



Pilot socio-economic analysis (SIA) of the planned protected area of the Dabena-Didessa River Valley, Western Oromia Region, Ethiopia

Habte Jebessa Debella (PhD)

Executive summary

The purpose of this report is to present the results of the pilot Socio-Economic Impact Assessment (SIA) of the proposed Dabena-Didessa National Park (hereafter DDNP) and associated infrastructures in the Oromia Regional State, Ethiopia. The Socio-Economic Impact Assessment forms part of the research “*Community education to conserve wildlife in the Didessa River Valley, Western Oromia Region, Ethiopia*”, sponsored by the Rufford Foundation, Grant ID. 15203-1.

The Durban Action Plan, the central outcome of the fifth World Parks Congress, emphasizes the connection between dispossession and poverty, culture change, and social and subsistence losses on the part of people living in and around protected areas. Such instances of increased elite control of resources historically and contemporarily, the alienation from land and the influx of alien land uses in places surrounding protected areas, and the criminalization of native peoples because of their land-use practices have been the cases of developing country’s protected areas (West et al., 2006). Taking these facts into consideration, this project investigates and proposes mitigation strategies. In Ethiopia as one goes from the capital city of the country, Addis Ababa; infrastructures, and the necessary materials for human survival go on decreasing. Distances from the capital city roughly tell how far life is from the basic human needs. In the last few decades, some of the infrastructures such as school, roads, water, health and communication services have become better and better. However, there are still areas in Ethiopia where these services are either unavailable or at their rudimentary stage. In such cases poverty, disease, lack of education and awareness synergistically increase human suffering. One of these areas, without prejudice, is the Dabena-Didessa Rivers Valley. It is expected that the proposed establishment of the Dabena-Didessa Rivers Valley National Park will improve access to basic human needs; social services,



alleviates poverty and produces jobs. However, it is also expected that the establishment of a national park may have other impacts which may negatively affect the livelihoods of people.

The general purpose of this research is thus to weigh out and report the two impacts (negative and positive) on the community's life. It is only a pilot study and a more inclusive and wider research is expected in the future. Key informant interview and desktop data were used to gather information. Secondary data were obtained from the Federal Statistical Agency website (<http://www.csa.gov.et/>).

Results of this pilot socio-economic impact assessment were generated from seven key informant interviews (5 male and two female participants); available literature and statistical data of the country; and personal observation. The diversity of key informant interview includes one head of the forest guard (HOFG); one regional timber and logging administrator (RTLA); one daily laborer in logging (DLL); one community elder (CE), one previous poacher (PP) and two females who are housewives (HW), all who lived there for their entire lives. The female respondents opted to remain anonymous.

The pilot-socio economic study found out community's fears against possible lease of the proposed forest for a commercial investor. Key informants provided as an example, the Anger Didessa State Farms which displaced buffaloes and brought the animals in conflict with the community, posing the current active bush meat trade in and around the study area. The informants proposed that the establishment of the Dabena-Didessa National park be realized so that the forest is saved from unwanted investment by the community. This report is accompanied by four key informant interview videos which will follow the report using Google Drive. The videos are coded according to the codes given in this summary. One video interview is translated into English from Afaan Oromo and provided in Appendix 2.



1. Introduction

The purpose of this report is to present the results of the pilot Socio-Economic Impact Assessment (SIA) of the proposed Dabena-Didessa National Park (hereafter DDNP) and associated infrastructures in the Oromia Regional State, Ethiopia. The Socio-Economic Impact Assessment forms part of the research “*Community education to conserve wildlife in the Didessa River Valley, Western Oromia Region, Ethiopia*”, sponsored by the Rufford Foundation, Grant ID. 15203-1.

Currently, SIA has become an important prerequisite to any development that implicates the community. SIA is analyzing, monitoring and managing the social consequences of development (Vanclay, 2003). In this case, the SIA of this project refers to the consequences of the conservation of the Didessa River Valley (establishment of a national park) on the surrounding communities. SIA will be conducted on some systematically or randomly selected communities living and depending on the forests to be conserved. According to Vanclay (2003) all issues that affect people, directly or indirectly, are pertinent to SIA. Therefore, it is very difficult for an individual to do all SIA aspect. Little information is found on SIA of such type in Africa (Masozera, 2002). However, it is pretty well direct with adoption of general SIA methods to conservation. Some considerations and modifications of international SIA to African stance are mandatory. For example, in Rural Africa women are the pillar of the society and most affected in rural natural resource policy change and mitigation of the effects of intervention on gender needs to be seriously addressed. The new intervention may create opportunity or adversity that needs to be investigated.

In the establishment of national parks logistics and infrastructures are the very important parameters. The process requires personnel, materials, roads, electricity, telecommunication, lodges and offices among others. It is just establishing a big business in the wilderness and the surrounding areas. In the African remote forests such interventions create both risk and opportunity. The opportunities are creation of new employment, raising standard of life, introduction of services such as schools, health stations and businesses while the risks are introducing new cultures, new way of life, new demographic configuration and perhaps



resettlement in some cases. While the risks and opportunities vary from place to place, studies show that establishment of national parks show strong socio-economic impacts either negatively or positively (Saayman et al., 2009).

The primary purpose of this study is to carry out a pilot study in and around the Dabena-Didessa River valleys; the current state of the economy of the community and perceived future impact of the national park if it is established.

2. Project background

In Ethiopia as one goes from the capital city of the country, Addis Ababa; infrastructures, and the necessary materials for human survival go on decreasing. Distances from the capital city roughly tell how far life is from the basic human needs. In the last few decades, some of the infrastructures such as school, roads, water, health and communication services have become better and better. However, there are still areas in Ethiopia where these services are either unavailable or at their rudimentary stage. In such cases poverty, disease, lack of education and awareness synergistically increase human suffering. One of these areas, without prejudice, is the Dabena-Didessa Rivers Valley. It is expected that the proposed establishment of the Dabena-Didessa Rivers valley National Park will improve access to basic human needs; social services, alleviates poverty and produces jobs. However, it is also expected that the establishment of a national park may have other impacts which may negatively affect the livelihoods of people.

The Durban Action Plan, the central outcome of the fifth World Parks Congress, emphasizes the connection between dispossession and poverty, culture change, and social and subsistence losses on the part of people living in and around protected areas. Such instances of increased elite control of resources historically and contemporarily, the alienation from land and the influx of alien land uses in places surrounding protected areas, and the criminalization of native peoples because of their land-use practices have been the cases of developing country's protected areas (West et al., 2006). Taking these facts into consideration, this project investigates and proposes mitigation strategies.

The general purpose of this research is thus to weigh out and report the two impacts (negative



and positive) on the community's life. It is only a pilot study and a more inclusive and wider research is expected in the future. Key informant interview and desktop data were used to gather information. Secondary data were obtained from the Federal Statistical Agency website (<http://www.csa.gov.et/>).

Key informant interviews are qualitative, in-depth interviews of 15 to 35 people selected for their first-hand knowledge about a topic of interest. The interviews are loosely structured, relying on a list of issues to be discussed. Key informant interviews resemble a conversation among acquaintances, allowing a free flow of ideas and information. Interviewers frame questions spontaneously, probe for information and take notes, which are elaborated on later. This method is recommended as useful in all phases of development activities identification, planning, implementation, and evaluation (TIPS, 1996).

In the Dabena-Didessa Valley there are some management practices by government. For the whole valley there are few rangers of which I know only three on this study site. The rangers are paid a meager 500 Birr/month which is equivalent to 15 Sterling Pound. They are part time watchers. The reason of hiring them is that there are some two small forest spots which the Regional Government Forest and Wildlife Office left as a site of controlled hunting areas and community based forest management. These areas are simply nominal and there exists no control as my reconnaissance studies showed. These rangers temporarily report wildlife killing to police to show that they are on their job. This is just an attempt to continue to get the salary for no service. On the Didessa escarpment, there is a forest management practice named "Jorgo Wato" Participatory Forest Management." The name seems to be a nominal one. Particularly, animals are out of the management practice.

3. Study site

The study site is one of the most inaccessible areas in Ethiopia once known as "the great unknown" (Waterbury, 1988). Its remoteness is due to several factors that Waterbury (1988) explained but focus is given here to its geographical location, the basin physiognomy and the capacity of the country to develop such remote areas. Within the Ethiopian territory, the Blue Nile is called "Abay". It is made of several tributaries while Lake Tana contributes to the Blue Nile about 30%. The lion share of the volume comes from the Oromia Regional state. Six big

rivers: Didessa, Anger, Bir, Guder, Dabus, and Fincha are from Oromia Regional State. The Didessa River, which contributes a huge volume of water to the Blue Nile, is now suffering major deforestation. A large part of this area, almost all, lies in the Dabena Valley, one of the tributaries of the Didessa River. This calls for appropriate conservation strategy and action to secure continuous flow of the river for the lower riparian countries including the Ethiopian territories for sustainable development and biodiversity conservation. The focus of this Study site is shown in Fig. 1. Six Districts (Woreda) share the study site. Even if there is a clear demarcation on the paper, no visible boundaries of the six districts on the ground. As a result, the area is considered as “no-man’s land” since virgin forests such as this one belongs to government.

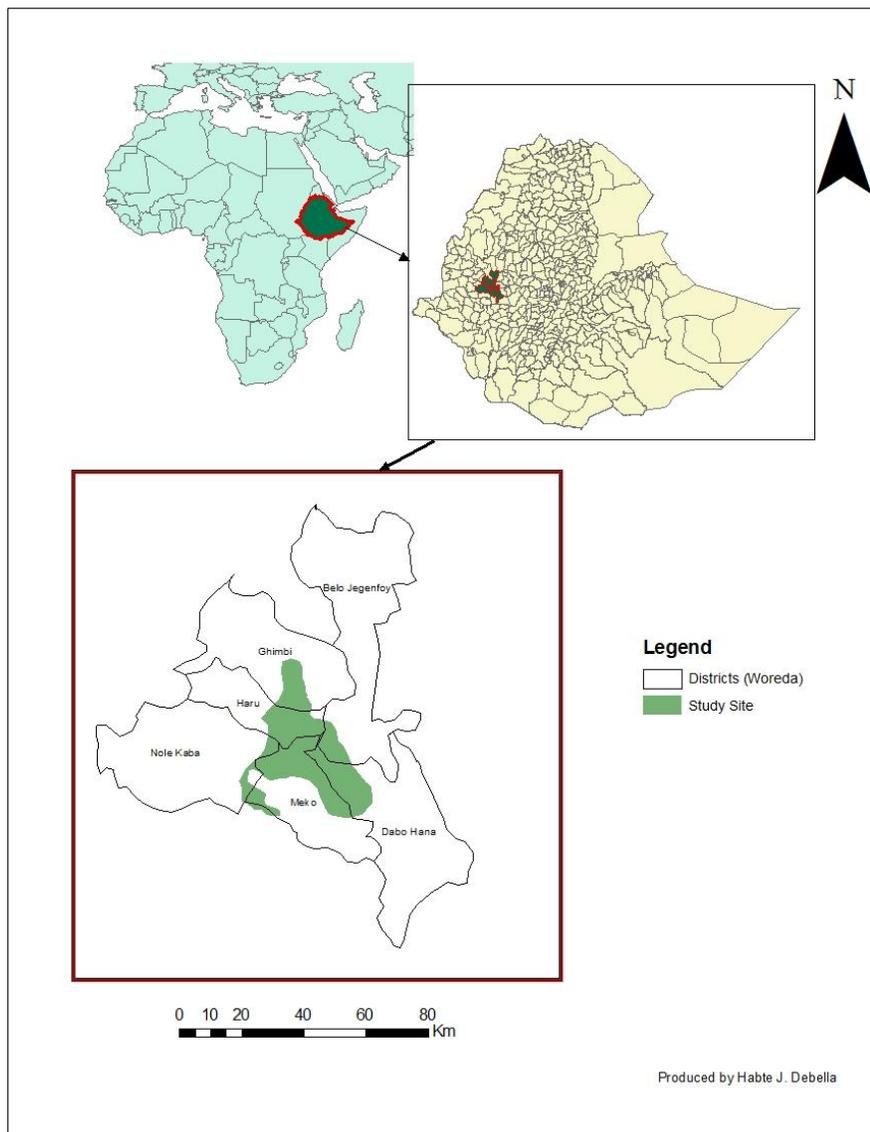


Figure 1 Study site showing sharing Woreda (Districts) of the study site (green). All Districts are in the Oromia Regional State except Belo Jegenfof which is found in Benishangul Gumuz Regional State.



4. Study Scope and Objectives

The key aims and objectives of the socio-economic study include:

1. To provide an accurate representation of the social, cultural and economic conditions of the population surrounding the Dabena-Didessa proposed National Park;
2. To identify the potential socio-economic positive and negative impacts of the park, operations; construction of infrastructures in and around the park;
3. To develop attainable mitigation measures to enhance positive impacts and reduce or avoid negative impacts;
4. To develop management and monitoring measures to be implemented throughout the life of the national park.

5. Conceptual Framework of the study

Key informant interviewees were selected from two Districts (Woreda), namely, Nole Kaba and Meko Woreda. Interviewees were selected from management, forest guards, community elders and farmer housewives. Spatially, they were selected from the Dabena-Didessa Valley to the escarpment. Brainstorming discussions were made before each interview. Interview guidelines and discussion topics were prepared before arrival in the field.

5.1. Discussion topics

The number and kinds of topics to discuss with key informants depends on time and resources available.

Interview questions systematically targeted the degree of forest dependency; the history and current status of bush meat; poverty, forest management; and possible solutions concerning the future conservation of Didessa River valley.

Key informants were chosen according to experience, activity in the forest management practice, and their involvement in the farming community. One of them is a former illegal hunter who said that he killed about 200 buffaloes for meat starting from 1984 until now. The informants were also involved in previous studies and their reliability is based on prior knowledge of their experience. A freer interview was conducted that genuine information has been obtained.



6. Review of available information

Available information on the six Districts surrounding the DDNP was gathered on the socio-economy of the six surrounding districts. This includes main crops, livestock and demography.

7. Methodology

Since this survey is a pilot study, the study used few systematically selected interviewees than recommended by TIPS (1996). Pilot study refers to 1. Feasibility or small-scale versions of studies conducted in preparation for the main study and 2. The pretesting of a particular research instrument. Good pilot studies increase the likelihood of success in the main study. Pilot studies should warn of possible project failures, deviations from protocols, or problems with proposed methods or instruments and, it is hoped, uncover local politics or problems that may affect the research (Teijlingen et al., 2004).

The result is based on an in-depth interview with these five males out of which four have been videotaped and one previous poacher who was not video tapped but interviewed and two women who were too shy to speak on video. Interviews of the poacher and two women were note-taken.

This researcher is an interviewer since the local language is his mother tongue and he understands the local culture and the subject matter. Care was taken to maintain their willingness either to remain anonymous or public..

8. Administration of the Survey

Interview guide was prepared in English and translated into Afaan Oromo, the official language of Oromia Regional State and the local language of the DDNP area. The questionnaire was fully conducted by the researcher himself. After gathering the data from the seven

interviewees, the results that seem equally important among the interviewees was sorted out and summarized under each review topic in boxes.

9. Limitations

There is no motor transport system in this area and torrential tropical showers filled almost all streams that field assistants were reluctant to follow the researcher because of the risks of being drowned. The villages are very far apart from each other and walking from door to door hindered structured interviews which were originally planned. All administrations took place by walking on foot at the door steps of interviewees in their Tikuls (hats).

Furthermore, key informant interviews have some limitations and the limitations also require mitigations. Limitations and mitigations of key informant interviews have been provided in (Table 1).

Table 1 Limitations and mitigations of key informant interviews.

Limitations	Mitigations
Information obtained can be biased if the key informant was not properly selected. Key informants are not necessary among village elites or leaders; a key informant can also be a simple farmer who is known to be smart, respected and outspoken.	Key informants were carefully selected carefully based on their age and experience in the community.
Results of key informant interviews will not necessary be representative of what the entire community thinks and they may overlook the perspectives of community members who are less visible. Again, this stresses the importance of careful selection of key informants.	Indirect assessments have been done to check for the representation of ideas of key informants.
The information that you will get will provide very little basis for quantification. This is why such method should be used in conjunction with surveys.	Personal observation and desk top data have been used in addition to key informant interviews.
Open-ended information is more difficult and time-consuming to synthesize well enough to obtain clear results. Also, it can be difficult to keep interviews focused, making different interviews difficult to compare properly.	The number of key informant interview was kept to minimum to reduce noisy data.
Key informant interviews are also usually more difficult to conduct and require more skills from the interviewer, needs to be well prepared and well informed in order to get the most out of the interview.	The interviewer has prepared himself and has got appropriate training and consultation with a sociologist before going to field.
Key informant interviews are also susceptible to interviewer's biases, as the interviewer may only pick up information that confirms his/her preconceived ideas.	Key informant interviews have been fully recorded and transcribed. The record has been translated into English.



10. Results

10.1. Key informant interview

The interviewees are five men: one head of the forest guard (HOFG); one regional timber and logging administrator (RTLA); one daily laborer in logging (DLL); one community elder (CE), one previous poacher (PP) and two females who are housewives (HW), all who lived there for their entire lives. The female respondents opted to remain anonymous and too shy to appear on the video.

The summaries are presented in a Box format from Box 1 to Box 6, based on interview topics.

BOX 1. DEGREE OF FOREST DEPENDENCY

“We depend on forest for grazing livestock, honey (both domestic beehive and wild honey); house construction. It is our life. Above all, each day we collect firewood and water from the nearby forest. As forests get far away from our living area, all things get far and far.”

(Anonymous house wife)

“We need the forest to remain as it is. We heard that they are leasing the whole forest to investors. This is dangerous for our lives and our livestock. Without this forest we have to leave this area”.

(Anonymous house wife)

“During the 1984 famine, the sole source of food came from this forest. I killed 200 buffaloes from 1984 until now, by the request of the community, each day coming to my home. I was a sharp shooter. Moreover, there is a big root that the community used to gather from this forest. It is called **Burii**”.

(A former illegal hunter)

BOX 2. THE HISTORY AND CURRENT STATUS OF BUSH MEAT

“We were given one Minishir rifle and ten bullets to protect ourselves from buffalo herds which were displaced by Anger Didessa State Farm and overrun our village. We killed the first buffalo and discussed what to do with its meat. We decided to partition each buffalo into 20 places for meat and pay one birr [0.5 USD that time] for each partition to buy bullets for the next level defense. Then it continued like that. Now one buffalo costs about 3000 birr [150 USD now] in underground markets”.

A 70 year elder in the Dabena-Didessa River Valley

“We know that meats of warthogs, bushbucks, giant forest hogs, pigs and even buffaloes are transported on horse, mule and donkey backs to Nole Kabba and sold in hotels. However, since it is underground there are no witnesses or authorities following and prosecuting them”

The head of forest guards at Jorgo wato forest

BOX 3. POVERTY

When the researcher asked how life is, one man opted to tell in singing [his eyes full filled tears], rather than telling in words. The video was sent in complement to this report. The content of his song was translated as follows:

“My poverty is like a strong male,
It strangled me with ropes,
I could not escape from its ropes,
Who shall untie me from it?
With a sharp knife and spears?”

(An ex-militia of the Derg regime who is currently an employee in a logging industry)

“This exotic forest of Tsid [*Cupressus lusitanica*] dried our land and water and left us without livestock”.

(The head of forest guards)

“Previously my monthly salary was 427 Birr [21.46 USD] per month. Last year our salary was raised to 646 Birr [32.47 USD]. After tax we receive 551 Birr (27.61 USD). This money is not enough even for coffee and salt!”

(The head of forest guards)

Box 4. FOREST MANAGEMENT

“Recently the authorities held a teaching workshop with the community about conservation of forest and wildlife not to cut trees and kill wild animals. It was good if the community accepted the teaching and practiced it. However, logging and wildlife killing continued as never before”.

(Head of forest guards)

“The Oromia Forest and Wildlife Enterprise is trying its level best, but it could not harvest as much timber as planned due to road and its early establishment.”

(Regional timber and logging administrator)

“It is true that the exotic trees are not good for the environment and were not selected accordingly but for timber”.

(Regional timber and logging administrator)

“Even though the community planted this forest, cared for it and guarded it, it is getting nothing out of it. They cut it and transport it away. We do not know where it is taken”.

(Head of forest guards)

Box 5. POSSIBLE SOLUTIONS CONCERNING THE FUTURE CONSERVATION OF THE DIDESSA RIVER VALLEY

“The solution is to make the forest a federal national park”

(Regional timber and logging administrator)

“For me, it is much better if the forest will be a national park”.

(Head of the forest guards)

“If the forest becomes a park, the park may open for us work opportunities such as selling tea, coffee and food. Particularly, this is good for us since men do not cook around here”.

A house wife in the Didessa River valley.



10.2. Existing data

The Central Statistical agency of the Federal Democratic Ethiopia reported several parameters of Ethiopia by Woreda (Districts) in 2007 (<http://www.csa.gov.et/>).

This includes demographic and socio-economic data. Each data for the two Zones of Oromia: Illubabor and West Wollega are presented in Table 2 and 3. These two regions are areas that border and in which the DDNP is located (see Fig.).

10.2.1. Demographic presentation of the six woredas surrounding the DDNP

10.2.1.1. Population

The towns in these districts are at very low developmental stages and most of the population is located in Rural areas (Table 2).

Table 2 Population by sex of the six Districts (Woreda) which surround and contain the study site. The study site is predominantly located in rural areas and far away from towns.

Name of the District	Male	Female	Rural	Urban	Total
Mako	10,799	11,202	22,001	-	22,001
Nole Kaba	29,189	30,637	54,730	5,096	59,826
Dabo Hana	20,471	20,814	36,444	3,022	41,285
Belojegonfof	15,983	14,160	27,381	2,762	30,143
Haru	33,178	34,084	62,392	4,870	67,262
Ghimbi	36,708	37,915	-	-	74,623

10.1.1.2. Economic status of the regions in which the study site is located

The production of the five woredas (excepting Belojegenfof) which is located in Benihangul Gumuz is shown in Appendix 1. The rest five districts are located in the Oromia Regional State. This is the potential production capacity. However, the main crops in the area are Tef (*Eragrostes tef*, different kinds of lowland beans, burley, corn, and spices). The main livestock production in the study area are zebu cattle, goats, chicken, sheep, and equines. Due to the presence of tse-tse fly, livestock production is minimal.

10.1.1.3. Personal observation

Personal observation shows that the study site is far away (at least 30 km) from the small towns located at the Woreda (District) administration headquarters. No electricity, no telephone lines,



no paved roads (only dry season roads approach forest fringes on all sides), no tap water, no hospitals (small health stations under equipped and staffed are located in some villages; most people walk bare foot including children and women. There is malaria that one of my field assistants died of malaria infection this summer. Elementary schools (upt grade 4) are located in some of the villages. Some farmers have mobile telephones but due to the absence of electricity charging is done once every market days in small towns which are far from the study site. There is severe malnutrition feeding the same kind of food everyday. This is visible from children with Kwashiorkor (a form of malnutrition that occurs when there is not enough protein in the diet) children in the villages. There are no toilets and people defecate in nearby bushes. Transportation to markets is on foot. Access to market is extremely limited.

11. Conclusion

The following conclusions can be generated from the interviews; personal observation and desktop data:

1. There is rampant wildlife killing and bush meat trade in the surrounding districts.
2. There is a fear in the community that the forest will be given to investors that clear all the forests and displace the surrounding community.
3. The community is concerned that the Dabena-Didessa forest is to be given to investors.
4. The community believes that the Dabena-Didessa forest is part of its life and should not be given to investors.
5. The community believes that park formation is a much better alternative for sustainable development.
6. The community is affected by the forest itself because of inappropriate management such as plantation of exotic trees that include the bulk of two species, *Cupressus lusitanica* and *Eucalyptus camaldulensis*.
7. Community based forest management plans did not benefit the community and the community opts to return the forest to the federal government for its appropriate management.
8. The community believes that the forest and wild animals can be protected better by The Federal Government than the Regional State.



9. Current forest management practices did not take gender into consideration and did not benefit them. Perceptions of female interview participants is that park formation will bring them more job opprotuinites in the surrounding businesses.
10. Most forest guards are not properly paid and those existing are reluctant to do their job.
11. Poverty is still soaring around the Dabena-Didessa Valley.
12. Most population lives in the rural areas.
13. The degree of forest dependency for firewood, wild honey, bushmeat, construction material is high.
14. Few people live in the forest for fear of malaria and Trypanosomiasis against livestock.
15. Most of this area is not convininet for agriculture because of the physiognomy of the land.
16. The community depends on the buffer zones for traditional apiculture, grazing, firewood gathering, medine among others.
17. Forest management is given priority than animal. Animals are not guarded equally to forest itself.

12. Proposed mitigation strategies

The fear of the community to lose the forest to investors by the regional governments can only be guaranteed by park formation. From current trends at Bale Mountains National Park, Semen Mountains National Park and others it is evident that parks create job, facilitate services such as roads, health services, schools, telecommunications, electricity and security. Current state of the community in and around the Dabena-Didessa proposed national park shows that they live below poverty line. They walk on foot, most are illiterate, their children are undernourished and life is more miserable than other part of the same regional state. Simply, watching at the way pole in the Dabena-Didessa River valleys live, it is possible to guess with reasonable error that several things for life are missing.

It should be taken into consideration when establishing a park that priority is given for the surrounding population for all things including employment, benefit sharing and leaving sufficient buffer zone from which the community gets its life support materials for daily life. Above all, park management system should take into account gender, education, the elderly and children in its plans.



Acknowledgement

I would like to thank the Oromia Forest and Wildlife Enterprise, the Illubabor Zone Forest and Wildlife Enterprise, the Mako Woreda Administration, West Wollega Zone Forest and Wildlife Enterprise, and Nole Kaba Woreda Administration. I am also grateful to forest guards and assistants.

This research is funded by the **Rufford** Foundation Small Grants for Nature, Grant ID. 15203-1.



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Appendix 1. Area, Production and Yield of Crops for Private Peasant Holdings for Meher Season 2007/2008 (2000 Ethiopian Calendar) (Central Statistical Agency of Ethiopia, 2007 Census).

Illubabor				
Crop	Number of holders	Area in hectare	Production in quintal	yield (qt / ha)
Grain	269379	234425.02	3658903.69	
<u>Cereals</u>	262408	205295.69	3392244.39	
Teff	140221	66128.6	970097.94	14.67
Barley	44179	4272	46384.22	10.86
Wheat	13940	*	*	*
Maize	230786	73945.92	1409666.78	19.06
Sorghum	174584	51607.22	837832.59	16.23
Finger millet	45894	6717.82	89922.51	13.39
Oats / 'Aja'	*	*	*	*
Rice	*	*	*	*
<u>Pulses</u>	145715	15251.07	178241.38	
Faba beans	43528	4799.96	62960.09	13.12
Field peas	22299	2951.27	56529.86	19.15
Haricot beans	104822	4308.69	33220.67	7.71
Chick-peas	8878	*	*	*
Lentils	-	-	-	-
Grass peas	*	*	*	*
Soya beans	7295	*	*	*
Fenugreek	16853	149.66	538.14	3.6
Gibto	-	-	-	-
<u>Oilseeds</u>	69855	13878.26	88417.92	
Neug	33454	8495.23	29811.36	3.51
Linseed	9595	286.29	3083.46	10.77
Groundnuts	10880	*	*	*
Safflower	*	*	-	-
Sesame	25546	4727.32	52435.01	11.09
Rape seed	4116	76.85	467.8	6.09
<u>Vegetables</u>	159896	2270.94	85749.67	
Lettuce	-	-	-	-
Head cabbage	18807	28.76	2865.87	99.65
Ethiopian cabbage	88051	391.42	29998.55	76.64
Tomatoes	3716	3.73	114.12	30.6
Green peppers	62897	441.1	26916.17	61.02
Red peppers	62902	1405.92	25854.96	18.39
Swiss chard	-	-	-	-
<u>Root crops</u>	127347	2662.33	232100.13	
Beetroot	18096	28.29	2886.94	102.05
Carrot	2934	5.08	431.21	84.88
Onion	9536	28.14	2642.73	93.91
Potatoes	2921	*	*	*
Garlic	14325	*	*	*
Taro / 'Godere'	74853	869.43	72657.86	83.57
Sweet potatoes	43819	1667.76	148830.96	89.24
<u>Fruit crops</u>	107713	1826.87	138073.21	
Avocados	6625	*	*	*
Bananas	73669	855.97	39973.76	46.7
Guavas	8432	*	*	*
Lemons	6239	17.28	1399.91	81.01
Mangoes	40031	415.48	29050.18	69.92
Oranges	23144	*	*	*
Papayas	36573	167.5	42172.77	251.78
Pineapples	*	*	-	-
Chat	76628	2181.82	21578.21	9.89
Coffee	140728	42158.8	266022.04	6.31
Hops	22552	92.29	1181.37	12.8
Sugar cane	34479	492.85	152827.87	310.09

Appendix 2. Transcript of head of the forest guard (HOFG), translated from Afaan Oromo to English.

Respondent 1 (here after **Respondent** in this transcript) was selected as a key informant interview for his tremendous experience and knowledge concerning forest and wild animals in the area.

1. What is your name?

Respondent : My name is Tamiru Anissa

2. How long have you been a forest guard?

Respondent 1. I was born and raised here. However, I was contractually hired and serving as a forest guard since 1989.

3. Since you have been serving as a forest guard, how many regimes have come to power?

Respondent: Two. The Military Government of Socialist Ethiopia (Derg) and the current government.

4. What was being done during the time of the Derg Regime concerning forest management practice?

Respondent: During that time there was demarcation. There was a Kebele called “Siba Beru”. In the process of plantation, it was taken over by the forest. The Kebele was entirely displaced. The whole area was then planted with “Tsid” (*Cuperusus lustanica*) a tree which was previously not here.

Tsid has increased forest cover which is good but it displaced many farmers and also destroyed grasses and dried up streams.

5. Do you mean it destroyed grasses that domestic and wildlife graze?

Respondent: Yes it did. It totally changed the area. There is no water now but empty runways.

6. When was the plantation take place?

Respondent: Tsid (*C. lustanica*) was being planted from 1977 to 1989.

7. Did they stop planting now?

Respondent: Yes. Now there is no plantation going on.

8. How many forest guards are there to guard all these forests?

Respondent: Only four for two Woredas. One guard guards about two Kebeles. The four guards are unable to guard all these forests. It is too large for them. It is simply nominal that it is being guarded.

9. Is there any other support that you get from government other than your salary?

Respondent: Some authorities occasionally visit the camp and talk to anyone they see here.

They just randomly say what comes to their mind such as the forest will expand etc. nothing more.

They never enter the forest.

10. Is there any attention given to animals than timber?

Respondent: Nothing! They simply talk that no animals should be killed ... that and this....

11. Is there any danger that the wild animals face because of appropriate conservation?



Respondent: Yes. Animals are being killed by poachers each day. Previously wild animals are as plenty as these trees. Now it is even difficult to see one.

12. Do you mean there is no attention given to animals?

Respondent: Yes, there is no attention given for the conservation of animals. Wild animals are continuously killed, each day, by poachers. There is no follow up by authorities. We are forest guards.

13. As I heard from some people around here, there is bush meat trade in this area. Is that true?

Respondent: Yes, we also hear that warhogs, bush backs, pigs, meat traded to hotels underground. No one followed and prosecuted them and there is no witness against them.

14. The buffaloes in this forest are very scarce. I tried to see them but found only dead. Does it mean that poachers also kill buffaloes?

Respondent: Yes, buffaloes are being killed, particularly, during the short rainy seasons. They go to nearby villages to graze on corn. Perhaps they could not get enough grass from the forest. During this time buffaloes get in conflict with farmers and being shot. One buffalo was shot recently in Siba Dallo Kebelle. We say it while hyenas eat the carcass. The poachers also kill buffaloes. This one escaped after being shot. They could have butchered it.

15. How much is your salary?

Respondent: Previously it was 427 Birr (21.46 USD) per month. Last year our salary was raised to 646 Birr (32.47 USD). After tax we receive 551 Birr (27.61 USD).

16. Is this salary enough for you to guard the forest full time?

Respondent: No. The salary is not enough even for coffee and salt. We work on part time basis. Since I was born and rose year I share from the community. They offer me some plots to farm away from this forest.

17. Yesterday morning, there was a gun shot in the forest. What do you think the shot is for?

Respondent: Yes, each day there are gun shots. They shot at wild animals. This is known. But we cannot go and find them for they do it deep in the forest. The guns are from the Militias.

18. Is this a government gun?

Yes, of course! It was issued by the government to the militias to maintain security in the community. We reported such cases several times to the Kebelle Administration. There is no solution until now.

19. That is with Kalashnikov, yes?

Respondent: Yes, it is.

20. How do you think about the future of wildlife here? How can the forest and animals be equally protected and flourish back to where they were?

Respondent: The government is planning to divide the forest in blocks and give to the community as a community based forest management. Recently government officials gathered the community and were teaching them about the plan. It was good if the people accept and practice the teaching. However, after this teaching, wildlife killing and illegal logging continued at a more intensified rate. It shows that community based forest management seems does not work. My



suggestion is to divide the forest into blocks and give the blocks to forest guards according to the capacity of each guard.

21. Do you think that making the forest a national park will solve the problem?

Respondent: Yes! Definitely, it is much better. It is a better option.

Mr. Tamiru Anissa, head of the forest guards, I appreciate your kindness to accept my interviews and answering each of them patiently.