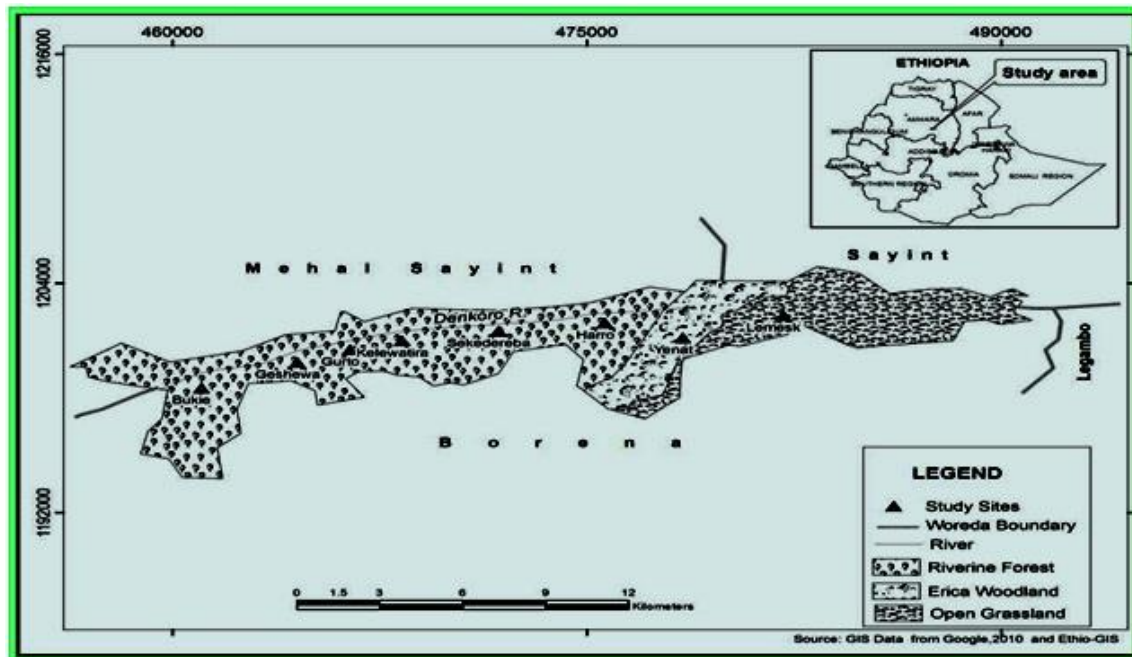


Figure 1. Map of the study area.

the area is characterized by a minimum of socio-economic infrastructure and administrative institutions.

RESEARCH METHOD

In order to gain the advantages of both and to offset the discrepancies of each, a mixed research approach was employed. Both primary and secondary sources were used. The researcher employed purposive and simple random sampling techniques. For this purpose, 196 housing units were randomly selected from three strata (Borena, Saynt and Mehal Saynt). In addition, the study was conducted in 8 months period (February/2012- September/2012). The collected data were systematically verified, described, analyzed and interpreted using both quantitative and qualitative approaches. The data from questionnaires was analyzed through, ANOVA, T-test, chi-square, frequency, and percentages. Besides, data from observation and interview were analyzed by using descriptive narrative approach.

RESULTS AND DISCUSSIONS

Size of the park and its impact on biodiversity

Concerning small size of the park the result supports the theory of "island of biogeography"; small-protected areas isolated by modified habitat behave like Islands could lose some of their species until a new equilibrium is attained (Macckinnon et al., 1996). Hence, due to its small size (the smallest national park in Ethiopia) BSNP may face serious challenges to achieve the desired goal. Being the only remnant natural forest in a highly human

dominated and over utilized environment; conservation of this natural forest is too difficult.

Many studies confirm that the smaller an area, the more likely it becomes that populations of species will go extinct. In line with this, for more than eighty years, ecologists have recognized that the size of an area of wild habitat correlates strongly with the number of plant and animal species to be found in that area. Many ecologists assume that almost all small protected areas end up in a state of "extinction dept".

In support of this, conservation biologists recommend that protected areas be as large and numerous as possible. It suggests that it is preferable to have one large reserve, or a number of smaller ones of the same total area. Conservationists acronym it as "SLOSS", which stands for: single large, or several small. However, currently it is a hot debate on the benefits of "Single Large or Several Small" parks. Given limited resources, should we choose one large reserve or several small ones of the same total sizes? SLOSS is still a point of argument, because it depends on political and fiscal realities, rather than ecological models, often determine reserve size - today, about 60% of PAs are smaller than 100 km² (Chape et al., 2003). The advocates of 'single large' argue that larger parks are typically advantageous because contiguous areas are often better able to preserve intact communities of interdependent taxa and maintain viable populations of species, especially large vertebrates. Large PAs tend to include more organisms and generally house a greater diversity of species and

habitats than individual small reserves. Larger PAs can also accommodate population growth, and support bigger groups in which the deleterious effects of small populations are countered. These harmful factors include inbreeding, loss of genetic diversity, and increased extinction risk.

The negative effects of environmental disturbance and catastrophes may be buffered in large areas. These may also be better able to support functioning ecosystems and accommodate shifts in species distributions caused by processes such as climate change. Large sites may be required to maintain meta-population dynamics and accommodate wide-ranging or low-density species.

At the same time several small protected areas of the same size, on the other hand, provide many benefits such as increased representation, replication (to represent key features more than once), and feasibility. Some others also argue reserve size choice to be goal-based. Therefore, optimal park size will vary depending on organism and habitat characteristics, and what constitutes a small or large reserve can depend on the circumstances.

Shape of the park and its conservation endeavour

BSNP has an exaggerated length and narrow width and of rectangular shape. It has been surrounded by traditional agricultural practice. This affects the management practices of the park. As per protected area experts, national parks with such type of shape are probably exposed to boundary problem even in a well-protected situation. However, PAs can be designed in shapes that maximize compactness, and minimizing boundary length (Andelman et al., 1999). This is desirable to counter potentially harmful “edge effects”, the physical, biological, synergistic, or anthropogenic processes that occur in edge environments.

Most conservation experts urge protected areas to have less edge (Ecotone) habitat. This refers to transitions between ecosystem types, such as that between a forest and a field. Larger protected areas have proportionately more interior habitat, as do simple-shaped ones.

Although edge environments may be beneficial to invasive or certain generalist species, a general PA design principle is to avoid them because of their generally harmful effects on conservation targets. Therefore, because edge effects tend to be more extensive in areas where the perimeter to area ratio is higher, such as in reserves of elongated shape and lessened in areas of rounder shape, the latter may be favored in reserve design.

Environmental degradation

Environmental degradation is a common phenomenon to

the Ethiopian highlands and being found in the northern parts of Ethiopia, BSNP is not the exception. Even it is found in a highly degraded, eroded and isolated ecosystem. The park can be said an “island” with in a highly modified environment. There-fore, though wild life movement is often a natural part of organism development, such as dispersal from nursery grounds to feeding areas, and finally to breeding sites, the park may not accommodate such activities. Daily movements, annual migrations, and range shifts in response to climate will become difficult. Because of its small size and isolation disruption of movement may be especially harmful.

Environmentalists reported that environmental degradation increases the vulnerability of societies and contributes to the scarcity of resources. Therefore, it will lead to the extreme effects of biodiversity loss, air pollution, water pollution and scarcity, soil degradation and deforestation in which ecotourism depends up on it.

Buffer Zone of the park and Local Encroachment

In principle, every protected area is expected to have core and buffer zones, with heavier restrictions on human use placed within the core, and regulated activities allowed in buffer areas. Other major zoning categories could include strict reserve, restricted area, general reserve, and multiple-use area.

These reserves could be either natural buffer zone or manmade. However, natural buffer zones are the most preferred one; as it enables easy demarcation of the locals from their illegal encroachment. But BSNP is to the contrast. Therefore, lack of natural buffer zone will have negative effect on the success of conservation of the area as the local communities will become dependent on natural resources for their everyday requirements, apart from their agricultural expansion.

Community needs and government strategies towards the park

A 21st century strategy of governments and International Union for Conservation of Nature (IUCN) is to establish more protected areas and to expand the existing ones to link conservation with development. However, against this direction, people who live around national parks still have a gap in active participation and in having positive attitude towards its conservation endeavors.

Having this in mind, about BSNP the data analyzed using a chi square Goodness of-Fit test supports it. The number of people who need the park to be expanded differed significantly from those whose need is to be national park but grass and fire wood not to be prohibited ($\chi^2 (1, N = 196) = 15.51, p < .001$) (Table 1). Figure 2 shows more people preferred the park to be a national park but grass collection and fire wood not to be prohibited (64%). But almost half of it also preferred it to

Table 1. Locals' preference of the park.

Scale	N	χ^2	Df	Sig.	Mean	Std. D
Pearson Chi-Square	196	15.51	1	.000	1.64	.481

Note: df=Degree of Freedom; sig. =significance; Std. D=Standard deviations



Figure 2. Bar graph of the locals' first choice of the park (Source: Survey, 2012).

Table 2. Location of residents and their preference of the park.

Scale	N	χ^2	Df	sig.
Pearson Chi-Square	194	0.83	2	.067

Note: df = degree of freedom; χ^2 =chi-square.

be expanded and legalized (36%). However, in relation to their place of residence, it is not statistically significant as can be seen from Table 2 ($\chi^2 (2, N = 194) = 0.83, p > 0.05$). And to determine the difference among the three administrations the researcher used a cross tabulation of the respondents' place of residence with the people's need at that administration and the result revealed there is no statistically significant difference among the three administrations (Borena, Saynt and Mehal Saynt). The decisions of the local communities of Borena Saynt

National Park go with the "theory of tragedy of the commons". It is a dilemma arising from the situation in which multiple individuals, acting independently and rationally consulting their own self-interest, will ultimately deplete a shared limited resource, even when it is clear that it is not in anyone's long-term interest for this to happen. Therefore, their decision sounds bounded by this theory and more over lack of alternative (or being costly) resources could be the influential factor. People in all administrations support the site being a national park but refused the prohibitions of traditional use. This may imply that the park has been governed by decision-making bodies and created/designated by the will of governmental or semi-governmental institutions in accordance with national and/or regional legislation and policies without the active participation of local communities (Table 3).

Again the researcher was eager to see whether educational level affects their need or not and used an independent t-test; the result revealed as there is

Table 3. The impact of educational level over the locals' attitude towards the park.

	F	Sig.	T	Df	Sig. (2-tailed)
Equal variances assumed	8.635	.004	2.675	192	.008
Equal variances not assumed			2.590	129.960	.011

Table 4. Relationship between age of the respondents and their attitude.

	N	χ^2	Df	Sig.
Age *Attitude	196	83.54	192	0.001

Note: * shows the relationship among age and attitude.

statistically significant relationship between the respondents educational level and their attitude/need towards the park ($t(192) = 8.64, p < .05$).

The findings revealed that the attitudes of the local people towards conservation of the park were independent of geographic area but dependent on age and educational level. The findings further showed sex had no effect on the attitudes of the respondents. This finding conforms to those of past studies (Akama et al., 1995). They concur that there is no significant relationship between sex and attitudes (Table 4).

There is a significant difference in the relationship between the age of the respondents and attitudes ($\chi^2 = 83.54, df=192, P<0.01$). The young and educated respondents were more positive towards conservation of the park. The more people are illiterate they tend to choose traditional use of the park. However, there is no significant statistical difference among the primary and secondary educational level in their attitude towards the park (both needs the park to be expanded and legalized).

Some researchers have studied local resident's attitudes towards protected areas; and their finding showed that schooling, economic incentive, way of life (means of livelihood) and age can determine attitudes toward protected areas (Shibia, 2010). The finding of Shibia at Marsabit National Reserve of Kenya is parallel to the findings of Borena Saynt National Park. Findings in Kenya reported that the attitudes of the local people towards wildlife conservation were independent of sex and conservation knowledge. There was a significant difference in the relationship between the age of the respondents and attitudes towards conservation of Marsabit National Reserve ($\chi^2 = 23.036, df=6, P=0.001$).

Young respondents were more positive towards conservation. The age also significantly affected perceptions of the benefits from the reserve ($\chi^2 = 14.398, df=2, P = 0.001$). Majority of young respondents were elite and informed on both tangible and non-tangible benefits. The level of education significantly affects the

respondent's attitudes on whether a conservation area is inadequate and should be increased in size ($\chi^2=10.250, df=3, P=0.017$). Those respondents who attained formal education appreciate value of conservation area.

Grass collection inside the National Park (*Festuca Gilbertiana*)

BSNP is part of the afro-alpine centre of plant diversity, with high levels of endemism. The high land parts of the park have been dominated by *Festuca gilbertiana* (commonly called Guassa) and Giant lobelia. *Festuca gilbertiana* is a thin-leaved species, which has high demand by the local communities because of its multipurpose. The park being found within three administrations, it was appealing to investigate the area which has the highest demand for *Festuca* (Table 5).

A one way analysis of variance showed that grass collection among the three administrations was significantly different, $F(2,192) = 8.67, p < .01$. Post hoc analyses using the Scheff post hoc criterion for significance indicated that grass collection in Mehal Sayint administration was significantly higher ($M = 3.78, SD = 1.23$) than in Borena ($M = 2.93, SD = 1.41$), and Saynt administration ($M = 2.67, SD = 1.49$) $F(2, 192) = 2.87, p = .05$ (Figure 3).

As shown in Figure 3, though it shows an increasing trend in Borena too, the demand for festuca grass is highest in Mehal Saynt while less in Saynt. This may be because of its proximity, easy accessibility, and geographical determinants i.e. as it is mostly found in the highland parts of the park. *Festuca gilbertiana* is a highly valuable resource for the local communities. Even they compare it with Teff as it is very expensive for sell beyond its traditional purpose (used for hatch, forage, construction of rope and production of sleeping mattress).

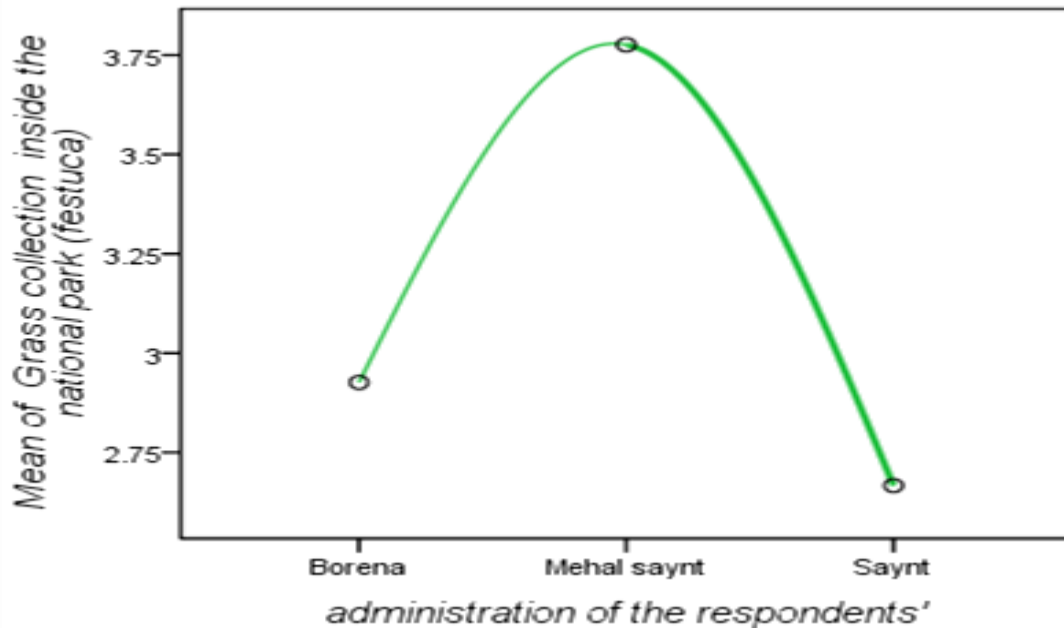
Thus, prohibition of this traditional use of *Festuca* by the current policy of the park is creating great resentment among the local communities and they are frequently complaining. The local communities have two major reasons for their request of timely extraction of festuca. Their first assumption is, based on their day to day observation and experience unless it is systematically collected, the festuca root will rot and completely extinct from the park through time

At most, the very tall festuca is not a suitable habitat for the Ethiopian wolf. It sounds logical, because rodents are

Table 5. Festuca (Guassa) demand in the respective administrations.

	N	Mean	Std. d	F (Liveness statistics)	df1	df2	Sig.
Borena Adm.	122	2.93	1.41				
Mehal Saynt Adm.	58	3.78	1.23	8.67	2	192	.001
Saynt Adm.	15	2.67	1.49				
Total	195	3.53	1.13				

Note: df=degree of freedom; std. D=standard deviations; Sig. =significance level; and Adm. = Administration.

**Figure 3.** Grass collection inside the national park by the locals' place of residence (Author survey, 2012).

the primary source of food for the Ethiopian wolf and the very tall festuca hinders the easy access of it. It is the local communities' second assumption.

This assumption attracts researchers in recent time and Hussen (2011) found it right and recommended resources having low/no negative impact on the sustainability of the parks biodiversity to be collected out and the local communities need to be beneficiary (Figure 4).

A recent study by Abebaw (2012) reported that a very tall and outdated festuca is creating a problem on the wild life resources of BSNP. In the last two seasons wildlife counting results of Borena saynt national park office indicated that there was no Ethiopian wolf inside the old national park (Abebaw, 2012). The study indicates as the Ethiopian wolf is emigrating from the old portion of the park, and went to the surrounding communal lands around the park and to the newly demarcated area of the park.

As the study confirms the festuca grass in the surrounding of the park and in the newly incorporated part of the park is managed traditionally by the local kebele administrator (extracted every two years) and become a suitable habitat for Ethiopian wolf to capture its prey.

Therefore, the locals' complaint sounds right because they should not be deprived from the resources unless they are beneficiary in terms of tourism. People living in and around protected areas need to be compensated for the limitations on their use of natural resources. So for the effective implementation of community based eco-tourism development approaches (CBET), festuca of the park need to be systematically extracted. Doing so will have double fold consequences. In the first hand, the locals will be active beneficiary from their traditional festuca utilization and largely the locals' resentment or complaint will be solved and at large they will have a sense of ownership.



Figure 4. *Festuca gilbertina* in open grass land of the park (source: Author, 2012).

Demand of watering and grazing domestic animals inside the park

Being rich in water resources and grazing land, it is creating another contestation among the local communities. The locals are also interested to graze and water their cattle's inside the national park. As found from the interview the demand has been derived from three major reasons.

In the first case grazing and watering cattle's were a custom that has been practiced until its inscription as a reserve for wild life conservation. And secondly the vicinities of the park are environmentally degraded area which lacks sufficient water and grazing part.

Moreover, especially as the area is environmentally degraded, where crop production reaches its limits, relying more on livestock for securing the household income becomes a strategy of growing importance and Borena Saynt National Park is the focus to do so.

Therefore, prohibiting locals from what they experience and in the absence of alternative water resources, and sufficient crop production, will create a great challenge among the communities in the development of community based ecotourism. However, the availability of clean water in the park is very significant for the development of ecotourism in many perspectives such as investment in Ecolodges, hotels, lodges and so on.

Basic infrastructure related challenges

Lack of electricity, road networking and absence of health stations are the major problems observed in the area. As

observations indicate, the park lacks even a well-constructed gravel road from different directions. Though its impact on the ecology of the environment is not studied, there is one road which passes from Akesta (capital of Legambo woreda) to Saynt worda via the park. As people are living in the two opposite sides of the park, they crisscross the park and made too many walking routes, for the sake of providing a direct link among the societies. The jungle forests have been penetrated by roads. Though it is distractive to the park and its biodiversity, Local communities in remote areas often demand these roads to get access to markets, medical services and other social issues.

In such environments, the cut-and-fill operations associated with too many roads can impede streams, increase forest flooding, and drastically increase soil erosion. Roads also discharge pollutants into local waterways and provide avenues of invasion for many disturbances. Roads that cut through rainforests can also create barriers for sensitive wildlife, many of which are ecological specialists. Studies have shown that even narrow, unpaved roads drastically reduce or halt local movements for scores of forest bird species. Many of these species prefer deep, dark forest interiors; they have large, light-sensitive eyes and avoid the vicinity of road verges, where conditions are much brighter, hotter, and drier. A variety of other tropical species-including certain insects, amphibians, reptiles, bats, and small and large mammals-have been shown to be similarly leery of roads and other clearings.

A study in most protected areas also show that, too many roads with in protected areas often open up a box of unplanned environmental maladies, including illegal

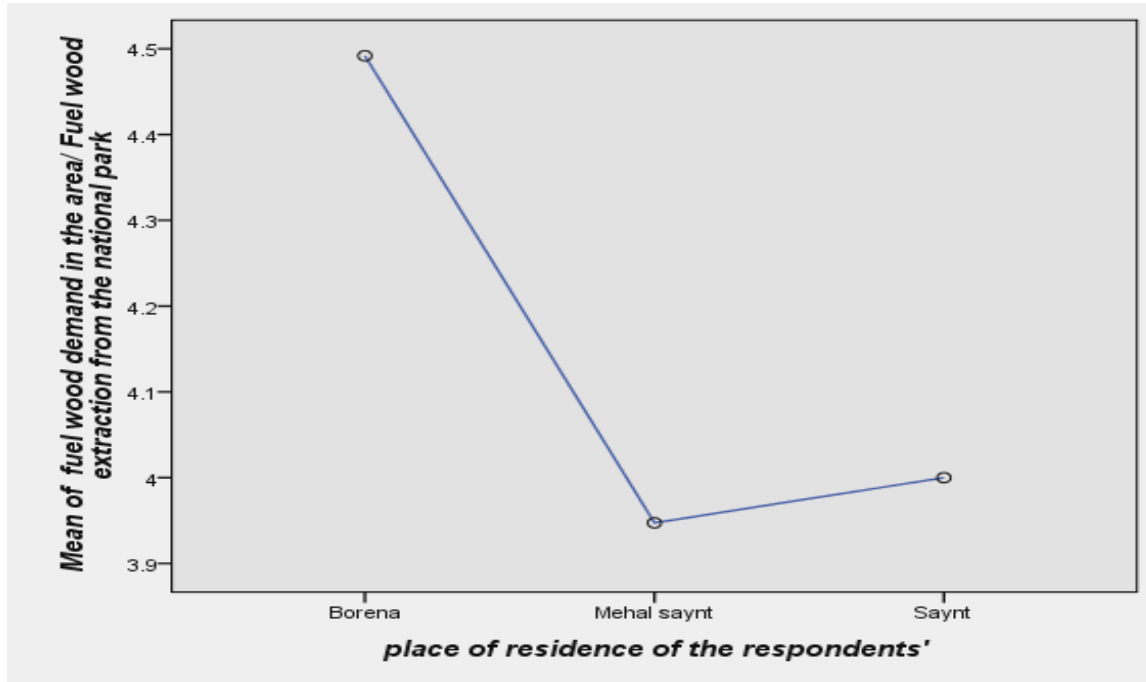


Figure 5. Fuel wood demand from the park (Source: Author survey, 2012).

land colonization, fires, hunting, mining, and forest clearing. But to avoid environmental disruption and any associated impacts, ecotourism needs well designed trekking routes and to do so the local communities need to be negotiated to travel in designed routes. However, as the newly designed trekking routes may take several hours to travel, the community may not be voluntary to follow these designed passages.

Electricity and fuel wood demand

Because of absence of electricity, the local communities are directed towards traditional use of forests as a fuel wood for their daily utilization and consumption. Having this in mind the researcher was interested to see the variations in fuel wood demand among the three neighbor administrations of the park and an analysis of variance showed that the local communities fuel wood demand among the three administrations was significant ($F(2,191) = 4.179, p = .017, p < .05$).

Post hoc analyses using the Scheff post hoc criterion for significance indicated that the average fuel wood demand was significantly lower in Mehal saynt administration ($M = 3.95, SD = 1.432$) than in Borena administration ($M = 4.49, SD = 1.152$) Figure 5 and Table 6). While, there is a slight difference among Mehal Saynt and Saynt administrations.

But evidence from China indicates that a considerable

majority of households in the Wolong region still remain dependent on fuel wood despite their access to electricity. The main reasons for this would be socioeconomic (e.g. income, and wealth), demographic (e.g. family size, household composition, lifestyle, and culture) and location attributes (e.g. proximity to sources of modern and traditional fuels) in addition to fuel wood availability (Dovie et al., 2004; An et al., 2002; Karekezi et al., 2002; Israel, 2002).

Another findings in Nigeria conclude as Fuel wood demand around PA is determined by average levels of income, the size of the population (e.g household size), the prices of and availability of related goods (in this case, kerosene, cooking gas and coal), individual and social tastes, special influences (e.g. distance of household to common forests and region), and season.

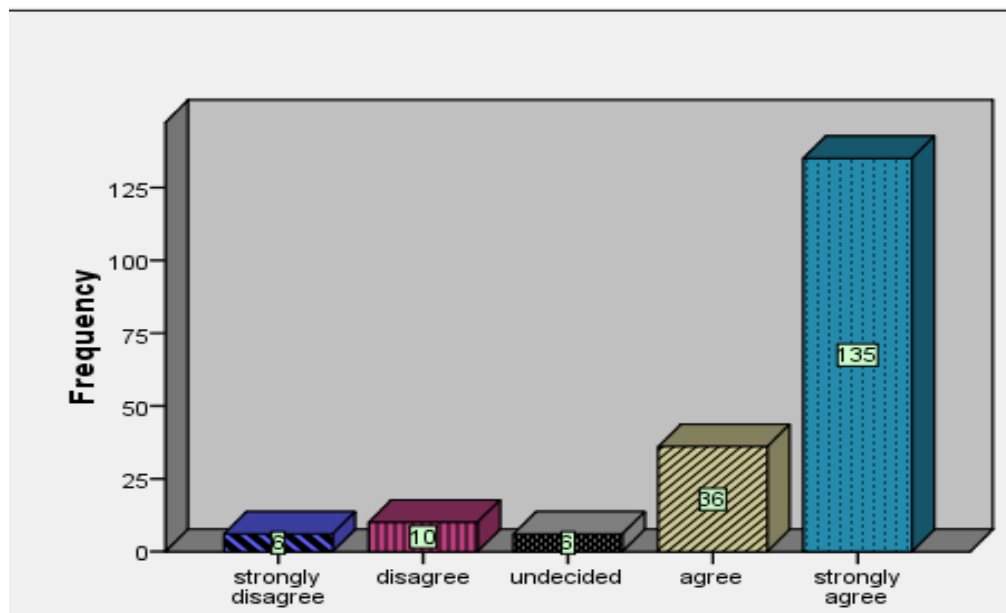
The perceived benefit of living next to the park and its consequences

The result of Figure 6 shows the population around BSNP is increasing. Almost all of the respondents agree with the statement of population growth in and around the park is increasing. The area is highly populated: 100-150 people per square km (South Wollo Zone livelihood profile, 2007). This can be supported by a recent work of Wittemyer et al. (2008), which suggests that the growth of social services and development associated with more

Table 6. Fuel wood demand in each respective administrations.

	N	Mean	Std. D	Std. Error	95% Confidence Interval for Mean		F(2,191)	Sig.
					Lower Bound	Upper Bound		
Borena	122	4.49	1.152	.104	4.29	4.70	4.179	.017
Mehal saynt	57	3.95	1.432	.190	3.57	4.33		
Saynt	15	4.00	1.069	.276	3.41	4.59		
Total	194	4.29	1.256	.090	4.12	4.47		

The population is increasing around the national park

**Figure 6.** Population growth around BSNP.

people-friendly PA management may lead to population growth in areas adjacent to PAs, something clearly counter to conservation goals.

According to some practitioner's population growth around protected areas are supposedly a direct result of the protected area itself, and the assumed benefits associated with it, leading to in-migration. Integrated conservation and development programs (ICDP) next to PAs, community-based conservation (CBC) projects, potential jobs, and improved services are part of these perceived benefits.

The issue of people living inside the park dates back and is a focus of discussion among the conservationists. Almost all the Ethiopian national parks are not the exception. A study on the Semien Mountains national park shows that substantially more than half of the parks territory was under human use at the time of its inscription in the World Heritage List in 1978. To reduce the extent of human use resettlement was an option but

this forced resettlement resulted in tensions between the local communities and the park management authorities.

Settlements, relocation and compensation strategies of the government

Two opposing views can be observed among the management body of the park and the local populations. The management body's priority intention is to expand the park from its current area of 4375 hectares [$\sim 43 \text{ km}^2$] to 14,000 hectares [$\sim 140 \text{ km}^2$]. As a result it needs relocating those who have long lived inside the boundaries of the park or used its lands for a long time.

To do so, either the locals have to be negotiated or need to be undertaken with the consent of the people themselves. But currently the local communities, who have been living in the proposed parts of the park, have been forcefully evicting their agricultural lands without



Figure 7. Settlement with in the buffer zones of the park (Arer media, Belechuma, and Sirejet) (Source: Abebaw Abayneh, 2011).

adequate and timely compensation for their lands they were using.

Forcefully removing local people from their lands to implement an ecotourism project in the National Park will make sustainability under question and even to relocate the locals; it is basic to have suitable areas near to the park, where basic services can be provided. Doing so could be also another challenge to the management body. On the other hand, due to population pressure and assumed benefits of the park in the near future, people need to settle and are settling within the borders of the park.

Though the National Park is a wildlife paradise and home of endemism, the thatched huts of the people, who formerly lived on this land developed a habit of encroachments (Figure 7). In consequence, families have been compelled to leave their homes and relocate outside the boundaries of the park to accommodate the development of the park; as they need to be compensated by enough farm land and money.

Evidence shows that displacement from protected areas is one of the most controversial and contested aspects of protected areas. It has received a great deal of attention in recent years, particularly from anthropologists, but the literature is far from straightforward.

Only a handful of individual studies detail the economic costs and/or the social impacts of people displaced by protected areas (Emerton, 2001). Only recently has there been any attempt to apply established means of assessing the impacts of displacement to cases of conservation induced displacement and representatively assess its consequences (Cernea, 2005).

Enclosure of indigenous peoples as the primary victims of protected-area displacement conceals two fundamental inequalities (Igoe, 2005). First, between indigenous

groups, some indigenous people are more indigenous than others. San groups in Namibia, for instance, have become a permanent underclass of agricultural workers. Members of this group are unable to articulate the same claims to indignity as San groups in neighboring Botswana (Sylvain, 2002). Second, indigenous people are not always the most-marginal people displaced and impoverished by protected areas. Studies from Indonesia (Li, 2000, 2005) and South Africa (Kuper, 2003) demonstrate that people descended from displaced groups frequently are a significant minority of the rural populations in developing countries. Nevertheless, their relationships to the environment have profound implications from conservation.

Borena Saynt National Park and Human-Wild life Conflict.

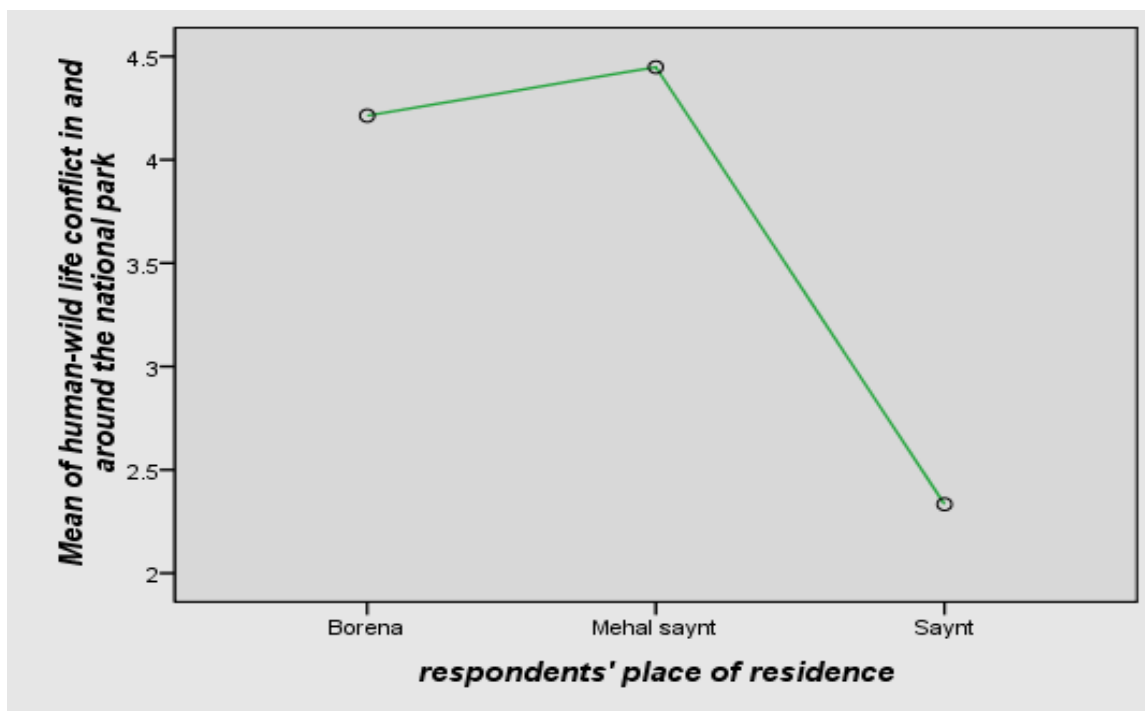
To examine whether there were statistically significant differences among the three stratas (administrations) in relation to the existence of human-wild life conflict, a one-way ANOVA was conducted.

The results revealed statistically significant differences among the three stratas, $F(2,192) = 7.125 = 7.13$, $P = .001$ or $p < 0.01$. A multiple comparison of Post-hoc Games-Howell revealed statistically significant differences between Mehal Saynt administration ($M = 4.45$, $SD = 0.799$), and Saynt administration ($M = 2.33$, $SD = .90$). However, there were no other significant differences between Borena ($M = 4.21$, $SD = 1.404$) and Mehal sayint ($M = 4.45$, $SD = 0.799$). The results of these two administrations show there is higher human-wild life conflict in Mehal Saynt administration than in Saynt administrations (Table 7; Figure 8).

Table 7. Human-wild life conflict in each respective administration

	N	Mean	Std. d	F (Liveness statistics)	df1	df2	Sig.
Borena Adm.	122	4.21	1.404				
Mehal saynt Adm.	58	4.45	.799	7.123	2	192	.001
Saynt Adm.	15	2.33	.900				
Total	195	4.14	1.326				

Note: Adm. =Administrations; Sig. =significance level; and df=Degree of Freedom.

**Figure 8.** Human-wild life conflict in the park (Source: Author Survey, 2012).

Therefore, as per the result of the above graph, Saynt administration has lower human wild life conflict than the other two. This may be because of either absence of wild animals in the buffer zone of that administration or the other two administrations are convenient for wild life habitats. Crop raiding by geladas and Minelik bush back is a serious problem in Mehal Sayint and Borena respectively. This not only increases negative attitudes towards the park, but also threatens wildlife populations when communities respond with wildlife persecution and killings. The finding goes in line with the findings of Conover (2002). Conflict between people and wildlife today undoubtedly ranks amongst the main threats to conservation in Africa.

In some areas crop damage by wildlife is perceived as a major problem facing farmers; it threatens to undermine conservation and development efforts in the northern districts of Zimbabwe (mid Zambezi Elephant Project,

2002). As reported in Zimbabwe, in the Zambezi Heartland, elephants are estimated to be responsible for up to three-quarters of all crop damage caused by wildlife. At the same time in Kilimanjaro Heartland, Muruthi et al. (2000) found that in 1996 and 1997 at least 15 elephants, representing three-quarters of the local populations' mortality, had been killed in conflict situations with local people. Between 1974 and 1990, one third of elephant mortalities (141 of 437 deaths) in the Amboseli ecosystem were caused by people, for example through spearing (Kangwana, 1993).

Human-wild life conflict may be the result of an increase in population, therefore encroachment onto historical wildlife areas, corridors, dispersal/breeding zones and buffer areas take place. According to some wild life specialists, human/wildlife conflict leads to human injury, human death, crop damage, property damage, livestock predation and human threats.

Therefore, the impact on local people, many of whom are subsistence farmers, can include economic devastation through destruction of crops, living in a state of fear, inconvenience, and danger to life and limb (Macfie, 2003). For mountain gorillas, interactions with local people are a source of stress, can result in the transmission of human diseases, and can lead to direct physical attacks, disabilities such as loss of limbs from snares, and even death (Woodford et al., 2002).

Muruthi, (2005), in Samburu et al. (2004) documented the species of wildlife responsible for killing livestock and reported that such deaths were due to lions (35% of reported deaths), leopard (35%), hyena (18%), baboon (4%), and elephants (3%), buffalo (2%), wild dog (2%) and cheetah (1%). A report from Kenya showed as historically, Maasai communities have coexisted with wildlife in Masai Mara ecosystem fairly harmoniously.

However, as communities become more sedentary and change their lifestyles and as populations increase, there is an inevitable increase in conflict with wildlife over access to resources. Wherever wildlife and people coexist there will be some form of competition and conflict, and the challenge is to manage that, to reduce it. It is unlikely that conflict can ever be totally eradicated, but it needs to be controlled at a level that local people can tolerate, and at the same time people need to see a benefit from wildlife to offset those costs of conflict.

Otherwise, in such situation conservation of wild life will be denying human rights and may cause resentment. More over the response may lead to complete devastation of wild life resources of such protected areas.

The direct competition of domestic animals and wildlife

Locals have resentment by the direct competition of sheep with the wild life resources of the park. The direct competition of sheep with wild life of the park is leading to predation, especially at Mehal Saynt woreda. According to the experiences in different national parks of many countries beyond the predation the direct competition of domestic animals with wild life causes disease. For example, reports on the SMNP shows as walia ibex and Ethiopian wolf are particularly vulnerable to diseases transmitted from domestic animals. Signs of a viral disease known as Contagious Ecthema (Orf), which is believed to be transmitted from sheep, have been observed recently in walia ibex of Semien mountains national park. At the same time domestic dogs are the primary reservoir for canid diseases, such as rabies and distemper, which can be transmitted to fox.

The findings of Neumann (1998) in Arusha National Parks of Tanzania go in line with this. Arusha National Park, other than other national parks of Tanzania, is plagued by a continuous clash of wild life and human interests: park animals are illegally hunted, livestock

trespass into the park, wild life destroys crops, and threatens human life, and diseases are passed between wild life and livestock.

Conclusion

Ecotourism has emerged as part of the new global environmental movement and it is the fastest growing sectors of the tourism market, primarily influenced by public demand for more environmentally responsible tourism. When planned properly, it has been asserted that ecotourism can integrate conservation of biodiversity with socio-economic development of local communities. Within this regard, developing ecotourism in BSNP seems appealing significant. It can be a potential strategy to support conservation of biodiversity and natural ecosystem, while at the same time to promote local sustainable development. However, impelled by the absence of community based ecotourism projects and enterprises in the park, the local forest dwellers grudgingly tear themselves to traditional overexploitation of farmland and firewood as well as grazing.

The findings of the study have portrayed that constraints such as poor infrastructural developments, (roads, campsites, and lodges, lack of abundant health facilities, hotels and electricity); lack of well qualified human power and lack of shopping and commercial facilities are persistent challenges of ecotourism development in Borena Saynt National Park.

At the same time, the study proved that there are a number of challenges to develop ecotourism in Borena Saynt National Park, of these, administrative challenges (size, and shape of the park, lack of natural buffer zone and serious environmental degradation); traditional demand driven challenges (the locals need not to be prohibited from their traditional use of the park i.e. high demand of festuca grass by the locals; demand of watering and grazing domestic animals inside the national park; due to absence of electricity, the growing demand for fuel wood); perceived benefit related challenges (expectations of growth of social services and development around the park-leading to population growth); settlement, relocation and compensation system; human wild life conflict; and the direct competitions of domestic and wild life of the park are to be mentioned.

Conflict of Interests

The author has not declared any conflict of interests.

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