



Utilization of Natural Resources and Conflict? The Case of Choke Mountain Watersheds, East Gojjam, Ethiopia

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Abstract: Responsible administration and feasible use of regular asset and condition makes powerful strides towards advancing or making social, monetary, and political dependability and safeguarding the normal welfare of the nation. This paper assesses the land use system and identified Cause of conflict issues on bases of natural resource utilization, management and governance. A cross-sectional survey design was employed in this study. Questionnaire survey, key informant interview, focus group discussion, field observation and secondary data sources, were utilized to generate the data required for the analysis. Both qualitative and quantitative analysis approach, descriptive analysis and analytical technique like chi-square tests were employed to analyze the data.

Finding of the research shows that, the land was used for different purpose such as: grazing land cultivation land and forest land. However due to lack of governance in the research area there were conflict among society to use those natural resources and conflict were arise on grazing land, forest land and cultivation land. These all things lead to unsustainable use of natural resource. These problems happened mainly because of natural resource utilization problem by the community, natural resource management and governance problem by the government are considered as a major factor.

Keywords: Natural resource Management, Conflict, Sustainable Development

1. INTRODUCTION

The Ethiopian economy is predominately dependent on agriculture (Shibru, 2007). It is the major source of employment, revenue, exports earning and livelihood existences. However, mismanagement and improper utilization of the natural resource bases are not only threatening the productive cap city of the land and its resource but also the socioeconomic setting of the country, especially the rural community. The impact of environmental degradation soil degradation, impairment of water retention capacity of forests and soils, the loss of biodiversity, and socioeconomic problems like the loss of income, poverty and the inequitable development among rural communities. Today the natural resources base (land, water forest, wildlife and biodiversity), which is the basis of Ethiopia's economic development and food security is under intense pressure from population growth and inappropriate traditional farming and management practices. The livelihoods of the farming communities that provides over 85 percent of the total employment and foreign exchange earnings and approximately 47 percent of the GDP are facing severe constraints related to intensive cultivation, overgrazing and deforestation, soil erosion and soil fertility decline, water scarcity, shortage of livestock feed, and fuel wood crisis. These factors often interact with one another resulting in a reinforcing cycle of "poverty, food insecurity and natural resources degradation trap". This natural degradation triggered to social instability or conflict (Shibru, 2007).

The Choke Mountains is considered as one of the Ethiopian Biodiversity Hot Spot. The Biodiversity in this geographic region is highly threatened, the vegetation cover and the soil are degraded and the fertility is depleted today grazing land scarcity and reducing of water quality because of long history of human settlement and the ever-mounting population pressure. There is also abject poverty and the opportunities for alternative livelihoods are in a continuous downward spiral. The flood incidences of 2006 which were triggered by the relatively higher spell of the summer rains is an indication that a threshold beyond which the vegetation cover can help in the percolation of the water to the ground has

been surpassed (Belay ,2007) hence, proper management of mountain resources and socio-economic development of the people deserves immediate action.

2. MATERIALS AND METHODS

2.1. The Study Sites

The study site Choke mountain watershed is located approximately between coordinate 10⁰33'06" to 10⁰50'24" and 37⁰42'36" to 37⁰58'24". Topographically, the watershed lies in the altitude's range of 2100 to 4413 M.a.sl. As a result of these altitudinal variations, about 27%, 82% and 9.7% of the watershed is found in W/Dega (Midland) Dega (highland) and Wurch (Hail) traditional agro ecological zones respectively. The watershed is found interiorly in Eastern Gojjam Zone wereda such as Bibugn, Debay Telatgin, Gozamen, Hulet Eju Enessio, Machahkel, and Sinan. Specifically, the study was conducted into two kebele of two woredas, namely, Shewa kidanemiharet from Sinan woreda and Sheme from Debbay Tilagin.

2.2. Data Type and Sources

The data was employed qualitative and quantitative research methods combined in a creative and logical manner so as to fully capture pertinent information to address the research agenda. The mixed approach of this kind can potentially overcome the pitfalls of using single research method and help to take their complementary.

The research used both primary and secondary data sources Primary data was generated through questioner interview, focus group discussion, key informant interview, filed observation and transect walk or photograph. Whereas secondary data was collected from internet, archives, research journals, document files, different reports and proceedings and books.

2.3. Data Collection Tools

Interviews with farmers was carried out at village level using a combination of participatory rural appraisal (PRA) techniques including semi structured interviews, key informant interviews, focus group discussion, transect walks and filed observation and photographing. The objectives of the informal diagnosis were to obtain first-hand information on specific issues such as age category, natural resource asset, scarce resources, abundance, utilizations, management and governance of natural resources, critical environmental concerns and environmental security factors of the area.

2.4. Key Informant Interview (KII)

At the kebele level, elderly people aged more than 30 who have sufficient knowledge about the area and are able to memorize the historical environmental conditions or trends and experts with environment and natural resource and agriculture background in the kebele and government officials were interviewed.

2.5. Focus Group Discussion (FGDs)

Community-based focus group discussions that helped us capture community perceptions of natural resource, degradation, management, utilizations and governance. One focus group discussion was carried out within each kebele, each group involves 8 individuals. To guide the discussion, semi-structured checklist was designed on a wide range of issues such as farmers' knowledge about natural resource; environmental problems, natural resource management, utilizations and critical environmental concerns, conflict on the utilization of natural resource, their expectation from the governmental to tackle the environment related problems; and others.

2.6. Field Observations and Photographs

During field surveys, transect walks down the PAs on farms was carried out with the guidance of the kebele chairman leading the team, including voluntary farmers, an enumerator, a development worker and the researcher. In so doing, the field surveyors take notes on specific observation in advance, if any, during field visits and walk-through. Pictures on some important observations was taken to support the qualitative information like serious environmental degradation, conflict places and environmental security factors impacts on environment and others.

2.7. House Hold Survey

Detailed information was derived through survey from sampled households. Semi-structured interview schedules were prepared to collect qualitative data on major specific issues knowledge of natural resources, management, utilization and critical environmental concerns and environmental security factors.

The survey was conducted by experienced enumerator (DAs) who was volunteer to take in advance a three days training session on techniques of households' survey questioner administration. After the training the questionnaire was pre-tested in both PAs on four sample households for the following major purpose (1) to check whether it can capture the required information or not, (2) to evaluate the enumerators' skills on house hold survey questionnaire administration.

2.8. Method of Data Analysis and Presentation

For quantitative information, latest versions of statistical programme for social science (SPSS) were used as a help in the overall process of data management and analysis.

Descriptive statistics like; percentage and frequency tables are amongst the methods used to analyze the data for the study. In addition to that Chi Square was run as part of quantitative analyze tool. Findings from the primary and secondary data were compared with the findings of focus group discussion and key informant interviews using descriptive statistics as data triangulation.

The chi-square test was used because of the following reasons: firstly, the data is randomly selected, secondly, all samples are independent, and thirdly, the group is greater than 10 (Kothari, 2004). To understand or analyze, the frequency variation between Sheme and Shewa kidanemhert like: natural forest availability and utilization, natural resource scarcity and abundance, and natural resource utilization conflict.

Qualitative information recorded on notebook from FGDs, conversations with key individuals and interviews was organized and constructed coherently and analyzed on the basis of thematic analysis.

3. RESULTS AND DISCUSSION

3.1. Land Utilization

Inappropriate land owing and utilization with correspondence of family size reduced scarcity and a means for sustainability or insecurity. As a result, as it is depicted the table below, majority of the Sheme kebele farmers used their average land for rain fade (.9591 hectare) agriculture with compared to Shewa kidanemhert farmers(.6353 hectare).In return, majority of Sheakidanemhert farmers used their average land for forest land(.1214 hectare) comparing to Sheme kebele(.0295 hectare).According to the FGD interviewed of Shewakidanemhert, they say, "We are using our land for eucalyptus tree because the productivity of the land is not good for producing crop production and the amount of money earned from eucalyptus tree is much greater than crop production produced within five years". In addition, the average total size of land in Shewakidanemhert (1.0228 hectare) is less than that of Shme kebele's average total size land (1.2955 hectare). Which means land scarcity is shown in Shewakidanemhert kebele relative to Sheme. The result was inconsistent with the finding of Woldemelak (2003), the average land holding of Sinan and Dangulle (0.97 and 0.89 hectare) respectively.

3.2. Natural Forest Availability and its Utilization

The respondants were, asked about the availability of natural forest out of Shewakidanemhert respondents, 58.2% of them they replied yes. In Sheme kebele also responded that there was 100% availability of natural forest in the area. The chi-square test statically significance of frequency distribution variation also verified, p.value of 0.05 of 29.080 as shown in table, existence of significant frequency difference between Shewakidanemhert and Sheme kebele on the availability of natural forest.FGD interviewer of Sheme kebele also assured in the existence or the availability of natural forest in their respective village for instance (Shebet fana and other forests).As they replied "We are keeping the forest resource through some union of community base organization CBO, as a result the forest is available or we saved from deforestation , however, now a day, its security is becoming a critical issue, those who finished their forest resource (Sinan, Begun and Mota district

even from SHEME kebele those who are not under CBO) come to use (grazing and fuel wood) this forest or deforestation problem is encountered”.

With regards to primary use of forest resources, as it can be shown Table, highest number of respondents (78.2%) from SHEME kebele replied they used their natural forest resources for fuel wood, in return, out of 100%, 47.4% of Shewakidanemhert used their forest for fuel wood, and 20%, 3.6% used their forest for honey production in SHEME and Shewakidanemhert respectively. And out of the respondents in Shewakidanemhert replied 41% N/A which means, because of the following reasons: Those who have no natural forest in their nearest and those who are not volunteer to answer. Again, there was a frequency difference between fuel wood utilizers within these two kebeles. In Shewakidanemhert there was less amount of fuel wood utilization compared to SHEME kebele (especially non-CBO). This variation is a result of two reasons: one in Shewakidanemhert, majority of respondents had their own private forest (eucalyptus tree) so that as it was confirmed by FGD they used fuel wood consumption from this private forest. Second, as it was explained in table the availability of forest was too small with compared to SHEME kebele. The chi-square test confirmed, p-value of 0.05 of 35.753. As shown in Table, the existence of significant frequency variation between Shewakidanemhert and SHEME on the utilization of forest resources, especially on fuel wood and honey production and those who answered N/A.

Table1: Natural forest resource availability and its utilization

Variable	Shewa/K		SHEME	
	response	N%	N%	
Forest availability	chi-square test			
	Yes	58.2	100	χ^2 29.080*
	No	41.8	.0	Sig. .000
	Total	100	100	
Primary use of forest	Fuel wood	47.	78.2	35.753* .000
	Construction	.0	.0	
	Traditional medicine	1.8	.0	
	Honey production	3.6	20.0	
	Charcoal	1.8	.0	
	Other uses	3.6	1.8	
	N/A	41.8	.0	
	Total	100	100	

Source: computed from own survey data, 2011, * significant at 0.05% of level of significance

NB: Shewa/k –Shewakidanemhert

Table2: Land utilization

Kebele	Type of land:	Rainfald land**	Irrigation land**	Grazing land**	Forestry Land**	Total land holding **
Shewa kidanmehret	Mean	.6353	.2050	.1122	.1214	1.0228
	Std. Deviation	.24526	.15551	.17851	.20420	.36397
	Maximum	1.25	.75	.65	1.00	2.00
	Minimum	.00	.00	.00	.00	.00
	Range	1.25	.75	.65	1.00	2.00
SHEME	Mean	.9591	.2091	.0752	.0295	1.2955
	Std. Deviation	.51989	.51091	.25765	.07965	1.02299
	Maximum	3.00	3.00	1.75	.25	6.00
	Minimum	.00	.00	.00	.00	.00
	Range	3.00	3.00	1.75	.25	6.00

Source: computed from own survey data, 2011 ** unit of measurement is hectare

3.3. Natural resource utilization and conflict

As outlined in (ILRI, 2000), when people lack access to alternative sources of livelihood, there is a tendency to exert more pressure on the few resources that are available to them. Massive exploitation of natural forest resource by local communities, which at times occur beyond the recovery capacity of these resources and exacerbate the conflict over the use of these meagre resources (Teshome ,2007). The same is true in this study area, asked about “did you ever faced conflict on natural resources utilization?” As it can be observed from Table 2 below, majority of Shewakidanemhert 87.3% and SHEME 70.9% replied that conflict has occurred with related to natural resource utilization, specially forest resources in addition to that they were fitting for improper use of land from neighbourhood land (kutagetm). The FGD and KI interviewee also confirmed conflict between kebeles particularly Abmaber sub kebele where the major forest area is found. As it was thought by FGD, conflict was occurred on the utilization of natural forest (on Shebetfana forest which was the source of Choke Mountain watersheds) for grazing and fuel wood purpose. And the conflict was happened because of the following reasons: firstly, absence of exact district demarcation problems among district and village level, that separate one district to another, and one kebele to another, secondly traditional story by the community “**lamena nib bewalechebet woola tigebalch** and **chokew yegara new**” that means, any people can use the choke mountain resource without any demarcation difficulty, thirdly, the SHEME people community are better than sheakidanemhert, protect or conserve their forest resource (Shebet fana forest) and this forest become rehabilitated and showed remarkable forest resource conservation. Due to the reasons listed above, those who finished their resources, come to use this rehabilitated or protected forest and at the same time they made conflict with neighbouring kebele (SHEME) particularly Amababer sub kebele. The chi-square test also approved the existence of conflict within these two kebles, p.value of 0.05 of 4.453, the existence of statistical insignificant frequency variation between Shewakidanemhert and SHEME on the occurrence of natural resource utilization conflict. The result is found consistent with the finding of (Teshome, 2007), (RETERS, 2006) and (BTserihun, 1999).

Table3: *Natural resource utilization and conflict*

Variable	Response	Shewa/K	SHEME	Chi-square test	
Did you ever face conflict on natural resource?	Yes	87.3%	70.9%	χ^2 4.453*	Sig. .035
	No	12.7%	29.1%		
	Total	100%	100%		

Source: computed from own survey data, 2011, * significant at 0.05% of level of significance

Barren place due to deforestation



Fig1: *Shebet Fana forest source of Choke mountain watersheds and source of conflict.*

Forest area under protection by CBO

Photo by Shegaw Yesgat,2001(E.C).



Fig2: How grazing land is a source of conflict in the study area

Photo by Shegaw Yesgat,2001(E.C).



Fig3: Planting of eucalyptus tree on productive land as a poor land use practice activity a source of conflict.
Photo by Shegaw Yesgat,2001(E.C).



Fig4: Photo by shegaw yesgat 2011. Poor land use practice activities (planting of eucalyptus tree, illegal settlement, free grazing and agricultural practice beyond 60 percent leads to serious soil erosion with no conservation activities.

4. CONCLUSION

The study was undertaken in Choke Mountain in East Gojjam zone, North Western Ethiopia to explore or assesses an natural resource utilization and conflict on the basis of natural resource utilization, management and governance.

The local level environmental security assessment was conducted on both kebeles (Sheakidanemhert and SHEME). This assessment result tells us that there were environmental (natural resource) insecurity problems on forest and land resources. Some of the symptoms of environmental insecurity include the conflict between Showakidanmehert and SHEME and with the neighboring woredas and kebeles on the utilization of natural resources particularly because of scarcity of agricultural land, grazing land and forest resources (fuel wood) which resulted them to migration and unemployment.

Natural resources governance or administration problem which are forwarded by FGD and KII that can be a source of agricultural and grazing land scarcity, deforestation problems, poor land use practice and conflict on the utilization of natural resources which are considered as a source of in sustainability of Choke Mountain natural resource includes:

- Lack of commitment to implement the final land use planning from Regional Rural Land Administration Office.
- Lack of skilled man power to conserve and administer and guide or give awareness to farmers even if land use planning is not in hand.
- Improper or traditional way of demarcation that differentiate one district from another district or a district from Choke Mountain.
- Lack of accountability or permanent response, when natural resource conflict occurred among beneficiaries of Choke Mountain.
- Renting of land (agricultural land) for 25 years which means one person's life.

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