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Trends of Land Use/Cover Changes in Mandura District, Benshangul-Gumuz Regional State, Ethiopia

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Article History: Received: January 19, 2016; Revised: March 21, 2016; Accepted: May 1, 2016

Abstract: The main objective of this study is to investigate trends of land use/cover changes since the 1980s in Mandura district of Benshangul-Gumuz regional state. A total of 210 farm households from three kebeles: 105 from the local people and 105 from migrants were surveyed in May 2011 to acquire data on socioeconomic and land use. Aerial photographs of 1982 and SPOT-5 image of the 2006/07 were used to generate data on land use/cover changes. The results of this study indicate that respondents perceive that there were land use/cover changes in the study area since the 1990s. In view of this, respondents feel that bamboo trees, grazing land, grassland as well as wildlife have shown decline since the 1990s. The aerial photograph and spot-5 image analyses reveal the same result. Of the total 35,386 ha of land that underwent conversion, farmland constituted 85.5%, riverine trees 12.4% and settlements 2.1%. The major drivers of land use/cover changes identified by respondents were population increase which in turn has triggered expansion of agriculture and deforestation. Consequently, the indigenous population has faced land shortage for practicing shifting cultivation. Furthermore, they were forced to change their livelihoods which in turn triggered natural environment degradation because of charcoal and wood selling practices. The study finally concludes that trends in land use/cover changes are evident and needs proper attention and appropriate interventions.

Keywords: Indigenous Population; Land Use/Cover Change; Migrants; Shifting Cultivation
1. Introduction

Needless to say, Ethiopia is a country predominantly dependent upon agriculture for employment, foreign exchange as well as source of livelihoods for millions of smallholders. Agriculture in Ethiopia is mainly reliant upon natural resource stocks. In this case, good agricultural lands, fairly distributed rainfall throughout the year as well as other good biophysical factors are indispensable to carry out agricultural activities successfully. The reality on the ground reveals a different scenario where good biophysical conditions are rarely found in the country. Ethiopia can broadly be classified into three physiographic regions: the highlands, the lowlands and the rift valley. The highlands are favorable climatically, suitable for practicing agricultural activities and less infested with tropical diseases like malaria and trypanosomiasis, thus, attract millions for habitation (Kloos and Adugna, 1989). As a result, these areas, specifically the north, happen to be the most vulnerable and degraded physiographic regions in the country (Bruene, 1990; Woldemariam, 1990; Berisso, 1995; McCann, 1995; Nyssen et al., 2009). As a consequence of human and livestock population growth and heavy economic activities concentration, land suitable for cultivation is running short in much of the highland regions of the country (Tekle and Hedlund, 2000; Zeleke and Hurni, 2001; Tegene, 2002; Bewket, 2003; Amsalu, 2006; Garedew et al., 2009; Tsegaye et al., 2010). Furthermore, heavy concentration of both human and livestock population accentuated biophysical loss and eventually induced over grazing and soil erosion that in turn led to land degradation (Nyssen et al., 2009). The situation mentioned above with repeated famine and drought forced the government to initiate resettlement to the lowlands. Furthermore, individuals have also been forced to move to the lowlands in search of arable land. Consequently, a similar pattern of natural environment depilation has occurred in the lowlands as well. In the study area too, a similar situation has prevailed since the mid 1980s following massive government supported resettlement and self initiated in migration from the surrounding regions since the 1960s (Mekuria, 2008). Such movements have gradually resulted in demographic pressures to happen in the study district.

Land use/cover changes are one of the most important environmental concerns worldwide. This is so because it has direct link on the planet’s climate change, ecology and human society (Campbell et al., 2005). Land use/cover changes are the outcomes of interplay of many factors. The simple assumption that land use/cover changes have caused by few factors do not hold true rather many interrelated complex factors best explain the processes (Lambin et al., 2001; Lambin et al., 2003). The same authors further contend that “Identifying the causes of land-use change requires an understanding of how people make land-use decisions and how various factors interact in specific contexts to influence decision making on land use” (Lambin et al., 2003). Decision making processes in turn are affected by different factors prevailing at local, regional and global levels.

Different researchers have put the reasons for land use/cover changes into two broad categories as proximate (direct) and underlying (indirect or root causes) (Geist and Lambin, 2002). The same source further contends that proximate factors occur at
local or household/farm level whereas underlying factors emanate from regional, country or even global level. As a consequence, proximate variables are context and region specific while the root causes on the other hand will be the result of complex political, economic and social conditions occurring at a distance (Lambin et al., 2003). Farm level analysis allows to address proximate causes and to interpret them in reference to underlying causes (Mottet et al., 2006). Long et al. (2007) identify industrialization, urbanization, population growth, and economic reforms as major factors of land use changes in Kunshan, China. Another study in Zimbabwe also recognized that pressure for agricultural land, building materials and fuel wood triggered land use/cover changes (Mapedza et al., 2003). Cropland expansion by stallholders in Africa is most prevalent whereby it intensifies and/or the main cause of land use/cover change. Since the 1850s Africa and other regions like south and Southeast Asia, Latin America and Australia experience rapid land use/cover changes (Lambin et al., 2003). The degree of this change considerably varies from country to country. Land use/cover change is the manifestations of changing human demographics, natural resource uses, agricultural technologies, economic priorities, and land tenure systems” (Wolter et al., 2006).

A study conducted in Afar, identifies more than fifteen factors that cause land use/cover changes (Tsegaye et al., 2010). The driving forces documented in the study include migration from nearby highlands triggered by drought, land tenure and government policy changes (Tsegaye et al., 2010). Another study in the Central Rift Valley of Ethiopia reveals that population growth, decline in agricultural productivity, land tenure change and erratic rainfall have the major drivers of land use/cover in the area (Garedew et al., 2009). The land use/cover changes study in the northwestern Ethiopia comments that population dynamics, existing land tenure, institutional and socioeconomic conditions should be critically examined before experts devise any land related policy (Zeleke and Hurni, 2001).

In sum, the factors that affect land use/cover changes are complex and interrelated. The study of land use/cover changes demands a careful investigation of these complex and interrelated factors at local levels. Of the few available studies conducted in the study area, the method of data acquisitions were gravitated more towards the ethnographic and historical methods (Yntiso, 2003; Abute, 2004; Endalew, 2006; Mekuria, 2008). While those studies are important for acquisition of qualitative information on the ground, they fail to capture and quantify changes in the biophysical variables of the study area. This study attempts to fill this gap by employing a range of data acquisition methods, viz., aerial photographs, satellite imageries, field surveys, and group discussions. Furthermore, the previous studies in the study area did very little to unravel the complex factors and linkages between land use changes and associated environmental changes.

The general objective of this study was, therefore, to examine trends of land use/cover changes. Specifically the objectives were to: (a) assess views of different actors on land use/cover changes; (b) identify and categorize major drivers of land
use/cover as perceived by different actors; and (c) expound major problems encountered due to change in land use/cover at community level.

2. Research Methods

2.1. Description of the Study Area: Mandura District

The study was conducted in Mandura district, Metekel zone of Benshangul-Gumuz regional state. Mandura is situated between 10° 50’ 743” N and 11° 10’ 766” N and 36° 02’ 48”E and 36° 32’ 42”E longitude, about 546 kilometers away from Addis Ababa, the capital of Ethiopia. The total area of the district is about 1,100 square kilometer. Physiologically it is part of the northwestern lowlands where many development endeavors are currently taking place.

![Location map of the study area](image)

According to the third Ethiopian national census, Metekel zone has a total population of 276,367 of which Mandura district constituted 14.74%, 40,746 people (CSA, 2008). Rainfall and temperature records for the last twenty four years (1987-2011) are computed from the data obtained from Pawe meteorological station. The mean annual amount of rainfall received by the study station amounts to 1579.8 mm. More than 65% of the total annual rainfall is mainly concentrated between June and August. In fact the six months from May to October account a little greater than 96% of the total annual rainfall and these months are also the months during which the main agricultural activities are carried out. The average annual temperature of the area is 24.5°C. The corresponding amounts of maximum and minimum temperatures are 32.6°C and 16.4°C respectively. In general the study district is classified under the wet tropical (wet Kolla) agro-climatic region. With regard to altitude it ranges from 1015m to 1480m above mean sea level.

2.2. Data Collection and Analysis

This study attempts to figure out people’s perception of the possible causes of land use/cover changes. Information has been generated through questionnaire surveys, in-
depth interviews and focus group discussions with indigenous people, migrants, local experts and policy makers at different jurisdictional levels. A total of 210 households selected through a stratified random sampling have been surveyed using structured and pre-tested questionnaire. A group containing 8-10 elderly people with deep knowledge of the study sites was selected for an in-depth interview and focus group discussions. The data were presented using figures and simple frequency tables.

Moreover, data pertaining to land use/cover changes were assessed by analyzing aerial photograph of 1982, remotely sensed image of the 2006/07 (Spot_5 image 2006/07), and toposheets with scale of 1:50,000 were scanned and used for geo-referencing the aerial photographs. Aerial photograph, satellite image (spot) as well as toposheets were acquired from the Ethiopian Mapping Agency (EMA). The digital aerial photograph was geo-referenced into a map coordinate system using the Universal Transverse Marketer (UTM) geographic projection using clearly observed and selected control points on 1:50,000 topographic map using ERDAS imagine 9.1 with 0.5 Root Mean Square (RMS) error. Then the VIRTUOZO software was used for removing all the errors in the aerial photographs and geo-referencing the images to UTM projection. Editing of the original image files was enhanced through sharpening with Adobe Photoshop Ver.5.0.

The aerial photograph was classified into different land use/cover types visually using a technique called onscreen digitization with the help of ArcGIS software. During interpretation of the photo those elements (tone, texture, shape, association, pattern and size) that aid for visual interpretation had been used.

Table 1. Sample size and profile of household respondents in Mandura

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Sample Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Peasant Associations</td>
<td>3</td>
</tr>
<tr>
<td>Household heads interviewed</td>
<td>210</td>
</tr>
<tr>
<td>Percentage of total household heads</td>
<td>16.2 %</td>
</tr>
<tr>
<td>Age range (years)</td>
<td>22-80</td>
</tr>
<tr>
<td>Average age (years)</td>
<td>41.7</td>
</tr>
<tr>
<td>Average family size</td>
<td>6.2</td>
</tr>
<tr>
<td>Average land size( ha)</td>
<td>1.2</td>
</tr>
<tr>
<td>Male</td>
<td>161</td>
</tr>
<tr>
<td>Female</td>
<td>49</td>
</tr>
</tbody>
</table>

However, the satellite image was interpreted with aid of field collected ground truth using global positioning system (GPS) and ERDAS IMAGINE 9.1 software. The sample size and profile of household heads surveyed were presented as depicted in the Table above (Table 1).
3. Results and Discussion

3.1. Land Use/Cover Changes since the 1980s: Aerial Photograph and Spot Analysis

Attempt has been made to identify major land use/cover types using aerial photograph and satellite image of 1982 and 2006/07 respectively. The area coverage and spatial distribution of land-use and land cover types identified are presented in Table 2.

Table 2. Land use/cover changes in Mandura district between 1982 and 2006/07

<table>
<thead>
<tr>
<th>Land use/cover classes</th>
<th>Land use/cover Changes</th>
<th>Area changes of Land use/cover</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1982</td>
<td>%</td>
</tr>
<tr>
<td>Forests</td>
<td>2598</td>
<td>2.59</td>
</tr>
<tr>
<td>Woodlands</td>
<td>15712</td>
<td>15.63</td>
</tr>
<tr>
<td>Shrublands</td>
<td>33649</td>
<td>33.48</td>
</tr>
<tr>
<td>Grassland with scattered trees</td>
<td>5858</td>
<td>5.83</td>
</tr>
<tr>
<td>Bare land</td>
<td>5466</td>
<td>5.44</td>
</tr>
<tr>
<td>Riverine trees</td>
<td>2502</td>
<td>2.49</td>
</tr>
<tr>
<td>Farmland</td>
<td>34534</td>
<td>34.36</td>
</tr>
<tr>
<td>Settlement</td>
<td>181</td>
<td>0.18</td>
</tr>
<tr>
<td>Total</td>
<td>100500</td>
<td>100</td>
</tr>
</tbody>
</table>

3.1.1. Forests

As elsewhere in Ethiopia, the forest cover of the study area shows a gradual decline during 1982-2006/07. Forest cover decreased from 2.59% in 1982 to zero in 2006/07. In terms of land area the district lost 2,598 ha of forest cover between 1982 and 2006.

3.1.2. Woodlands and shrublands

In terms of area woodland is one of the largest land use/cover types in the study district. The proportion of woodland cover at different periods also shows change. In 1982 it constitutes 15.63%. The change was dramatic in 2006 where the proportion dropped to a mere 0.23%. Woodland loss in the district totaled 15,480 ha between 1982 and 2006.

Shrublands were one of the largest in terms of area in 1982 constituting a little more than 33% of the total area in the district. The proportion declined to 23.98% between 1982 and 1982, the second largest changes in the land use/cover category under consideration. Thus, a total of 9, 549 ha of shrublands have been converted to different land use/cover types over a period of 25 years.
3.1.3. Grasslands with scattered trees and bare land
Like land use/cover categories mentioned above, grassland with scattered trees follow similar pattern of decline. The grassland in the area has declined from 5.83% in 1982 to 0.04% in 2006. Overall, 5,813 ha of grassland with scattered trees have been converted into farmland between 1982 and 2006.

Bare lands have also been transformed into other land use types. Their proportion declined from 5.44% in 1982 to 3.50% in 2006. The conversion totaled 1,946 ha over a period of 25 years.

3.1.4. Riverine trees
In the study district, it is common to see trees growing along river banks. In fact, most tall trees in the district are found along the banks of rivers and streams. The information generated from land use land cover maps for different years reveals that this class of land cover constitutes 2.49% and 6.85% of the total area in 1982 and 2006 respectively. The trend shows a gain of 4,380 ha of land between 1982 and 2006 (Figure 2).

3.1.5. Farmland and settlement
Farmland expansion was huge and it is the largest land use type that gained the largest proportion of land from other land use/cover types. In 1982, farmlands constituted 34.36% of the total land area in the district but the proportion increased dramatically to 64.5% in 2006. Between 1982 and 2006, a total of 30,266 ha of land have been converted to farmland. Of the total 35,386 ha of land that underwent conversion, farmland constituted 85.5%, riverine trees 12.4% and settlements 2.1%.

Figure 2. Land use/cover types in Mandura district in 1982 and 2006/07

Though a small increase, settlements have expanded between the study periods. The proportion of land under settlements constituted 0.18% and 0.92% between 1982 and
respectively. A total of 740 ha of land have been converted to settlements between 1982 and 2006.

### 3.2. Farmers’ Perception on Land Use/Cover Changes

Subsistence farmers in many parts of the developing world have kept on changing the natural environment in an effort to feed themselves. Basically this change is closely associated with the changing situations prevailing in the area as well as at national and global levels. Anthropogenic influences on the natural environment can be expressed in terms of gradual conversion or complete change of the natural environment. In the study area too, complete change as well as conversion of the natural environment has been evident since the 1980s and before. An attempt has been made to understand how the local population perceives the changes that have taken place some years back. Consequently, four land use/cover categories were identified and farmers were asked to give their views on how these changes occurred. As a result, the survey result yields the information depicted in the subsequent Figures.

The proportion of land under bamboo tree cover has been in a good condition in the 1980s. A little more than 57% of respondents reply favoring bamboo cover was high (Figure 3).

The figure further reveals that 76.7% of respondents state that bamboo tree cover has declined since the 1990s. In the same way in the 2000s bamboo cover has significantly declined as 93.3% of respondents have ascertained the situation. By the time this study was conducted (2011) many areas which were once covered with bamboo trees are devoid of this vegetation. The study by Embaye (2006) also indicates that bamboo can only be found in the protected spots and has totally disappeared from the rest of the area. The same author further pointed out the major drivers to be conversion to agricultural land, unsustainable cut for sale which eventually put the bamboo forest spectacular deterioration in the district.
Contrary to this, the proportion of arable land devoted for cultivation was small during the 1980s and increased since the 1990s (Figure 4). Partly the explanation is there was land redistribution in the nearby region (Amara region) which forced significant proportion of farmers to move to the study area. More than 92.4% of the respondents reaffirm that the proportion of cultivated land at present is significantly high.

![Figure 4. Distribution of farmers’ view on cultivated land changes, 1980s-2011](image)

As elsewhere in Ethiopia, grasses have versatile importance to the rural population. They are used for thatch on houses, granaries or outbuildings. Like other land use/cover, grasses have also been in a good status during the 1980s. Respondents support this assertion by 55.2% (Figure 5). The situation has changed since the 1990s where deterioration of grass has significantly high.

![Figure 5. Distribution of farmers’ view on grassland changes, 1980s-2010](image)

As it is indicated in Figure 5, 85.2% and 91.9% of respondents respectively confirm that grasses are seriously deteriorated in the study district in the 1990s and 2000s. In the focus group discussions that were performed, the farmers described the difficulty
they have faced to get grasses for purposes indicated above. They express that to get good quality grass they are forced to travel up to 30 to 40 km.

In the 1980s and before, significant proportion of the study area was covered with low land bamboo. These important and other vegetations have been cleared. Consequently, the wildlife once common in the district has been dwindling from time to time. In response to this, during the survey farm households stated that wildlife was commonly available during the 1980s, confirmed by more than 56 percent. But the situation since the 1990s has a different picture where there exists a significant decline of wildlife (Figure 6). This is also confirmed by Yntiso (2004) who stated that the deforestation process contributed to the tragic disappearance of wild animals and edible wild plants in Metekel zone.

![Figure 6. Distribution of farmers’ view wildlife Changes, 1980s-2011](image)

### 3.3. Drivers of land Use/Cover Changes and Associated Problems

Land use/cover change in the study area was high since the 1990s as perceived by farm households and further confirmed from aerial photograph and Spot-5 analysis. Respondents were asked to reason out possible causes of land use/cover changes. In this respect, a little greater than 30 percent of responses and 100 percent of cases associate land use/cover changes with population increase in the area. The share of deforestation, on the other hand, is 29.7 percent of responses and 96.7 percent of cases. Likewise, expansion of agricultural land accounts 29 percent of responses and 94.3% of cases. The corresponding share of the introduction of development projects is 10.5 percent of responses and 34.3 percent of cases (Figure 7).
Figure 7. Distribution of farmers’ view on causes of land use/cover changes

The overall assessment is that population increase triggers deforestation and expansion of agricultural activities which eventually result in land use/cover changes. The principal reason for population increase was flow of population from the nearby regions in search of land for cultivation and other related agricultural activities. This inflow of population in turn is triggered by drought and fine, demographic pressure, land re-distribution and shortage of arable land in the area of origin. This consequently has increased rural population size in the area of destination. As a result, this has created land shortage for shifting cultivators (the Gumuz) and pressure and deterioration of the natural environment. During field investigation, one of the residents stated that “twenty years ago it was possible to harvest bamboo trees for different purposes from around the homesteads but now we are forced to travel long distances outside of our peasant association, where at times we may not succeed in finding a bamboo tree”. This assertion clearly indicates that natural environmental change is well recognized and understood by residents.

During focus group discussions it was stated that small urban centers have been flourishing and, as a result, demand for natural resources for source of fuel and construction also simultaneously increased. Specifically the indigenous population widely cut trees and prepares charcoal for sale which was not formerly the tradition. They were forced to practice this activity following the inflow of migrants from the surrounding region. This has increased the demographic pressure and shortage of agricultural land for shifting cultivators. To derive their livelihoods they keep on clearing natural vegetation and grab as much land as they can and the routine continues in the same way. Consequently, this has resulted in natural resources depletion and change of livelihoods of the indigenous population which formerly used to be friendly with the environment.

Attempts were made to assess the current land use in the study district. As elsewhere in Ethiopia, the majority of rural residents of the district derive their livelihoods from agricultural activities. As a result, agriculture dominates the land use than any other activities.
Table 3. District level land under cultivation and amount of yield (2005-2011)

<table>
<thead>
<tr>
<th>Year</th>
<th>Cultivated land (hectare)</th>
<th>Percentage change</th>
<th>Yield obtained(Quintals)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>10636</td>
<td>-</td>
<td>110604</td>
</tr>
<tr>
<td>2006</td>
<td>12460</td>
<td>14.7</td>
<td>228834</td>
</tr>
<tr>
<td>2007</td>
<td>14156</td>
<td>12.9</td>
<td>269479</td>
</tr>
<tr>
<td>2008</td>
<td>17340</td>
<td>18.4</td>
<td>302914</td>
</tr>
<tr>
<td>2009</td>
<td>18556</td>
<td>6.6</td>
<td>352943</td>
</tr>
<tr>
<td>2010</td>
<td>23195</td>
<td>20</td>
<td>228154</td>
</tr>
<tr>
<td>2011</td>
<td>31147</td>
<td>25.5</td>
<td>731978</td>
</tr>
</tbody>
</table>

As can be seen from Table 3, the land that has been brought under cultivation is significantly high each year. It is also evident that the yield increase each year was obtained at the expense of bringing more land under cultivation. In subsistence agriculture, where the use of modern agricultural input is little or non-existent, yield increases are achieved by bringing more land under cultivation. Subsistence agriculture is inherently ineffective and, therefore, large areas of land are needed to meet the needs of rural households (Worku, 2007). As previous studies have indicated, much of the agricultural expansion targets marginal and ecologically fragile environments such as forests, woodlands, and steep slopes (Aredo, 1990; Mamo, 1994; Abute, 2002; Yntiso, 2003), which are not in most cases occupied and put under cultivation. Such expansion may eventually result in several land degradation. Based on data obtained from the district Agriculture and Rural Development Office, it is apparent that on average 2,930 ha of land has been brought under cultivation each year between 2005 and 2011, and the percentage change of cultivated land shows a remarkable increase each year (Figure 8).

Figure 8. An area which once covered with thick bamboo and other trees but now converted to farmland
4. Conclusion
Farm households’ knowledge on the changing natural environment has a paramount importance to devise appropriate natural resources conservation and utilization strategy. This awareness enables farm households and policy makers at different jurisdictions level to make appropriate and timely interventions whenever there is resource related problems. Cognizant of this fact, this study unveiled views on trends and drivers of land use/cover changes. In relation to this, the study revealed that respondents were well aware of the existence of land use/cover changes. Moreover, natural environment deterioration was the result of land shortage which consequently forced the indigenous population to shift from friendly way of utilizing the natural environment to unsustainable way of natural resource utilization including wood and charcoal selling. Equally important is urban population increase which triggered the wider use of products from the natural resource stocks like wood, bamboo, charcoal for different purposes. This means that drivers identified by farm households were diverse and interrelated with each other.

The study further identifies time and rate of natural resources decline. It was since the 1990s that decline of the natural environment accentuated and reached its peak in 2000s. Likewise, the 1982 aerial photograph as well as the spot-5 image of the 2006/07 reveals the same result. In this regard, Bekele (2008) has stated that the shift from unitary to federal state in 1991 had created a power vacuum during which time destruction of natural resources took place on a large scale. There is no clearly stated responsibility between the federal and regional governments pertaining to utilization and management of natural resources. Thus, other options of livelihood sources should be put in place to reduce and eventually reverse the problem and enhance sustainable resource management practices in the district.

5. Acknowledgments
The authors gratefully acknowledge the financial support they received from Haramaya University. UNISA also deserves their genuine appreciation for providing material support and helpful training during the development of the proposal for the project.

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The Sedentarization of Oromia Pastoralists: A Matter of Policy or Necessity?

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Article History: Received: January 22, 2016; Revised: March 27, 2016; Accepted: May 12, 2016

Abstract: Pastoralists and agro-pastoralists in Oromia occupy a large proportion of landmass although they lead unstable life in arid and semi-arid areas. A gradual conversion of pastoral households into agro-pastoralism is evident in many parts of the region where such conversion induces shifts in livestock production strategies and land use. Crop cultivation has relatively increased over the last few decades where some proponents of pastoralism labelled such a move as invasion of farming to the dry land areas characterized by fragile ecology and unstable rainfall conditions. While such changes seem to be evolutionary, some claims underline that state development policies and political interventions in extending formal systems of governance are behind them. This study was undertaken to identify socioeconomic and environmental factors related to pastoralists’ preference for sedentarization employing both quantitative and qualitative research methods. The research tools used in the study were questionnaire, focus group discussions, key informant interviews, and non-participatory observations. The major finding of the study is that pastoralists ongoing shift to sedentary way of life has been triggered by the dynamic changes that have been occurring in pastoral areas over years and has less to do with the state development policies and political interventions. The implication of this is that all concerned stakeholders ought to support and facilitate this evolutionary shift in all aspects in a manner that it benefits the subjects without disturbing the ecosystem.

Keywords: Agro-pastoralism; Pastoral Livelihoods; Pastoral Sedentarization; Pastoralism

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1. Introduction

Oromia pastoralists are among the pastoralists of Ethiopia who constitute roughly 12-15 million people (14-18%) of the total population (PFE, 2006; Shitarek, 2012), inhabit over 60% of the country’s landmass (MoARD, 2005; Shitarek, 2012) and contribute on average 40% of national livestock production (Pantuliano and Wekesa, 2008; Shitarek, 2012).

However, pastoralists face a number of challenges that hinder their way of life and stifle their ability to adapt to changes in their environment. Taken together, these challenges account for their poverty and lack of essential services. Climate change, political and economic marginalization, inappropriate development policies, and increasing resource competition are the four major categories of the challenges facing pastoralists (Oxfam, 2008).

Oxfam (2008) puts forth that pastoralist communities across East Africa are starting to learn to live with the reality of climate change, adapting as they can to its impacts. Successive poor rains, an increase in drought-related shocks, and more unpredictable and sometimes heavy rainfall events have been the impacts of climate change in many parts of pastoral areas.

In this context, fundamental questions have been raised about the future of pastoralism in Ethiopia in general and in Oromia in particular. The government has articulated its view that pastoralism is increasingly untenable, and that sedentarization is the only sustainable long-term option (GFDRE, 2003). There are also scholars who argue that whatever its future, pastoralism has evolved to the extent that there is no way for it to return to its golden era. One aspect of this evolution is the sedentarization of pastoralists which has been taking place in many pastoral regions of the world in general and in East Africa in particular. Pastoralists have settled near towns or on farms to pursue alternate livelihoods that include cultivation, agro-pastoralism, trade or wage labor (Blench, 2001; Fratkin et al., 2006). Opponents of sedentarization and supporters of pastoralism, however, argue that livestock herders and traders will survive their current difficulties by applying their ingenuity to negotiate ways around the new hazards they face as they have always done in the past (for instance, Hatfield and Davies, 2006; Weber and Horst, 2011).

However, although the central role of livestock to pastoralists’ economy and their long existed adaptation best characterize the system, they have been facing unpredictable weather condition since approximately 3500 years ago (Smith, 2005). A recent review of East Africa herders also reveals that since the 1930s there has been severe resource scarcity contributing to a large number of impoverished people (Ahmed et al., 2002). Currently, rather than contributing to the national economy, some pastoralists have become dependents often relying on relief food due to fluctuating weather conditions. In parallel with this, some argue that irrelevant and misguided policy interventions that aimed at controlling herd mobility and manipulation of livestock number in an attempt to reduce rangeland degradation have further compounded the problem (Sullivan and Homewood, 2003).
A related study indicates that the pastoral system that maintained livestock-environment balance through efficient use of rangeland resource has been breaking down with increased exposure to the growing vulnerability to ecological and economic stress (Behnke and Lane, 1996). The loss of such a balance within the pastoral production system brought increased policy dilemma for decision-makers to improve pastoral welfare and their contribution to the national economy. The debate lies between views favoring pastoral sedentarization to provide them better access to services, infrastructure and markets that imply the need to introduce change in production objectives and livelihood strategy and others which contend that pastoral adaptation options to ecological perturbations have to be identified. The latter views favor the continuity of the pastoral system with possible changes in the herd and rangeland management strategy to cope with and adapt to changes while the former views opt for pastoralists’ sedentarization where mixed livelihoods are possible.

However, sedentarization is not a single process, it does not occur in the same way for all pastoralists, nor even in the same way for one pastoral society (Fratkin and Smith, 1995). Fratkin et al. (2006) advocate that the shift to sedentarism by African pastoralists has increased dramatically in the late 20th century as a result of sharp economic, political, demographic, and environmental changes. Roth and Fratkin (2005) argue that ‘prolonged drought, population growth, increased reliance on agriculture, and political insecurities including civil war and ethnic conflicts have all affected the ability of pastoralists to keep their herds’. Although the many pastoralist households remain committed to the raising of livestock in the savannas and arid regions of East Africa, Northeast Africa, and West Africa, many formerly pastoral families have settled in or near towns and farms to pursue alternate economic strategies, including cultivation, agro-pastoralism, or urban wage labour.

The discourse around the future of pastoralism is largely rhetorical and uninformed by empirical evidence (Devereux, 2006). This research, therefore, aimed to capture the stories and experiences of the pastoralists in Oromia National Regional State in order to settle the issue whether Oromia pastoralists’ move towards sedentary way of life is the result of a push from the government or due to the necessity from within the pastoral community itself. It explored the perception of pastoral households on the benefits and challenges associated with sedentarization.

The general objective of the study was, therefore, to examine the perception of Oromia pastoralists and pastoralist households to sedentary way of life while the specific objectives were to identify the socio-economic and environmental factors related to preference for sedentarization of pastoralists, assess the perception of pastoralists towards voluntary sedentarization program, and pinpoint preconditions and the developmental interventions needed for the safe sedentarization of pastoralists.

2. Research Methods
2.1. Description of the Study Area
At present, 33 pastoral and agro-pastoral districts of Oromia National Regional State are found in 6 zones, namely, Bale, Guji, Borana, East Shawa, West Hararghe, and
East Hararghe (see Figure 1). The pastoral and agro-pastoral areas of the Region cover about 152,170 km², accounting for about 37% of the total area of the Region. Its total human population size is estimated to be 4 million and about 30% of the livestock population of the Region is found in these pastoral and agro-pastoral areas (Oromia BoFED, 2008).

The pastoral and agro-pastoral areas usually receive bimodal, variable, erratic distribution and insufficient amount of annual rainfall. The main rainy season occurs between March to late May and the short rainy season is between October and November. Their average temperature ranges from 25°C-35°C whereas annual rainfall average is 400-700mm.

![Figure 1. Oromia National Regional State Administrative Zones Map](source: Pantuliano and Wekesa, 2008)

### 2.2. Research Design

Both qualitative and quantitative research approaches were employed. The major purpose behind the quantitative approach was to gather data that would be reasonably generalized. On the other hand, the qualitative approach was used in order to apply participatory research approaches in data collection and analysis as this would in turn help the community to take active part in the process of the study.

### 2.3. Data Sources

Data were collected from both primary and secondary sources. The primary data were collected through questionnaire, focus group discussions, key informant interviews, and non-participatory observations while secondary data were collected from the available written materials on the subject under study.
2.4. Sampling Techniques

The sampling design for the survey was made in such a way that every pastoral and agro-pastoral zone is represented at least by one district. Accordingly, the six zones of pastoral and agro-pastoral zones in Oromia were represented. As far as the selection of districts from these 6 zones is concerned, taking into consideration their accessibility, their production system (pastoral or agro-pastoral) and the number of such districts in a particular zone, seven districts (aanaas) were again selected purposefully. The selected districts were Mada Walabu from Bale Zone, Goro Dola from Guji Zone, Dugda Dawa and Dirre from Borana Zone, Fantalle from East Shawa Zone, Miesso from West Hararghe Zone, and Chinakson from East Hararghe Zone. After selecting the districts and the gandas from each district, households from each ganda were selected randomly using an opportunistic sampling mechanism, a method preferred due to the challenge of making an appointment with the pastoral herders.

2.5. Methods of Data Collection

To collect data, different instruments were used including household survey, focus group discussions, observations, and expert/key informant interviews.

2.5.1. Household survey

A survey of 352 households, from seven districts, with an average of 50 households per district, was conducted to undertake a reliable statistical analysis. As instrument, a structured questionnaire was developed to complement the qualitative data generated through the focus group discussions and key informants interview.

2.5.2. Focus group discussions

Focus group discussions were also held in five of the seven districts where the survey was conducted. Each focus group was composed of six on the average considering the different groups of households focusing on elderly men and women. One focus group discussion was held in each of the five selected districts.

2.5.3. Key informant interview

Key informants interviews were also made with ten key officers of relevant stakeholders that work on pastoral development.

2.5.4. Observations

To understand the grassroots level problems and livelihood situations, various data were captured through observation. The observation also involved the living pastoral area development practices of governmental institutions and NGOs. Specific concern of the research like land use, resource availability for sedentary way of life, outcomes of previous projects on sedentarization, challenges and opportunities in service delivery in pastoral and sedentary contexts were addressed.
2.6. Data Analysis
A variety of methods were used to analyze data. Descriptive statistics was used to analyze data collected through the household survey. Mean, frequency distribution and test of association were used to examine relationships among some variables. Whereas a qualitative approach such as the narrative and discourse analysis were used to gain deeper insights on what have happened and would happen as a result of pastoral sedentarization.

3. Results and Discussions
3.1. Factors and Indicators of the Move towards Sedentarization
3.1.1. Land acquisition and certification
Two types of land use are common among the study area pastoralists. One is the communal grazing land and the second is land used for private investment either for farming or as enclosure to grow grasses for dry season use. The communal land is simply used as long as one is a member of the community while the land used for private purpose are obtained in the form of inheritance from parents. According to the survey result, 19.7% of the survey respondents responded that they inherited private lands while 5.6% indicated that they got lands in the form of gift and purchase. Land lease or renting is not often practiced in the area and it accounted for only 0.3% of respondents. In this case, the presence of inheritance simply indicates that families tend to stay in a particular place rather than changing their camps or villages, serving as a proxy indicator for sedentarization.

Table 1. Mechanisms of getting the right to land use

<table>
<thead>
<tr>
<th>Mechanisms of access to land</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communal land holding right</td>
<td>201</td>
<td>56.6</td>
</tr>
<tr>
<td>Inheritance from parents</td>
<td>70</td>
<td>19.7</td>
</tr>
<tr>
<td>Transfer by sale or gift</td>
<td>20</td>
<td>5.6</td>
</tr>
<tr>
<td>Marriage from group members</td>
<td>7</td>
<td>2.0</td>
</tr>
<tr>
<td>Permission from the clan leader</td>
<td>9</td>
<td>2.5</td>
</tr>
<tr>
<td>By lease or renting</td>
<td>1</td>
<td>0.3</td>
</tr>
<tr>
<td>By government or local administration</td>
<td>34</td>
<td>9.6</td>
</tr>
<tr>
<td>By personal investment</td>
<td>10</td>
<td>2.8</td>
</tr>
<tr>
<td>Total</td>
<td>352</td>
<td>100.0</td>
</tr>
</tbody>
</table>

The survey shows that 22.64% (77) of the sampled households have obtained land certificate. Assessment of the needs indicates that the majority (83%) believe in the importance of having the certificate. In all studied districts, the response is almost consistent in that in each case more than 50% stated the need for certification. This has a far-reaching implication in terms of the type of tenure system that should be introduced in the area.
Table 2. Land certification acquisition and needs among the sample respondents

<table>
<thead>
<tr>
<th>Respondents</th>
<th>Land certificate obtained</th>
<th>Need land certificate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Total (N)</td>
<td>263</td>
<td>77</td>
</tr>
<tr>
<td>Percentage</td>
<td>77.36</td>
<td>22.64</td>
</tr>
</tbody>
</table>

In addition to certification, assessment of the demand for land to use it privately indicates that 77.61% of the sample households need more land for cultivation. As a result, there is an intense competition over land that pastoralists observe as 63.66% of the respondents confirmed it. Hence, those who are engaged in farming claim that there is no enough land for crop farming (72.67%). A question on the purpose of land use once it falls under private holding indicates that of those with private holding 65.1% use it for crop farming while the rests use for grazing in the form of enclosure. This evidence provides a signal on the precondition that needs to be fulfilled to settle pastoralists in terms of improving supply of water both for crop farming and livestock production.

Table 3. Land needs and competition over land private use

<table>
<thead>
<tr>
<th>Respondents</th>
<th>Total (N)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Need for more land</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>75</td>
<td>22.39</td>
</tr>
<tr>
<td>Yes</td>
<td>260</td>
<td>77.61</td>
</tr>
<tr>
<td>Competition on land for private use</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>121</td>
<td>36.34</td>
</tr>
<tr>
<td>Yes</td>
<td>212</td>
<td>63.66</td>
</tr>
<tr>
<td>Enough land for crop production</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>242</td>
<td>72.67</td>
</tr>
<tr>
<td>Yes</td>
<td>91</td>
<td>27.33</td>
</tr>
<tr>
<td>Accessibility to irrigated farming</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>271</td>
<td>84.42</td>
</tr>
<tr>
<td>Yes</td>
<td>50</td>
<td>15.58</td>
</tr>
</tbody>
</table>

3.1.2 Land holdings

The use of land for an extended number of years is common in pastoral areas where the average values indicate that farming and land enclosure has been a recent phenomenon. The use of land privately has started over the last twenty years period. In all cases, the use of land for farming and/or enclosure was observed after the fall of Derg regime in 1991. As this is an average result, some might have started long ago. The average holdings exceed the national average of about one hectare.
Table 4. Average land holdings of the sample households

<table>
<thead>
<tr>
<th></th>
<th>All Districts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of plots under private holding (ha)</td>
<td>1.84</td>
</tr>
<tr>
<td>Average land holding (ha)</td>
<td>1.73</td>
</tr>
<tr>
<td>Number of years land used on average</td>
<td>13.6</td>
</tr>
</tbody>
</table>

Looking into the species composition is also essential given that environmental change has affected availability of feed for different species of livestock herders keep. A number of studies assess the diversification strategies of pastoral households. Involvement in other income generating activities or diversifying income sources remains an option for those who hardly rely on livestock as an exclusive income source.

Table 5. Perceptions of pastoralists towards income sources

<table>
<thead>
<tr>
<th>Sector perceived to generate more income</th>
<th>Respondents (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Livestock</td>
<td>70.5</td>
</tr>
<tr>
<td>Farming</td>
<td>27</td>
</tr>
<tr>
<td>Forests</td>
<td>0.26</td>
</tr>
<tr>
<td>Small businesses</td>
<td>1.11</td>
</tr>
<tr>
<td>Others</td>
<td>1.13</td>
</tr>
</tbody>
</table>

According to local experts, the current trend in pastoral system is towards sedentarization and engagement in farming rather than staying in pastoralism. Asked what support do they provide along with this to facilitate the change, the experts were not able to give a response, instead they indicated that reliance on livestock alone was a history and no more possible.

Focus group discussions reveal that the number of livestock has been declining in the last five years while in the last three years crop cultivation has been relatively expanding despite shortage of rain. According to our discussants, there is a case where those who had 200 cattle in the past have only 50 to 60 cattle today. The same is true to other livestock species such as goats and camels. This indicates that there has been a dramatic decline in livestock population in the last five years. Focus group discussion participants in different parts of the study area unanimously asserted that because of serious drought before six years, there was severe famine which resulted in the loss of many human lives and animals.

Furthermore, while certain facilities like schools, roads and health facilities have been improving, and better economic strategies like pasture and farm land management and water resources development have been taking place, the gradual deterioration of range lands due to drought or shortage of rain, highly spreading invasive plants, and human population increase have been making pastoralism a deplorable economic system.

Focus group discussants have emphasized that cattle population is declining because of the gradual decline in pastoral resources and limitations to mobility. In the
past pastoralists used to migrate to faraway places for pasture but these days mobility is no more possible as rangelands everywhere have particular users due to population increase and encroachments from neighboring people, particularly the Somali. This has forced people to settle at one place on a permanent basis.

Focus group discussants also indicated that as rangelands are becoming scarce and smaller from time to time, the situation is forcing pastoralists to compete for this scarce resource by claiming plots of grazing areas as their private enclosures. Moreover, as animal rearing is becoming more difficult due to shortage of rangelands and as shifting to cultivation is becoming inevitable, farmland enclosures are contributing to further decline in the size of grazing lands. Consequently, the livestock has been forced to stay at one area on a permanent basis, which has been leading to drastic deterioration of pasturage accompanied by the resultant animal diseases of various types as animals become susceptible to diseases caused by insects and pests. These insects and pests have got conducive environment to multiply in number as the livestock is forced to stay at one place and could not change places. Livestock mobility from one place to another adversely affects dependent insects and pests and hence contributes to animals’ health.

As focus group discussants further indicated, livestock concentration at one place for a long time has also been leading to overgrazing and land degradation making the land of no more use for pasture but only for crop cultivation. This is said to have been partly pushing pastoralists to shift to crop cultivation. It was observed during the field research for this work that several range and farmlands are being privatized in all the districts visited to collect data for the research. This is done to have protected plots of pasture and farm lands against others as scarcity of these resources is threatening the survival of pastoralists economically.

In the last five years because of improvement in the condition of erratic rain, animal production has been reviving and people have started cultivation apart from animal rearing. Even then, in the last five years as well, the focus group discussion participants vividly showed that the rain has never been sufficient to support effectively either animal rearing or crop cultivation. This very fact is responsible for pastoralists to opt for mixed economy.

### 3.1.3 Violent conflict over territories and resources

Another important attribute associated with sedentarization is dispute over territories and violent conflict over resources. The context of conflict, its causes and consequences vary across the studied districts. In many parts, a significant increase in population has caused conflict over land use. It is becoming the main cause of conflict between clans. Conflicts over resources have occurred due to restrictions on sharing resources among pastoral groups, which is attributed to growing resource scarcity. The focus group discussants, for instance, pointed out that in the past there was free mobility of cattle to the neighboring territories of other clans and they used to share resources but this was not possible since recent years as resource scarcity is becoming serious and competition and conflict are intensifying.
Unlike the conflict over the scarce resources among the Oromo clans, according to the focus group discussants, the conflict between the Oromo and Somali pastoralists has been the most devastating one. This conflict has been resulting in high death toll of people from both sides and in raiding or looting of livestock.

The focus group discussion participants also stressed that drawing an imaginary political boundary between Oromia and Somali regional states has contributed to nothing but disagreement and intolerance between the Oromo and Somali pastoralists who have shared border since time immemorial. This political boundary, being fluid and not demarcated, has brought not only territorial dispute between the two peoples but also provided an excuse for the Somali pastoralists to claim and occupy more and more Oromo lands unlawfully and denying Oromo pastoralists access to their own resources. The federal and regional governments’ reactions, according to our discussants, have never been fruitful particularly for the Oromo pastoralists and this has made them vulnerable to further territorial aggrandizement by the Somali.

Conflict over resources has restricted pastoralists from their traditional movements, which they used to make to reach faraway resources such as pasture and water. The result of the household survey also complements insights from the group discussions (see Table 6).

Table 6. Violence over resources, its consequences and trends

<table>
<thead>
<tr>
<th></th>
<th>Respondents (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
</tr>
<tr>
<td>Violence over resources</td>
<td>32.4</td>
</tr>
<tr>
<td>Loss of life</td>
<td>38.7</td>
</tr>
<tr>
<td>Increasing trend in violence</td>
<td>32.6</td>
</tr>
</tbody>
</table>

3.1.4. Livestock feed

The bases for livestock production, the feed resource condition, were also assessed in terms of their availability over the last 30 years. There has been increasing ecological change and its ecosystem services. Field observation shows that rangelands are being covered by bushes because of invasive species (known as miciree locally). Grasses do not survive where such invasive trees cover the land. As the rangelands are traditionally used communally, and the traditional rangeland management practices by firing bushes were banned during the Darg regime, the invasive species grew up to the extent that they cannot be managed by those traditional practices. It was also observed that some good initiatives were being made by some NGOs to rehabilitate the rangelands by clearing the bushes by organizing or deploying pastoral communities. This resulted in the revival of rangelands in few places. Similarly, focus group discussants stated that drought, population pressure, and land invasion by the alien species are causing serious damages to the environment as the natural and indigenous fauna and flora are being severely threatened. Survey results also reaffirm this fact. For example, in the case of grass feed resources, 88.7% of the respondents perceived that there is a declining trend.
3.2. Pastoralist Household’s Perception on the Benefits and Challenges of Sedentarization

Almost all the pastoralist households shared that the advantages from sedentarizing pastoral groups could be improved access to water and encouraging herders to invest in water management, protection of natural resources from excessive use and natural resource degradation, improved access to new techniques in animal husbandry and better access to schools for children.

One of the underlying points mentioned was that as sedentarization improves access to education, it provides a chance to create awareness on the importance of natural resources, even through training adults as well as their children (see Table 7 and 8).

In addition, it is important to learn what determines the preference for sedentary form of life by raising certain question related to the potential benefits sedentarization would bring.

Table 7. The perceived benefits of sedentarization in improving access to public services

<table>
<thead>
<tr>
<th>Perceived benefits</th>
<th>Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
</tr>
<tr>
<td>Improved access to roads</td>
<td>3.3%</td>
</tr>
<tr>
<td>Improved access to human and livestock health care</td>
<td>6.7%</td>
</tr>
<tr>
<td>Better access to agricultural extension agents</td>
<td>5%</td>
</tr>
</tbody>
</table>

Table 8. Perceived benefits of sedentarization in improving access to markets, schools, water and reducing conflicts

<table>
<thead>
<tr>
<th>Perceived benefits</th>
<th>Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
</tr>
<tr>
<td>Better opportunity for market participation</td>
<td>5.2%</td>
</tr>
<tr>
<td>Improved children schooling</td>
<td>2.8%</td>
</tr>
<tr>
<td>Improved access to water resources</td>
<td>20.6%</td>
</tr>
<tr>
<td>Reduced incidence of conflict over grazing resources</td>
<td>27%</td>
</tr>
</tbody>
</table>

Given the benefits from sedentarization indicated earlier, preference of pastoralists for sedentarization has been assessed. Results indicate that there is a favorable attitude for sedentarization in all the districts of the study area. Considering social groups gender, the benefits from sedentarization has been favorably considered more among the women than men. While raising the social group which benefits more from sedentary way of life, focus group discussion participants unanimously asserted that everybody benefits from sedentary way of life but comparatively women gain the most from it. The reason is that women are overburdened with a lot of domestic...
duties when mobile pastoralism is practiced as they are culturally responsible to construct residences now and then as frequently as the movements of pastoralists from one place to another. They are also responsible to take care of children and household matters as well as managing small herds around settlement camps. To the contrary, men were perceived to be more engaged than women when sedentary way of life is adopted. In that case, men will be responsible to engage in farming, harvesting, and bush clearing for the purpose of cultivation as crop cultivation could follow sedentarization. In the focus group discussion conducted only with women participants, all members of the discussion group supported the idea that women benefit more from sedentary way of life than mobile pastoralism.

As all women and many of men focus group discussants indicated, women have been traditionally marginalized by men and denied equal rights to resources but with the gradual move of pastoralists towards sedentary way of life and the consequent improvements in their social conditions, women are getting better these days. They can even appeal for justice when they face ill-treatment by their husbands. As one of the women discussants vividly put it, “women are not as their old-days today.” In the same vein, children are also expected to benefit from sedentary way life. As focus group discussants clearly stated, sedentary way of life makes life easy for children as they get the chance to attend schools and have better environment for socialization and health.

In all districts, most of the survey respondents do prefer sedentary life. Taking the overall sample, 92.3% of the respondents preferred sedentarization. A number of studies have already postulated that access to different services including participation in microfinance schemes, provision of different services (training and advice) by different state agencies and provision of credits all serving as an incentive to pursue sedentarization and shifts towards farming.

Table 9. Association between participation in intervention activities and the private land holding (Chi-Square)

<table>
<thead>
<tr>
<th>No.</th>
<th>Intervention activities</th>
<th>Chi-square</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Received training on crop farming</td>
<td>38.967**</td>
</tr>
<tr>
<td>2</td>
<td>Received training on livestock production and management</td>
<td>1.269</td>
</tr>
<tr>
<td>3</td>
<td>Participated in any micro-finance scheme</td>
<td>0.844</td>
</tr>
<tr>
<td>4</td>
<td>Involved in saving and credit groups</td>
<td>7.715**</td>
</tr>
<tr>
<td>5</td>
<td>Received improved seed on credit</td>
<td>9.542**</td>
</tr>
<tr>
<td>6</td>
<td>Received live animal on credit</td>
<td>2.037</td>
</tr>
</tbody>
</table>

Since the test for association between preferences for sedentarization and participation in state development activities was not possible due to less number of cells counted for some of the activities, a frequency distribution has been preferred. The result shows that preference for sedentarization is not necessarily related to participation in state intervention activities. This implies that the preference is endogenously generated where the role of external influence is not vivid. However,
the Chi-square test reveals the presence of significant association between private holding and participation in intervention activities. It simply shows that change in land tenure in pastoral areas (as private holdings expand) gave a space for such interventions to take place.

Table 10. The relationship between sedentarization and participation in intervention activities

<table>
<thead>
<tr>
<th>No.</th>
<th>Participation in intervention activities</th>
<th>Prefer sedentary life (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>No</td>
</tr>
<tr>
<td>1</td>
<td>Received training on crop farming</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>Received training on livestock production and management</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>3</td>
<td>Participated in any microfinance scheme</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>4</td>
<td>Involved in saving and credit groups</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>5</td>
<td>Received improved seed on credit</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>6</td>
<td>Received live animal on credit</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Yes</td>
</tr>
</tbody>
</table>

What effects could sedentarization have on pastoral livelihood and resource conditions? The results of the survey shows that the expected effects of pastoral sedentarization is positive in terms of improving management of wells and encouraging investment in gully stabilization. The negative effects could be degradation of forest resources, overgrazing and the formation of gully. However, one may not judge on the actual effect of enclosure expansion as it could serve as range rehabilitation strategy as well as having devastating effects if households practicing it make use of tree branches from the communal grazing area.

Table 11. The likely effect of sedentarization on pastoral resource management

<table>
<thead>
<tr>
<th>Effect of sedentarization</th>
<th>Respondents (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
</tr>
<tr>
<td>Managing wells</td>
<td>22.74</td>
</tr>
<tr>
<td>Forest degradation</td>
<td>30</td>
</tr>
<tr>
<td>Overgrazing</td>
<td>22.5</td>
</tr>
<tr>
<td>Gully formation</td>
<td>30.33</td>
</tr>
<tr>
<td>Expansion of enclosure</td>
<td>32.8</td>
</tr>
<tr>
<td>Gully stabilization</td>
<td>35.4</td>
</tr>
</tbody>
</table>

It was also useful to see the factors that could favor sedentary form of life. Analysis of factors that could favor sedentarization, as perceived by pastoralists and their preference for sedentarization, was assessed. The result shows that many of these
Factors are not significantly associated with preference. A Chi-square test shows that there is association between weakness of traditional rules and preference for sedentarization at $P<5\%$.

The analysis reveals that although the external factors including state intervention in the provision of public services are not directly associated with pastoralists’ preference for sedentarization, some of the internal factors (weakness of traditional rules and charcoal making) are associated with it. There is a need to undertake further study to explore more factors. Charcoal-making as income generating activity causes forest degradation, which is perceived as likely consequences of sedentarization. Hence, the environmental impact is perceived to be negative. This may not be the case at all times since multiple uses of such resources encourage some herders to conserve it.

Table 12. Internal factors favoring sedentarization as related to preference for it

<table>
<thead>
<tr>
<th>Factors favoring sedentarization</th>
<th>Prefer sedentary life (%)</th>
<th>Chi-square values</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>1 Weakness of traditional rules</td>
<td>No</td>
<td>3.3</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>10.4</td>
</tr>
<tr>
<td>2 Expansion of farming</td>
<td>No</td>
<td>8.9</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>7.5</td>
</tr>
<tr>
<td>3 Increased shortage of rainfall (climate change)</td>
<td>No</td>
<td>5.2</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>8.7</td>
</tr>
<tr>
<td>4 Charcoal making</td>
<td>No</td>
<td>5.2</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>10.9</td>
</tr>
<tr>
<td>5 Population growth</td>
<td>No</td>
<td>5.4</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>8.4</td>
</tr>
<tr>
<td>6 Deteriorating livestock</td>
<td>No</td>
<td>8.2</td>
</tr>
<tr>
<td>production environment</td>
<td>Yes</td>
<td>7.6</td>
</tr>
</tbody>
</table>

Note: NA (not applicable) since more than 20% of cells have expected cell counts less than 5.

Almost all the discussants used for this study indicated that they prefer sedentary way of life where mixing crop cultivation with animal rearing is possible. Nonetheless, some discussants indicated that it is preferable to practice sedentary way of life being purely pastoralists. The most important point here is that all focus group discussants did not show any difference on preferring sedentary way of life though they have minor differences on how to go for it. Nearly all focus group discussion participants indicated that pastoralists ought to be sedentarized based on animal rearing and crop cultivation, while only few argued that pastoralists should be sedentarized based on pure pastoral economy.

Sedentarization of pastoralists has been taking place since many decades ago in many parts of pastoral areas. For instance, in one of the study districts, discussants disclosed that they have been living there for over 60 years. Other discussants in
other districts indicated that they have been living in their current village for more than a decade. All these show that the trend has been towards sedentary form of pastoralism and that sedentary way of life has already won the attention of Oromo pastoral communities.

As focus group discussants further indicated, sedentary way of life gives the chance to have better life conditions. As they stated, sedentary way of life gives the chance to settle and think for something better. Access to modern facilities such as toilet, pipe water, electricity, health centers and schools are hardly possible outside sedentary way of life. To diversify economic activities and to minimize the risk of dependence on a single economic system, shifting to sedentary way of life is mandatory. Eventually, it was stated that no one prospers from nomadic style of life, as it undermines the prospect for economic dynamism and social development.

3.3. Sedentarization as Pastoralists’ Choice
While evaluating the choice of sedentarization as the only option, almost all focus group discussants perceived it to be a lasting option for pastoral herders. However, they clearly indicated that pastoralists should opt for sedentarization where both herding and crop cultivations are practiced hand in hand as this can guarantee food security and improved livelihood. They vividly stated that dependence on either herding or crop cultivation expose pastoralists to vulnerability as the environment is not dependable to engage in one economic system only.

3.4. Implications for Development Intervention
3.4.1. Improving market access
It is needless to say that market accessibility matters in having sound economic base and better livelihood. Hence, pastoralists should be linked to markets to benefit from it. It is common view of all focus group discussion participants that pastoralists of the study area do not have direct access to livestock markets. As one of them clearly pointed out:

We know pretty well that we supply a lot to the livestock markets in the country. Nonetheless, we have never got what we deserve from the sale of our animals. Merchants prosper at our expenses as they buy cheaply from us but sell expensively. For instance, we sell a bull for about 2000 Eth Birr only while a merchant who buys from us sells it for more than 18,000 Eth Birr. This is happening to us as we do not have direct access to markets. Market accessibility matters a lot for us, as it gives us the chance to fairly get what we deserve from the sale of our animals.

Having poor access to livestock markets makes pastoralists economically weak and challenges them not to aspire for any sort of change for the better.

In addition to this, it was also indicated during the focus group discussion sessions that while pastoralists get unfair or less prices for their animals, they spend a lot on the purchase of food items as their prices are escalating from time to time. This indicates that there is serious imbalance between what pastoralists earn from the sale of their animals and what they spend on foodstuffs and this has the effect of economically weakening pastoralists not to improve their life conditions and opt for alternative economic means to escape economic tragedies.
3.4.2. Improving supply of physical infrastructure and other services
What precondition need to be fulfilled to implement sedentarization? For instance, in Miesso district context, improved water availability and greater investment in water supply are essential. Previous attempts by a number of organizations in investing in water supply in the area were not successful because of weak monitoring and inefficient withdrawal strategies where implementers left the area without clearly transferring ownership rights to ultimate users. Overuse and lack of management undermines sustainable use of the water resources. Improving access to modern technologies that can perform well under the dryland environments is another important precondition. Exploring ways to invest in facilities that would create a friendly environment should be an area of focus by the state to let pastoralists easily move towards sedentary of life rather than pursuing a coercive approach. Once this strategy creates a favorable environment there can be an option to provide training on how to practice farming, which would help improve their knowledge and skill in farming.

3.4.3. Putting in place appropriate land policy
Assessment of pastoralists perception over factors that can contribute to sustainable pastoral economic way of life reveals that for pastoralism to continue as a viable economic system, the government should put in place land policy that ensures grazing land to be protected from privatization for pasture and farming, and rangelands should be free from all interferences to support huge livestock population. Nonetheless, all focus group discussion participants clearly indicated that restoring or reconstituting pure pastoralism cannot be realized due to the unwavering climatic change and the steady pace of population growth that pastoral areas are facing today.

According to the common view of all focus group discussants, due to climatic change, rain is becoming more erratic and crops have been failing before maturity in pastoral areas. At the same time, climatic variability is adversely affecting livestock production. Hence, according to discussants, it is not recommendable to exclusively depend on either of the two. As one of the focus group discussants from Dhahas district wisely stated, “It is better to use both hands rather than only one at a time.” This implies risk management through economic diversification.

3.4.4. Transition to viable economic options
Together with sedentarization comes a transition to viable economic options including practicing mixing farming and animal production which are essential for proper risk management and income diversification. If one solely depends on pastoral economic system, he/she cannot reserve it for other time and also he/she needs to buy food stuffs by selling animals and animal products; he/she uses live animals directly for food.

Though the main economic system of pastoralists and agro-pastoralists is still animal rearing, it is needless to say that the people have already moved by the spirit of mixing animal rearing with crop cultivation and this trend seems to be irreversible. Even those who have not yet started crop cultivation have already developed a strong
aspiration to start up crop cultivation sooner or later. Had there been adequate rainfall, farming would have already been widely practiced in many parts of the pastoral areas.

While discussing on whether or not it is better to live on either animal rearing or crop cultivation, focus group discussion participants of the different districts underlined that it is safe to mix crop cultivation with animal rearing as this ensures food security. As they further stated, live animals are not dependable due to climatic variability and as they cannot be used directly to meet the need for food. At the same time, according to focus group discussants, complete dependence on crop cultivation is also not possible as the erratic rains do not allow the chance to prosper from cultivation. Practicing both animal rearing and crop cultivation thus assures pastoral people to get advantage of both, one supporting the other, as none of them is free from deficiency.

Focus group discussion participants unanimously and enthusiastically underlined that with land being properly managed for grazing, on one hand, and for cultivation, on the other, mixing cultivation with animal rearing ensures economic security by far more than living only on a single economic field. The participants emphasized that there is no enough land which can be used either for cultivation or for animal rearing and this very issue urges pastoralists to mix both economic practices as they complement each other or as each has its own merits. When one suffers drastically due to different disasters, it is possible to survive based on the other production system.

As focus group discussion participants further pointed it out, climate change is becoming a serious threat to pastoralists, and solutions cannot be sought easily and this warns pastoralists to look for alternative economic means of survival. As one of the participants further stated:

In order to survive or even prosper economically in the face of the looming disaster due to climatic change, we are ready to make use of any strategy depending on local knowledge and any support from outside. We have the plan to make use of irrigation even though we do not have any perennial river in our district. I think we can depend on hand-dug ponds. We also expect government and non-government bodies to stand on our side by providing scientific knowledge and skills that are helpful to practice small-scale farming if not the big-scale one.

Other focus group discussant also indicated the desire of pastoralists to engage in irrigation agriculture when he said “we do not have perennial river but we have a big seasonal river that can be diverted to be used for irrigation if our government or any other body will help us in providing scientific knowledge and finance for diverting the water from the river.”

The focus group discussants confirmed that if conditions are fulfilled for mixing crop cultivation and animal rearing, they strongly support and go for it. They also indicated that pastoralists have already ample experiences on how to manage livestock and if they learn crop farming, in addition, it is a good condition for pastoralists to improve and ensure their livelihood.

In sum, participants commonly and clearly indicated that depending only on pastoralism as an economic way of life has already become an old fashion. Though
still today pastoral communities largely depend economically on animal rearing, this economy has no more a sole economic field for pastoralists. Engaging in small-scale crop farming side by side animal rearing has already become a common and recognized field of economic engagement.

4. Conclusions
The aim of this study was to examine the perception of pastoralist households towards sedentary way of life. Despite scholarly arguments that pastoralists resist any movement toward sedentary way of life and want to retain their existing status quo, the study found that there was common understanding among pastoralists on the need to move away from mobile pastoral livelihood to sedentarized style relying on mixed production system, which involves crop and livestock production, showing a characteristic of agro-pastoralism. The study revealed that the need to shift to sedentary way of life has been due to the dynamic changes that occurred in pastoral areas over years challenging the pastoral livelihood. In the context of Oromia pastoral areas, climatic change, rangeland invasion by undesirable plants, human population pressure, and livestock diseases, are making pastoralism a deplorable economic system. The study indicated that depending only on pastoralism as an economic way of life has already become an old fashion. Though still today pastoral communities largely depended economically on livestock production, this economy is no more serving as a sole economic field for pastoralists. Engaging in small-scale crop farming side-by-side livestock production has already become a common and recognized field of economic engagement.

Oromia pastoral communities have already begun a journey towards sedentary way of life and hence there is unexceptionally a huge gap between experts’ stand on pastoral mobility and sedentarization and what pastoralists themselves think about it in real sense. On one hand, experts hold the view that under the existing scenario, pastoralists resist to be converted into crop producers. In the views of experts and researchers, pastoralists consider farming as an inferior economic activity and thus the need to convert them to sedentary life is mainly influenced by the state policy rather than other external and internal circumstances. On the other hand, pastoralists of the study area have unanimously pointed out that there is a natural phasing out of pastoralism due to both internal and external factors. Thus, they duly recognize the need to diversify their income sources engaging in crop farming and petty trade. Sedentarisation is believed to bring improved access to clean water and effective water management, protection of natural resources from excessive use and degradation, better access to new techniques and technologies in animal husbandry and crop production, and better access to schools for children.

Looking into the intra-household perceptions towards sedentary way of life, women’s group prefer sedentarization as pastoralism is perceived to increase more workload and responsibility on women and their rights are likely more protected under sedentary life style and hence sedentarization is expected to result in role balance between men and women. Though men indicated that sedentarism would
bring to them more workload than before, they, however, did not deny the fact that sedentarism would have better social and economic environment for them as well.

It is very clear to the pastoralists that there will be no chance to bring back the golden days of the past when pastoralism used to be the most viable economic system on its own. Hence, pastoralists are very conscious about their current scenario and are not longing for the past to remerge once again. Rather, they are looking forward to the future where they can survive socially and economically diversifying their economic activities and for this sedentarism is not optional but a compulsory move for them.

Though sedentarization is believed to contribute to environmental degradation as clearing of bushes and trees for crop farming and overgrazing lead to land degradation and hence to environmental degradation, this issue ought to be considered if and only if sedentarization of pastoralists follows traditional farming practices that are not environmental friendly. Therefore, the government and other concerned stakeholders ought to intervene to direct the sedentarization process in a way that it proceeds without bringing damage to the ecosystem. Sedentarization should be supported by modern sciences and technologies.

Pastoralists’ mobility is curtailed by combination of factors such as population growth, existence of claims by different ethnic or pastoralist groups on rangelands, the impact of drought, increasing settlement to get social services, and the declining number of cattle holding per household. These all indicate that sedentarism is not necessarily a matter of push factor from the government side but the result of ecological, demographic and socio-economic factors. Hence, sedentarism should not be seen as something externally imposed on pastoralists. Policy makers should perceive accordingly and make policy arrangements within the socio-economic context of the pastoralists.

As grazing resources have become increasingly scarce in pastoral areas owing to climate change and conflict, there is no alternative other than sedentarization. This implies that neither pure pastoralism nor sedentary way of life involving pure crop production would be successful independently. Hence, there is a need to mix livestock and crop productions.

The reality on the ground indicates certain challenges that the government and development actors need to notice in their development interventions in the course of pastoralists’ sedentarization. The first thing to be given attention is the ecological change due to the invasion of grasslands by invasive plant species and subsequent shortage of livestock feed. Drought is another serious problem that should come up on the top agenda of regional government and development actors. The Oromia pastoralists’ long-lived adaptation strategy of going long distances to look for pasture and water is constrained by imaginary political boundaries between regional states which limited cross-border mobility to some extent and also invited frequent grassland invasions and settlements. As a matter of fact, this political boundary, being fluid and not demarcated, has brought not only territorial dispute between the pastoralist peoples but also provided an excuse for the Somali and Afar pastoralists to
claim more historical lands of the Oromo and to unlawfully deny the Oromo pastoralists access to resources.

The fact that Oromia pastoralists have a positive attitude towards voluntary sedentarization program has two implications for the government. First, such perception is in line with the state’s pastoral area development strategy through voluntary settlement program and makes the transition to sedentary way of life easier due to absence of community resistance. Secondly, sedentarization program, though it brings administrative efficiency, it is not cost free and hence subsequent to it water resources development initiatives for livestock and human consumption should be given a due emphasis. Furthermore, improvement of pasture through proper rangeland management and development of irrigation schemes is equally important. Government intervention in the provision of infrastructure and facilities for pastoral areas is a dire necessity to bring about sustainable sedentary way of life.

5. Acknowledgements
The authors are grateful to Oromia Pastoral Area Development Commission-Pastoral Community Development Project Coordination Unit for providing financial and logistic support for the execution of the research work. The authors are also indebted to all individuals who provided information in one way or another for the successful completion of this work.

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Landfill Site Suitability Evaluation for Harar Town, Eastern Ethiopia

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Article History: Received: February 9, 2016; Revised: May 26, 2016; Accepted: May 28, 2016

Abstract: Solid waste dumping is a serious problem in urban areas as most solid wastes are not dumped in the suitable areas. Similar situation is observed in Harar town. The objective of this study was, therefore, to select potential suitable sites for solid waste dumping for the city of Harar. The study involves multi criteria evaluation method of weighted linear combination using GIS as a practical instrument to evaluate the suitability of landfill in the city. For the purpose of making decisions in landfill site selection, a hierarchy structural was formed and different parameters have been identified, including Slope, distance from water body, developed areas, sensitive areas, and roads and land use land cover. Initially, the rating method was used to evaluate each criterion individually. Then, the relative importance of criteria to each other was determined by an analytic hierarchy process. Simple Additive Weighting method was applied to evaluate the overall suitability. The result showed that 16.7% of the study area is highly suitable, 20.5% is moderately suitable and 33.2% and 29.6% respectively were least suitable and unsuitable for the purpose. Five candidate sites were identified and with more field investigation, one best suitable site was selected.

Keywords: Analytic Hierarchy Process; Geographic Information System; Landfill; Multi Criteria Evaluation; Remote Sensing.
1. Introduction
In developing countries, the ever increasing human population and the associated anthropogenic activities have accelerated the phenomenon of urbanization. As a result, there has been an enormous increase in the quantity and diversity of the solid waste being generated (Kabte, 2011). The problem of solid waste has assumed significant dimension especially in the urban centers. In urban centers throughout African regions, less than half of the solid waste produced is collected, and 95 percent of that amount is either indiscriminately thrown away at various dumping sites on the periphery of urban centers, or at a number of so-called temporary sites, typically empty lots scattered throughout the city. Domestic, industrial and other wastes, whether these are of low or medium level, have become a perennial problem as they continue to cause environmental pollution and degradation. Khan and Ranjan (2014) described that generation of solid waste has become an increasing environmental and public health problem everywhere in the world, particularly in developing countries. Fast expansion of urban, agricultural and industrial activities spurred by rapid population growth has produced vast amounts of solid and liquid wastes that pollute the environment.

According to Kumel (2014), the insufficient handling of solid waste represents a source of water, land and air pollution affecting the urban environment and the health of the people living in the cities and is one of the most critical environmental problems that cities in Africa are facing today. Therefore, solid waste management is becoming a major public health and environmental concern in urban areas of many African countries like in Ethiopia. For sustainable environmental and public health protection, solid waste should be disposed in environmentally sound and socially acceptable sites.

The population of Harar is growing due to both natural increase and immigration of people from rural areas to the town (PEDB, 2006). This increases household by products. Moreover, in the last decade, different development activities, such as construction and service deliveries, have also been growing. As a consequence of population growth and development activities, high amounts of household and other external solid wastes are generated. It is a very common distributed here and there in the outskirts of Harar. High rate of wastes are facing problem of their disposal and have very high potential effect to pollute environment such as land and air. Public health is also highly affected by the uncontrolled solid waste generation and disposal. The solid waste disposal system should be in an environmentally sound and socially acceptable way so as to protect the environment and safeguard public health (Adefris, 2015). However, the traditional and manual method used to select suitable landfill site is time consuming and costly. Therefore, it is necessary to select solid waste landfill sites for the town by considering ecological, environmental and social factors so as to manage solid wastes in an environmentally sound manner. Choudhury (2012) described that GIS and remote sensing techniques provide appropriate information about geographic data to assist in selecting potential solid waste disposal site using different factors. GIS is capable of integrating geospatial data from different sources and thus helps decision makers in environmental and public health protection.
The general objective of this study is to evaluate and model suitable landfill sites using Remote Sensing (RS) and GIS. The specific objectives were (a) to study land use/land cover of Harar town from solid waste landfill suitability angle; (b) to examine factors that are necessary for selecting landfill; and (c) to prepare suitability maps.

2. Research Methods

2.1. Description of the Study Area

2.1.1. Location of the study area

Harari People's National Regional State is one of the nine Regions in the country and is located in the eastern part of the country. Astronomically, it is located between $9^\circ 11' 49''$ North Latitude and $42^\circ 03' 30''$ and $42^\circ 16' 24''$ East Longitude. According to the Harari Planning and Economic Development Bureau (2000), the region has an area of about 343.2 sq.km in which the rural area constitutes 323.7 sq.km while the urban area has about 19.1 sq. km. Administratively, the region is divided into nine administrative Woredas- three rural kebeles and six urban local administrations. The region shares common boundaries with Eastern zone of Oromia Woreda, Jarsso in the North and Babile in the East; Fedis in the South and Haramaya Woreda in the West. Harar is the capital of Harari people’s regional state; which is located in East at a distance of 525 km from Addis Ababa. The elevation above sea level of the city varies from 1600 to 1900 masl.

![Map of the study area](source)

Figure 1. Map of the study area

Source: CSA, 2007

2.1.2. Climate

In Harari region the mean annual temperature varies from 10 in high lands and 26 in low lands. Generally, the temperate of the region has a little variation among seasons, as the metrological data of 1997-2000 E.C indicates. The mean annual maximum
temperature of the region ranges from 28 in high land and 22 in the low lands. The mean annual minimum temperature is 10 in high lands and 15 in low lands. The precipitation of the Region is recorded as a mean monthly rainfall of 67.1mm and mean annual rainfall of 804.7 mm. The coldest months are November, December and January. The duration and intensity of rainfall in the region vary considerably. Generally, it decreases from west and North West to south east wards. The last four years record of rainfall shows variation that ranges from 700m.m in the south east and over 900m.m in the western part of the region. On the other hand, the highest amount is recorded in Dire Tayara kebele and the lowest amount is recorded in Erer kebele. Regarding reliability of rain fall for crop production and duration of growing periods, the pattern of rainfall in the region is treated in three seasons, i.e., Kiremt, Bega and Belg. However, in each of the seasons the rain may begin earlier and lasts before the usual time.

2.1.3. Topography
The altitude of the Region ranges from 1300 m.a.s.l. in Kille peasant association in Erer Valley to 2200 m.a.s.l. in Hakim Mountain. Large part of the Region’s topography is covered by an altitude which ranges from 1800 to 2000 m.a.s.l.

2.1.4. Soil
The major soil types which occur in the Harari region are Nitisols, Luvisols, Arnomols, and Aeromols. Nitisols (distinguished by their shiny pad surface) occupy 2792.5 hectare and luvisols (soils which has a cat ion exchange capacity equal to or greater than 24 mol clay) occupy 2440 hectare. Regosols (medium and fine textured) occupy 6,017.5 hectare and Aeromols (coarse textured with weak pedogenetic characteristics in the B horizon) occupy 4575 hectare. The wet land found in eastern boundary of the region following the Erer river occupy about 487.5 hectare which is poorly drained and partially used locally for sugar cane production. The ridge tops which are marginal for arable agriculture occupy about 815 hectare (Hakim gara).

2.1.5. Drainage basin
The drainage system of the region can be classified into Hamaressa basin, Bisidimo basin and Erer basin. The drainage system of the Region falls under Wabi-Shebelle basin. These three major rivers (Hamaresa, Bisidimo and Erer rivers) together with streams flow to Wabe Shebelle River in Somali Region.

2.1.6. Demographic and socio-economic characteristics
Harari peoples regional state has a population of 183,344 of which 92,258 are male and 91,023 are female (CSA, 2007). The size of urban dwellers are 99,321 and 84,023 are rural. The growth rate according to (CSA, 2007 report) is 2.6 percent. In terms of age distribution, about 37.2% are under 15 years old, 58.8% 16-60 years, 4% above 60 years. The region has an estimated density of 534 people per square kilometer. For the entire region, 46,815 households were counted, which results in an
average for the region of 3.9% persons to a household, with urban households, having an average 3.4 and rural household 4.6 people.

2.2 Data Collection
2.2.1. Data sources
Collecting accurate and reliable data is the most determinant factor as it determines the quality of the research. The first step was to identify the environmental, social, and economic variables to be considered for siting landfills followed by setting criterion based on international and local rules. Accordingly, the necessary data were collected from different sources.

Table 1. Data sources

<table>
<thead>
<tr>
<th>No.</th>
<th>Type</th>
<th>Description</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Maps</td>
<td>Aerial photo</td>
<td>EMA(Ethiopian mapping Agency)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Topographic Map (1:50,000)</td>
<td>EMA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Digital Soil Map</td>
<td>Ministry of Water and Energy</td>
</tr>
<tr>
<td></td>
<td></td>
<td>City shape file data</td>
<td>CSA,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Harar cadaster</td>
<td>Harar municipality</td>
</tr>
<tr>
<td>2</td>
<td>Row data</td>
<td>Borehole data</td>
<td>HWASA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ETM+ images and SPOT5</td>
<td>USGS and vendors</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SRTM (20*20m resolution)</td>
<td>USGS</td>
</tr>
<tr>
<td>3</td>
<td>Equipment</td>
<td>GPS and Digital Camera</td>
<td>Market/rent</td>
</tr>
</tbody>
</table>

2.2.2. Interview, meeting and discussion
One of the primary data collection activities were accomplished using a survey questionnaire. The discussions were held with urban planning experts. Direct and indirect unstructured interviews were conducted with the experts during the field surveys to gather more information. The information derived from this study was used to identify and develop priority criteria and factors for the selection of landfill site. It was also used to identify problem in the study area and prioritize the potential landfill sites.

2.3. Data Analysis
Solid waste landfill site selection is complex and costly process which needs to consider many conflicting criteria (Basak, 2004). GIS based multi criteria evaluation methodology was used to combine land use/land cover, slopes, elevation, proximity from road, sensitive sites, and water body as landfill siting factors. All the factors were internally classified into four classes (highly suitable, moderate suitable, less suitable and Unsuitable) with values ranging from 1 to 4. Higher value 4 was given to the most suitable and value 1 to the least suitable for all factors considered. Weights for each class of criteria were derived in IDRISI software using AHP methods.
2.3.1 GIS-based-multi criteria evaluation methodology

GIS-based multi-criteria decision analysis involves the utilization of geographical data, the decision maker’s preferences and the combination of the data and preferences according to specified decision rules (Malczewski, 2006). Multi-criteria approaches have the potential to reduce the costs and time involved in siting landfills by narrowing down the potential choices based on predefined criteria and weights (Issa et al., 2012). Weighted Linear Combination and Analytic Hierarchy Processes (AHP) are the two most known Multi-Criteria Analysis methods that were used for this study.

2.3.2. Analytic hierarchy processes (AHP)

The Analytic Hierarchy Process is a decision making method for prioritizing alternatives when multiple criteria must be considered. It is a powerful and flexible decision-making process to help people set priorities and make the best decision when both qualitative and quantitative aspects of a decision need to be considered. It provides a hierarchical structure by reducing multiple variable decisions into a series of pair comparisons and develops subjective priorities based upon user judgment (Kubde, 2012). AHP was used in this study to derive weights for each criterion.

Table 2. The rating scale method (Saaty, 2008)

<table>
<thead>
<tr>
<th>Intensity of importance</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Equal importance</td>
</tr>
<tr>
<td>2</td>
<td>Equal to moderately importance</td>
</tr>
<tr>
<td>3</td>
<td>Moderate importance</td>
</tr>
<tr>
<td>4</td>
<td>Moderate to strong importance</td>
</tr>
<tr>
<td>5</td>
<td>Strong importance</td>
</tr>
<tr>
<td>6</td>
<td>Strong to very strong importance</td>
</tr>
<tr>
<td>7</td>
<td>Very strong importance</td>
</tr>
<tr>
<td>8</td>
<td>Very to extremely strong importance</td>
</tr>
<tr>
<td>9</td>
<td>Extreme importance</td>
</tr>
</tbody>
</table>
Table 3. Factor values and their weights based on Saaty (2008) and expert opinion

<table>
<thead>
<tr>
<th>Factor</th>
<th>Class</th>
<th>Rate</th>
<th>Weight</th>
<th>Level of suitability</th>
<th>Influence (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slope</td>
<td>&lt;10</td>
<td>4</td>
<td>0.4700</td>
<td>Highly suitable</td>
<td>0.1</td>
</tr>
<tr>
<td></td>
<td>10-15</td>
<td>3</td>
<td>0.2599</td>
<td>Moderate suitable</td>
<td></td>
</tr>
<tr>
<td></td>
<td>15-30</td>
<td>2</td>
<td>0.1983</td>
<td>Less suitable</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt;30</td>
<td>1</td>
<td>0.0718</td>
<td>Unsuitable</td>
<td></td>
</tr>
<tr>
<td>Elevation</td>
<td>&lt;1800</td>
<td>4</td>
<td>0.0718</td>
<td>Unsuitable</td>
<td>0.07</td>
</tr>
<tr>
<td></td>
<td>1800-1850</td>
<td>3</td>
<td>0.1983</td>
<td>Less suitable</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1850-1900</td>
<td>2</td>
<td>0.2599</td>
<td>Moderate suitable</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1900-2000</td>
<td>1</td>
<td>0.4700</td>
<td>Highly suitable</td>
<td></td>
</tr>
<tr>
<td>Distance to road</td>
<td>100-700</td>
<td>1</td>
<td>0.0718</td>
<td>Unsuitable</td>
<td>0.15</td>
</tr>
<tr>
<td></td>
<td>700-15000</td>
<td>2</td>
<td>0.1983</td>
<td>Less suitable</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1500-2000</td>
<td>3</td>
<td>0.2599</td>
<td>Moderate suitable</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt;2000</td>
<td>4</td>
<td>0.4700</td>
<td>Highly suitable</td>
<td></td>
</tr>
<tr>
<td>Distance to water body</td>
<td>0-1000</td>
<td>1</td>
<td>0.0718</td>
<td>Unsuitable</td>
<td>0.05</td>
</tr>
<tr>
<td></td>
<td>1000-1500</td>
<td>2</td>
<td>0.1983</td>
<td>Less suitable</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1500-2000</td>
<td>3</td>
<td>0.2599</td>
<td>Moderate suitable</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt;2000</td>
<td>4</td>
<td>0.4700</td>
<td>Highly suitable</td>
<td></td>
</tr>
<tr>
<td>Distance to sensitive area</td>
<td>0-1000</td>
<td>1</td>
<td>0.0718</td>
<td>Unsuitable</td>
<td>0.1694</td>
</tr>
<tr>
<td></td>
<td>1000-2000</td>
<td>2</td>
<td>0.1983</td>
<td>Less suitable</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2000-3000</td>
<td>3</td>
<td>0.2599</td>
<td>Moderate suitable</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt;3000</td>
<td>4</td>
<td>0.4700</td>
<td>Highly suitable</td>
<td></td>
</tr>
<tr>
<td>Land use/cover</td>
<td>Developed area</td>
<td>1</td>
<td>0.0718</td>
<td>Unsuitable</td>
<td>0.275</td>
</tr>
<tr>
<td></td>
<td>Agricultural/Forest</td>
<td>2</td>
<td>0.1983</td>
<td>Less suitable</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bush/Grass land</td>
<td>3</td>
<td>0.2599</td>
<td>Moderate suitable</td>
<td></td>
</tr>
<tr>
<td>Distance to developed area</td>
<td>0-500 m</td>
<td>1</td>
<td>0.0718</td>
<td>Unsuitable</td>
<td>0.1946</td>
</tr>
<tr>
<td></td>
<td>500-1000 m</td>
<td>2</td>
<td>0.1983</td>
<td>Less suitable</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1000-1500 m</td>
<td>3</td>
<td>0.2599</td>
<td>Medium suitable</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt;2000 m</td>
<td>4</td>
<td>0.4700</td>
<td>Highly suitable</td>
<td></td>
</tr>
</tbody>
</table>

2.4. Developing Criterion Maps

2.4.1. Suitability analysis to developed area

The factor of the developed areas includes residential areas, government buildings, schools, hospitals and other types of build up areas and associated infrastructure in the study area.
Table 4. Reclassified distance from developed area

<table>
<thead>
<tr>
<th>Distance from developed area (m)</th>
<th>Level of suitability</th>
<th>Rate</th>
<th>Weight</th>
<th>Area (ha)</th>
<th>Percent of the total area (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-500</td>
<td>Unsuitable</td>
<td>1</td>
<td>0.0718</td>
<td>1650</td>
<td>30</td>
</tr>
<tr>
<td>500-1000</td>
<td>Less suitable</td>
<td>2</td>
<td>0.1983</td>
<td>1100</td>
<td>20</td>
</tr>
<tr>
<td>1000-1500</td>
<td>Medium suitable</td>
<td>3</td>
<td>0.2599</td>
<td>1650</td>
<td>30</td>
</tr>
<tr>
<td>&gt;2000</td>
<td>Highly suitable</td>
<td>4</td>
<td>0.4700</td>
<td>1100</td>
<td>20</td>
</tr>
</tbody>
</table>

In relation to developed area, Wangg et al. (2009) suggested that a minimum distance of 1km from the landfill site is necessary for the flow of wastes to and from the site and the developed areas. Areas that are selected for such purpose must be at an optimum distance from the developed areas. Very near places are disregarded as this may pollute the developed areas. Very far areas are also not recommended as it incurs cost of distance. As described above in table (4), areas that lie 3 km away from the developed areas are at optimum distance.

Figure 2. Suitability distance from developed area
Source: Own map, 2015

2.4.2. Slope suitability
Slope refers to the measures of the rate of change of elevation at a surface location and normally expressed in percent or degree slope. Slope is one of the key criteria to be considered in landfill site selection. This is because site topography can reduce or increase adverse effects of landfill on the environment. Flat land and depression topography are not recommended for landfill due to water logging problem and downstream surface and ground water pollution. Moreover, steep slope is not best option for solid disposal because of the difficulty posed in construction or leveling. In addition, high topography areas reduce the stability of the side slopes and increase leachate movement. Therefore, the best slope for solid landfill should be modest slopes, which enable easier leachate control and site stability measures. Different
researchers set different slope criteria for landfill site selection. Kirimi et al. (2012) considered lower slopes more highly suitable than the land with higher slope. As indicated in the table below, areas which are with slopes >30% were excluded as it is unsuitable for landfill and the rest of the slope classes were ranked from very highly suitable to low suitable.

Table 5. Slope ranges

<table>
<thead>
<tr>
<th>Slope (%)</th>
<th>Level of suitability</th>
<th>Rate</th>
<th>Weight</th>
<th>Area (ha)</th>
<th>Percent of total area (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;10</td>
<td>Highly suitable</td>
<td>4</td>
<td>0.4700</td>
<td>2200</td>
<td>40</td>
</tr>
<tr>
<td>10-15</td>
<td>Moderate suitable</td>
<td>3</td>
<td>0.2599</td>
<td>1650</td>
<td>30</td>
</tr>
<tr>
<td>15-20</td>
<td>Less suitable</td>
<td>2</td>
<td>0.1983</td>
<td>550</td>
<td>10</td>
</tr>
<tr>
<td>&gt;30</td>
<td>Unsuitable</td>
<td>1</td>
<td>0.0718</td>
<td>1375</td>
<td>25</td>
</tr>
</tbody>
</table>

As can be seen from the above table <10% slope was ranked in the first place. Areas with 8-15% slope were the second option for landfill while 15-20% slope class was ranked as the third option. This is because as steepness increases, operation will be difficult and construction cost will be increased. Therefore, <10% slope class was used as very highly suitable for landfill while slope >30% is unsuitable. In the figure shown below areas represented by the blue color are highly suitable for putting landfills as they are relatively flat lands.

![Reclassified slope map](image)

Figure 3. Reclassified slope map  
Source: Own map, 2015

2.4.3. Suitability distance to road proximity

The road network map delineating the major roads in the city were digitized from SPOT5 (Satellite Pour observation de la Terre) for Satellite for observation of Earth image. Proximity from roads is one of the criteria that should be considered from economic and social point of views during solid waste landfill site selection processes. This is because siting landfill very close to roads may have public health problem as landfill pose hazardous effect to health. Moreover, landfill site very far
from road network is also not recommended due to high transportation cost. Minimum and maximum distance from road network of the study area was set after summarizing different literatures. Chang et al. (2007) used 500-700 m buffer from road as a minimum distance within which landfill should not be located.

Table 6. Reclassified distance to road

<table>
<thead>
<tr>
<th>Distance from road(m)</th>
<th>Level of Suitability</th>
<th>Rate</th>
<th>Weight</th>
<th>Area (ha)</th>
<th>Percent of total area</th>
</tr>
</thead>
<tbody>
<tr>
<td>500-700</td>
<td>Unsuitable</td>
<td>1</td>
<td>0.0718</td>
<td>1925</td>
<td>35</td>
</tr>
<tr>
<td>700-1500</td>
<td>Less suitable</td>
<td>2</td>
<td>0.1983</td>
<td>1133</td>
<td>20.6</td>
</tr>
<tr>
<td>1500-2000</td>
<td>Moderate suitable</td>
<td>3</td>
<td>0.2599</td>
<td>737</td>
<td>13.4</td>
</tr>
<tr>
<td>&gt;2000</td>
<td>Highly Suitable</td>
<td>4</td>
<td>0.4700</td>
<td>1683</td>
<td>30.6</td>
</tr>
</tbody>
</table>

As can be seen from the above table areas within 2km away from roads were analyzed as best site for landfill.

Therefore, Euclidian distance was used to create buffer classes around the roads with 500-700m, 700-1500m, 1500m-2000, 2000-3000m, distance ranges. Then they were classified using classify tools in four classes of suitability of highly, moderate, least and unsuitable. See figure below.

2.4.4. Proximity distance from water body
To protect surface water from pollution, landfill should not be located near streams and rivers. To minimize pollution, different researchers set minimum buffer distance for landfill site selection. For example, Owoeye et al. (2015) used 400 m buffer distance. Accordingly, Multiple Ring Buffer from Analysis Tools was used to prepare multiple polygons around each streams and rivers within the following distances given in the table below. As can be observed from table (7) and figure (5) more weight was given to areas beyond 2000m based on experts opinion. To minimize the effect of landfill leachate on surface water pollution, 0-500 m buffer area were excluded from siting process.
Table 7. Reclassified distance from water body

<table>
<thead>
<tr>
<th>Distance from water body</th>
<th>Level of suitability</th>
<th>Rate</th>
<th>Weight</th>
<th>Area (ha)</th>
<th>Percent of total area (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-500</td>
<td>Unsuitable</td>
<td>1</td>
<td>0.0718</td>
<td>2200</td>
<td>40</td>
</tr>
<tr>
<td>500-100</td>
<td>Less suitable</td>
<td>2</td>
<td>0.1983</td>
<td>1100</td>
<td>20</td>
</tr>
<tr>
<td>1500-2000</td>
<td>Moderate suitable</td>
<td>3</td>
<td>0.2599</td>
<td>1375</td>
<td>25</td>
</tr>
<tr>
<td>&gt;2000</td>
<td>Highly Suitable</td>
<td>4</td>
<td>0.4700</td>
<td>825</td>
<td>15</td>
</tr>
</tbody>
</table>

The proximity map was standardized and reclassified into four classes. Weights were calculated for the classes based on their preference using AHP modular in IDRISI software. Accordingly, more weight was assigned for more suitable areas (0.4700) while least weight (0.0718) was given to areas in the vicinity of the rivers and streams (the gray color in the figure below shows areas with high suitability). Generally, weights and suitability level increases with distance from surface water.

![Figure 5. Reclassified distance to water body](source: Own map, 2015)

**2.4.5. Land use/land cover analysis**

The land use/cover map displays the land utilized by the human and the natural cover in the study area. It is the basic map of the study which helps to generate many thematic maps required for overlay analysis.

Land use/land cover should also be considered as one of landfill site selection criteria. This is due to the fact that, adjacent landfill may affect land use/land cover of the area and lower economic values of the land. Therefore, current land use/land cover of the study area should be studied and high value land must be excluded from landfill siting. According to Moeinaddini et al. (2010), a site with potential for higher value uses such as nature conservation, agriculture and residential development should not be used for landfill. Hence, areas with low economic advantages for people should be considered for landfill.

LANDSAT ETM+ of recent time and cadaster images were used to produce the current land use/land cover of the study area. Images used to identify main land use...
types were processed, and classified using Erdas Imagine 2014. Preprocessing techniques such as spatial, radiometric, and spectral enhancements were done using interpreter module of Erdas Imagine. Then supervised classification was done to identify the available land use/land cover.

Table 8. Classified land use/cover

<table>
<thead>
<tr>
<th>Land use/cover</th>
<th>Level of Suitability</th>
<th>Value</th>
<th>Weight</th>
<th>Area (ha)</th>
<th>Percent of total area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developed area</td>
<td>Unsuitable</td>
<td>1</td>
<td>0.0718</td>
<td>2073.5</td>
<td>37.7</td>
</tr>
<tr>
<td>Agricultural/Forest</td>
<td>Less suitable</td>
<td>2</td>
<td>0.1983</td>
<td>1463</td>
<td>26.6</td>
</tr>
<tr>
<td>Bush/Grass land</td>
<td>Moderate suitable</td>
<td>3</td>
<td>0.2599</td>
<td>1122</td>
<td>20.4</td>
</tr>
<tr>
<td>Open/bare land</td>
<td>Highly Suitable</td>
<td>4</td>
<td>0.4700</td>
<td>841.5</td>
<td>15.3</td>
</tr>
</tbody>
</table>

Major land cover classes were developed areas, agricultural/forest fields, bare/open land etc. Hence, the highest value was given for suitable land class types to waste disposal site selection. In addition landfill should not be sited in built up areas and forestlands as they are high value lands and thus excluded from siting processes. The land which is covered by bare and grass lands account for about 23.9% from the total area. The open/bare lands indicated by the yellow color were the most suitable area for solid waste dumping site. Then, land use/land cover of the study area was reclassified into four classes of unsuitable, least suitable, marginally suitable and highly suitable levels as depicted in the following figure.

Figure 6. Classified land use/cover
Source: Own map, 2015

2.4.6. Distance from sensitive sites
A sensitive sites map refers to the major cultural, archaeological, ecological and historical sites in the study area. It may also include churches, mosques, parks and others. The areas in and around the historical wall of the city should be restricted.
from such activity. These sites are restricted from the development of landfill. Thus landfill should not be located in close proximity to sensitive areas listed above. When the distance increases the suitability also increases. Siddiqui (1996) showed that the area located at the distance greater than 3000 m from environmentally sensitive area were selected as highly suitable for solid waste dumping site. In the present study, about 29.8% from the total area were located at distance of 3000 m from environmentally sensitive area. The table below shows the level of suitability, the rate given and the weight assigned. The most suitable area for solid waste dumping site was given higher weight of 0.4700 as can be seen below.

Table 9. Reclassified distance to sensitive area

<table>
<thead>
<tr>
<th>Distance from sensitive</th>
<th>Level of suitability</th>
<th>Rate</th>
<th>Weight</th>
<th>Area (ha)</th>
<th>Percent of total area (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-500</td>
<td>Unsuitable</td>
<td>1</td>
<td>0.0718</td>
<td>973.5</td>
<td>17.7</td>
</tr>
<tr>
<td>500-1000m</td>
<td>Less suitable</td>
<td>2</td>
<td>0.1983</td>
<td>1463</td>
<td>26.6</td>
</tr>
<tr>
<td>1000-2000</td>
<td>Medium suitable</td>
<td>3</td>
<td>0.2599</td>
<td>1424.5</td>
<td>25.9</td>
</tr>
<tr>
<td>&gt;3000</td>
<td>Highly suitable</td>
<td>4</td>
<td>0.4700</td>
<td>1639</td>
<td>29.8</td>
</tr>
</tbody>
</table>

Figure 7. Reclassified distance to sensitive area
Source: Own map, 2015

2.4.7. Elevation
Elevation is an important parameter in the identification of landfill site (Kumar, 2013). SRTM (Shuttle Radar Topography Mission) image was used to drive elevation map of the study area. The elevation of the study area generally ranges between 1776 and 2016 meters. Lower and higher altitudes were ignored as they are not good for siting landfills. Lowest and higher weight values were given to areas at >1,800 m above sea level and areas at <2016 m above sea level respectively. The rating, suitability and weights assigned is given in the following table and the figure illustrates the level of suitability.
Table 10. Reclassified elevation

<table>
<thead>
<tr>
<th>Elevation(meters)</th>
<th>Level of suitability</th>
<th>Rate</th>
<th>Weight</th>
<th>Area (ha)</th>
<th>Percent of total area (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;1800</td>
<td>Unsuitable</td>
<td>1</td>
<td>0.0718</td>
<td>973.5</td>
<td>17.7</td>
</tr>
<tr>
<td>1800-1850m</td>
<td>Less suitable</td>
<td>2</td>
<td>0.1983</td>
<td>1463</td>
<td>26.6</td>
</tr>
<tr>
<td>1850m-1900m</td>
<td>Medium suitable</td>
<td>3</td>
<td>0.2599</td>
<td>1424.5</td>
<td>25.9</td>
</tr>
<tr>
<td>1900m-2000m</td>
<td>Highly suitable</td>
<td>4</td>
<td>0.4700</td>
<td>1439</td>
<td>29.8</td>
</tr>
</tbody>
</table>

Figure 8. Reclassified elevation
Source: Own map, 2015

2.5. Assigning Criteria Weights and Standardize Factor Maps
One of the components of GIS-Based MCE methodology is assigning criteria weights for each factor maps to express the importance or preference of each factor relative to other factor effecting landfill siting. A number of criterion-weighting procedures based on the judgments of decision makers have been proposed in the multi-criteria decision literature (Eskandari et al., 2009). One of the most promising is pair-wise comparison developed in context of a decision making process is known as AHP. In multi criteria evaluation using a weighted linear Combination, it is necessary that the weights should sum to 1. Weight was derived by taking the principal eigenvector of a square reciprocal matrix of pair-wise comparisons between the criteria.
Table 11. Pair wise comparison based on Saaty rating scale and expert’s opinion

<table>
<thead>
<tr>
<th>Factor</th>
<th>Less important</th>
<th>More important</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land use/cover type</td>
<td>Developed area</td>
<td>Sensitive area</td>
</tr>
<tr>
<td>Developed area</td>
<td>1/2</td>
<td>1</td>
</tr>
<tr>
<td>Sensitive area</td>
<td>1/3</td>
<td>1/2</td>
</tr>
<tr>
<td>Road</td>
<td>1/4</td>
<td>1/3</td>
</tr>
<tr>
<td>Slope</td>
<td>1/5</td>
<td>1/4</td>
</tr>
<tr>
<td>Elevation</td>
<td>1/6</td>
<td>1/5</td>
</tr>
<tr>
<td>Water body</td>
<td>1/7</td>
<td>1/6</td>
</tr>
</tbody>
</table>

Table 12. Weights derived from pair wise comparison

<table>
<thead>
<tr>
<th>Factor</th>
<th>Eigen vector</th>
<th>Weight percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land use/cover type</td>
<td>0.275</td>
<td>27.5</td>
</tr>
<tr>
<td>Developed area</td>
<td>0.1946</td>
<td>19.46</td>
</tr>
<tr>
<td>Sensitive area</td>
<td>0.1604</td>
<td>16.04</td>
</tr>
<tr>
<td>Road</td>
<td>0.15</td>
<td>15</td>
</tr>
<tr>
<td>Slope</td>
<td>0.1</td>
<td>10</td>
</tr>
<tr>
<td>Elevation</td>
<td>0.07</td>
<td>7</td>
</tr>
<tr>
<td>Water body</td>
<td>0.05</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>1</td>
<td>100</td>
</tr>
</tbody>
</table>

The above table (Table 12) shows that land use/cover and developed area are more important than other factors for landfill site selection.

2.6. Aggregating the Criteria Weights

The distinguishing feature of GIS is its capacity for integration and spatial analysis of multisource datasets. The data are manipulated and analyzed to obtain information useful for a particular application such as suitability analysis. Landfill site selection involves aggregation of factors in a systematic way. Once the factor maps are prepared, the last step in suitability analysis is to evaluate the criterion so as to combine the information from the various factors. Weighted linear combination one of the multi criteria evaluation techniques to use for factors aggregation (Malczewski, 2006). With a weighted linear combination, factors were combined by applying a weight to each followed by a summation and final landfill suitability map that shows
suitable sites for landfill. The overall suitability index was calculated using the following formula: 
\[ SI = \sum_{i=1}^{n} W_i X_i \]

Where SI refers to Suitability index, 
W refers to weight and 
X refers to the variables used

\[ SI = \sum (\text{Land use/land cover} \times 0.275 + \text{Developed area} \times 0.1946 + \text{Sensitive area} \times 0.1694 + \text{Road proximity} \times 0.15 + \text{Slope} \times 0.1 + \text{Elevation} \times 0.07 + \text{Water body} \times 0.05) \]

3. Results and Discussions

3.1. Landfill Suitability Analysis

The final step in the process of suitable site assessment was the development of suitability model, showing the sites suitability in four different levels. For this purpose the percentages of influence was multiplied by the value of each raster cell in the factor considerations and then were summed up all together using raster Calculator. A model with six possible suitability classes was then turned for which it was examined by the six individual factors. This was done repeatedly until it enabled to get reasonable and acceptable suitability model of the study area.

As can be seen both in the table and figure/model below the solar yellow shades represent highly suitable areas (suitability class four). The yellow color represents areas with high suitability. Areas represented by red sheds are with suitability value of three and shows least suitable sites and the fourth class which is highlighted by black colour shows places which are restricted from any landfill site since they are occupied by other land uses.

Figure 9. Overall suitability model
Source: Own map, 2015
Table 13. Overall suitability model/map

<table>
<thead>
<tr>
<th>Level of suitability</th>
<th>Area (ha)</th>
<th>Percent of total area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unsuitable</td>
<td>1628</td>
<td>29.6</td>
</tr>
<tr>
<td>Less suitable</td>
<td>1826</td>
<td>33.2</td>
</tr>
<tr>
<td>Medium suitable</td>
<td>1127.5</td>
<td>20.5</td>
</tr>
<tr>
<td>Highly suitable</td>
<td>918.5</td>
<td>16.7</td>
</tr>
</tbody>
</table>

![Chart showing overall suitability](chart.png)

Figure 10. Chart showing overall suitability
Source: Own map, 2015

3.2. Evaluating Candidate Landfill Sites
Size of landfill is one of the determinant criteria for sustainable solid waste management as size of land selected for landfill determines the number of years for which the landfill will be used as waste disposal site. From sustainability and economical point of views, larger size of land that will serve for at least ten years are more preferable than small size. This is because selecting large sized landfill site can minimize the cost of site selection, design and closure. The analysis shows that, sites with area less than 0.5km² are economically not feasible and hence considered not suitable. Considering the overall criteria’s, the socio economic criteria, available land uses, the infrastructure on the ground from the alternatives identified site 1 is chosen as the best suitable site for planting the landfill in the study area. It also confirms to one of the candidate sites being studied and identified areas for landfilling.
4. Conclusion and Recommendations

4.1. Conclusion

This article examined an approach for identifying the optimum site for the development of a landfill in a growing town. A multi-criteria approach was employed in conjunction with GIS-based overlay analysis to identify the most suitable site for landfill development in the town. The study was based on a set of key criteria, which were selected on the basis of the already available knowledge from research literature as well as criteria’s set by the ministry of construction and urban development. The criteria considered were very crucial for landfill site suitability as many literatures reveal and were considered advantageous for easy access of construction and management and movement of wastes from the urban environment to the dumping site. Generally, this study provided a final suitability map and a model showing the potentially suitable sites on which landfill sites can be established for the city of Harar. During the study, it is proved that GIS is a powerful tool in handling large amounts of data and narrowing areas of interest for potential landfill sites.
4.2. Recommendations
Detailed social and geological study for the selected landfill sites should be done in order to further enhance the landfill sites and predict the effects that will result from the landfill. To protect air, environment and water, pollution must not flow into and out of the landfill. The selected landfill site should serve at least for two decades to reduce the cost of landfill site selection, construction and closure. Hazardous wastes from industries, health institutions and from households should be separated from non-hazardous solid waste before disposal. Hence, separate landfill should be selected for such hazardous solid waste as siting parameters and construction of landfill for hazardous solid waste is quite different from that of non-hazardous waste.

5. Acknowledgments
The authors extend their thanks to the Ministry of Education and the Haramaya University for the financial support for conducting this research work. In addition, our gratitude goes to Harari Urban planning office staff members for the overall support they gave us during the fieldwork.

6. References
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Article History: Received: February 12, 2016; Revised: May 14, 2016; Accepted: May 19, 2016

Abstract: By making a brief historical survey on the evolution of Tourism in the Lake Tana region, this paper assesses major challenges and bottlenecks that have served as obstacle to tap the region’s tourism potential. The objective of the study is to identify the major challenges that encountered tourism in a historical perspective and to suggest possible solutions to tackle the problems. To that end, data were collected from both primary and secondary sources. Firsthand information was gathered using inventory field survey and intensive reading in the archives of different institutions and through guided interview from knowledgeable informants. Data gathered was analyzed qualitatively in a historical method. This paper concludes that the tourism industry in Lake Tana region is not effectively managed and its high tourism resource potential is underutilized.

Keywords: Destination; Infrastructure; Tourism Product; Tourist Attractions; Transportation

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1. Introduction
As a tourist destination site, the Lake Tana region comprises of tourist spots dotted in and around the lake that include among others the islands and peninsulas such as Zege Peninsula and Blue Nile Falls Tis Isat in Tis Abay town. The source of the mighty Blue Nile, Lake Tana, which is the largest fresh water Lake of Ethiopia and 3rd largest in Africa, and Bahir Dar town are also part of this destination. The lake and its locality is endowed with diverse tourist attractions that consist of natural, cultural, historical and religious heritages (Sefrien, 2012: 44-46; informant, Birhane Meskel, BOCTPD, Sep.2015).

In the category of natural attractions, there are diverse fauna and flora on wetlands, peninsulas and islands of the lake. The outstanding Church forest diversity of tree with 113 documented woody plant species and shrub species, medical plants are recognized as hot spot of biodiversity that exist in the Lake Tana. It is also a great potential for ecotourism development. Thus, Lake Tana biosphere reserves were recorded by UNESCO as Ethiopia’s fourth natural heritage (UNESCO, 2015:3). The lake environment and terrestrial wetland in the lake’s vicinity with more than 260 bird species and more than 180 woody plants species is recognized as one of the important hot tourist spots. Tourists enjoy watching birds, hippopotamus and other natural attractions such as the natural forest of Zegé peninsula (Mulualem, 2010:5; Sefrien, 2012: 44). Its registration by UNESCO added value to the region’s importance as tourist destination.

The peninsulas and islands of Lake Tana have medieval period built. Ethiopian Orthodox monasteries endowed with enormous heritages with great historical, religious and cultural values. Some of the churches and monasteries, which were established by dedicated monks who are noted by the Ethiopian Orthodox Church as “seven stars”\(^1\), served as a safe place to hide and protect valuable treasures and heritages. Some 20 monasteries of Lake Tana have since the medieval times been served as repositories of some of the country’s greatest art treasure and religious relics. They host various treasures of historical, cultural and religious interest which include beautiful manuscripts mostly written on parchment, venerated objects of worship, crosses dated back to the dawn of Christianity, good collection of icons and mural paintings as well as the coffins of several prominent medieval Ethiopian emperors. As home of many unique churches and monasteries that host cultural, historical and religious heritages and treasures, Lake Tana is an important attraction for religious and cultural tourists (Mekonen, 1980: 7; CTI, 1991: 3-4; Zur, 2012: 24).

Bahir Dar town, which is 563 kms far from Adis Abeba and located at the south eastern lakeshore of Lake Tana in the North West Ethiopia, together with its historic churches, traditional church school and old traditional open market, has also grown as important tourist destination in the region. Moreover, Bahir Dar is an entry point

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\(^1\) The monks who noted as seven stars for founding the main monasteries on the islands of Lake Tana are; Abun Betre Maryam-founder of Zegie Giyorgis; Abune Zeyohanis- of Kebran Gabriel; Abune Tadewos- of Debre Maryam; Abune Tomas-of Debre Gelila Iyesus, Abune Asay- of Mandaba; Abune Zekarias- of Angara/Bergida Maryam church and Abune Nove of Gorgora Maryam (Hableselasie, 1989: 198).
to visit the natural attractions and monasteries of Lake Tana. The town is also
gateway for tourists who embark on tourism activities in the northern tourist circuit
also known as the historic route (Dube, 2012: 96; Sefrin, 2012: 45-46). All these
clearly indicate that the Lake Tana region has a high potential for tourism
development. However, having huge attraction potential is not adequate for tourism
development. For a successful tourism development, investment in supporting
business industries such as hotel and transportation as well as on hard infrastructure
like roads, airports, marina/port/, water and sewer lines and telecommunication is
very essential (Parsons, 2009; Sorupia, 2005: 1767). It is true that in the Lake Tana
region it was only following the introduction and expansion of modern transportation
infrastructure that modern tourism began to grow (Tamrat, 2014: 57-58).

With the introduction and steady expansion of infrastructure starting from late
1950s and early 1960s the region got opened to national and international tourism.
And at least from 1950s onwards the Lake Tana region recognized as ideal place for
tourism development. However, regardless of its possession of high resources for
tourism development, the Lake Tana region has not yet been benefiting from its

As a research theme, tourism in the Lake Tana region has kindled the interest of
scholars in various academic background and dozens of research based works
produced and published on this particular theme. Some scholars tried to identify the
tourism potentials of the area as well as its opportunities and challenges (Sefrin,
2012). Some others disclosed the major tourism products and major attractions of the
lake and its monasteries (Andargie, 2014; Markos, 2012: 5-7). However, some
researches confined themselves on site level investigation (Dube, 2012). Some
others, by disregarding the local variations in factors that affect the industry, tried to
study the whole issue of tourism at a country level (Mulalem, 2010). However, each
of them has one shortcoming in common; they clung up on discussing and explaining
current status of tourism. Intertwined factors and bottlenecks as well as the root
causes of the obstacles that deterred tourism development in Lake Tana region are
not investigated. It is this gap that initiated the researchers to undertake a study on
this thematic area.

Almost for the consecutive three and half decades after its beginning, tourism in the
Lake Tana region did not show remarkable progress. Although Lake Tana is well
known for its national and international tourism especially for its religious and
recreational tourism, the region’s tourism potential is not yet effectively utilized. This
study, therefore, investigates major challenges and bottlenecks that hindered to tap
the region’s tourism potential in a historical perspective. To that end, the following
leading questions were addressed: (a) what are the root problems and major
challenges for lack of remarkable progress in Lake Tana area tourism?; (b) are the
main actors of tourism playing their role with the required commitment as desired by
state laws?; and (c) is the local community effectively participating both in sharing
responsibilities and benefits in Lake Tana area?
2. Research Methods
This article is based on primary and secondary sources. In the category of primary sources, information and data obtained from knowledgeable informants, who had been selected by purposive sampling method, archival materials such as manuscripts, proclamation issued in 1950s and letters produced by and exchanged between and among different authorities and office holders during and after the imperial regime, who had stake in tourism were consulted in the archives and other institutions located in Addis Ababa, Bahir Dar and Zegie Peninsula. The principal researcher collected these materials in August-September 2008 and in September 2015. In the first case, he was conducting a research for his M.A. and in September 2015 he visited the archives and libraries such as those of Lake Tana Transport Enterprise and Amhara Finance and Economic Development Bureau, and he found valuable and reliable archival materials. In the category of secondary sources intensive reading is made and the works of different scholars which in one way or another deal with tourism were consulted. The collected information and data were systematically organized, crosschecked and critically and skeptically interpreted and analyzed through narrative and document analysis approach. Moreover, for the sake of organizing and analysis, percentage and charts are used.

3. Result and Discussion
3.1. Challenges of Tourism Development in 1960s and 1970s
From the very beginning of its evolution, the emerging tourism in Ethiopia and Bahir Dar area had encountered many bottlenecks. In 1960s, insufficient facilities, lack of modern accommodation and catering facilities, long, tiresome and difficult road transportation from Addis Ababa to Bahir Dar, absence of appropriate hostelry at each stop over point in the journey, lack of awareness about tourism on the part of host community, almost total absence of heritage promotion services, improper up keeping and preservation of moveable heritages as well as immovable heritages such as monuments at sites were the major challenges (Angelini and Mougin, 1968: 5-6).

In the late 1960s and early 1970s, there was conflict of interest among others on the issue of collecting tourist entrance fee by different stakeholders. For instance, the issue of collecting entrance fees from tourists had become a cause of disagreement among at least three authorities. The local Church officials, the Antiquities Administration Authority (a government institution established by law in 1966), were responsible to protect and administer heritages; and the Lake Tana Ports’ Enterprise, considered themselves as legitimate organs to regulate tourism in the area. Each of the three institutions wanted the touring fees to be collected in the way of their choice. The Antiquities Authority wanted visitors to take a legal license before entering to the tourist sites and the authority ordered legal receipts to be taken from

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Tourism facilities are those devices and institutions that are needed by tourists and they include among others accommodation facilities such as hotels & lodges, gastronomy facilities such as restaurants, cafes; accompanying facilities such as entertainment; and transport facilities such as road and transport and transport services around destinations (Panasiuk, 2007: 212).
Another government institution, The Lake Ṭana Ports’ Enterprise was in charge of carrying out water transportation service on Lake Tana. This institution on its part rejected the claim made by the Antiquities Authority and considered the Authority’s intention to collect entrance fees not only as an intervention in the ports’ regular activities but also as a deliberate act intentionally done to discourage tourism and the church’s revenue. The Ports enterprise rather wanted tourists to pay the required fee (five Birr) before embarking on a boat for travelling to the sites. Eventually, the issues of tourist fee ownership referred to the Imperial Government to get final resolution; and the central government responded in favor of the Antiquities Office. Nevertheless, it did not convince the clergy to change their position (Manuscript in THTD by Antiquities Administration in Tiqmt 1965 E.C; Manuscript in THTD by Ato Niguse, Tahisas (December), 1965).

The nationwide opposition war against the imperial government by different sections of the society like peasants, students and factory workers, aggravated by internal and external factors such as the hidden famine in Wollo and increase in oil price, grew into political unrest and general revolution(Marcus, 1994: 175-179) Following the escalation of country wide unrest and political upheavals in the late 1960s, because of the unrest and instability, most of the government policies and decisions including its final judgment on the issue of the fee and orders were not implemented (Gasiorowski, 1981: 2-3). On 2 June 1974, Ura Kidane Mehret Church Officials decided to retain the income from visitors and allocated the money to run the church administration. The Bahir Dar Awraja clergy and their head, Memher Gebre Selassie, supported their resolution and allowed the church to receive five birr from individual visitors (Manuscript in THTD by Memhir Gebre Selasie, 1966 E.C). Thus, by keeping entrance fees on their hand; the clergy in the Lake Tana area courageously defended their position and their economic interest (Tamrat, 2014). The revenue from tourist fees, therefore, remained in the hands of church officials (Sefrien, 2012: 47-48). When the suppliers of tourism resources were quarrelling on the issue of entrance fee, the number of travelers and tourists that visited the Lake Tana region was decreasing in alarming rate. This is because tourists desisted from visiting the region due to lack of peace and stability in the country and in the Lake Tana region (Mekonnen, 1980).

3.2. Tourism during the Dergue Regime and Its Major Challenges with Emphasis on Lake Tana

Until 1974 tourism grew at annual average rate of 12% and in the four years that preceded the revolution the average number of tourist arrivals to Ethiopia was 63,833 per year with an average annual income from the sector of 10.2 million US dollar. And the annual foreign tourist arrival and receipt from tourism was respectively growing at a rate of 18.2% and 13%. But with growing increase in political upheavals from mid 1960s right up until 1974, tourism in Ethiopia sharply declined with some fluctuating ups and downs. As indicated in chart 1 below, even by 1974, when the
Emperor Haile Selassie was toppled and replaced by a military regime, Ethiopia’s tourist sector was not at a worst situation. The number of tourist arrivals in the Lake Tana region and at country level respectively was 3,504 and 73,662 (Tourism policy, 2009: 6). However, with and following regime change, the Ethiopian tourism industry that began to grow in the 1960s constantly declined after mid-1960s. In connection with this, Hicky (1995: 2) has described the situation as “Tourism in Ethiopia was a boom that had started in the early 1960s but was then aborted by the military takeover of power”. In contrast to Hicky’s finding, however, our archival sources indicate that at the military takeover of power, tourism both in Lake Tana region and at the country was reviving with little progress. However, when compared with early 1960s, the total number of tourists that visited the Lake Tana area for three or four consecutive years in the post-revolutionary Ethiopia was not equal with the number of tourists that visited the region in one pre-revolutionary year (Mekonnen, 1980: 5). Tourist flow in to Ethiopia early 1960s was by far larger than that of 1970s.

![Diagram of Tourist flow from 1963 to 1976](image)

**Chart 1.** Number of Tourists who visited Lake Tana region and Ethiopia from 1963-1976 E.C


Under the Socialist regime (1974-1991), the Ethiopian tourism continuously declined. For a decade that followed the 1974 revolution due to political upheavals tourism in Ethiopia and in the Lake Tana region in particular was at its worst situation. As indicated in chart 1 above, from 1969 to 1973 E. C, there was almost no tourist flow to the Lake Tana region. The reason was that civil war in the north, civil dissidents, opposition within the Dergue and Red Terror in 1976- 1977 (Tiruneh, 1990: 287-288; Haliday and Molyneux, 1981: 120-121) and the Ethio-Somalia war in 1977 and 1978, left the country in chaos and made it insecure for tourists. Under such condition of general instability in different parts of the country including the Lake
Tana region, foreign tourists did not want risk their life. The country’s bad image associated with drought, the 1984 famine and civil war adversely affected tourist flow to Ethiopia. Ethiopia had been considered as classic example of countries whose tourism badly affected because of bad image in 1970s and 1980s (World Bank, 2006; Mulualem, 2010: 6).

The other major problem in the tourism sector in 1970s and 1980s was restrictions on entry and free movement of tourists. Foreign tourists in the Lake Tana region were not permitted staying for more than one day in the locality. This is because the tourists’ passport, which they received from Public security office in Addis Ababa, made serve only for one day. Transportation fee on boarding flight as well as for accommodation and entrance fee was paid by the tourist in the main office Addis Ababa. In other words, tourists were sent to Bahir Dar only with coupons and Air ticket. Thus, tourists who were interested to extend their program could not do that and during their stay in and around the sites in Bahir Dar, tourists could not extend their stay and did not spend additional money for extra leisure activity. Until the 1991 regime change and in the few post 1990s, the tourism sector had been lingering behind other sectors3 (Kebede, 1997 E.C: 10-11; Sissay, 1992: 35; World Bank, 2006: 17). But after mid 1990s, there is good progress in the tourism sector.

Strained government relations with tourist generating countries (i.e. Europe and America) and ideological alignment of the Dergue with the Eastern Block, as well as the Dergue’s command economic policy negatively affected tourism development and seriously obstructed investment on tourism and tourism infrastructure. President Mengistu’s rhetoric about socialism frightened western investors; investment by its socialist allies was inappropriate and expensive (Zewde, 1994: 14-15). The investment on hospitality industry was at the lowest level throughout the Dergue period. Likewise, apart from periodic upgrades, there had been little investment in infrastructure (Kebede, 1997: 11) Moreover, after 1988 the position of the socialist government endangered. On the one hand its military sponsor, Russia cut off its military assistance (Zewde, 1994: 15).

The Eritrean Peoples’ Liberation Front (EPLF) and Tigrian Peoples’ Liberation Front (TPLF), on the other hand, succeed in overrunning Northern provinces. With the escalation of the civil war in the north after mid-1980s, every effort on the part of government resorted to the warfront. Each economic sector including tourism was neglected. Due to this reason, the tourism sector did not show remarkable growth. International tourist flow or inbound tourist arrival and the annual obtained from it were low. In the years between 1989 and 1992, for instance, on average 80,246 foreign tourists visited the country and 23.2 million U.S. dollars was obtained annually. The average annual growth in tourist arrival and annual receipt from tourism was low. When compared with that of pre-revolutionary period both tourist flow and corresponding receipt from tourism was low (Tourism Policy, 2009: 6).

The other problem was related to high cost of water transport on Lake Tana. At that time tourists had no option using boats owned by the Government’ Lake Tana

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3 It is possible to see from various reliable documents (World Bank, 2006) that tourism in Ethiopia is now the third valuable foreign currency earner.
Transport Enterprise (Yetananesh, 2015: 7) and the cost was, relatively speaking, very high. On the other hand, unless tourists took a boat in group for to visit the Lake Tana and heritages in the ancient churches spotted on and around the lake, the cost of transportation was very expensive to be covered by a single tourist. By 1980s a tourist or group of tourists, who needed to hire a boat for transportation on Lake Tana, were asked to pay 250 Ethiopian birr per hour. In addition to this, the monks and priests of the monasteries who were in custody of heritages were not voluntary to let any stranger visit valuable heritage for fearing that it might be stolen or spoiled by reckless visitors. (Mekonnen, 1980: 15-17; informant, Getehun Kassa, Ura Qabele, 2008).

In addition to the poor tourist infrastructure/such as jetty and road/ there was also serious shortage of trained man power to provide tourists guiding and hospitality services. The National Tourist organization\(^4\) was not effectively carrying its activities. Out of the five branch offices of National Tourist organization, two of its branches were located in Gondar and Bahir Dar. But the two offices had only 5 trained tour guides; two for Gondar branch and three of them were assigned in Bahir Dar. The NTO had also shortage of vehicles to provide tourists transportation service. Due to these and related problems, towards the end of the Derg Period the flow of tourists to Lake Tana region was extremely low (Mekonnen, 1980: 14).

3.3. Tourism Development in the Post 1991
When President Mengistu Haile Maryam’s regime toppled down in May 1991, the Transitional Government of Ethiopia, TGE (1991-1994), took over power in June 1991 under the leadership of Ethiopian Peoples’ Revolutionary Democratic Front - EPRDF (Marcus, 1994: 217-219). The interim Ethiopian government took decisive measures the most important of which was shifting Ethiopia from socialist command economy to capitalist liberal free market economy. The transformation of the country from communist command economic policy to liberal free market economic policy has evidently encouraged private investors to involve in the activities related to the tourism industry (Hicky, 1995: 3). As a result, the private sector, both domestic and foreign, began to embark on investment as Tour Agents, Tour operators, and engaged in hotel services. With steady improvement of the quality and quantity of service providing institutions, the number of tourists and the commensurate income from the tourism sector showed remarkable growth right up until the Ethio-Eritrean war\(^5\) of 1998/1999 (Sefrien, 2012: 54-55). With the progress of economic liberalization in post Ethio- Eritrean war, the government resumed to play a leading role in the governance of tourism. Accordingly, the private investment in hotel and

\(^4\) The National Tourist Organization/NTO/ was established in 1975 with a total capital of two million Ethiopian Birr. NTO’s head quarter was in Addis Ababa. Its objective was to help foreign tourists’ natural and manmade attractions. The NTO also engaged in other activities related in tourism like renting car and taxi for travelers.

\(^5\) The war with Eritrea from 1998 to 2000, the 2005 upheaval that followed the election had a negative impact in diminishing the increasing tendency of international tourist arrival.
accommodation were encouraged. The Private sector now began to take many of the operational and commercial roles (World Bank, 2006: 18).

On the basis of the 1995 FDRE constitution, the federal government is mandated among others with power to set national policies and strategies. Regions were allowed to widely involve in implementing socio-economic development strategies. Regional states have been legally granted authority to establish public institutions that coordinate and implement development policies and strategies (Habib, 2011: 10-15). Accordingly, the central government granted Regional states power to establish Tourism Bureaus\(^6\) under proclamation No. 43/1993E.C and the Amhara National Regional State Culture, Tourism and Information Bureau (ACTIB) was established in 2010 (Andargie, 2014: 48). Following the upgrading of tourism commission into Ministry of Culture and Tourism (MoCT) under proclamation Number 471/2005 in 2005, Culture and Tourism offices were organized at different hierarchies from the regional Bureau to district offices (Tourism Development Policy, 2009: 2).

On the basis of Proclamation No. 176/2010 of the Amhara National Regional State, which was endorsed to re-determine the power and duties of Executive Organs of the region, the Amhara culture and tourism bureau was re-organized. Accordingly, the Bureau received a new mandate to administer parks and it changed to Amhara Regional State Culture, Tourism and Parks’ Development Bureau (Zikre Hig, 2011: 45-48). Charged with the mandate to coordinate efforts of the stakeholders in the tourism industry; the government, the private sector, and host communities at destinations, Culture and tourism offices tried to get the largest possible benefit from the sector (Tourism Development Policy, 2009: 2-5). However, regardless of all these efforts and given the presence of diversified tourist attractions and relative peace and stability, for one decade in the post Derg period tourist flow sector into the Lake Tana region and revenue from the sector was generally low.

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\(^6\) The government institution that has been charged with leading and coordinating tourism activities in the country made frequent organizational adjustments; as culture, tourism and information in 1993, as Tourism commission (by proc.No70/1974 in 2004 as Culture Tourism by proclamation Number 471/2005) and as Culture Tourism and Parks Development Bureau (by Proclamation. No 167/2001 in January 2008).
Actually (as indicated in Chart 2 above) in 1990 to 1993 and up until the end of Ethio-Eritrean war, Tourism in the Lake Tana region remained almost static with some up and downs. Moreover, in 2002 and 2003, most parts of the country and the Amhara region were at the clench of severe drought. Due to the drought there occurred shortage of rains and the rivers and streams that feed Lake Tana drastically reduced and some were almost drying. As cited in Gebre et al. (2008: 42) experts of Tana Transport Enterprise (TTE), an institution that regulates boat transportation on the Lake Tana, the construction of Chara Chara dam aggravated the problem. Accordingly, the maximum height of Lake Tana in wet season is 1787 meters above sea level and the lowest point is 1784 meters above sea level. They also explained that it is impossible to use the Lake for navigation if its height becomes lower than 1785. Thus, boat transportation on the low water level of the lake became difficult for tourists to visit the natural and cultural attraction in the islands and peninsulas of Lake Tana. Moreover, with decreasing of the water reservoir in the lake and with the extreme decrease in the volume of the Blue Nile, that starts from Lake Tana, the Blue Nile Fall, tis isat that attract tourists in large numbers died out and lost its scenery importance until adequate rains came and water levels of the Lake Tana and Blue Nile rose up in 2004 and 2005 (Gebre et al., 2008:39-40).

After 2004/05 the total number of tourists that visited the Lake Tana region began to grow in a better rate than before. Nevertheless, given the high potential and availability of diversified tourist attractions in the region however the number of tourists remained low.

![Tourist flow chart](chart3.png)

Chart 3. Tourist flow in the main tourist spots of Lake Tana area (Bahir Dar, Zegé and Tis Abay from 2005-2010).

*Note: Dom Tou.: Domestic tourist; For. Tou.: Foreign tourist*

### 3.4. Major Problems for Taping Tourism Potentials of Lake Tana Region

If the country has to exploit its resources to the maximum, means of mitigating obstacles for developing tourism sustainably and strategically should be found out. In
this regard, it is obvious that the development of tourism industry in one country presupposes certain conditions to be met. Among others progressive and reliable development policy, skilled man power, transportation, accommodation and promotion facilities are of prime requirements (Smith, 1998: 125).

In order to make them more attractive to visitors, destinations need to be protected and properly managed with the participation of the concerned stakeholders including the host community. Stressing the importance of tourism infrastructure and facilities for tourism development, Ouma (1970: 22) elucidated that without construction and maintenance of basic tourism facilities tourism development is unthinkable. As cited in Panasiuk (2007: 213) from the point of its management, tourism infrastructure is classified into three. These are commercial infrastructure which includes among others hotels, accommodation and restaurants and tourist arrivals service institutions. The second one is Public infrastructure which includes road, communal and trails and the third category is mixed infrastructure which consists of public and commercial such as tourist information and accompanying services. The quality of services in transportation, accommodation, advertisement, postal and banking services is a determinant factor for tourism development. However, with the exception of Bahir Dar town, in other tourist spots of Lake Tana area, the quality of services and infrastructure is generally poor. Especially in the towns of Zege and in Tis Abay, where medieval monasteries with dozens of moveable heritages and Tis isat are found respectively, hotels and transportation facilities are almost nonexistent. The tourist facilities and infrastructure in the peninsulas, islands and in other semi-rural destinations are not getting the required attention both from government authorities and from the private sector (Andargie, 2014: 48).

Public institutions that have stake in tourism development in the Lake Tana region are not working harmoniously. There is poor coordination among institutions that have a stake in tourism development. (Ethiopian Tourism Commission, 1968: 246) Even in some cases there is conflict of interest on the issue of conserving heritages7 among major government stakeholders (Gebre et al., 2008: 22). Moreover, local community and religious leaders have not been properly involved in the planning and implementation of activities related to tourism development policies. In this regard, church leaders are in most cases not cooperating to promote the idea of tourism and to mobilize their community towards local tourism development (Sefrien, 2012: 48-52).

Shortage of professional tour guides, tour operators, and travel agents are the other major bottleneck that hindered tourism development in the region. Expressing the role of tour guides and travel agents, Medlik (1974: 62) has written “A travel agent is an expert knowledgeable in schedules, routing, currency, lodging, pricing, regulations, destinations and all other aspects of travel opportunities. In short, the travel agent is a specialist or counselor”. It is interesting, however, until recently almost all of the working staff in the sector does not have any professional

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7. Chara Chara Weir, that operates towards the outlet of Blue Nile in the direction of north Bahir dar, is used to control/regulate/ both the lake level and downstream Blue Nile water flow (Gebre et al., 2008: 3).

Due to shortage of professional tour guides, the sector is run by untrained and unethical tour guides. These people provided unreliable and wrong information about the destinations and heritages. This by its own created another major obstacle to the sector. Because of lack of proficiency in foreign languages these untrained and unethical tour guides in the Lake Tana region misinform tourists. Moreover, having no professional knowledge and information about the history and nature of the religious and cultural heritages, some tour guides also provide incoherent and inconsistent information about the site they are introducing. Some tour guides have no basic skill and knowledge about how to make the tourist enthusiastic and motivated to visit the sites again (Sefrien, 2012: 53-54). In addition to these, some illegal and unethical tour guides confuse tourists by giving wrong information about religious and cultural heritages. Some others ask churches to pay them commission\(^8\) (Andargie, 2014: 50).

There is also a problem on the part of tour operators and their promotion strategies. It is obvious that by promoting and advertising destinations and attractions, tour operators play very significant role in creating good image for the tourist destination site and region (Seleshi, 2011: 15). They promote it in various ways including among others through the sales agents of Ethiopian Airlines. Nevertheless, indirect promotion may lead to misinformation about the nature of tour and the sites to be visited which in turn would create mistrust and frustration on the part of the tourists. The Promotion and advertisement on Blue Nile Falls, \textit{Tis Isat} can be a good case in this point. It is common to see Blue Nile falls on a poster as major tourist attraction. However, with the decline of the volume of Blue Nile water that out flows from Lake Tana, in dry season, December to June, the low water cannot create the expected water fall. Thus, the attempts geared towards attracting foreign tourists by using the Blue Nile as usual may be taken as equal to cheating customers/visitors. In this case, the construction and completion of the Chara Chara Weir in mid 1990s, has some negative impact on \textit{Tis Isat fall} as tourism attraction. In this case, some foreign tourists who went to visit the Blue Nile openly expressed their dissatisfaction that they did not find the Blue Nile fall as they were told in the advertisement or as described in tour guide books (Ayalew et al., 2008: 40-45).

Lack of effective protection and preservation to precious heritages in possession of monasteries and churches is another major problem. Because of lack of museums, the church stored heritages in narrow treasures known in Amharic as \textit{eka bet} and those priests and monks put in charge of guarding it are not allowed to hold a gun. The government authorities, on the other hand, are not much concerned about the security of heritages possessed by churches. Therefore, in one way or another, the precious

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\(^8\) There is no rule that forces churches to pay commission for tour guides. But from the discussion we made with church leaders, they are eager to attract tourists. They for example made a grass over corrugated iron on the roof of the churches. When the principal researcher interviewed the abbot/Memhir/ of Zege Giyorgis, in 2008, he told the principal researcher that they did so because tourists like churches with a roof hatched by grass. So if a tour guide asks such eager monks to pay him for bringing tourists, it is more likely that church leaders could pay a commission.
heritages are exposed to robbers, and the measures taken on thieves of heritages are lenient (Andargie, 2014: 49).

The income collected from tourism for the local rural community makes them less cooperative for tourism development. Tourism in Bahir Dar and its vicinity has low economic impact on the semi-rural population that resides in and around tourist sites. In 2010, for instance, it is reported that Bahir Dar was on average attracting 102 tourists per day and about 10 to 20% of them visited Zegé Peninsula and Blue Nile fall in Tis Abay town (UNEP, 2013: 274; Sefrien, 2012: 52) However, since tourist service providing institutions like hotels, restaurants, tour operators, shops, transportation service providers etc. are all located in Bahir Dar, people in other tourist spots like Zege Peninsula and Tis Abay were and still are not getting the appropriate share from tourism revenue. As a result, there were large numbers of resentful people who complained that benefits from tourism and related activities were not fairly distributed. Even in areas where the most visited monasteries are located, it is only the churches and the government not the ordinary people that benefit most from tourist entrance fees. The revenue is mostly used to run the churches’ affairs. As stated by Sefrien (2010: 46), 10% of visitors’ expenditures in 2010 were generated from entrance fees at sights. And it was paid to churches and the government. The rest revenue went to tour operators, accommodation, services, religious museums, shopping and transport service providers.

Tourist flow to the North West Ethiopia and Tana area was seasonal for most of the time. Foreign tourists move from October to January when many religious festivals like Christmas (Timqat) celebration takes place. It is also during this season (in addition to during summer) that the volume of the water Abay water can create a Blue Nile fall. Thus it is usually during these seasons that foreign tourist flow to the sites and this seasonal tourist flow is a problem because it discourages the local community not to take tourism as a regular job. The existing literature and the past experiences indicate that foreign tourists flocked to Ethiopia and the Lake Tana region for the four or five consecutive months /September to February/ when most of the Ethiopian religious and cultural holidays such as Ethiopian Epiphany and Ethiopian Christmas are celebrated and by the season when most of tourist origin countries in Europe and America is extremely cold. On the part of Ethiopia and the Lake Tana region as a tourist destination, it is because of limitation of the actors that have stake in tourism that seasonality and lack of effort to diversify tourist attractions remained unchanged. For the tourist to be satisfied, it is crucial to meet all segments of their expectations. Lake Tana area as a tourist destination and having good potential for diversifying attractions and related tourism infrastructure can suit the interests of tourists adding man made special events and by improving the quality of services (Mekonen, 1980; Mulualem, 2010; Sucic, 2009: 138-140).

4. Conclusion and Recommendations
Tourism in the Lake Tana region is a very promising industry and the number of tourists gradually increased over the last 20 years and the tendency indicates that tourist flows to the region will continue growing steadily. However, there are a
number of challenges and bottlenecks that prohibit the industry from growing in a desired way. Though effective means of tackling the problems and challenges is required from institutions and local community that have stake in the tourism industry, in the Lake Tana region, mechanism is still lacking. And it is possible to safely conclude that the tourism industry in Lake Tana region is not effectively managed and as compared with its high tourism resource potential, its tourism resources are underutilized. Therefore, ways to strengthen local participation both in sharing burdens and benefits from the industry should be found out. Local government and non-government institutions that have stake in the regions tourism should devise strategies linked and adapted with local livelihood settings to properly manage destinations and valuable heritages. Moreover, in order to be more competitive in the tourism industry, great emphasis should be given to understand the interest of tourists. It also needs focusing on mechanisms and strategies aimed at improving the quality of products and services offered to them. To that end, the stakeholders need to understand both the local context, the demands of tourist and work together harmoniously with all stakeholders for sustainable tourism development in the Lake Tana region.

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## Appendixes 1: List of informants

<table>
<thead>
<tr>
<th>No.</th>
<th>Name of informants</th>
<th>Age</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ato Birhanemeskel</td>
<td>35</td>
<td>He is expert at BoCTPD, interviewed in Bahir Dar, September 2015</td>
</tr>
<tr>
<td>2</td>
<td>Memhir Bekalu Tegegne</td>
<td>78</td>
<td>One of the former church leaders at Ura, one of the churches of Lake Tana region known for its attractions. He was interviewed in Ura, Sep. 2008</td>
</tr>
<tr>
<td>3</td>
<td>Memhir Agumas Alemu</td>
<td>55</td>
<td>At the time of the interview (Sep. 2008,) he was head of Zege Giyorgis and Betermaryam churches, other two churches, in possession of cultural, religious and historic treasures that attract tourists</td>
</tr>
<tr>
<td>4</td>
<td>Ato Geteyhun Kassa</td>
<td>92</td>
<td>Interviewed at Ura, Bahirdar, in Sep. 2008. He was knowledgeable and had served as guard during the time of Haile Selasie, 1960s and during the time of Dergue to protect illegal boats from using Lake Tana waters for navigation</td>
</tr>
</tbody>
</table>
Factors Limiting Rural Women’s Involvement in the Economy in Eastern Oromia, Ethiopia

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Article History: Received: January 10, 2016; Revised: May 17, 2016; Accepted: May 22, 2016

Abstract: Rural women in Oromia engage in different economic activities that contribute tremendously to the livelihood of their families. Nevertheless, rural women’s contribution to the rural economy is far behind expectation due to many challenges. This paper, therefore, intends to investigate the factors that hamper rural women’s involvement in the economy with particular emphasis on the rural women in eastern Oromia. In this study, both quantitative and qualitative research methods were employed. The major barriers to women’s involvement in the economy were identified using interview schedule, in-depth interviews, focus group discussions, and non-participatory observations. The finding indicates that factors emanating from the socio-cultural traditions of the community such as men’s view towards women, women’s view of themselves, the burden on women in childbearing and rearing, women’s lack of access to valuable resources and education have daunting effects on women’s involvement in the economy. Moreover, the finding also shows that the religion of the community which also upholds patriarchal values has a detrimental effect on women’s involvement in the economy. Hence, the study recommends that improving the involvement of rural women in the economy requires the transformation of the cultural traditions and religious outlooks of the community, women’s practical access to resources particularly land. Above all, the study recommends that there should be a sound policy framework that can ensure the education of both men and women to bring about the actual emancipation of women in the economic sphere.

Keywords: Economy; Rural; Women

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1. Introduction

Ethiopia is one of the countries located in the Horn of Africa. It is the second most populous country in Sub-Saharan Africa. According to World Bank (2014), the population of Ethiopia is estimated to be 97 million of which half are women. Around 83% of the Ethiopian population live in rural areas where agriculture accounts for 85% of employment (Oxfam Canada, 2012), 46.6% of gross domestic product (GDP) and 90% of exports (Feed the Future, 2014). Social services such as education and health are poor and rural women’s social and economic situations are embarrassing (World Bank, 2014).

Though there is lack of gender-segregated data in the country, it seems that women in rural areas are overloaded by different economic and non-economic activities and responsibilities and work 13-17 hours a day (Desta, 1999; Bekele, 2007). To one’s dismay, however, rural women are the most disadvantaged group in the country (Adal, 2005; ESPS, 2008). Though there are development policies, programs and projects to address the situation of rural women, these policies, programs and projects have never been implemented effectively.

Socio-cultural traditions and expectations of a given society are responsible for boys and girls to behave differently and develop different characteristics. These traditions and expectations repress the individuality of the children and force them to act or behave according to the society’s gender views (Shukla and Chauhan, 1987). Men and women engage in different types of jobs in many parts of the world due to gender-based division of labor (Ross, 1983).

As Mincer and Polachek (1974) rightly stated, actual as well as perceived separate family expectations for boys and girls limit women’s choice of jobs, as these expectations influence their access to education, their workload and their chances of advancement. Furthermore, as Doeringer and Piore (1971) indicated, the gender configuration of a society determines the kind of jobs in which men and women work which has consequences for both sexes but more seriously for women.

In the words of Hoffman (1972), the root cause of women’s underachievement is their socialization experience starting from early childhood. As he further states, women are treated so differently and discriminately by their parents and others around right from birth which make them weaker, educational drop-outs, depressed, dependents, so on and so forth.

Similarly, as Shukla and Swarnlata (2007) indicate, the basis of unrewarding self-concepts are usually laid by parents as self-concepts are mirror images of what children believe the significant others in their lives, particularly their parents, think of them. The self-concepts that people have for themselves are always the most determinant factors in conditioning their behavior. Sex role stereotypes create in both men and women the belief that males are superior to females and also that masculine characteristics and abilities are more desirable and valuable than feminine characteristics. This belief shapes the self-concepts of both men and women and the way they portray themselves and each other.

The standards set for the roles of men and women based on sex differences force individuals of opposite sexes to behave differently in prescribed ways. This may pose
challenges to the development of capabilities of both men and women to full potential. However, the more easily recognized victims of this sex typing are often women as it conditions them to operate extremely below their full potential in all settings and assign them characteristics that are inferior to those assigned to men (Shukla and Swarnlata, 2007).

Sex typed individuals excel either in masculine or feminine traits while androgynous individuals excel in both. Being sex typed or androgynous has important implications for self-worth, well-being, and adaptation to circumstances. Sex-typed individuals lack the resources to act in situations where cross-sex-typed behavior is required. Sex-typed males develop chauvinistic feelings which condition them to be independent, playful, and expressive in their behaviors while sex-typed females are conditioned to feel inferiority complex which makes them unable to behave independently and be expressive in their behaviors (Bem and Lenney, 1976). Androgynous individuals, however, have combination of masculine and feminine characteristics and capabilities which enable them to be versatile and have better coping and adaptation skills across situations (Heilbrun, 1986). Androgynous women may be more effective, competent, and assertive in decision-making situations as compared to sex-typed women (Shukla and Kapoor, 1990). Thus, androgyny has important implications for decision-making and distribution of power in the family as it gives chance for both men and women to have equal statuses and opportunities in all situations.

This study was made in line with the preceding arguments regarding the gender configuration of society as the realities in Ethiopia in general and in the study area in particular are not different from those captured in the arguments.

In the Ethiopian economy, as in many other African countries, rural women play a decisive role in the food production system. Nonetheless, similar to the above arguments regarding the gender-based structural division of society, rural women in Ethiopia in general and in the study area in particular spend considerable time on activities that are considered to be women’s fields. These include such activities as fetching water, collecting firewood, preparing foods, looking after children and small herds, and marketing agricultural products to purchase manufactured or non-agricultural products for their families’ consumption. These miscellaneous and recurrent activities consume the time and energy of women to engage fully in productive economic activities, i.e. crop cultivation and animal husbandry. Consequently, rural women fail to be fully productive and contribute to their personal economic gains though they indirectly contribute to agricultural production and productivity.

As SOFA Team and Cheryl Doss (2011: 1) rightly argued:

Overall the labour burden of rural women exceeds that of men, and includes a higher proportion of unpaid household responsibilities related to preparing food and collecting fuel and water. The contribution of women to agricultural and food production is significant but it is impossible to verify empirically the share produced by women…. women make essential contributions to agriculture and rural enterprises across the developing world. But there is much diversity in women’s roles and over-generalization undermines policy relevance and
planning. The context is important and policies must be based on sound data and gender analysis.

Here, it goes without saying that overgeneralization about the role of women in the rural economy should not be taken for granted as it hampers the development of critical knowledge in the area which in turn challenges the effort to fully involve rural women in the economy. The existing common view among many scholars in the area is that women involve in the rural economy equally with men if not more. However, as already indicated, this overgeneralization serves no purpose except wrongly informing policy makers and planners as well as the academia. This overgeneralization also downplays the specific realities of women in different geographical, socio-cultural, and economic environments.

Hence, in this paper the argument is that the rural women of the study area do not involve in the rural economy equally with men and ensuring the full involvement of rural women in the economy demands empirical examination of the factors that affect their involvement. This study, therefore, examines the critical impediments to rural women’s involvement in the economy considering the case of the rural women of the study area.

2. Research Methods

2.1. Description of the Study Area

The study area, East Hararge, is located in the eastern part of Oromia National Regional State, eastern Ethiopia. It is bordered on the southwest by the Shebelle River which separates it from Bale, on the west by West Hararge, on the north by Dire Dawa city and on the north and east by the Somali Region.

![Oromia National Regional State Administrative Zones Map](image)

Figure 1. Oromia National Regional State Administrative Zones Map
Source: Pantuliano and Wekesa, 2008

East Hararge is characterized by plateaus, rugged mountains, deep gorges and flat plains. Its altitude ranges from 500 to 3,400 meters above sea level. It contains three
agro-ecological zones, badda (highlands–elevation above 2,300m), baddadare (midlands–elevation between 1,500 and 2,300), and gammojji (lowlands–below 1,500m). There is a direct relationship between rainfall amount and altitude and an inverse relationship between altitude and temperature (Tolossa and Tafesse, 2008).

East Hararge has 18 districts (Anas) with a total population of 2,723,850, of which 1,383,198 are men and 1,340,652 women. With an area of 17,935.40 square kilometers, it has a population density of 151.87 people per square kilometer. While the huge majority (about 91%) of the population depends on agriculture, 8.27% are urban inhabitants, and a further 1.11% are pastoralists. The zone has a total of 580,735 households and an average of 4.69 persons to a household (CSA, 2007). The great majority of the inhabitants in the area are followers of Islam.

2.2. Research Design
The logical structure of inquiry used in this research was descriptive and explanatory case study. Within this research design the factors that limit the involvement of rural women in the economy was investigated by using both quantitative and qualitative methods.

2.3. Data Sources
The data presented in the study were obtained from primary and secondary sources. Primary data were collected directly from respondents using interview schedule, in-depth interviews, focus group discussions, and non-participatory observations. Secondary data were collected through the review of related literature.

2.4. Sampling Techniques
This study was conducted in Gurawa, Goro Gutu, and Babile districts of East Hararge. These three districts were selected purposively from among 18 districts as they represent the different ecological and geographical parts of the region. The three districts together exhibit the general socio-economic and environmental attributes of all the 18 districts of the region and thus represent the region as far as the aim of this study was concerned.

2.5. Sample Size
Three hundred respondents were selected, one hundred from each district (fifty men and fifty women), to respond to the interview schedule of this study. These were selected through opportunity sampling, i.e. any married woman or man had the opportunity to be selected by the researchers by chance during the fieldworks of the study until the total fixed number of respondents was met. Opportunity sampling was used as it served the purpose of the study without compromising validity and credibility. It was the belief of the researchers of this study that any sample population from the study population could give the desired data on the topic under study as the subject of study was believed to be unchanging regardless of the size of sample population and geographical coverage. Thus, 300 respondents were considered to be very sufficient to give adequate data on the subject under study. It is
also important to indicate here that these 300 respondents were picked up from almost all the villages of the districts of the study area.

Interviews and focus group discussions were undertaken until saturation points were reached where no longer hearing of anything new. However, qualitative sample must be big enough to assure one to hear most or all of the perceptions that might be important. Hence, interviews with 60 informants, 20 from each district (10 men and 10 women), were selected through opportunity sampling where the researchers came to interview any informant by chance while traveling through villages in each district depending on his/her will. However, effort was made to cover the geographical space of each district during interviews. Nine focus group discussions (each of which had 6 to 10 members), three in each district (2 for women and 1 for men), were conducted. Focus group discussion participants were also selected purposively at three different places in each district with the support of volunteer women/men.

2.6. Data Analysis

The data obtained through interview-schedule were analyzed by organizing respondents’ responses in terms of frequencies and percentages. The process of qualitative data analysis usually involves the identification of themes. Looking for themes involves coding. In this study data recorded on tapes and taken as notes were reviewed to identify themes that were coded. Coding was made manually.

Seidel (1998) developed a useful model to explain the basic process of qualitative data analysis. The model consists of 3 parts: Noticing, Collecting, and Thinking about interesting things. These parts are interlinked and cyclical. For example while thinking about things you notice further things and collect them. Noticing interesting things in the data and assigning ‘codes’ to them, based on topic or theme, potentially breaks the data into fragments. Codes which have been applied to the data then act as sorting and collection devices. Qualitative data collected through in-depth interviews, focus group discussions and observations were put into different categorical variables. Major themes were identified and analyzed in line with the research objectives and were summarized for use in descriptive and explanatory analyses.

3. Results and Discussions

The extent of rural women’s involvement in the economy varies from region to region in Ethiopia. Equally important, a variety of factors that are either regional specific or common to all rural settings of the country hamper the full involvement of rural women in productive agricultural activities. The critical impediments or bottlenecks to the involvement of eastern Oromia’s rural women in the economy are partly similar to that of other rural women in Oromia though there are certain obstacles that are peculiar to the study area. These factors emanate from the community’s socio-cultural traditions, which manipulate men’s view towards women and the views women have for themselves.

It is a concrete fact that all societies have their respective customs, traditions and belief systems/religions which make up their cultures. In most cases, these cultural
elements divide every society into two unequal gender categories. In this gender categorization, which considers women differently from men, men have better opportunities and privileges at the expense of women and women are subjected to different discriminations and violations of rights. Men have the authority to control almost all the resources and make decisions on almost all social, economic, and administrative issues of their families which make women powerless and weak to emerge successful in all social and economic endeavors. Similarly, the rural women elsewhere in Oromia/Ethiopia and in this study area in particular suffer from gender-based cultural constitution which is pro-men.

In the subsequent parts of this paper, presentation, analysis, and discussion of the factors that affect the involvement of rural women in the economy in the area under study are made considering in detail the factors resulting from the prevailing socio-cultural traditions of the community.

3.1. Women’s Lack of Access to Education
The strongest impact of early marriage and the subsequent early motherhood on women is that they affect their chance of education and through it their achievements in life. Advocates for Youth (1997) noted that early marriage and childbearing are two among many factors that are highly related to women’s status because they are closely tied to educational attainment. In the same vein, lack of education - due to early marriage and child bearing as well as traditional outlooks - is found to have serious repercussion on the fate of women in the study area.

Both focus group discussions and interview results indicate that one of the major factors in women’s subordination and powerlessness in the study area is lack of education for both men and women. As the results indicate, the community expects women to be submissive and subordinate to men as both male and female members of the community lack education to appreciate that men and women are equal and can achieve equally in all areas of life if appropriate and encouraging environment is in place.

Having a child at a young age severely limits woman’s education and her employment prospects (WAGGGS, 2014). Similarly, as almost all the interviewees vividly indicated, marriage and the inevitable event of childbearing mark the end of schooling in the study area which in turn plays a detrimental role in women’s future social and economic prospects.

In addition to the forgoing facts, the community’s perception that does not have much space for girls’ education seems to have limited women’s access to education. All of our interviewees unanimously indicated that the education of girls has never been given due attention by the community as the community does not appreciate the significance of girls’ education and as it wants girls for their domestic services until marriage separates them from their parents. As focus group discussants pointed out, girls are supposed to create connection with other families through marriage which may result in resource sharing between parents of the spouses particularly during times of economic crisis or calamities due to extended droughts and pest invasions.
This very fact, as the interviewees underscored, encourages families to support early marriage at the expense of girls’ education.

Rural women’s lack of access to education consequently works against their involvement in the economy and expose them to deplorable social and economic statuses in the community. Given the fact that women have less access to education and lack the expertise needed to engage in gainful economic activities, they are always limited to domestic activities which are not productive to result in their socio-economic progress. Women, therefore, always remain in destitution, and depend on male members of the family for their survival and rarely engage in any gainful economic enterprise on their own.

3.2. Men’s Prejudicial View towards Women

A culture that glorifies patriarchy throughout the world places women in a subordinate position. It dictates women to be submissive and too dependent on men. Consequently, women are willing to submit to the norms and values of the society to which they belong and these norms and values compel them to be dominated by men who make decisions on behalf of them (Kambarami, 2006).

In the socio-cultural context of the study area, males consider themselves as superior to females. Patriarchal system of gender relations where males enjoy social, economic, political, normative and ideological privileges over females is observed.

It was possible to realize from the focus group discussions that the rural community in East Hararge is organized on gender basis where men dominate almost all spheres of life. The wives are expected to assume subordinate position to their husbands and husbands have full control over all the resources of their families and the families as well.

The division of labor between husband and wife is very important to understand the economic relationship between them. As clearly shown by 95% of interview schedule respondents, the husband has full right of administering the family economy and is the sole head of the family. He is responsible to cultivate crops and rear animals to supply his family with almost all the necessities. The wife and children have a secondary role to play in the economic life of the family though the other male members of the family play a relatively better role in the economy than female members. The general perception of men is that women are subordinate to them and play secondary role in the rural economy.

As it was observed during the field visit, in the rural economic system of the study area men rarely recognize that their womenfolk really work. Women’s work is rarely recognized and rarely rewarded. Though women engage in a wide array of activities which are both economic and non-economic and very decisive for their families’ social and economic survival, men rarely value women’s role in the social and economic lives of their families. Men consider women’s activities as trivial and invisible compared to theirs. Men work in the field and these field activities are always overvalued against women’s domestic activities. Women are seen as feeble and flimsy to engage in hard work which demands muscular strength.
Almost all interviewees clearly expressed that it is women’s fate to do what they do regardless of its impacts on them. Furthermore, they indicated that women’s activities are typically considered as what women should engage in and for men these activities are mainly seen as inferior to the activities reserved for men. Hence, all the responsibilities and activities of women are considered secondary to those of men.

3.3. Women’s Distorted View of themselves and their Roles in the Community

It is known that rural women work longer hours and their work is usually more arduous than men’s. As Blackden and Baharu (1999) rightly indicate, African Women work for longer hours than African men. An average of their work per day is 50% longer than men. This is what is also observed in the community of this study. However, as reported by significant majority of the in-depth interview respondents, women’s contribution to agriculture, measured in terms of the number of tasks performed and time spent, is less than that of men. This is because the works of women are in most cases in the nonproductive areas such as fetching water, collecting fire woods, preparing food, cleaning home, bearing and rearing children, taking agricultural products to market to sale and buy non-agricultural items, and participate in community social and cultural affairs. This wide array of non-economic activities consumes the time and energy of women and limits them from fully engaging in the cultivation of crops and animal husbandry.

Be that as it may, according to the results of focus group discussion, women’s misconception of themselves is also one important contributory factor to their limited involvement in the agricultural economy. Women focus group discussants vividly indicated that women perceive of themselves as ordained to specialize in domestic activities while men are for field ones. Women, therefore, refrain from engaging in activities they believe are the domains of men. As one of the women focus group discussants wisely put it: “We feel that domestic activities are our field of specialization as men have their own. This feeling is deep-rooted to the extent that it is not easy to get rid of it.”

From this, it goes without saying that rural women’s involvement in productive economic activities is severely limited as they are overloaded or overburdened by domestic works not only because of the views of men towards them that they deserve these activities but also because of women’s strong perception that these activities naturally belong to them. Women focus group discussants clearly argued that women do not have appreciation for men who partake in activities that are conventionally seen as women’s fields of engagement. This indicates that women in the area under study are still suffering from an entrenched tradition which forces them to unknowingly manifest an irrational view towards themselves with regard to the activities in which they involve. This inept view, by and large, limits women to domestic chores and denies them the chance to expand their domain of engagement in gainful economic activities outside home.
3.4. The Burden of Childbearing and Childrearing on Women

In the study area, there is a strong social value attached to high fertility as families perceive that children are their source of prestige and social and economic security. The religious view of the people also strongly supports high fertility. As clearly stated by the respondents to in-depth interview, women are expected to bear children throughout their reproductive years as frequently as possible regardless of the social, economic, and health consequences on them and their children. Women also have deep belief in the norm of having many children and they do not know or bother about the healthy and economic consequences of having many children.

Though it is not possible to get the contemporary average fertility rate of the study area, it is not difficult to observe the presence of many poverty stricken children in almost every family in the study area. With possible room for error, it is possible to estimate the average fertility rate of the study area to be not less than 5 children per family. Such a high rate of fertility could be related to some basic causal factors such as early marriage, poverty, low status of women, and low level of education and above all the traditional/religious view of the community which appreciates having many children.

Childbearing and rearing practices are highly conditioned by the beliefs, values and aspirations of parents which are influenced by their education level and socio-economic status. As the educational level and socio-economic status of the community in the study area are low, parents believe in having many children for prestige as well as social and economic security but critically lack awareness about the impacts of frequent childbearing and rearing on themselves and on the current and future lives of their children.

As early marriage is prevalent in the community, the very young mothers, whose educational chances are shadowed by early marriage and pregnancy, face severe disadvantages in life as they remain uneducated and weak which makes them unable to work towards better social and economic positions in their community. According to focus group discussion and interview results as well as field observation, births to young women under age 20 are very common in the study area. This indicates the existence of adolescent childbearing because of early marriage.

Frequent childbearing and rearing can affect women in a number of ways among which limited involvement of women in the economy is worth mentioning. Frequent child-bearing and rearing brings about the problem of high fertility rate and hence rapid growth of family size which has implication on women’s status and wellbeing. Frequent child-bearing and rearing activities consume much time and energy of the rural women and contribute negatively to their social and economic wellbeing as they limit their productivity.

In economic terms, childbearing and rearing without birth spacing not only consumes the time and energy of women but also contributes to their health problems which limit their participation in the economy. It also increases women’s level of poverty as having many children becomes an economic burden on them. This has an adverse effect on the family economy from which women are the most to suffer. This in turn reduces women’s chance of engaging in productive work as they remain poor
due to large number of children. Frequent childbearing and rearing affects negatively not only women’s social and economic statuses but also creates the perception that women are created for reproduction not for production. This perception in turn contributes to the view that women’s economic role is less significant in relation to that of men as women spend most of their time on childbearing and rearing.

3.5. Religious Views towards Women
Religion plays a significant role in shaping the way men and women participate in the economic life of their community. By the same token, religion is one of the major contributory factors to women’s subordinate economic positions and roles in the community of the study area. The focus group discussants and interviewees underlined that religious norms and values being practiced by the community largely limits women to domestic chores. The focus group discussants also indicated that women are expected to make their husbands happy being at home always while the husbands are expected to work in the field and provide their families who depend on them with all the necessities. All of our in-depth interview respondents explicitly indicated that the religious view of the community limits women’s involvement to domestic activities and restricts their publicity. Similarly, in response to the question whether the religious view of the community encourages the involvement of women in domestic activities or not, 91% of the respondents to interview schedule replied ‘yes’ while only 9% replied they ‘do not know.’ This remarks that religious view of the community plays a considerable role in limiting women to nonproductive domestic activities.

As Fine-Davis (1979) states, more religious groups which have religious orientation are more likely to have a traditional sex based division of labor and to resist social change that may result in gender equality and less likely to recognize the consequences of limiting women to domestic activities. This is strongly true to the community of this study area as it venerates one of the religions of patriarchal societies.

3.6. Women’s Lack of Access to Valuable Resources and Services
Women’s full access to resources is vital in the endeavor to ensure gender equality and the meaningful participation of women in the social, political and economic spheres of the community. Nonetheless, the established culture of the community concerning the roles and values of women create women’s economic dependency from their early age as it inhibits them from accessing valuable resources that would make them productive members of their community. As a result, rural women lack property right and significant input in the economy and consequently remain economically insecure.

It is evident that land is one of the most valuable resources in the rural area under study. However, women do not have direct access to this resource even though it is a critical element to ensure the full involvement of women in the economy. As shown in the table below, women can only access land through their husbands though this entitlement is more apparent than real as women cannot claim ownership over the
land during their husbands’ life time. However, even widows may not easily access the lands of their deceased husbands as they may face competitors from male members of the family and other close relatives.

In the study area, access to their husbands’ land offers rural women secondary or nominal right and this seriously constrains women’s right to land as this nominal right itself is secured only as long as the marriage lasts. This fact is supported by the works of Rahmeto (1994) and Tadesse (2000) who considered the issue at national level. According to them, rural women do not have equitable access to land and agricultural resources. Thus, as Kebede (1990) rightly states, the violation of the rights of women with regard to key assets and economic resources such as land, livestock, agricultural products and other economic activities is considerable.

Out of our interview schedule respondents, 81% reported that women access land through marriage while 12%, 6%, and 1% reported that women access land through inheritance, allocation, and lease respectively. Thus, in the study area, most women have indirect access to land through their husbands while some others access land through inheritance from their parents.

Table 1. Frequency distribution of women’s means of accessing land

<table>
<thead>
<tr>
<th>Means of women’s access to land</th>
<th>Response</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marriage</td>
<td>No</td>
<td>57</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>243</td>
<td>81</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>300</td>
<td>100</td>
</tr>
<tr>
<td>Inheritance</td>
<td>No</td>
<td>264</td>
<td>88</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>36</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>300</td>
<td>100</td>
</tr>
<tr>
<td>Allocation</td>
<td>Yes</td>
<td>282</td>
<td>94</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>18</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>300</td>
<td>100</td>
</tr>
<tr>
<td>Lease</td>
<td>Yes</td>
<td>297</td>
<td>99</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>300</td>
<td>100</td>
</tr>
</tbody>
</table>

The data collected through focus group discussion and in-depth interviews also underscore that rural women in the study area access land mainly through their husbands. This goes with the trend in other Sub-Saharan African countries where marriage for women has been a primary means of getting nominal access to land under customary system of tenure (Davison, 1988; Nizioki, 2002).

In the study community, land title and tenure tend to be vested in men, either by legal condition or by socio-cultural norms. The land reforms of the successive governments of the country seem to have reserved this bias against women. Compared to men, women are less likely to hold title, secure tenure, or have the same rights to use, improve, or dispose of land. As the respondents to interview questions
and participants of focus group discussions pointed out vividly, women’s access to land is constrained by socio-cultural norms which inhibit women from having direct access to land on equal ground with men.

Regarding access to other resources, women of the study area have also difficulties. As both men and women focus group discussants unanimously underscored, though they contribute to their families’ livestock production, women have access only to livestock products such as milk and butter for home consumption or for sale while live animals are mostly owned by husbands who decide what to do with them. As they indicated, cattle, camel, donkeys, sheep, goats, etc are reared in the study area and in most cases these live animals are considered as belonging to the whole family though the husband is the chief owner who dictates how to appropriate these resources. As they further pointed out, when these animals are sold to get money, the money in most cases is kept by the husbands who may not require the consent of the wives to spend it and in case the husbands mismanage the money, the destitution of women and their incapacity to engage in any meaningful economic enterprise is likely to happen.

It is clear that micro-finance institutions play a remarkable role in creating informal employment and improving the socio-economic situation of people living in the rural areas particularly women. As Mayoux (2005) states, having access to credit support and micro-finance facilities can help women to increase their income and escape from poverty as they are better managers of money. Nonetheless, as reported by the participants of focus group discussions, there are no micro-credit institutions to enable women start and run their own micro-enterprises in the area under study and this condition discourages them from engaging in self- employment which in turn makes them economically weak to aspire for better economic achievement. Hence, as the rural community of the study area is in a serious dearth of financial resources, except those areas where khat (mild stimulant plant) is produced, the absence of micro-finance services has great implication for the rural people particularly women’s self-employment activities. Nonetheless, even in the khat growing areas, women have less access to finance as men are in charge of cultivating and selling it and determine how the money is to be utilized. Some women who have access to money also lack the expertise to run small businesses as there are no institutions which support them to develop entrepreneurship skills. This condition creates a situation where these women cannot even wisely utilize the little financial resource at their disposal and perpetuates their poor involvement in the economy.

4. Conclusion
Women of the study area have low involvement in the economic activities and have low decision-making power. Their participation in and contribution to agricultural activities are invisible and they are more occupied by non-agricultural and nonproductive domestic activities. As the findings of this study indicate, rural women’s involvement in the economy is constrained by a number of interlocked factors.
Lack of access to education, men’s prejudicial views, women’s distorted view of themselves and their roles in the community, the burden of childbearing and childrearing, religious views towards women, and lack of access to valuable resources and services are found to be the major factors inhibiting women from fully involving in the economy.

High illiteracy rate and low level of education characterize the community in the area understudy. Though illiteracy and low level of education have their own negative social and economic effects on all groups of the community irrespective of their of gender category, women as a group are the most to suffer as lack of education could not allow them even to know their natural rights and appropriate places in the community.

The cultural and religious views of the community do not create an environment for women to access education easily. As the community considers women and their roles as secondary, it does not appreciate their education. Being loaded by domestic activities and required to engage in early marriage, women do not have the chance to successfully pursue their education to the level that they can get the required knowledge and skills that qualify them for active and holistic involvement in the important affairs of the community particularly the economy.

Men do not recognize the role of women in the economy not only because of the prejudice they have for women but also because of women’s limited involvement in the economy due to their engagement in several domestic activities which distract them from full involvement in the economy. Men’s perception that women need to be submissive and subordinate to men and that they need to play secondary roles in all affairs, incapacitates women from fully utilizing their potential as they themselves also share this perception. As the prevailing cultural views of the community do not encourage women to challenge the supremacy of men, women submit themselves to the stereotypes that they are weaker and inferior and do have a limited area of engagement with regard to the social, cultural and economic affairs of the community. In other words, women reflect the distorted views that they are ordained mainly for domestic chores and have a marginal participation in the economy.

Childbearing and childrearing take away a considerable time of women and reduce women’s participation in the economy. As the community culturally and religiously appreciates high fertility and as women do not have the right not to bear children, women give birth as frequently as possible. This contributes to women’s lack of sufficient time to involve in the economy. It also contributes to increased family size which exposes families in general and women in particular to abject poverty. The presumption that women are created more for reproduction than production downplays not only women’s role in the economy but also their potential to change their fate through active engagement in productive activities.

The religious views of the community in the study area establish the role of women as home keepers or domestic workers. Women’s role is seen in terms of serving the interests of men being mostly at home while men are to excel in activities outside home. The religious views of the community portray women as the subjects of men who do not have the right to make independent decisions. These views, therefore,
live women in a situation of helplessness to contemplate for better economic life and hence debilitate their potential to change their social and economic fates on their own.

Women’s access to resources such as land, livestock, and micro-finance service is very minimal. As agricultural activities are highly dominated by men, land and livestock are almost owned by men and women access these resources mostly through their husbands. For women, land accusation through inheritance and other means is not significant. Since women are secondary owners of these valuable resources, their decision making power is insignificant and they always remain economically weak to aspire for self-reliant economic activities.

The women of the study area have little or no access to micro-finance services. This condition denies women not only the financial resource but also the entrepreneurship skills needed to initiate and run micro-businesses. Lack of finance and entrepreneurship skills in turn restrains women from engaging in gainful economic activities.

5. Recommendations

Improving the economic status of women enhances their decision-making capacity at all levels and in all aspects of life, especially in the area of sexuality and reproduction. Improving the economic status of women requires the concerted efforts and interventions of all concerned bodies mainly in the areas of girls’ education and access to and utilization of resources and services.

Education is the most important weapon to emancipate the community from the age-old cultural and customary gender views and practices which are not women friendly. Taking children, both girls and boys, to school and expanding the domain of education is a good overall strategy to have an educated community in the long run. This helps to create a community that appreciates gender equality being free from awkward gender outlooks and stereotypes. However, in the current condition of the study area, the presence of a huge number of illiterate as well as less educated adult people calls for immediate non-regular or non-formal education programs and tailor-made trainings. These non-regular education programs and tailor-made trainings should be geared towards relieving the community from culturally established norms and values which mistreat women. These education programs and trainings should be the ones which help women to be aware of their rights and their appropriate place in the community. They should also contribute towards liberating women from the burden of frequent childbearing which disengages them from engaging fully in economic activities. The attempt to reduce the frequency of child bearing requires appropriate family planning which contributes to women’s wellbeing and their active engagement in income generating activities outside domestic works.

Improving the economic status of women also demands women’s unconditional access to resources. Women need to have access to land, livestock and cash resources on equal grounds with men. Land title and tenure should be vested legally in both women and men and the ownership of family lands should be open to both wives and
husbands equally. Women should also be given legally the prerogative to decide on family resources on equal basis with men.

Provision of micro-finance facilities for rural women is also one of the most important strategies for empowering rural women economically. Micro-finance support not only empowers rural women but also contributes to poverty reduction and enhanced living condition for rural families. Credit support through micro-finance institutions as well as entrepreneurship skills trainings should be given to women in the area under study in such a way that women become self-employed and economically secure.

6. Acknowledgements
The authors are grateful to Haramaya University for providing financial and logistic support for the execution of the research work. The authors are also indebted to all individuals who unreservedly provided invaluable information which have resulted in this article.

7. References


School Leadership Frames: The Case of Two Female Primary School Principals

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Article History: Received: January 19, 2016; Revised: May 20, 2016; Accepted: May 25, 2016

Abstract: The purpose of this study was to investigate the preferred leadership frame of two female primary school principals. A mixed method study design was employed sequentially. The quantitative method informed the qualitative method. Fifty-two teachers (70.8%) were involved in the quantitative part of the study and seven others (one female principal, two department heads, two teachers, and two vice-principals) were involved in the qualitative part of the study. Leadership Orientations Questionnaire (LOQ) developed by Bolman and Deal (1991), Semi-structured interview, and observation were instruments of data collection. The data were analyzed using percentages, mean, SD and independent sample t-test with the help of SPSS. The results showed that Muuxannoo school female principal was multi-frame by orientation to a higher extent (structural, human resources, political and Symbolic) whereas Daawoo school principal was moderate in using all the four leadership frames. When respondents were compared by sex on how they perceive their female principal, male teacher respondents rated higher whereas the female teacher respondents rated them moderate in all the four frames. Among the recommendations, the single frame female principal and others having similar behavior and action needed to size up their lenses so that they understand the complex school environment and meet their requirements.

Keywords: Human Resource Frame; Leadership Frame; Political Frame; Structural Frame; Symbolic Frame

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1. Introduction
There have been changing demands placed on educational institutions that require leaders to expand their views of leadership and include more flexible and all-inclusive leadership models. In such heightened expectations from leaders, school principals are also in the hot seat to improving teaching and learning. They need to be educational visionaries, instructional and curriculum leaders, assessment experts, disciplinarians, community builders, public relations experts, budget analysts, facility managers, special programs administrators, and expert supervisor of legal, contractual, and policy mandates and initiatives (Davis et al., 2005). The common understanding is that schools are demanding excellence from their leaders in all aspects of behavior and action.

Sergiovanni (1995), Oyetunji (2006), and Johnson (2004) state the reason that the activities of the school are determined by what the head-teacher does. Effectiveness in leadership, in turn, is possible when there is alliance between the leadership behaviors and actions needed by the schools and the leadership behaviors provided by the leaders. Cognizant of this, scholars in the area are continuously working on improving leadership theories and assumptions with the intention of increasing its effectiveness since the earlier theories of great man. Bolman and Deal (1984) were one of these scholars, relatively recent, who forwarded a view of leadership from four orientations. The authors confirm that each of the four leadership frames has its own image of reality at schools and leads to different solutions to school challenges. They continue to claim that leaders are often ineffective because they misdiagnose the organizational challenge and apply a solution from a less relevant orientation.

The authors defined the four frames of leadership as structural, human resources, political, and symbolic. According to the authors, in the structural frame, leaders define clear goals, assign specific roles for their constituents, and coordinate specific activities with specific policies, procedures, and chains of command. In the human resource orientation, leaders focus on needs and interests of people. In this orientation, leaders need to value the feelings and relationships of people, and assume the organization must meet basic human needs through facilitation and empowerment. In the political orientation, leaders focus on individual and group interests. They advocate and negotiate between different interest groups for use of limited resources. They build power bases through networking and negotiating compromises. The symbolic frame leaders develop symbols and culture to shape human behavior and reflect a shared mission and identity for the organization.

The ability to utilize a multi-lens approach produces more leadership opportunities and enhances the view that solutions developed from pertinent frames (Bolman and Deal, 1997). Supporting multi-orientation approach, Palestini (1998) notes clearly that the ability to reorient situations is one of the most powerful instruments for educational leaders. Goldman and Smith (1991) also remark that frame based leadership is most appropriate for defining school leaders, as all four frames appear in the school context. This view of leadership is, therefore, a theoretical frame selected for this research work.
In leadership frame theory, the term ‘frame ’ can be used interchangeably with maps, images, schemata, frames of reference, perspectives, orientations, lenses and mind shapes (Bolman and Deal, 2003). It is a cognitive framework, which helps leaders to determine what is important and what is not, what to see and what to do. In this study, however, the term frame was used to mean the angle from which the principals see school issues and make decisions. Bolman and Deal (2008) also suggested for leaders to reframe which means to switch the lenses to look at the organization with relevant lens. The central argument of the theory is multi-framing; meaning that an ability to use a variety of different frames to deal with different school realities. As Yukl (2006) noted, one leadership style does not fit every situation. According to the theory, school principals are expected to size up their leadership mind set up by framing and reframing to consider all aspects of schooling realities and become successful.

Social and cultural norms, as elsewhere, determine gender roles (Bolden and Kirk, 2009). Studies by House et al. (1997) and the Global Leadership and Organizational Behavior Effectiveness Research Program (GLOBE) have demonstrated that what is expected of leaders, what leaders may and may not do, and the status and influence bestowed on leaders vary considerably based on the cultural forces in the countries or regions in which the leaders function. This cannot be a different story in Ethiopia. It is also a common knowledge that dominant socio-political culture in Ethiopia has a long history of dictatorial, feudalistic, and rigidly hierarchical leadership. This contributes to a non-egalitarian distribution of power, which is deeply entrenched, and resistant to change (Tronvoll and Vaughan, 2003). As a result, leadership has long been seen from the male role perspectives due to the label that equate leadership to males’ role (Lindsey, 2010). Consequently, it becomes a common practice that most school leaders are males. Few females are assuming leadership positions in such long standing, discouraging socio cultural context. How those in leadership positions are practicing leadership seem the relevant question.

Many of the findings of the studies conducted abroad about female leaders’ frame use were inconsistent and inconclusive. The effort to find any relevant local studies that had used Bolman and Deal’s leadership frames left unsuccessful. Broadly, the findings could be categorized into three. The first array of studies revealed that female leaders frequently use human resource frame followed by structural frame (Helgesen 1990; Noddings, 1992; Shakeshaft, 1989; Moran, 1992; Fennell, 2005; Kruger, 2008; and Ali and Shaikah, 2013). The second were those who have arrived at the conclusion that female leaders were more multi-frame than males (Davis, 1998; Bolman and Deal, 1991 and 1992; and Tillman, 2012). The third were those evidencing the idea that there were no significant differences on the use of any of the four frames between males and females (Thompson, 2000; Bowen (2004). The findings include the conclusions like females are more human resource than males, females are more multi-frame than males, and gender has no bearing on frame use. These studies showed the need for more studies of similar kind with differing methods and setting.
This study attempted to contribute to the knowledge base by exploring female school principal leadership frame as measured by Bolman and Deal’s four leadership frames in different culture from the previous studies. In doing so, the study could shade light on the leadership frame of the study area primary school female principals and forward possible policy, practice and research implications. More importantly, it would be a good experience to share with similar others and educational leadership decision makers.

Leaders have customarily been males in our society. However, due to an increased awareness of cultural and political issues and a growing tendency to celebrate gender in our country, a new curiosity in the link between gender and leadership is in practice. Though disproportionate to the number of females entering into education and the total of males, the new political and cultural frame and the consequent intervention made some schools occupied by female principals, meaning that they began to make their mark on the role of school leadership.

Much work is remaining as women leaders may find it difficult to secure validation while challenged with being a woman caused by masculinity of leadership views. The majority of researches in the past relied on male perspectives and theories (Grogan and Shakeshaft (2011) and Shakeshaft (1989)); meaning women in educational leadership were under studied. The proportion of females assuming leadership position as compared to their number in the population is still immaterial. Of the total leadership positions available in the study woreda public schools, for instance, there were only 2 females (5.12%) in school leadership positions. The role of research in this regard is indisputable. Both qualitative and quantitative research should be generated to show how females can and do lead schools. More research that authenticates their experiences is essential to the continued success of women as effective educational leaders. Hence, the intent of this study was to explore the preferred leadership frames of primary school female principals in view of Bolman and Deal’s leadership frame theory. The guiding questions to realize the purpose were: (a) what are the preferred leadership frame(s) of primary school female principal in view of Bolman and Deal’s is reframing theory?; and (b) are there differences between female and male participants in judging the leadership frames of female principals?

2. Research Methods
2.1. Description of the Study Area
This study was conducted in Oromia National Regional State, West showa zone, Ambo town. Ambo town is located in the central part of Ethiopia in Oromia National Regional State, Ambo wereda at a distance of 112 km to the west of Addis Ababa. With an elevation of 2101 meters, the town is found at a latitude and longitude of $8^\circ 59'$ N and $37^\circ 51'$ E. The town is estimated to have a total population of 107,980. According to the city administration education office data, there are 10 complete primary (1-8), 4 general secondary (9-10) and 2 preparatory schools (11-12) in the town. The teaching learning process was run with 634 (M=396, F=302) tachers and 18, 485 (M=8535, F=9950) students.
2.2. Research Design
Mixed methods research design was employed for the study. The quantitative method informed the qualitative method. The decision was to utilize the strengths of both qualitative and quantitative approaches (Creswell, 2012 and Bryman, 2004) and to address the complexity of social sciences problems (Creswell, 2012) like leadership behavior. The other reason was to get flexibility (Bryman, 2004) of combining objective theories (Creswell, 2009) by the already prepared leadership orientation questionnaire prepared by Bolman and Deal (1991) that are considered to be accurate, credible, and scientifically rigor (Bryman, 2004) with insights, meanings, reflections individual principals and teachers ascribe (Creswell, 2009). In this study, first the researcher presented the quantitative data and then followed by the explanation of the qualitative data (Creswell and Clark, 2011). Thus, it was a mixed methods analysis (Creswell and Clark, 2011). These design allowed me for better understanding of the initial quantitative result, adding more depth and richness to the study and then reinforced my decision.

2.3. Research Participants
Fifty two (70.8%) teachers involved in the survey part of the study by availability sampling and seven others (one female principal, two teachers, two department heads and two vice-principals) involved in the qualitative part of the study on purpose. The minimum criteria to involve participants in the qualitative part were two years of service with the principal and a total of five years’ experience in the school under study. Though it was intended to include both school female principals in the qualitative part of the study, Daawoo (Pseudo name) school principal was not willing to participate in interview.

2.4. Data Collection Instruments
Bolman and Deal’s (1991) Leadership frame Questionnaires, semi-structured interview protocol, and observation protocol were data collection tools. The instruments were presented to the informants in Afan Oromo to increase their understanding level and in turn to increase the data validity. The researcher triangulated (Merriam, 1998) qualitative data with survey data to have reliable and valid evidences for explanations and conclusions. The interview questions were prepared in line with the four frames of leadership developed by Bolman and Deal. Other relevant probing questions were raised consequent of the main interview questions. Observation guides helped to get information from the school setting, observable interactions and features of the learning environment. Specific observation areas included photographs, posted figures, mottos and values, rituals and ceremonies in the school.

2.5. Data Collection Procedures
As Festinger and Katz (1966) note the real economy of going to the very top of the organization to obtain consent and cooperation, data collection was run with the full consent and cooperation of Woreda Education Officials, school directors and
teachers. All forms of data were collected during which it was found the best convenient time and place for the informants. Overall, data collection was completed in a month’s time (November 16-December 20, 2015). The researcher faced two major challenges. One was the unwillingness of Daawoo (pseudo name) school female principal for interview. Nevertheless, some pertinent pieces information was obtained from her without her consciousness while she was interacting with me and with teachers and students. The other challenge was that due to the outbreak of students uprising in the region’s primary and secondary schools at the last days of my data collection time, document analysis was not conducted and the left back questionnaires were not collect since some indications began in other schools of the woreda in which the study was conducted. Thus, the already collected questionnaires (70.8% return rate) were used and document analysis was dropped.

2.6. Data Analysis
Both quantitative and qualitative data analysis techniques were used. Mean scores, standard deviations, and an independent sample t-test statistics were used in the study. Narrations were also part of presentation and analysis. Interviews and observations in the two schools yielded a large amount of data. Interview data were transcribed and placed into transcribed files along with observation insights. After careful reading of the transcribed interview and observation texts, terms were identified that were in agreement with the model’s key terms. Then theme/s was/were developed and supported with the survey result and finally made interpretations of the result in line with the case schools’ female leadership behavior and action. Pseudonyms for the case schools were used to keep them anonymous. The two names were Daawoo and Muuxannoo.

3. Results and Discussions
3.1. Survey Data Analysis
Both the principals and teachers rated the leadership behavior in 32 statements using a 5-point Likert scale (1 = ‘never’, 2 = ‘occasionally’, 3 = ‘sometimes’, 4 = ‘often’, and 5 = ‘always’).

Table 1. Female Principals’ leadership frame mean scores by school

<table>
<thead>
<tr>
<th>Case school</th>
<th>Structural frame</th>
<th>Human resource frame</th>
<th>Political frame</th>
<th>Symbolic frame</th>
<th>Grand Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Muuxannoo school</td>
<td>Mean 4.43</td>
<td>4.53</td>
<td>4.30</td>
<td>4.36</td>
<td>4.41</td>
</tr>
<tr>
<td>N 21</td>
<td>21</td>
<td>21</td>
<td>21</td>
<td>21</td>
<td>21</td>
</tr>
<tr>
<td>SD .361</td>
<td>.303</td>
<td>.31</td>
<td>.28</td>
<td>.229</td>
<td></td>
</tr>
<tr>
<td>Daawoo school</td>
<td>Mean 3.19</td>
<td>2.81</td>
<td>2.98</td>
<td>2.95</td>
<td>2.98</td>
</tr>
<tr>
<td>N 32</td>
<td>32</td>
<td>32</td>
<td>32</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>SD 1.09</td>
<td>1.202</td>
<td>1.17</td>
<td>1.210</td>
<td>1.14</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>Mean 3.68</td>
<td>3.49</td>
<td>3.50</td>
<td>3.51</td>
<td>3.54</td>
</tr>
<tr>
<td>N 53</td>
<td>53</td>
<td>53</td>
<td>53</td>
<td>53</td>
<td></td>
</tr>
<tr>
<td>SD 1.06</td>
<td>1.272</td>
<td>1.134</td>
<td>1.181</td>
<td>1.138</td>
<td></td>
</tr>
</tbody>
</table>
The figures in Table 1 were about the mean scores of the four frame of leadership for the two schools. An independent sample t-test was run to check for significance of differences between the schools. According to the test results, the differences in the mean scores of the two schools were significant in all the four frames at $\alpha = .05$ confidence level. Specifically, difference in the mean scores of Daawwoo school and Muuxannoo school for structural frame use $t(52) = 2.51$, $p = 0.003$; human resource frame use $t(52) = 3.58$, $p = 0.000$; political frame use $t(52) = 2.58$, $p = 0.0015$ and symbolic frame use $t(52) = 3.54$; $p = 0.001$ were found to be significant at .05 confidence level. Accordingly, Muuxannoo primary school female principal was rated multi-frame with the frequency of the use to be often/always and the grand mean = 4.41. The order of preference was human resource ($M = 4.53$), structural ($M = 4.43$) symbolic ($M = 4.36$), and political ($M = 4.30$) human resource ($M = 3.49$). On the other hand, Daawoo primary school female principal was rated in the use frequencies of sometimes with the grand mean of $M = 2.98$. The order of preference was structural ($M = 3.19$), political ($M = 2.98$), symbolic ($M = 2.95$), and Human Resource ($M = 2.81$).

Table 2. The difference in perception between male and female teacher respondents on their female principal’s leadership style

<table>
<thead>
<tr>
<th>Sex of respondents</th>
<th>Structural frame aggregate</th>
<th>Human resource frame</th>
<th>Political frame</th>
<th>Symbolic frame</th>
<th>Grand mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>N 17</td>
<td>17</td>
<td>17</td>
<td>17</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>Mean 3.99</td>
<td>3.91</td>
<td>3.85</td>
<td>3.80</td>
<td>3.89</td>
</tr>
<tr>
<td></td>
<td>SD .613</td>
<td>.910</td>
<td>.779</td>
<td>.718</td>
<td>.705</td>
</tr>
<tr>
<td>Female</td>
<td>N 36</td>
<td>36</td>
<td>36</td>
<td>36</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td>Mean 3.54</td>
<td>3.30</td>
<td>3.34</td>
<td>3.37</td>
<td>3.38</td>
</tr>
<tr>
<td></td>
<td>SD 1.20</td>
<td>1.37</td>
<td>1.24</td>
<td>1.33</td>
<td>1.27</td>
</tr>
</tbody>
</table>

Table 2 was about how males and females see their female principal’s leadership frame. Independent samples t-test was used to examine the difference in means between male and female participants’ perceptions in each frame of leadership at $\alpha= 0.05$ confidence level. The two categories of teacher respondents (by sex) differ in perception on structural frame use $t(52) = 2.98$, $p = 0.043$; human resource frame use $t(52) = 3.67$, $p = 0.032$; political frame use $t(52) = 2.53$, $p = 0.047$ and symbolic frame use $t(52) = 2.49$, $p = 0.049$ significantly. The tests showed the existence of significant differences between how male teachers and female teachers perceive their female principal leadership frame as $P < 0.05$ in all the frames. The female teachers rated their female principals as they use all the frames at moderate level whereas the males rated the extent of their female principals’ frame use higher. The explanation is that the gender role expectations remained to be affecting the female teachers than the males. This emanated from the acceptance of the dominating societal culture of equating leadership to masculinity. This finding is in line with the idea that any
differences between male and female leadership behaviors were due to gender stereotypes, leadership role conceptualization, and socialization within the organizational structure (Gilligan, 1993; Grogan and Brunner, 2005b; Shakeshaft, 1989). Ayman and Korabik (2010) also caution the research community against viewing leadership as a gender and culturally neutral phenomenon and remind their readers that gender continues to have an important aspect on leadership.

3.2. Qualitative Data Analysis

Interview and observation were the tools used for the qualitative data collection. Semi-structured interview guide was prepared for an interview, but during the actual interview, many relevant probing questions were mainly raised that were the consequent of the answers to the prior questions. Teachers’ interaction and school compound were observed with some observation guide. Interestingly, it allowed me for better understanding of the initial survey result by adding more depth and richness to the study as well as more confidence for me to make valid conclusions. Most of the data from different sources were supplementing and complementing one another.

Most of the things observed from Muuxannoo School indicated me that the school climate and culture seem positive. For example; the looks of the gate, the looks of the buildings with varied writings on its wall, the personality of the front office, the classrooms in the process of teaching, the teachers in gown, the manner of teachers’ greetings and conversations and the way students play and walk in the compound are some of the indicators. Moreover, the staff and the director’s room walls were full of figures, mottos, values and academic messages. To site some of the value laden mottos, “A teacher is always a teacher everywhere”, “CPD is one of the roles of teachers”, “if education goes wrong nothing goes right”, “I am proud of being a teacher”, and “school improvement is at our hand.” There were also graphs, maps, pictures of various human organ systems, and periodic tables on the classroom walls. The mission and vision of the school and direction indicators were on tin made billboard stand erect at the entry of the school. On the wall of the latrine there is a value written as ‘use the water wisely’, ‘wash your hands after latrine’. The existing artifacts, values, behaviors and personalities were some indicators of good school climate and of the extent of symbolic role of the principal. The spirit of the school climate appears to have a sense of shared purpose and value.

Muuxannoo school principal assists teachers (human resource frame survey mean result = 4.53) to achieve their goals while feeling good about what they are doing, and empower them rather than using a top-down chain of command (Bolman and Deal, 1997). The authors’ emphasis in this case is the need for human relations to realize the goals. The Muuxannoo school principal’s practice is in line with the ideas of this theory and reflects the care needed for humans:

My office is open to all teachers and they are always welcomed. Even they can find me anywhere and discuss issues friendly. We do not necessarily discuss academic matters; we can have coffee as I like them to feel at ease in here. However, when it comes to follow-up on their work, I am very strict on deadlines and expected operating procedures, as if…you know… reports, portion completion, and some policies like self-contained (MP).
The school principal additionally expressed her concern for people like this:

I have no issue that I do it lonely being in my office. We are there to work together for the benefit of the child. We benefit children more when we work together with love. Our teachers are human beings. They have interests and problems of their own. They need my treatment. Many of the things in my school are participatory and considerate (MP).

Muuxannoo school principal explained the need for gaining the trust and commitment of teachers for the accomplishment of their mission within framework. Daawoo school principal similarly explained the need for friendly and smooth relationship with teachers but conditional. The quote was presented as:

“If it is not against our children then I want to do the humane thing toward employees. If there is an issue about one of my school teachers, like what you observed, though hers is too many, I always try to give them proper time and concern. I try always to respect the dignity of any employee, though they do not... The problem is, we people are selfish, and they do not understand you (AP-informally obtained).

Daawoo school primary school was my second case site. The result of my observation of this school differed from the other school, showing particularly the less concern given to relationship by the principal. The mean score of teachers’ survey also lied in the moderate category (human resource frame mean score=2.81).

To refer to my observation, it was early at about 7:50 am. The teachers were signing attendance and the female principal was standing erect at about a meter or two from where the attendance is. Almost I did not find anyone greeting the director at least by gesture. Everyone was coming targeting the attendance and getting back immediately after signing. I observed only four teachers with students on the flag ceremony. After the ceremony, the female principal advised students in queue about some dos and don’ts particularly about discipline, how to keep the school compound and classrooms clean and how use the chairs and tables safely.

The other point worthy to raise was, after students got into their respective class one of the female teachers came out from staff room and started to walk behind the female principal requesting her to stand and talk to her. The principal keep on walking saying no “I don’t want to listen to you. It is after I put off fire from me that I took from my offspring”. They got into the vice directors’ office and the vice principal was there in the office. The teacher started to talk to the vice principal. Her issue was to take permission and get back home. The male principal, of course, angrily talked to her reminding her number of times she took permission and the lost classes that were not yet compensated. Moreover, he told her to feel ashamed of asking in such context. The female principal took turns and told her as many of the classes have no teachers and the students are sitting idle. She continued and assured her refusal to give her permission in such challenging condition. Of course, the condition was that students from secondary schools started to up rise and boycott classes.

The concern for the development of values of discipline and care were some of the symbolic roles that demands recognition though not the strategies. The non-participation of teachers in flag ceremony, the extreme quietness of students in class, the punishment of students by labor work, the way the principal managed attendance
and the treatment given to the teacher asking permission may support the principal’s task orientation (structural frame survey mean = 3.19) and the existence of less trust and relationship between teachers and principals. Of course, it had also indicated the less of symbolic lens used by the principal. The relationship between teachers and the principal seem not smooth. One does not observe sense of cooperation and community. The implication could be the human relation (survey mean = 2.81) and symbolic role (survey mean = 2.95) of the principal remains back from the extent expected while she worked more on the structural lens (survey mean = 3.19).

Besides, the next quotes from interviewees could make clearer that the principal was a leader who often valued structure with less concern for the practitioners. One of the interviewee (DI1) try to raise her strength, like in time management, going around the classrooms, following attendance, and application of rules passed down from the top and her confusion about her humane element.

I do not know, I feel, teachers are not good for her. They look at her with bad eyes. You find her most of the time in the school compound running here and there, it is, I think, for controlling. You find her mostly alone but rarely with the vice principal. You find her rarely greeting teachers and teachers greeting her, (DI1).

The feelings of two of my survey participants supported these scripts. It was at about 7:50 in the morning. They were sitting together at one of the corners in front of the classrooms preparing to fill my questionnaire. I knew one of the two. The one that knows me called me with finger sign. I quickly went there and gave them hot greetings and I sat beside them. The other of the two asked me “Is it about female principals we know all or the current one” the first question, I responded that it is a case of the current female principal. Kept quiet for a while, then continued after saying ‘Akkasiiyee edaa” (meaning: is that?), “I mean that it might be not good for us.” I tried to convince her that it is confidential and they should not have to write their name. She continued, “The matter is not the way you see it, I mean that there are very smart leaders I have ever seen in my experience, but if I fill in view of hers (the current principal) it might spoil others as if they cannot lead”. I understood finally. Their fear was about representation. Whom do they rate their current principal or any other principal inclusive. This seems to emanate from the lack of understanding about the design of the study. The major implication I have drawn from this case was that the respondents seem to be inconvenient with their current female principal under study.

The vice principal of the school underlined that she was a task oriented leader. In his words he said, “I perceive that she has nothing in her heart about people she is internally good for people, but teachers felt that she is autocratic. When she talks to them, all her talks are about guides and rules, time, attendance, period loss, absence, students result, one- to-five, students discipline, co-curricular and reports,” (DI2).

There were insights from interviewee 3 that could support Daawoo school female principal “by book style” of leadership. She explained it: “every details of school guide are in her mind. When some teachers argue on some issues on meeting either she brings the guide document or she tells what the guide says orally to convince, (DI3)”. The other interviewee also put her emphasis clearly (vice principal, DI2) as
he says, “She thinks as if students result increases because you only and strictly work by rules, regulations and control.” I support this with what I heard being in her office while she was talking to one of her female teacher who was asking her permission, “we all are here to work. Every one of us should be guided by the rule, had it not been for the rule, I also have my own home business which I should give priority to.” Her more focus on task than human element was also evident from her informal talk when she said, “People do not understand your problem. They only see their concerns. They hate you when you let them carry out their responsibilities. I am asking them only to carry out their responsibilities, nothing else.”

Muuxannoo school female principal used structural frame strictly but fairly than Daawoo school female principal. She was able to focus on her task to meet objectives and schedule as long as all other things are in a good state. Plans, organizations, checklists for evaluation and schedules are all a part of her preparation for success. The principal described her frame like this:

We have broad education policy and strategies, isn’t it! As a school, we also have plans, rules and regulations of our own. I am here to give more clear and specific direction. This helps us to know what to do how to do and when to do. For the practice follow up I am here and there being also supervisors to help us (MP).

These views of the principal closely supported and aligned with the terms rules, regulations, policies, procedures, systems, and hierarchies that were associated with the structural frame (survey mean score = 4.43). I was directed to one of my interviewee from Muuxannoo school. We greeted warmly followed by introduction. After assuring her willingness, the basic questions were raised beginning with simple biography. She was a language stream head. She worked with the current female principal for six years. Her response to my questions about her principal’s concern about overall teaching and learning goals became evident when she said; ‘she tells us everything clearly and smoothly: what we do, how we do, when to finish and even what will be the next formally as well as informally” (M11). The principal’s responsibility and accountability for the accomplishment of school mission, still being fair to the staff, were clearly summarized by the principal herself as well.

Leadership, like a football coach, is responsible for whatever good or bad things happen and who ever make it happen. It will be on you. Yes! You are responsible and accountable for the results of students, the discipline of students and the implementation of the policy, rule and regulations, though there are factors beyond your control (MP).

The noticeable explanation is that the principal clearly articulates what responsibilities are expected of teachers. This is again referring to the extent to which the principal is structural and oriented to task. Though not direct, she also explained the extent to which she applied structure and hierarchy. She said, “We always take direction from the top. Policy and guides are from the top. We are here to implement as stipulated in the directions”. Her emphasis in the interview was not only line of command, rules and regulations, but also the teachers.

In our school, we see each other like a family; I think you also perceive the unity of our school. I dare say it! We are one family when you compare it to other schools’ condition, ours is always at the top concerning closeness and relationship. If I tell you, we have idir, for females as well as for all staff. At breaks from Monday
through Friday, we have tea/coffee program and sometimes you find traditional bread made by the staff here (MP).

This is truly, what was observed. What the director was saying reflected the extent to which she was concerned with teachers and created value of unity and cooperation. Besides, the first female interviewee clearly and specifically put how teachers do and work in Muuxannoo School.

If not beyond our control, you find rare classes missed due to the absence of one or the other teacher in our school. We tell one another when we encounter problems and forced to be absent. Either the principals or we teachers arrange time so that the class should not be missed and let the students sit idle (MI1).

In the quotes above one could see the existence of the sense of cooperation among teachers and the positive environment created. A positive school environment builds upon caring relationships among all participants. This showed the extent of the concerns of the staff for the students learning and their colleagues. They do not let classes missed, as it is a loss for the students and burden for the teacher. We observe the role of the principal played here in the development of the collaborative culture. This clearly reflected and supported the symbolic leadership (survey mean score = 4.36) played by the principal. In the words of the interviewee (MI1) again you see the pronoun “We” that indicates the extent to which the teachers feel ownership and responsive to the school. This is not the culture that develops overnight, and it is the value that requires, among other things, the symbolic role of the principals.

After the first interview with one of my interviewees, they called me to the coffee ceremony in the staff room. It was a break time for the staff. The staff play is hot and attractive. I walked into a truly excellent ritual. They were all in gown, sitting around the coffee. Teachers talk in groups. One is asking for the absent teacher and the other responding. Moreover, despite the sense of serious work at hand, both teachers and the principals seem happy and playing heartily. One female teacher in gown was pouring coffee and serving with bread for teachers sitting around the ceremony. They served me similarly. The greetings, the talks, the laughs make the room very warm. To leave the room and continue with my remaining interview I asked to pay and one of the teachers sitting near the one who boiled scared at me and said, “you will pay it latter”. The researcher was surprised and asked the director all about the coffee. He told me that the whole staff has turns throughout the week on which they prepare coffee, tea with bread. The meaning seems clear and collaborative school culture prevails in the school.

The underlying values of collaboration, respect and sense of belongingness created a sense of community in the school and the cause of which can be attributed much to the symbolic and human resource leadership role of the principal. The frequent use of symbolic frame that promotes the value of excellence for students could be observed from the directors’ voice:

We are only here as long as there are students.” Students are our core business. What they need, what encourages them and what brings them on, is where our interest needs to be. We are just the guardian of the kids, we should provide what interests, and good for them. 'Mirxi, mirxun le hitsanat altebalem’ (meaning: the best ones are for children) laugh…. We are all responsible and accountable for the fate of these students. They may not always understand what’s going on so they rely on me, on us, to work for their future” (MP).
Each of the principal’s statements was value laden. They reflected the extent to which she was committed to work for students’ best future. Authors support this idea when they noted: “It is the spirit and the meaning that we give to work and people that works a lot,” Bolman and Deal (2003). The beliefs and values of the principal implied in her statements and actions indicated that she played the role of inspiration that they should always work to the achievement of students. This is similar to what Sergiovani (2006) notes when he says, “symbolic leaders use easily understood language symbols, which communicate a sense of excitement, originality, and freshness”. Besides, other interviewee from Muuxanoo School clearly put the principal’s inspirational role as well.

Most of her talks in flag ceremonies and meetings are, I can say, it is true…, counting high-ranking students around the study area. Particularly, the name of the students from Study area preparatory school (high scorer in Ethiopia in 2005) is always on her lip, on her report. Of course, the student she repeatedly name is a good symbol for excellence not as study area or our school but at Ethiopia (MI2).

The other interviewee (MI3-vice principal) from the same school emphasizes her motivational role focusing on achievement. He feels that she does communicate a strong and challenging vision and sense of mission when he reported: “She says, for instance, “what are we lacking not to be one of the top achieving schools in the study region (MI3).

Worth mentioning is the way Muuxanoo school principal explain the need for looking at issues from the angle that teachers and students as well as other administrative staff are explicitly or implicitly in conflict and the way she manages it.

As we learned in theory as well as we practiced it here in the world of work, there are always conflicts. Teachers are complaining for stationeries, training opportunity, salary increment. They are in conflict with their life. They are not ok about CPD works and its schedule. They are also asking for fair subject sharing, adult education assignment. Students are requesting for quality of education, library, toilet service, water service in the school. It is real today and continues to be real. Where there are human beings and work there is disagreement. Except giving recognition and discussion, sometimes ignoring, some other time imposing you cannot solve these all interests and problems by rule or law (MP).

In continuation, she narrates how to deal with such conflictive environments:

It is a very simple thing. For me, you notice, I never quickly go after force or rule. So when I lead this school, it is not because I have power, it is because number one, we respect one another as a family. Second, I am with them, they are my colleagues, they hear me and I hear them. Therefore, as long as I do not go after force or rule, there will not be a serious conflict (MP).

The principal’s win-win conflict solving (in line with political frame survey mean=4.30) approach was also supported by an interview with the vice principal. “To her best she manages conflict smoothly, and I have never heard of conflict reaching to the level of discipline,” (MI3). The other interviewee (MI1) also agreed on the appearance of varied forms of conflicts in the school but full heartily assured me as there was no serious conflict that reached serious level and beyond control, as long as he knew.

Daawoo school principal’s experience with respect to conflict management was a bit different. The vice principal (DI2) raised the existence of varied types of conflicts at various levels even that hamper the normal teaching and learning as well as
teachers’ relationship. The female interviewee (DI1) tried to mention the existence of overt and covert conflicts of various levels between teachers and the female principal and even between the principals themselves. I understood her compassionateness about her principal, as she attributed the main cause of her strictness to maintain bureaucracy, management and control systems. This clearly indicated her greater concern for task and lesser concern for human element and conflict management. In comparison, both schools had similarity in accepting the presence of conflicts in the school caused by multiplicity of factors. The difference I observed, however, was the management approach applied and the level of conflict in the schools. Muuxannoo school principal approached humanly and smoothly and managed well where as Daawoo school principal approach to conflict was not clear and the conflicts in the school have already reached the destructive level. Differentiating between which conflicts to go into and which to abstain from (Bolman and Deal, 2003) was the missing skill from Daawoo School principal.

In summary, respondents rated Muuxannoo school female principal structural by 4.43, human resource by 4.53, political by 4.36 and symbolic by 4.36 mean scores. The matrix that combined all sources data convinced me to say that the leader viewed her work environment in all possible lenses of leadership. The leadership behaviors observed at this primary school principal indicated that the principal adapted her leadership frames according to the demanding current educational environment. The current educational environment requires flexibility and viewing the situations from different angles. Multi-orientation leadership style creates a conducive and harmonious environment for the teaching and learning process to take place (Bolman and Deal, 2008). She employed structural leadership in setting clear direction, rules and responsibility to be adhered by the teachers and students. Her relationship, considerateness and mutual understanding and respect made teachers cooperative and operate their responsibilities as directed. The political and symbolic roles of the principal came to be practical in the school to handle differences, and capture the heart of teachers in general. The net effect of the cultural force of leadership is to bond together students, teachers, and others as believers in the work of the school (Sergiovani, 2006). The most important ability of today’s school leader, Stolp and Smith (1995) note, is to be a culture builder, one who instills the values of concern for others, personal and group success, and continuous improvement. It is also argued in the theory that effective leadership involves touching the heart with words that bring out the best values (Sergiovani, 2006; Bolman and Deal, 1994). These evidenced that the Muuxannoo school principal was a multi-frame leader.

Daawoo school female principal was rated structural by 3.19, human resource by 2.81, political by 2.98 and symbolic by 2.95 mean scores. At face value, the principal was moderate in using all the lenses of leadership. Nevertheless, the theme developed from survey result and the qualitative data proved that the principal’s leadership was extremely orientated to task, goals, chain of command, hierarchy, clear direction, rules and regulations and controlling.

The principal appears task oriented to the extreme focusing on giving clear responsibility with clear direction as an expense of other required lenses. Controlling
was her major management role to make work done. Theory x assumption, less and conditional consideration for people, priority for task, less relationship, cooperation and unity showed the extent of her concern for human side in her leadership. The people side of leadership was remaining back. The principal’s assumption about people seem parallel to theory x assumption in that she appeared to believe as if people are selfish and do not understand and share leadership’s roles and responsibilities. The principal generally conditionally applied the other lenses of leadership. Conflicts of various levels, hampered work and relationship, and less effort to handle or authority based conflict management were political leadership theme developed and less inspirational, less charismatic, unable to make shared meaning and purpose were the symbolic role related theme of Daawoo school principal.

The repercussion was less relationship, less satisfaction, less unity, higher conflict and less inspiration and the not so promising work climate in general. The likely question here is the extent of effectiveness in such leadership orientation. Leadership is not a matter of getting people to do things. It is rather a matter of getting them to want to do what they should do (Slater, 1995). Azzara (2001) also notes that school leaders, who are not skilled in human relations, will perish. i.e., they will not be effective principals. The whole idea is, in order to be effective in influencing workers to work with their full potential; it requires giving them appropriate consideration along with clear direction like Muuxannoo School principal. It requires the principal to win the heart of the workers by using relevant power sources.

In comparison to other similar studies, the results of this study lacks consistency and as a result, demands further investigations by varying the scope, the methods and the location. For instance, a study by Bolman and Deal (1991/92) showed that leaders are often favoring the structural and human resource frame while ignoring other frames. This finding holds little communality with the current study in that structural frame was the favorite for the single frame female and human resource for the multi-orientation female leader. Bolman and Deal (1991a, 1991b, 1992) and Bensimon (1989) have investigated how leaders use frames by both qualitative and quantitative methods. The result was that leaders rarely used more than two frames and almost no one used four frames. This again paralleled the case of Daawoo school female principal style and did not in the case of Muuxannoo School. Bolman and Deal (2003) suggested that applying all four styles helps managers and leaders to develop greater appreciation and deeper understanding of organizations. This is what Muuxannoo school principal was applying to the maximum.

The other point worthy discussing is the negative stereotypes deep rooted in the society about the female leadership. The result of the male perspective of leadership theories made the leaders and members within organizations held expectations of leaders based upon the male defined leadership role for ages (Eagly, Wood, and Diekman, 2000). Indicative of this perspective the female teachers of the case schools have shown a tendency of accepting the stereotype and undermining the female leaders. They rated their female principal lower in all frames when compared to the male respondents. This could be an indication of internalizing what has been the
norm for long and failing to come out of it. The effect of stereotype was also observable on female principal of Daawoo school primary school and made her bureaucratic. She emphasized highly on structure with less attention on other remaining lenses of leadership. This could be attributed to both the leadership culture of the locality, and the fear that the teachers may not accept her leadership if she is not by book. It seemed that she has used rules, regulations and chain of command as instrumental to realizing the school mission and maintaining her influence. Bolman and Deal (1991) also warn on the same that structural leaders are bureaucratic in their leadership roles if they apply the frame as the only frame. The missed philosophy is people need consideration, inspiration and negotiation not less than or as par as blue book direction and controlling. I think, this, of course, is the missing element from the country as well as the study region that require further study.

Argumentative is why such big differences between the two principals in such similar socio cultural and political context (the two schools are at close proximity in the same town). Though it again requires detail investigation, it could be attributed to many factors, like the psychological makeup of individuals, individual personality traits, the life and work experience, educational level and qualification, and leadership experience, followers’ personal behavior to mention some and thus require further studies considering these variables. As a simple clue, with respect to educational background and level Muuxannoo school female principal was degree holder in Educational planning and Management, served totally for 15 years out of which 6 years in leadership where as Daawoo school female principal was diploma in mathematics, 7 total service years out of which 2 years in leadership. The simple analysis was that these factors and some others might contribute to the difference and these demand researchers to work in the area and create scientific link between and among the factors.

4. Conclusion and Recommendations

4.1. Conclusion
Of the two female principals in the study area town primary schools, Muuxannoo school female principal was a multi-orientation leader using the frames at higher level in her leadership roles while Daawoo school primary school female principal was highly structural (single frame) and was moderately political, human resource and symbolic in her leadership behavior and action. Female teacher respondents rated their female principal lower as compared to their male counterparts. It showed the existence of differences of perception between male and female teachers towards the female principals’ leadership. Overall, though the study lacks representation, this study could be a simple signal that females can be leaders and at the same time multi-frame leaders.

4.2. Recommendations
School principals need to move beyond viewing any one style as the ideal (like Daawoo School principal) and to attempt to create organizational environments that
will be receptive to many various types of leadership styles (like Muuxannoo School principal). Hence, I suggested for the following actions and behaviors.

Daawoo school female principal and similar others need to first, make self-reflection on what leadership means for them and for others, how they are leading and what leading should be, and how are teachers perceiving their leadership and how they perceive themselves and then make necessary changes to really lead for real school change.

Woreda level educational leaders and supervisors should motivate women with relevant quality to come to school leadership with their variety of leadership dispositions. This is because when more women assume leadership roles, sex role stereotypes fade away, the very notion viewing leadership from male perspective alone will also disappear (Moran, 1992), and moreover women contribute what they could to leadership world.

Woreda and Zonal Educational Authorities including supervisors should work on empowering principals through need based continuous professional development techniques that could particularly make them multi-lens leaders (for instance, Bolman and Deal’s four frames) to respond properly to organizational leadership requirements.

Educational leadership researchers ought to conduct a study on leadership frame in a wider scale including variables like effectiveness and satisfaction.

5. References


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Combating Impunity While Challenging International Criminal Court: The African Paradox

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Article History: Received: January 23, 2016; Revised: May 26, 2016; Accepted: May 29, 2016

Abstract: International criminal justice has faced a stiff challenge in Africa since recently. Despite the original overwhelming backing for the International Criminal Court (ICC), now Africa is pulling back its support. When the African Union (AU) celebrated its 50th year anniversary in Addis Ababa in October 2013, AU condemned the ICC as ‘a tool of neo-colonialism and racist institution’ unfairly targeting Africans. Consequently, it initiated a withdrawal of African states from the ICC membership, the transfer of cases pending before ICC to 'African courts' - including the newly established African Court of Justice and Human Rights. In principle, holding prosecutions in national courts is preferable. However, the local prosecution of perpetrators of international crimes is mostly impractical when the accused are the seating heads/high-ranking government officials. In one way, the judicial systems of most African countries lack a capacity to manage intricate criminal proceedings. Besides, governments do not want to see the prosecution of their officials- shielding them against criminal responsibility and embarrassment. The recent AU’s effort to withdraw its member states from ICC and requesting them to decline cooperation shows the aggravating friction between the two - reversing the African states previous great support for the ICC and blurring their promise to fight impunity and human rights violations. This article, by scrutinizing the prospects of AU’s suggested modifications to the status quo relationship between Africa and the ICC, takes the position that AU should not contradict its commitment to combat impunity by invoking the distorted ‘neo-colonial argument’ against the ICC.

Keywords: African Union; Impunity; International Crimes; International Criminal Court
1. Introduction
ICC was initially admired by many as the culmination of global efforts to replace impunity with responsibility. However, it has encountered a hard resistance in Africa lately. Despite their original active involvement in the development of ICC, African leaders have started to doubt whether prosecutions by ICC help to restore peace in the continent. It is submitted that the restoration of peace to the areas affected by conflict must precede prosecution of persons responsible for the crimes-conflicts and wars in Africa should be resolved through political negotiations than punishing individuals who commit war crimes, crimes against humanity, and genocide. This first position of African politicians is often referred to as 'justice vs. peace rhetoric.' The other infamous reason that resulted from the doubt of impartiality and independence of ICC that has been invoked to resist ICC's works in Africa is an argument that 'the ICC is a Western tool, designed to subjugate leaders of the African continent and advance an imperialist agenda.' These two major arguments have resulted in the AU's decisions to modify the relationship between the AU and ICC. This article develops on the second major argument i.e. the 'neo-colonialist' argument. The writers are of the opinion that the 'neo-colonialist' argument is distorted and unfairly invoked by the African leaders against the ICC.

The article is organized under seven sections including this introductory part. Under the second section, major developments of international legal norms governing individual criminal responsibility under international laws will be highlighted. Section three briefly goes through the historical path to the OAU; its transformation to the AU and the latter's commitments to fight impunity in the continent. ICC's jurisdiction, the principle of complementarity and the referrals of cases to it will be briefly analyzed under the fourth section. The fifth section discusses ICC and Africa: their early alliance and the late turbulent divorce. Under section six, we will detail our arguments to substantiate the view that AU should not contradict its commitment to fight impunity by branding ICC as an instrument of 'neo-colonialism' and frustrate ICC's work in the continent. The last part concludes the article.

2. Development of International Legal Norms Governing Individual Criminal Responsibility
In principle, only states are the primary subjects of international law. Yet the international legal norms calling for prosecution of persons responsible for war crimes and other grave violations of human rights have appeared starting from the second half of the 20th century. They have developed in response to brutality and mass atrocities of the WWII (ICC, 2011).

Following the conclusion of WWI in the mid-1940s, the allied powers established the Nuremberg tribunal and the Tokyo war crimes tribunal for the prosecution of high-ranking political and military authorities for war crimes and other wartime atrocities. The Nuremberg Trial and the Tokyo War Crimes Trials as the first international criminal tribunals recognized accountability for crimes against humanity and war crimes respectively (Sellars, 2011).
The Geneva Conventions of 1949 with their additional protocols require member states to punish individuals for ‘grave breaches’ of the convention occurred within their borders during international conflicts.\(^1\)

Article 4 of the Convention on the Prevention and Punishment of the Crime of Genocide (1948) on the other hand states ‘persons committing genocide or any of the other acts enumerated in article 3 shall be punished, whether they are constitutionally responsible rulers, public officials or private individual’. Besides, it calls upon the member states to implement the convention in their domestic legislation and impose effective penalties for those who are guilty of committing the crimes of genocide.

The Convention against Torture and other Cruel, Inhuman or Degrading Treatment or Punishment (1984) calls upon member states to take effective measures to prevent any act of torture in any territory under their jurisdiction (article 2) and ensure that torture is a punishable act under their national laws (article 4). The convention also establishes jurisdiction of member states over any act of torture committed in their territory or against a party nationals and establishes torture as an extraditable offence. Article 5 of the convention establishes a universal jurisdiction where extradition is not possible (\textit{Ibid}).

The \textit{ad hoc} tribunals of international crimes established by the United Nations after Nuremberg and Tokyo tribunals such as ICTR\(^2\), ICTY\(^3\) and the Special Court for Sierra Leone\(^4\) have recognized individual’s criminal responsibility under the international laws.

It is the effort of the international community to have a permanent court with a universal jurisdiction that prosecutes perpetrators of heinous crimes that resulted in the establishment of the ICC in 1998.\(^5\) ICC was created by its founding treaty, the Rome Statute of the International Criminal Court (commonly called ‘Rome Statute’) that took effect in July 1, 2002. Its establishment was considered as the culmination of global efforts to replace impunity with responsibility (Anna and Stephen, 2010).

3. The Path to African Union and Its Commitment to Fight Impunity
The Pan-African movement was originally meant to unite and ‘empower people of African descent all over the world, to attain freedom of equality and justice from the domestic and global forces of white dominion and to maximize the human potential’

\(^1\) Art 50 of the Geneva Convention defines ‘grave breaches’ as:  
“…… those involving any of the following acts, if committed against persons or property protected by the Convention: wilful killing, torture or inhuman treatment, including biological experiments, wilfully causing great suffering or serious injury to body or health, and extensive destruction and appropriation of property, not justified by military necessity and carried out unlawfully and wantonly.”

\(^2\) It was as established to ‘prosecute persons responsible for genocide and other serious violations of international humanitarian law committed in the territory of Rwanda and neighboring States, between 1 January 1994 -31 December 1994.

\(^3\) It dealt with the war crimes, genocide and crimes against humanity committed during the Balkan wars in 1990s.

\(^4\) It was established in 2002 after the Government of Sierra Leone requested the UN to set up a special court to address serious crimes against civilians and UN peacekeepers committed during the country’s decade-long (1991-2002) civil war.

\(^5\) Prior to that, international crimes were handled by \textit{ad hoc} and ‘context-specific’ tribunal in different countries at different times such as Tokyo and Nuremberg Trials, ICTR and ICTY.
(Peter, 2016). It campaigned against colonial subjugation of Africans, slavery, racism, and neo-colonialism. This movement supported by African Diasporas and leaders of newly liberated African states culminated in the establishment of the Organization of African Unity (OAU) in 1963.6 OAU was found on May 23, 1963 by the meeting of 32 independent African states who were later joined by 21 independent states. South Sudan was the last country to join the union in 2011 after it seceded from Sudan (African Union, 2011).

A post-colonial Africa has faced a myriad of difficulties that demanded restructuring the OAU to deal with the new challenges. This had been the agenda for deliberation throughout the 1990s. Consecutive summits were convened to achieve this objective.7 The OAU was finally transformed to AU in 2000. The new AU8 is based on the mission of ‘an integrated, prosperous and peaceful Africa, driven by its own citizens and representing a dynamic force in global arena’ (African Union, 2011). At this time, issues such as political, economic integration and conflict resolution are taking over fighting colonialism and slavery as the primary undertakings of AU. AU at present strives to address gross violations of human rights in conflict and post conflict situations, promoting democracy and the rule of law and good governance. The precursor of AU, the OAU, was based on state sovereignty and non-interference in internal affairs of states- the principles that made it tough for OAU to interfere for gross violations of human rights. Nevertheless, Article 4 (h) of the Constitutive Act for African Union (2011) has incorporated an exception to this principle of state sovereignty and non-interference in the internal affairs in line with the decision of the Assembly ‘in respect of grave circumstances of war crimes, genocide and crimes against humanity’. African states have vowed under international law treaties as well as through the instrumentality of the AU and international customary law to fight impunity. Confusingly, African countries are becoming resistant to the prosecution of Africans for international crimes. It is within this array that Africa found itself at the crossroads.

4. ICC: Jurisdiction, Principle of Complementarity and the Referrals

Pursuant to Article 5 (1) (a) of the Rome Statute (1998), ICC has jurisdictions over crimes against humanity, war crimes and genocide. Regarding the crime of

6Art II (1) of the Charter of the Organization of African Unity, 1963 states its objectives as:

Promoting the unity and solidarity of African states, coordinating and intensifying the cooperation and efforts to achieve a better life for African peoples, to defend their sovereignty their territorial integrity and independence, eradication of all forms of colonization and promoting an international cooperation giving regard to the UN Charter and the Universal Declaration of Human Rights.

7These summits include the precursor the Sirte Extra ordinary Summit in 1999 which culminated in the adoption of Sirte Declaration calling for the establishment of AU, Lome summit of 2000 that adopted the AU constitutive Act, the 2001 Lusaka Summit that which determined a plan of implementation of the AU and Durban Summit of 2002 which commenced the AU.

8Institutionally AU is composed of: the Assembly which is the gathering of heads of the governments and states and the supreme organs of AU, the Executive Council which is responsible to the Assembly, the Commission, the Permanent Representative Committee, the Peace and Security Council, the Pan-African Movement, the Economic, Social and Cultural Council, the Court of Justice, the Special Technical Committees, the Financial Institutions and the AU Commission each with its own mandates and chain of responsibilities.
aggression there was no consensus whether the crime brings about the individual criminal responsibility as aggression is mostly committed by states.\(^9\) As the ICC is a treaty based court, membership is based on the free consent of the states. Hence, the jurisdiction of the court emanates from the free will of the states which have signed the statute. In principle, article 1 of the Rome Statute states that ICC does not have a universal jurisdiction over crimes in question (United Nations, 1998). It can only exercise jurisdiction on crimes either committed within the territory of a party state or by the nationals of the country which accepted the jurisdiction of the court. But according to Article 13 (b) of the Rome Statute (1998), exceptionally irrespective of the nationality of the accused and the place where the crime is committed, the court can exercise jurisdiction when the UN Security Council has referred a situation to the court \((Ibid)\). As per article 12 of the Rome Statute (1998), the court also has jurisdiction when both a non-State party has accepted the exercise of jurisdiction by the ICC with respect to the crime in question and the alleged crime either took place in the consenting country’s territory or is committed by a national of that country under Chapter VII of the United Nations Charter. Art-12 (3) of the Rome Statute (1998) mentions that to obtain the court’s ad hoc jurisdiction, the country seeking it must lodge a declaration with the ICC Registrar and cooperate with the court accordingly (United Nations, 1998).

Ratification by a member state means consenting to ICC’s jurisdiction stated in the statute in line with the principle of complementarily. Unlike the former criminal tribunals that claimed superiority over the national courts, ICC’s jurisdiction is complementary. This means the primary responsibility and jurisdiction to investigate, punish and prevent international crimes belongs to the member states and the court will be involved as a ‘last resort’ only when national courts are either unwilling or unable to investigate and prosecute. The effective implementation of this principle call for member states to prosecute crimes over which ICC has jurisdiction and reform their national criminal law system in line with Rome statute (Anna and Stephen, 2010). Consequently, ICC will not entertain the case if it is pending before the national courts (United Nations, 1998; Art-17 par. 1 of Rome Statute, 1998).

According to article 14 of the Rome Statute (1998), there are a number of ways through which cases may be directed to the ICC. The first avenue is when state Party to the Rome Statute has referred the case to the ICC. A state party to the ICC may report the offense to the ICC’s prosecutor for investigation where it believed that wrongs that are under the jurisdiction of the court have been perpetrated (United Nations, 1998). The referring state should make the referral in writing accompanied by all available and relevant documents to substantiate the commission of the crime.

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\(^9\) It was only under the charter of International Military Tribunal at the Nuremberg that crime of aggression was recognized as a crime entailing individual criminal responsibility under international law. The same position was repeated under the Tokyo Charter but ICTR and ICTY had no jurisdiction over the crime of aggression. Art-5 (2) of the Rome statute recognized the ICC’s jurisdiction over the crime of aggression on the condition that a provision is adopted defining the crime and setting out conditions under which such jurisdiction shall be exercised. Consequently, the Review conference was held in Uganda to define the crime of aggression with the outcome of the Kampala Amendments on the Crime of Aggression yet to be approved by the member states.
The second scenario whereby the ICC is informed about the situation is through the initiation of the ICC prosecutor him/herself regardless of sources of the information. Upon concluding the presence of reasonable basis to investigate the situation, the prosecutor should put forward a request for an authorization to investigate to the trial chamber (United Nations, 1998; Article 15 (2) of the Rome Statute, 1998). In its turn, the trial-chamber shall determine both the presence of justified basis to proceed the investigation and whether the case falls within the jurisdiction of the court (Ibid).

The third avenue through which cases are reported to the ICC is by the UN Security Council referral. Pursuant to its mandate under Chapter VII of the UN Charter, the Security Council may refer cases to the ICC prosecutor (United Nations, 1998; Article 13 (B) of the Rome Statute, 1998). Upon receiving the referral from the Security Council, the prosecutor determines whether or not an investigation is justified based on the same procedure as in the case of other kind of referrals. At this juncture, it is worth mentioning that if the prosecutor has decided not to initiate the investigation, the Security Council can request the trial-chamber to review the decision of the prosecutor. However, the council may not require the prosecutor to proceed to investigation.

5. ICC and Africa: Early Alliance and the Late Turbulent Divorce

When the idea of creating the world's first permanent court to try international crimes (ICC) was first conceived, it received a surprisingly huge support from the African states. They were the first to accede to and approve the Rome statute. As of 2016, ICC has 123 member states out of which 34 are African countries. Most of the African member states have made their domestic criminal law to enforce the Rome Statute and vowed to cooperate in investigations and prosecutions of perpetrators (Anna and Stephen, 2010).

The fact that Africa has hosted a number of civil wars and armed conflicts since its independence from colonization has made it the prime focus of ICC. The lion's share of cases pending and handled by ICC so far are African. The African member states found themselves at the cross roads when the AU Assembly took unprecedented step by voting against the cooperation of AU members for the prosecutions of the Sudan's seating head of state- Omar Al Bashir in 2009. The primary reason for opposing the prosecution was said to be the fear that it will jeopardize efforts to promote lasting peace. Yet the underlying reason was the attitude that ICC is an imperialist tool that unfairly targets Africans. This issue started to divide Africa. The friction and dilemma between AU and ICC reached its peak after the indictment of Kenyan

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10 Art. 15 (2) of the statute stipulates that the prosecutor may request information from states, non-governmental organizations (NGO), or any other reliable source as deemed appropriate, and must protect the confidentiality of all such information in accordance with the Rome Statute and rules of procedure and evidence.

11 For instance, the Ugandan government had requested for the prosecution of the Lord Resistance Army generals. The case of Charles Tylor who was convicted for crimes against humanity and war crimes, Sudan’s case of Al-Bashir, (Sudan's main defense was that it is not a member of ICC and hence Sudan does not recognize ICC, cases in the Republic of Congo Central African rep., Kenya and Libya are all cases against the Africans.
officials for the crimes against humanity committed following the post 2007 election. Kenya denounced the charges against its officials and campaigned against the works of ICC in the continent of Africa. After the post 2007 election violence in Kenya the commission in charge of investigation unsuccessfully demanded the Kenyan National Assembly to establish a special tribunal to prosecute the perpetrators for crimes against humanity. The names of alleged perpetrators were later sent to the International Criminal Court (ICC). Kenya then started a movement for the withdrawal of African states from ICC membership and the removal of charges against its officials.

When AU assembled in Addis Ababa in 2013 to celebrate 50th anniversary of OAU one of the hotly debated issue was the issue of ICC’s work in Africa. The campaign was started by the Kenyan government. Uganda also led the campaign to push ICC to drop its charges against Kenyan officials and secure the mass pull-out of the African states from the ICC membership. The AU called for fairness and transparency in the application of the international justice and reaffirmed the belief that justice should not endanger efforts to attain lasting peace (Uyo, 2013). Though the mass pullout has not yet happened as anticipated, the meeting culminated in the adoption of a resolution (Decision No. Ext/Assembly/AU/Dec.1, Oct. 2013) that was passed with a vast majority. Botswana was the only country that opposed this resolution (Simon, 2013). The resolution among other things contained the following main points:

i. No charges should be instituted against the seating heads of African states including the withdrawal of cases against the Kenyan officials.\(^\text{12}\)

ii. The decision also called for the establishment of an 'African Criminal Courts'.

iii. Amendment to ICC statutes especially provisions on immunity of heads of state and government.

iv. In relation to consultation with the UN Security Council and request for the deferral of Kenyan cases as per Art-16 of the Rome Statute before the UN Security Council and the decision stating Kenyatta will not be prosecuted until the concerns by AU are addressed.

6. The Distorted 'Neo-Colonialist' Attitude to Justify Hostility against ICC

Neo-colonialism is ‘the control of less developed countries by developed countries through indirect means’ such as economic, financial and trade policies with the aim of perpetuating their domination (Halperin, 2016). Many in Africa consider the works of ICC as the extension of the colonial powers influence in the African continent through the prosecution of Africans by non-African judicial system. This has been the prominent reason in AU’s resistance against the ICC-the reason many

\(^{12}\)When seen in light of Art-27 of the Rome statute under which they consented to prosecute the seating heads of state and government this decision calls for amendment to the original commitment. The African leaders seem terrified upon learning the fact that their official capacity does not endow them with the immunity from prosecution under Art-27 of the Rome statute with other limitations such as the inapplicability of any immunity prescribed under national legislations (Art-27 (2) of Rome Statute) and non-applicability of the period of limitations(Art-29 of Rome Statute).
see with doubt. Does the AU have genuine reasons to challenge ICC? Is ICC truly an agent of former colonizers who need to impose their interests on Africans or is the accusation merely an escaping strategy for the African leaders who want to escape punishment for gross violation of human rights’ of their people? We believe that the claim of Africans against ICC that the court is an agent of neo-colonialism is either a dishonest of African leaders or an intuitive attitude taken by some Africans for the following reasons.

In the first place, this movement has an indirect effect of perpetuating the culture of impunity in the continent. With a very short-lived independence and culture of democracy, Africa has witnessed horrors of wars. Owing to the absence of the institutions of law and responsibility, the established norm in the continent favors impunity. It is against this background that the concept of ICC has gained a vast support from African states. The tenacity of creating ICC and Africans' overwhelming support was a shock to the committers of international crimes which are a distress to global community and for which normally the perpetrators get away with their crimes (Tim, 2014). Africa is a continent that has favored impunity. In this regard, the famous statement of Justice Robert Jackson, chief prosecutor at Nuremberg has implied that Africa is a continent where ‘major criminals were left undisturbed to write their memories in peace and in turn where the dead are mocked and the livings are left cynical’ (Tim, 2014). Mindful of all these fact on the ground Africa is a continent where ICC is believed to be a tool which promotes prevalence of justice and where impunity could be discharged (ICC, 2011). Then what point is AU making in contradicting with this commitment to fight impunity? Or perhaps is it trying to perpetuate the status quo of impunity in the continent?

Secondly, this biased neo-colonialist attitude undermines the involvement and participation of Africa in the process of building ICC. A depiction of ICC as an alien institution solely created by the West or a western machine devised against the Africans is a baseless and detoured from the reality of the court’s history. First, the accusation ignores the significant contribution Africans made in forming the court and the composition of the court’s staff. 47 African states were involved in the drafting of the Rome Statute in July 1998 amongst which the majority voted in favor of adopting the statute and establishment of ICC. Besides, ICC comprises more than 800 African civil society organizations. The objective of this coalition is ‘working in partnership to strengthen international cooperation with the ICC; ensure that the court is fair, effective and independent; make justice both visible and universal; and advance stronger national laws that deliver justice to victims of war crimes, crimes against humanity and genocide’ (ICC, 2011). African’s participation in the formation of ICC proves that the court was partly formed by Africans for the benefits of African victims of atrocious crimes, not a sole enterprise of westerners as some claim. Although headquartered in The Hague, ICC’s staffs are composed of people who are employed based on UN rules of regional representation from all over the world (Max,
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2010). For instance, out of 18 judges of the court, 5 (five) are from Africa.\textsuperscript{13} There has been instance when both the deputy president of the court and deputy prosecutor post was occupied by the Africans.\textsuperscript{14}

Thirdly, the biased neo-colonialist approach evidences the lack of proper understanding of the principle of complementary upon which the jurisdiction of ICC is based. African leaders are quite well aware of the fact that ICC is a ‘court of last resort.’ The principle of complementarity is devised to balance between the state sovereignty and the jurisdiction of ICC to step in as an agent of global community only when a national judiciary is unable or unwilling to prosecute the perpetrators. Even the capable African judiciaries are unwilling to prosecute particularly when the alleged perpetrators are high-ranking government officials as the African administration of criminal justice is trapped with politics and impunity. Further, African leaders brand ICC as an agent of neo-colonialism when its judgment is not in favor of them- a signal that African leaders want global justice only when it advances their politics not the need of justice. This is illogical and baseless position.

The fourth and a relatively strange part of Africa’s resistance against ICC is that the challenges have never been based on the claim that the accused are innocent. The AU’s recent aggressive move against some of ICC’s decisions, the communiqué of African Peace and Security Council (AU Peace and Security Council Communiqué PSC/Min/Comm (CXLII) 21 July 2008) and leaders’ statements merely suggested that the indictments by ICC are senseless and motivated by political interests. The communiqué for instance, has reiterated the AU’s commitment to combat impunity while acknowledging the commission of atrocious crimes in the continent by the alleged offenders-but has never claimed their innocence (Chothia, 2011). The announcements of African leaders have never asserted that personalities accused by the ICC are innocent. The prominent argument is that ICC has selectively targeted Africans and the indictments ruin the peace building process. So what is the point to complain against ICC as long as the named accused is not claimed to be innocent and the procedural process of the court is not questioned?

Fifthly, the neo-colonialist approach ignores the fact that the victims of heinous crimes are Africans too. FatouBensouda, the latest ICC chief prosecutor from Africa also shares this opinion by stating ‘we say that ICC is targeting Africans, but all of the victims in our cases in Africa are African victims’ (Chothia, 2011). By indirectly calling for impunity for its leaders, AU is not only contradicting with its commitment to fight impunity but also weakening its objectives to realize good governance and democracy in the continent since no form of democracy embraces impunity for the perpetrators of crimes.

Lastly, it is worth looking at the prospect of one of the AU’s proposed panacea for the ‘ICC unfairly targeting Africans’ claim. AU (2008) has created a new court, African Court of Justice and Human Rights (ACJHR) with jurisdictions to try

\textsuperscript{13}Fatoumata Dembele Diarra (Mali), Akua Kuenyehia (Ghana), Daniel David Ntanda Nsereko (Uganda), Joyce Aluoch (Kenya), and SanjiMmasenonoMonogeng (Botswana) are the African judges who have served in the ICC.

\textsuperscript{14}The Deputy President of the Court Akua Kuenyehia, and the Deputy Prosecutor Fatou Bensouda are Africans.
international crimes. The establishment of this court was approved by AU at 23rd African Union Summit at Malabo, Equatorial Guinea in June 2014. At this summit, African leaders have successfully designed a self-awarded immunity that excludes seating heads of state and senior government officials from prosecution while they are in office. The immunity has created a condemnation by many concerned bodies including civil societies. For instance, Stephen Lamony of the Coalition for the ICC said ‘Africa should be moving forward in the fight against impunity, not regressing’ (The International Justice Resource Center (IJRC), 2014)). Netsanet Belay (quoted in Brown, 2014), director of Amnesty International in Africa stated:

The representatives of African governments should have only voted a protocol to finally operationalize, after six years of stalemate, the new African Court of Justice and Human Rights, created by a merger between the African Court of Justice and the African Court on Human and People’s Rights, which was responsible for investigating crimes such as genocide and violation of human rights on the African continent. But secretly, and with an amendment which had never been heard before, they managed to secure immunity.

For the sake of justice, it does not make any ‘difference between appearing in ICC and ACJHR’. The plan of coming up with ACJHR could be a systematic plan by AU to weaken ICC. Even when it starts to prosecute, ACJHR will inevitably suffer from financial and material shortages. Of course, despite establishment the court has not yet started to operate. The actual reason behind removing the ICC and defiant thereto and movement to make African criminal courts is the beginning of the path to bend justice in favor of the perpetrators who are in most of the cases political leaders and their friends. Their attempt to shield the perpetrators of brutal acts with lousy reasons is contrary to the very objective of the court’s establishment and the newly emerging values of international law. The unjustified move by the AU and African leaders is nothing more than a call for impunity of their friends which is embraced by camaraderie and distress that the same would happen to them in the future (Mbori, 2014).

7. Conclusion
The legal regimes governing accountability of individuals for war crimes, crimes against humanity and genocide has passed through different stages before attaining its present stage. One of the developments in international criminal justice is the formation of a permanent and independent international court to prosecute perpetrators of war crimes, crimes against humanity and genocide. The Rome Statute establishes ICC and prescribes its jurisdiction as a ‘court of last resort’ through the application of the principle of complementary. Nevertheless, ICC has encountered resistance from African leaders who consider that ICC works do not help to restore peace in Africa. Besides, African leaders have condemned ICC as a ‘neo-colonialist’ tool unfairly targeting Africans. This paper has tried to challenge the argument by African leaders that consider ICC as a tool of preserving the legacy of the colonial

15 Art-46 A of Amendment to the Statute of the African Court of Justice and Human Rights states that: “No charges shall be commenced or continued before the Court against any serving African Union Head of State or Government, or anybody acting or entitled to act in such capacity, or other senior state officials based on their functions, during their tenure of office.”
masters by indirectly imposing their agenda. We believe that if conducted impartially, prosecutions by the ICC has no competitor for the time being. ICC is not a substitute for the national courts. African countries should effectively and impartially employ their domestic prosecutions than trying to oust ICC out of Africa. Weakening ICC without creating an impartial and effective national and continental criminal courts by invoking the distorted argument of neo-colonial policy perpetuates the African culture of impunity. Moreover, by unreasonably challenging ICC, AU is contradicting with its promise to fight impunity and violations of human rights in Africa. The proposal to create ACJHR as substitute of ICC in Africa could be a systematic plan by AU to weaken ICC. Even when it successfully starts to operate, the court will inevitably suffer from financial and material constraints.

8. References


Instructions to Authors

1. Aims and Scope
East African Journal of Social Sciences and Humanities (EAJSSH) is the official journal of the College of Social Sciences and Humanities at Haramaya University. Its purpose is to serve as a forum for intellectual exchange on a wide range of the social, historical, environmental, and political issues that affect humans in multiple ways and are in turn affected by dynamics and processes of humans’ interventions. Contributions are thus welcome from the diverse and interrelating fields of social sciences and humanities such as Sociology, Social Work, Social Anthropology, History, Political Sciences, Human Geography, Gender and Development Studies, Social Psychology, Peace and Development/Conflict Studies, Linguistics, Literature and Folklore, Cultural Studies, Law, Media and Communication Studies, Tourism and Development, Urban Planning (its social aspects), and Education. The journal gives priority to empirical works, but also encourages outstanding contributions that deal with the methodological and theoretical dilemmas spanning the fields of social sciences and humanities. Critical reviews of newly published books and short research communications are also considered.

2. Journal Style and Format
• Manuscript should be written in English and consecutively paged.
• Manuscript should not exceed maximum of 10,000 words.
• Manuscript should be in A4 size paper a margin of 1.25cms on the left, 0.75cms on the right, 0.75cms on the top and 0.75cms bottom side of each paper.
• Headings and sub headings should be in title case and numbered.
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5. Research Articles (Full Length Paper)
5.1. Title Page
The following aspects should be included on the title page:
- Full title of the manuscript (short but informative)
- Name(s) of author(s) without degrees or diplomas
- Institutional affiliations of author(s)
- Numerical superscripts should be used against affiliations if the authors are more than one.
- Short (running) title not more than six words

5.2. Text Pages
The text pages include the following sections: Abstract, introduction, research methods, results, discussions, conclusions, acknowledgements and references.

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- Full title of the manuscript.
- Structured abstract between 150 to 250 words. It must convey the essential features of the paper-major objectives, key methods and outstanding findings of the study should be stated clearly in the abstract.
- Do not put authors’ names and affiliations on the abstract page.

5.2.2. Keywords
Keywords or phrases (up to five, in alphabetical order, separated by semicolon) should be given next to the abstract on a separate line.

5.2.3. Introduction
This section provides a brief background to the subject, statement of the problem, and describes the principal objectives of the investigation.
5.2.4. Research Methods
This section encompasses a brief description of the materials used and procedures followed to obtain results. Moreover, research tools (approach), method of data collection and analysis should be described.

5.2.5. Results
Present and describe the results obtained; if applicable, describe the main statistical significant findings of the results.

5.2.6. Discussion
This section of the manuscript describes interpretations and implications of the result obtained in relation to other findings in similar area or other related studies.

Note: The result and discussion part can be presented either separately or together. The methods, result, and discussions could include sub-headings.

5.2.7. Conclusions and Recommendations
Explain briefly the important contributions of the research work in terms of new findings and methodology and point out the future research needs, if any. It must not contain any references. Recommendations should go in line with the conclusions.

5.2.8. Acknowledgements
Acknowledgement of people and grants should be briefly stated, if required.

5.2.9. References
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- Comenetz and Caviedes (2012), or if more than two authors, Sherbinin et al. (2007). N.B. Comenetz, Caviedes, and sherbinin are family names of the authors.
- For Ethiopian authors, we use either the grandfathers’ or fathers’ names as surnames or family names. For example, Tola Dabala should be cited in text as Dabala (2010) or (Dabala, 2010) while Tesfa Degafa Tekle should be cited as Tekle (2009) or (Tekle, 2009).
- References should follow their chronological order of publications when references are more than one. For example, Grau et al., 2003; Campbell et al., 2005; Woldamlak and Solomon, 2013.
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5.2.9.2. Listing References at the end of an article (reference in the list)

References should be listed in alphabetical order at the end of any article and shall have the following form:

A) Journal Articles

In this example, Tadesse is the surname or family name whereas Adinew is first name. The father names of Ethiopian authors need to be considered as family names if the authors’ names do not include grandfathers’ names. If an author writes his/her name including his/her grandfather’s name, his/her grandfather’s name need to be considered as his/her surname or family name. For example, Adinew Tadesse Degago should be written in a reference list as Degago, Adinew Tadesse (2011) or simply as Degago, A. T. (2011).


B) Books


(Tesfaye is the name of Abera’s father which is used here as a surname or family name. Abera is the actual author of this book).


(Here, Gaddisa is the name of the grandfather of Oda. Oda is the actual author and Birbirso is the name of Oda’s father (middle name)).

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If used, foot notes should be consecutively numbered and be set out at the foot of each page and cross-referred using ibid as appropriate foot note numbers are placed outside of punctuation marks.

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East African Journal of Social Sciences and Humanities (EAJSSH)

Volume 1, No. 1, 2016

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