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Assessment of Attitude and Perception of Local Community toward Protected Area: The Case of Senkele Swayne's Hartebeest Sanctuary, South Eastern Ethiopia

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Abstract
The study on the attitude and perception of local community toward protected area was carried out in Senkele Swayne's Hartebeest Sanctuary (SSHS). Primary data was collected through questionnaire survey, key informant interview, focus group discussions and direct field observations. Secondary data were collected through review of literature (activity reports, journal, articles etc). Out of the 32 rural kebeles found in the Siraro district, four kebeles surrounding the sanctuary were purposively selected for the study. Primary data collection involved 151 households for questionnaire survey, 40 discussants for Focus Group Discussion (FGD) and 12 interviewee for Key Informant Interview (KII) (10 experts from the district offices that have been interacting with SSHS in one way or another and two men recognized by the local communities as leaders (Aba Gada) according to the Oromo Gada system in the study area). The analysis of the data revealed that local community have a positive attitude toward the Sanctuary where as they have negative attitude toward sanctuary management system. Local communities have no smooth relation with SSHS staff. This is due to control of access to sanctuary particularly for grazing and the SSHS management didn't care about the interest of the community. Therefore, if the current situation is not reversed, the Sanctuary will not sustain.
Keywords/ phrases: Aba Geda, attitude, Community, Senkele Swayne's Hartebeest Sanctuary, protected area.

1. INTRODUCTION

1.1 Background and Justification

As defined by the International Union for the Conservation of Nature (IUCN), "A protected area is an area of land and/or sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means". Protected area is seen as a key to conserving natural resources, on land and at sea globally. About 30,000 protected areas now meet the IUCN definition of conservation (Green and Paine, 1997).

Ethiopia is one of the few countries in the world that possesses a unique feature of fauna and flora with a high level of endemism (World Conservation Monitoring Center, 1991). On the other hand, the challenges facing the conservation of Ethiopian wildlife today are becoming increasing in alarming rate. Besides, as agricultural productivity is very low, increase in food production depended on increasing the area under cultivation and grazing. Typically, agriculture expansions are at the expense of wildlife resources leading to the loss of both flora and fauna together with their habitats (Abunie, 2000).

In an effort to conserve natural resources, Ethiopia has established many protected areas. National Parks and Sanctuaries, which are referred to as principal conservation areas, cover only approximately 2.9% of the country's surface area (Abunie, 2000). Theoretically the different types of protected area have different levels of protection; strict conservation in National Parks and sanctuaries, but with multiple uses in reserves and controlled hunting areas.

The SSHS is among the Protected Areas in Ethiopia. The Sanctuary was established in 1976 to protect the Swayne's hartebeest (*Alcelaphus buselaphus swaynei*) (Messana and Netsereab, 1994). Hartebeests are large antelopes in which males weight range from 150 to 180kg and females on average 5-10% less than male (kingdom, 1982). It is social animals living in herds of up to 300 animals. Both sexes have horns but it is more massive in males. It is first named by Pallas in 1766. The hartebeest, *Alcelaphus buselaphus,* originally occurred in grassland throughout African continent (Batty, 2002). It ranged from Morocco to northeastern Tanzania and south of Congo, southern Angola to South Africa.

Its range has been radically reduced due to habitat destruction, hunting and foraging competition with domestic cattle. Currently, the three recognized sub-species that occur in Ethiopia are *A.b lelwel, A.b tora, A.b swaynei* (Bolton, 1973). A number of subspecies are identified by coat color, varying from pale brown to brownish gray, and by horn shape. All sub-species have horns in both sexes (Tischler, 1975).

Swayne's hartebeest occurred in both Somalia and Ethiopia but at present restricted to Ethiopia (kumsa, 2006). Swayne hartebeests are distinguished from other hartebeests by the presence of darker body color. It is a deep red chocolate brown or bright reddish brown with a yellowish brown-collared rump, tail and lower half of the legs (Bolton, 1973). It is the most attractive and colorful of the three sub-species of hartebeest (Tischler,

1975). Swayne's hartebeest is one of the fifteen races of African hartebeest of which two are already extinct and Swayne's hartebeest is critically endangered. Brigadier General Swayne first discovered it in 1891-92 at Jijiga, as a herd of 300-400 and even herds of thousands were observed (Tischler, 1975). Due to the render pest outbreak, at the end of the 19th century, the number of Swayne's hartebeest (*Alcelaphus buselaphus*) declined to 880 (Hunting Technical Service Ltd, 1976). This subspecies which was previously found in both Somalia and Ethiopia is now restricted only to few localities in Ethiopia.

In 1973, Senkele area had the largest population of Swayne's hartebeest. The 200 km^2 area occupied by the hartebeest in 1972 was reduced to about 58 km^2 in 1973, and then to 36 km^2 (Messana and Netsereab, 1994). Currently, less than 28 km^2 of sanctuary remains for the Hartebeest (kumsa, 2006). In the Senkele Plains, in the late 1960s, areas of pasture in SSHS were increasingly brought under cultivation and the pressure on remaining pasture was intensified (Messana and Netsereab, 1994). There was no wide pasture land to graze livestock in this area except for the sanctuary. Furthermore, deforestation was means for local communities to get fire woods, building materials and to put new lands into cultivation, as a result of population growth. However, deforestation often went step by step with growing desertification and loss of soils fertility. At present rapid degradation and depletion of the forest resource base is already finding its expression in the different sectors of the economy such as agriculture, water resources, energy and biodiversity. Therefore, the main focus of this study is to assess anthropogenic factors affecting Senkele Swayne Hartebeest Sanctuary.

1.2. Statement of the Problem

Gifted with wonderful biodiversity and natural resources, Ethiopia has had much difficulty protecting it since the establishment of a Conservation and Protected area Program in 1965 (Jacobs and Schloeder, 2001). According to IUCN protected Area category Sanctuaries are categorized under Category IV which is protected areas aim to protect particular species or habitats and management reflects this priority.

Many Category IV protected areas will need regular, active interventions to address the requirements of particular species or to maintain habitats. However the situation in which Ethiopian Sanctuaries exist is hindering them to full fill the above stated criteria.

Today, the country has lost key plain species like the black rhinoceros and several other species now face the threat of extinction (IUCN, 1996). Due to the lack of data, there also cause for concern over how many other species may be at risk (Hillman, 1993). Furthermore, several of Ethiopia's protected area exists on paper only, while others have declined in size (Jacobs and Schloeder, 2001). These drawbacks are the result of human encroachment and conflicts among the different local communities surrounding for most protected areas in general.

In the past, the now driven out locals had been sparsely inhabited in many of the conservation areas for a long time. Upon the eviction, the indigenous people are forced to use resources that are outside the protected areas (Fiallo and Jacobson, 1995). However, as population increased unsustainable land use practices outside the protected areas made life difficult. Thus, demand for resources found people illegally use and then destroy the natural resources inside protected areas and getting into conflict with conservation authorities (Lumprey, 1990).

The SSHS is affected by human and/or livestock interferences since 1991 when lawlessness prevailed in protected areas of Ethiopia due to political unrest. Similar to others protected areas of Ethiopia; conflicts between local communities' and SSHS are the difficulties in management of SSHS. Accordingly, the local communities devastated the SSHS by overgrazing. In the surrounding area, livestock and crop production are the major sources of income.

The Sanctuary is the only available grazing land in the zone and over 10,000 cattle depend on the area. The resultant reduction in space and the poor quality of grazing land have forced the livestock and native mammals to compete (Birdlife International, 2003).

The problems facing the Swayne's hartebeest are primarily due to a reduction of the habitat and the consequent competitions with man and his domestic stock (Fassil, 1996). The subspecies is threatened by further loss of habitat to subsistence agriculture, overgrazing by domestic cattle and by increasing number of new settlements in and immediately around the Sanctuary (Kumsa, 2006). The Swayne's hartebeests have been restricted into a smaller area because of large number of human movement into areas that were formerly hartebeest habitat. These factors make Swayne's hartebeests of Senkele in greater danger of extinction at present than any other time in the past. As far as analysis of different literatures, indicated most of the studies focused only on the effects of protected areas nevertheless factors influence these effects is the basic to be studied. Therefore, the study fills this gap and the findings of this study will have a principal importance to design and implement the sustainable management of the protected area particularly that of SSHS is the first important measure that must be taken.

2. MATERIALS AND METHODS

2.1 Description of the study area

The study was conducted in Senkele Swayne's Hartebeest Sanctuary, Oromia Regional State. It is located at 53 km south of the Shashemene-Arba Minch road near the town of Aje and 320 km away from Addis Ababa (the capital of the country). The altitude of the Sanctuary is estimated to be ranging from 2000 to 2100 a.s.l.

The Sanctuary was established in 1976 to protect the Swayne's hartebeest (Alcelaphus buselaphus swaynei), a mammal endemic to the country (Messana and Netsereab 1994).

The 200 km2 area occupied by the hartebeest in 1972 was reduced to about 58 km2 in 1973, and then to 36 km2 (Messana and Netsereab, 1994).

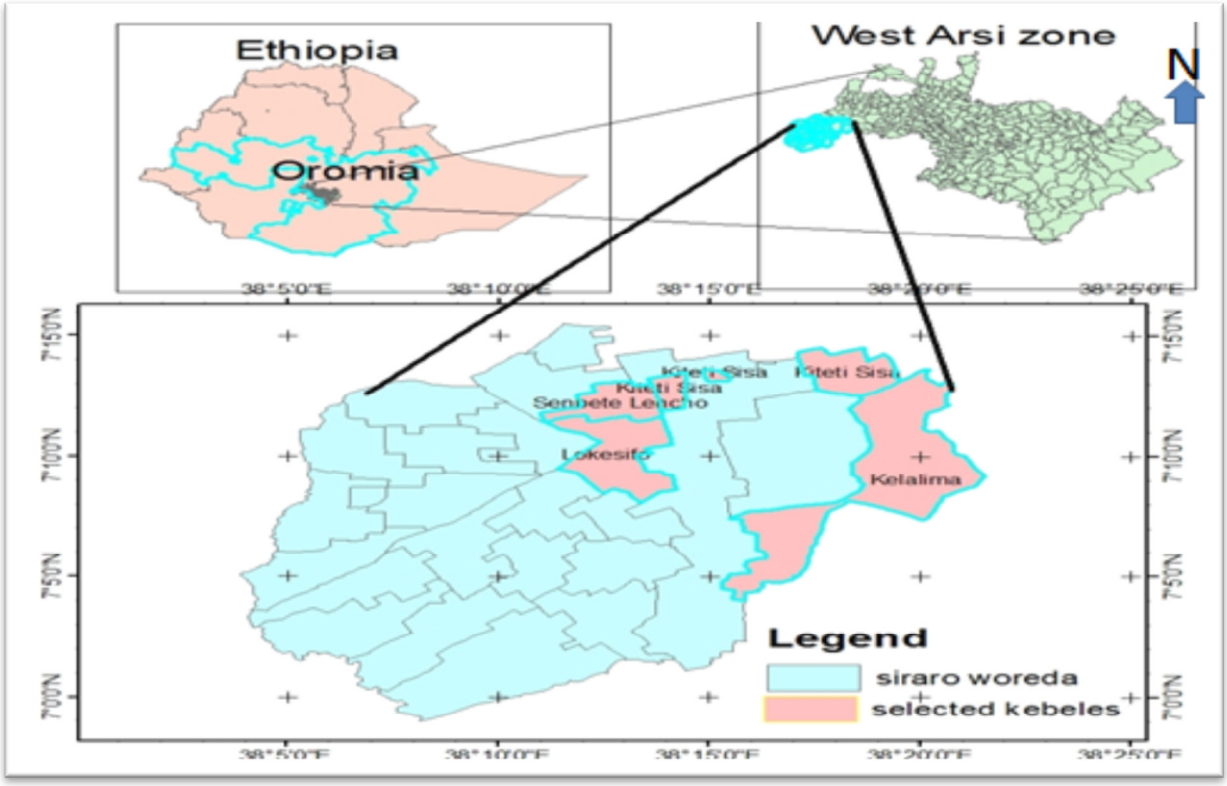

Figure 1: Map of Senkele Swayne's hartebeest sanctuary

The described vegetation communities at Senkele based on the height of grass are: Pennisetum rassland type , mixed grassland and the vegetation in the Sanctuary is best described as montane savanna and comprises various different habitat associations such as savanna woodland, natural grassland (with fewer tree and shrubs) and, in the valleys, rich shrub land (Birdlife International, 2003).

In addition to the Swayne's hartebeest, other wild animals that occur in Senkele Sanctuary are Bohor Reedbuck (Redunca redunca), Warthog (Phacocoerus aethiopicus), Greater kudu (Tragelaphus strepsiceros) and Oribi (Ourebia ourebi).

Among the primates, vervet monkeys (Cercopithecus aethiops) can be seen in a restricted forest area. Crested porcupine (Hystrix cristata), Aardvark (Orycteropus afer) and Abyssinian hare (Lepus habessinicus) are also observed. Spotted hyenas (Crocuta crocuta) are very rare, probably numbering less than 10, and have never been observed in packs of more than three animals (Hunting Technical Service, 1976).

2.2 Human settlement and land use system

In the Senkele Plains, the dominant land users up to 1940 were the pastoralists. Subsequently, the influx of new elite following the Italian war (1936-1941), led to the development of mechanized farming in the area. In the late 1960s, areas of pasture in the area were increasingly brought under cultivation and the pressure on remaining pasture was intensified (Messana and Netsereab, 1994). Crop production is the main activity followed by livestock rearing. The principal crops of the area are maize (Zea mays) and potato (Solanum tuberosum) but in limited areas, haricotbeans (Phaseolus vugaris) is also observed. Greater number of livestock in particular characterizes Siraro Woreda and the study area.

Before 1990, the number of settlers in and around the border of the Sanctuary was non-existent. After 1991, people started to show resistance against EWCO through a variety of action such as occupation of the

territory, livestock grazing and fire wood collection in the Sanctuary. Those who occupied the land built huts along the border of the Sanctuary and expanded their farmland (Nishizaki, 2004).

2.3 Research methodology

The major activities of the study were started by conducting a reconnaissance survey in and around SSHS from December 2015 to January 2016 time frame. After a reconnaissance was done, sampling design for household survey and other concerned stakeholders were undertaken and finally, sample size determination was made.

2.3.1 Study population

A sample of Kebeles which were surrounded the Senkele Swayne's Hartebeest sanctuary in the selected site namely: Loke Sifo, Senbete Lencho, Kela Lalima, and Kite Tesisa were the study population.

2.3.2 Sample size determination and sampling procedure

2.3.3 Sample size determination and sampling procedure

The households Kebele who were part of the study were purposefully selected from Siraro wereda surrounding area of Senkele Swayne's Hartebeest Sanctuary. Four kebeles were purposively selected to address the research questions and objectives of the topic under the study.

This is due to the fact that those kebeles are surrounding the sanctuary and they have high intervention with the sanctuary. Those kebeles are Loke Sifo, Senbete Lencho, Kela Lalima, and Kite Tesisa.

Accordingly, each has a total household of 1588, 1200, 1064, and 924 respectively. Sample size was determined by considering margin of error (8%)

$n = N/ [1+N (e) 2]$…….. (Israel, 1992)

Where; N = the total population that will be studied=4776

n = the required sample size e = the margin of error which is = (8%)

$n = N/ [1+N (e) 2]$ $n = 4776/ [1+4776(0.08)2]$

$n = 151$

To get the distributions of sample size across each kebeles we calculate by using formula:

$n' = n(N'/N)$ $n'= 151(1588/4776)$ $n'= 50$……..

So the distributions of sample size across the kebeles are 50, 38, 34 and 29 for Loke sifo, Senbete lencho, Kela lalima and Kite tesisa correspondingly. Based on the name list of member households in each kebeles households were selected using random sampling technique

2.3.4 Data sources and data collection tools

Both primary and secondary data were used in the study. Primary data were collected through household survey, key informant interviews, focus group discussions, and direct observation. Secondary data were collected from published and unpublished materials sources.

2.3.5 Structured questionnaire

Questionnaire consisting of both open and closed ended questions were used to obtain information from the samples of 151 households selected from four kebeles. The questionnaire surveys were used to generate quantitative data and it was translated into Afaan Oromoo before administration.

The actual questionnaire survey were preceded by a pilot testing using five questionnaires in two kebeles (Bitana Kubi and Jarti Bokole) which were not to be sampled. Based on the feedback obtained adjustments were made in the questionnaire.

The data collection was carried out with the help of the scouts of the Sanctuary. Before the commencement of data collection, training was given to the enumerators on how to fill out the questionnaires and how to approach sensitive questions related to illegal activities.

To gain people's confidence, the purpose of the study was clearly presented to the respondents. The questionnaire was alternating male and female respondents and different age groups.

2.3.6 Key informant interview

For the purpose of this study, semi-structured questionnaires were delivered. Key informants were selected from different offices of the woreda depending on their relevance to the issue under study. The offices from which key informants were selected include Culture and Tourism office, Agriculture office, Land and Environmental Protection office, Small and Micro Enterprise, SSHS and Aba Gada1. Accordingly, a total of 12 Key interviewees (two Aba Gada, and two experts from each of the offices mentioned above) were selected for the interview.

2.3.7 Focus group discussion

Focus group discussion is important data collection tool to generate the qualitative information on the issue. The FGD involved 40 households, at the rate of 10 households per kebele. The discussants were community representatives, religious leaders', women, local elders and landless young groups resident in the kebeles.

2.3.8 Direct observation

Field observation is another method applied to shed more light on the status of issues under investigation in the study area. It was also used to verify information and compare responses gathered by other data collection tools.

During field observation, the study site was visited and photos of the site and notes were taken. Thus, the researcher opinion on his visit of the study area was included in the analysis.

2.3.9 Secondary data collection

The use of secondary sources plays a major role in the field work research, especially at the study area. In an effort to make this research more valid, creditable and applicable secondary sources which are important to the study were reviewed. For this purpose, both published and unpublished sources were investigated thoroughly especially books, web pages, policy directives, reports, project papers, annual and action plans, etc which support ecotourism development were reviewed and analyzed.

2.4 Method of data analysis

According to Creswell (2003, 190), 'the process of data analysis involves making sense out of text and image data. It involves preparing the data for analysis, conducting different analyses, moving deeper and deeper into understanding the data, representing the data, and making an interpretation of the larger meaning of the data. Accordingly, the data gathered from different sources, is accumulated in the way that is easy to manage. Data collected from sample house hold heads were coded and entered into Statistical Package for Social Science (SPSS). The result of analysis was interpreted and discussed using descriptive statistics (frequency and percent etc). The researcher uses data gathered through key informant interview, focus groups discussions and direct observation to strength the quantitative data.

3. RESULTS AND DISCUSSION

3.1 Local communities attitude toward SSHS

Deliberating local communities' attitude is fundamental purpose to highlight the status of the relationship between local communities and SSHS.

Thus, the respondents were asked questions related to benefits local communities' draw from the sanctuary, communities' relations with SSHS staff, their feeling about the existence of sanctuary in their area and other related questions to state whether they agree, strongly agree, disagree, strongly disagree or neither agree nor disagree. Accordingly, table 1 below illustrate, for statement about households are benefited from the existence of sanctuary, the majority of respondents (52.3%) selected strongly agree while 20.5% were agree and 15.9% were neither agree nor disagree Whereas only 6.0% and 5.3% respondents were marked disagree and strongly disagree respectively. For the second statement about the sanctuary helps households economically, most of respondents (51.0%) were strongly agree with issue while about 28.5% were agree. Likewise, 20.5% of respondents were neither agree nor disagree. Moreover, as specified in table 1 below none of respondents were disagree or strongly disagree with the subject.

Regarding to the statement about the conservation of SSHS is important, most of the respondents 70.2% were strongly agree with the issue while 15.9% of sample households were agree. The remaining 7.9% and 6.0% of respondents were neither agree nor disagree and disagree respectively.

Concerning question about households are satisfied by living near the sanctuary, the majority (69.5%) of respondents were strongly agree with issue while 15.2% were neither agree nor disagree.

Furthermore, for question about Households interaction with SSHS staffs is likely, 27.2% of respondents were disagree; 24.5% were neither agree nor disagree and 23.8% were agree with the issue. The remaining 13.2% and 11.3% of respondents were strongly disagree and strongly agree respectively.

Local communities have no smooth relation with SSHS staff. This is due to Sanctuary staffs restrict local community from access to sanctuary particularly for grazing. According to Boyd et al. (1999); Fox et al. (2002), increased livestock numbers result in resource competition between livestock and wild animals. Thus, the conflict between wildlife managers and livestock owners is growing.

For proceeding statement about the SSHS Staffs care about the interest of the community, the majority (43.7%) of respondents were disagree while 29.8% were also strongly disagree and 14.6% were neither agree nor disagree with the issue. Only 9.3% and a few 2.0% were agree and strongly agree respectively. Local community have negative attitude toward SSHS management staffs. This is as a result of control of access to sanctuary. According to Lumprey (1990), as population increases the demand for resources found people illegally use and then destroy the natural resources inside protected areas and getting into conflict with conservation authorities. Moreover, for the question about households are responsible for the conservation of SSHS, most (41.1%) of respondents were strongly agree whereas 29.8% were agree and 21.9% were neither agree nor disagree with the issue. But only 4.0% and 3.3% of respondents were strongly disagree and disagree with the issue respectively.

Table 1: local communities' attitude toward SSHS

Questions	Strongly disagree		Disagree		Neither agree nor disagree		agree		Strongly agree	
	N.R	%	N.R	%	N.R	%	N.R	%	N.R	%
You/ your HH is benefited from the existence of the Sanctuary	8	5.3	9	6.0	24	15.9	31	20.5	79	52.3
The Sanctuary will help your household economically	-	-	-	-	31	20.5	43	28.5	77	51.0
The conservation of SSHS is important	-	-	9	6.0	12	7.9	24	15.9	106	70.2
You or your household is satisfied by living near the Sanctuary	-	-	8	5.3	23	15.2	15	9.9	105	69.5
Your interaction with SSHS staffs is likely.	20	13.2	41	27.2	37	24.5	36	23.8	17	11.3
The SSHS Staffs care the interest of your community.	45	29.8	66	43.7	22	14.6	15	9.9	3	2.0
You are responsible for the conservation of SSHS	6	4.0	5	3.3	33	21.9	45	29.8	62	41.1
Settlement and Farming inside and in the immediate border of the Sanctuary is illegal.	25	16.6	55	36.4	30	19.9	24	15.9	17	11.3
Livestock grazing in the Sanctuary should be strictly banned	62	41.1	58	38.4	13	8.6	10	6.6	8	5.3
The sanctuary should be fenced to avoid any destructive activities of the people	61	40.4	43	28.5	18	11.9	18	11.9	11	7.3
There is no wild animal which is bad to you and your property.	28	18.5	59	39.1	19	12.6	30	19.9	15	9.9
Killing wild animals for any reason is illegal	-	-	-	-	11	7.3	14	9.3	126	83.4
Generally, you like the existence of the Sanctuary	-	-	-	-	7	4.6	19	12.6	125	82.8

Source: own survey, 2016

An effort is also made to assess the communities' attitude on illegal activities carried out in and around SSHS. So respondents were asked question about Settlement and Farming inside and in the immediate border of the Sanctuary is illegal. As the result shows in table 1 above 36.4% of respondents were disagree while 19.9% were neither agree nor disagree. Besides, about 16.6% were strongly disagree while the rest 15.9% and 11.3% were agree and strongly agree respectively. Furthermore, respondents were asked question about whether livestock grazing in the Sanctuary should be strictly banned or not. As indicated in table above the majority of (41.1%) respondents were strongly disagree whereas 38.4% were disagree and the rest 8.6%, 6.6% and 5.3% were neither agree nor disagree, agree and strongly agree respectively.

Regarding to the sanctuary should be fenced to avoid any destructive activities of the people, about 40.4% of sample households were strongly disagree while 28.5% were disagree about the issue. The remaining, almost equal sample 11.9% were neither agree nor disagree and agree while only 7.3% of the respondents were strongly agree. In other hand, respondents were also asked question about there is no wild animals which is bad to them and their property, thus 39.1% of respondents were disagree on the issue while 18.5% were strongly disagree. And also the rest19.9%, 12.6% and 9.9% were agree, neither agree nor disagree and strongly agree respectively.

Additionally, respondents asked to point out their attitude on Killing wild animals for any reason is illegal and majority 83.4% of respondents were strongly agree with the issue while the rest 9.3% and 7.3% were agree and neither agree nor disagree with the issue respectively. In general, there were no respondents who were disagree and strongly disagree with the issue of Killing wild animals for any reason is illegal.

At the end respondents were asked to point out their approach on whether they like the existence of the Sanctuary. Hence majority (82.8%) of respondents were strongly agree while 12.6% were agree with the issue. The remaining 4.6% were neither agree nor disagree and there were no respondents who were disagree and strongly disagree with the issue.

Moreover during FGD one of the discussant stated as follow, "Local community has long lasting history in conservation and protection of SSHS. During the downfall of drogue regime Imam Worana was Aba

Geda of this area. During Dorgue regime the Sanctuary was protected by Military force.

However, for the period of failure of drogue regime there was political instability and local communities were hunted for wildlife especially Swayne hartebeest. There were only 100 Swayne hartebeest remains. Realizing that government made protection for this species for certain purpose, Aba Gedaa Imam Worana had called meeting to discuss on the issue with local communities. About 38 tribe of Uta wayu surrounding the sanctuary had collected and discussed on issue. Finally, Aba geda assumed Swayne hartebeest to his tribe Anbentu. So they agreed that someone who kills Swayne hartebeest was considered as killing of a person of Anbentu tribe, thus he/she had to punish 100 cattle, the same as the one who kills one person of Anbentu tribe. Therefore, communities refrain from killing wildlife. So currently the population of Swayne hartebeest is estimated to be about 800. Hence Swayne hartebeest is our heritage and we have to conserve for the next generation as Imam worana contributed to survival of this species from extinction".

Additionally, key informant from Culture and Tourism office of Siraro woreda stated as currently, most of local communities are willing to play role in conservation of sanctuary. This is due to the Awareness creation by sanctuary staffs and Culture and Tourism office of Siraro woreda and local community participation in decision making about Sanctuary.

Moreover local communities consider sanctuary as local pride and used to reflect their interest to sanctuary via song "Siraro jirra teessoon lokkee, siraaroo jira paarkiin qorkee" (to show the existence of sanctuary in their area as local identity) which indicates their positive attitude toward Sanctuary. However local community access to the sanctuary especially for grazing due to lack of alternative grazing land not to destruct Sanctuary. According to Lumpre (1990), as population increase unsustainable land use practices outside the protected areas made life difficult. Thus, demand for resources found people illegally use and then devastate the natural resources inside protected areas and getting into conflict with conservation authorities. According to Aba Geda, Local community opposes management of sanctuary by federal government (EWCA). According to kumsa (2006) majority of local community opposed the existing wildlife conservation system.

5. CONCLUSION AND RECOMMENDATION

5.1 Conclusion

The study on anthropogenic factors affecting SSHS revealed the greater proportion of population around SSHS are uneducated (can't read and write). As education is a basic parameters for any development particularly conservation of natural resources, uneducated communities around SSHS are imposing great challenge to conservation of SSHS. Early marriage and polygamy is common practices in the study area. Most households have married more than two wives and there is high family size per households in the study area. The major source of income for livelihood of local community in senkele area is farming with a mixture of crop cultivation and livestock rearing. Moreover local community gets high annual share from livestock.

Majority of local community owned one hectare crop land which is scarce relative to family size and local communities have no grazing land. Thus sanctuary is the only grazing land for local residents. Majority of surrounding households have high number of cattle which is 11-20 in average. As data shows the size of land that respondent's holding is very small. However, there is large number of dependent families on household's income. Household survey indicates majority of local community depend on sanctuary for livelihood particularly for grazing. Before establishment as sanctuary, senkele area was open access in which deforestation and illegal hunting was common. After establishment of sanctuary deforestation and illegal hunting is controlled and resource utilization is regulated by SSHS. Currently access to the sanctuary is medium and local people mainly extract benefits like fire wood, grass for house construction and grazing and medicinal plan from sanctuary.

The size of sanctuary is shrinking primarily due to settlement and agricultural expansion. Majority of local community is interested to alter the sanctuary into grazing and agricultural land if there were no restriction. Buffer zone of the sanctuary is densely populated. Most households live very close (<1km) to the sanctuary. This aggravates resource use from sanctuary and causing destruction to the sanctuary. Majority of respondents have positive attitude toward sanctuary and willing to conserve it. They consider sanctuary as local pride. However, they are interested if government supports them and allowed free access to grazing.

Currently most of households have a positive attitude towards SSHS and this could be due to benefit they derived from sanctuary. Nevertheless local communities have negative attitude toward SSHS management staff. This is due to restriction of access to sanctuary, unfulfilled promise and inequality in providing benefit and employment opportunity to local community by some staffs of Sanctuary.

The study also revealed that the present major human activities affecting SSHS are Overgrazing, Uncontrolled fire, illegal settlement, deforestation and poaching. Overgrazing by livestock is top ranking threat to sanctuary since the surrounding households depend only on sanctuary for grazing. Thus livestock grazing in sanctuary is resulting in conflict between sanctuary management and local communities and high competition between livestock and wildlife.

The causal factors for human causing threats to sanctuary are scarcity of land, lack of employment

opportunity and awareness with local community. Current threats to the sanctuary are resulting in wildlife depletion, decline in agricultural productivity, increase in poverty and loss of biodiversity. Furthermore, at present, the conservation effort being taken at the Sanctuary is not promising.

5.2 Recommendations

The following points are recommended by the study

- There is a need to solve local community problem such as lack of grazing land, clean water, and infrastructure development.
- Providing alternative means of livelihood like Ecotourism and livelihood diversification for local community is highly recommended
- If possible relocation action should be implemented. New settlers should move to their original habitat while those who do not possess land in other areas should be provided comparable land in nearby Billito Agricultural development through negotiation. This should be done by considering the need and aspiration of local communities.
- It is vital to implement awareness creation, benefit sharing, and creating employment opportunity to local community.
- Sanctuary should be demarcated and fenced with agreement of Aba Geda and local community and indigenous tree should be planted surrounding the boundary.
- There should be a buffer zone between community's village and Sanctuary to protect intensive use area (breeding site, nesting site, feeding site) from disturbance.
- Some sanctuary staff gets promise which they can't fulfils to community. So, this should be improved
- Injustice in providing benefit to local community should also be improved
- Conflict of interest between local community and conservationist should be negotiated and if not, the Sanctuary will no longer exist

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References

Batty, K. (2002). *Alcelaphus buselaphus* "on line" http://animal diversity. Ummz. Umich edu/site/accounts/information /*Alcelaphusbuselaphus*.html.

Birdlife International (2003). " on line" http://www.birdlife. Org.

Bolton M (1973). Hartebeest in Ethiopia. Oryx 12:99-108.

Fassil Tekle (1996). Community-based Conservation of Senkele Swayne's Hartebeest Sanctuary. M. Sc. Thesis. International Center for Protected Landscapes. University College of Wales, Canterbury.

Fiallo, E. A. and Jacobson, S. K. (1995). Local communities and protected areas: attitudes of rural residents towards conservation. *Environmental Conservation* 22: 241-249.

Green, M. and Paine, J. (1997). *State of the world's protected areas at the end of the twentieth century*. Social Science Research Net work, Albany.

Hillman, J.C. (1993) Ethiopia: Compendium of Wildlife Conservation Information; Vol 1 Wildlife Conservation in Ethiopia The NYZS, Wildlife Conservation Society, Addis Ababa, Ethiopia.

Hunting Technical Services Ltd. (1976). Swayne's Hartebeest: a Preliminary Study of its Status in Ethiopia and Recommendations for Future Management. Report to Ethiopian Wildlife Conservation Department. Boreham Wood Herts, London

IUCN (1996).World conservation, Special issue on collaborative management, NO-2

Jacobs M, Schloeder C (2001). Impact of conflict and biodiversity in Ethiopia. Biodiversity support program, Washinton Dc. PP. 45.

Kingdon, J. (1982). *East African Mammals. An Atlas of Evolution in Africa*. Vol. II. Part- D (Bovids). Academic Press, London.

Kumsa T (2006). Human-wildlife conflict and population status of Swayne's hartebeest (*Alcelaphus buselaphus swaynei*) in Senkele Swayne's hartebeest Sanctuary. MSc. thesis Addis Ababa University, Addis Ababa, pp. 114.

Leykun Abunie (2000). The Challenges of conserving Ethiopian wildlife: Overview. *Walia* 21: 56-61.

Lumprey, H. (1990). Challenges facing protected area management in sub- Saharan Africa. *Oryx* 1: 27-31.

Messana, G. M. and Bereket Netsereab (1994). *The Senkele Swayne's Hartebeest Sanctuary Management Plan.*

Ethiopian Wildlife Conservation Department, Addis Ababa.
Nishizaki, N. (2004). Resisting imposed wildlife conservation: Arsi Oromo and the Senkele Swayne's hartebeest Sanctuary. *Afr. Study. Monogr*. 25: 61-67.
Tischler, T. H. (1975). Reprive for Swayne's hartebeest. *Walia* 6: 12-13.
World conservation Monitoring Centre (WCMC) (1991). Biodiversity guide to Ethiopia.