Challenges of Natural Resources Conservation Management in Mekit Ecotourism Sites, Ethiopia

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Abstract
This study tried to investigate major challenges of natural resources conservation management in Mekit from local governments, local communities, community project managers, culture and tourism office experts. A total of 188 purposively and systematically selected respondents using simple random and snowball sampling technique to gather quantitative and qualitative data. Both primary and secondary data were collected through semi-structured interviews, questionnaires, FGD and documents. Quantitative data were analyzed using descriptive statistical analysis with the help of SPSS version 22 to investigate major challenges of natural resources conservation management. Regardless of Mekit's rich with a variety of natural resources; it has been highly challenged due to agricultural land expansion, deforestation and population expansion. Mean and standard deviation values of respondents showed that ecotourism site of Mekit has been still affected by illegal hunting, local communities have no sense of ownership, free grazing, human wildlife conflict, land ownership problems, involuntary evacuation of local communities from their site, less government participation, poor collaboration and coordination among stakeholders. Thus, all relevant stakeholders shall capitalize on natural resources conservation initiatives whilst strongly working on challenges of natural resources conservation management to encourage sustainable livelihoods development of Mekit in particular and Ethiopia in general.

Keywords: Natural Resources, Challenges, Conservation, Management, Mekit

1.1 Introduction
Ethiopia, as one of developing countries, tourism has become one of the important sectors contributing a lot in social, cultural, and economic development aspects of the country. Ministry of Culture and Tourism reported that Ethiopia has hosted a total of 478,890 foreign tourists during the first two quarters of 2016 budget year. Similarly, it has earned US$1,792,964,160 from international tourists. This income surpasses the income registered at the same time in previous year by US$404,842,160. The report also states that Ethiopia received 88,000 tourists per month and the average length of stay is 16 days.

Tourism is in a very special position to benefit local communities, economically and socially, and to raise awareness and support for conservation of the environment (UNEP & UNWTO, 2005). Sustainable development is often depicted as balancing on these three equally important legs, namely environment, economy, and society (Klak, 2007). In 2016, UN and its agencies have proposed and started implementing Sustainable Development Goals, which build and expand on the expired Millennium Development Goals, comprise 17 goals and 169 targets and will frame global development agenda for the coming fifteen years (ITC & UNWTO, 2015). Thus, tourism is one of the industries that are considered to have a huge potential to contribute directly or indirectly to all of these goals (UNWTO, 2015).

Despite the current growth and future prospects of tourism industry is very bright, it has faced major global challenges (UNEP & UNWTO, 2005). Although tourism was considered "white industry" until the 1960s, it was increasingly criticized, especially because of the emerging mass tourism and its associated social, environmental and ecological impacts. After the boom of tourism industry in 1960s, the world has suffered a lot from the negative impacts of mass tourism. Many popular destinations have faced multiple problems because of uncontrolled developments and mass movement of travellers (Swarbrooke, 1999).
In search of specific alternatives to mass tourism, the term "soft tourism" was introduced. Soft tourism was taken to mean the intent of reducing or undoing contentious consequences of tourism development by taking restrictive measures within spatial planning and regional policies and avoiding those consequences in the future. As one segment of sustainable tourism (Kiper, 2013), ecotourism has gained a massive acceptance as a sustainable option for mass tourism (Nature Friends International, 2011). One of the famous definitions is given by the International Ecotourism Society (TIES) that defined ecotourism as purposeful travel to natural areas to understand culture and natural history of environment; taking care not to alter integrity of ecosystem; producing economic opportunities that makes conservation of natural resources beneficial to local people (Eppler-Wood, 1996). It has come with definitional promise to promote responsible travel to natural areas, to make positive contribution to environmental conservation, and to enhance well-being of local communities (Zambrano, Angelica M.Almeyda, Broadbent, Eben N. & Durham, William H, 2010).

Ecotourism has potential to become driver of sustainable tourism development and provide opportunities for the development of disadvantaged, marginalized, and rural areas leading to poverty alleviation (Manu, Isaac & Kuuder, Conrad-J.Wuleka, 2012). Ross & Wall (1999) also noted that ecotourism is a potential strategy to support conservation of natural ecosystems whilst promoting sustainable local development. Ecotourism is viewed as a means of protecting natural areas through generation of revenues, environmental education and involvement of local people (Kiper, 2013). Beyond its conservation objectives, ecotourism helps in community development by providing the alternative source of livelihood to local community which is more sustainable (Kiper, 2013). African Conservation Centre (2003) indicated that ecotourism does not simply consist of environmentally sound ecologdes: it provides a means for rural people to benefit from wildlife and environment of which they have traditionally been custodians. It has emerged as a platform to establish partnerships and to jointly guide the path of tourists seeking to experience and learn about natural areas and diverse cultures (Drumm & Moore, 2002).

Although ecotourism seeks to increase opportunities and to reduce threats of mass tourism, it has both positive aspects and drawbacks (Koens, Dieperink & Miranda, 2009). True ecotourism, however, requires a proactive approach that seeks to mitigate negative and enhance positive impacts of nature tourism. Community-based ecotourism takes this social dimension a stage further as it is a form of ecotourism where local community has substantial control over, and involvement in, its development and management, and a major proportion of benefits remain within the community (WWF International, 2001). All alternative forms of tourism should not automatically be seen as ethically and morally superior to mass tourism despite some of them are practicing in Ethiopia that have barely considered the consent and knowledge of local resource users to ensure sustainable development and fight poverty (Young, 2012). Community-based approach to ecotourism recognizes the need to promote both quality of life of the people and conservation of resources (Scheyvens, 1999). Its managed and run by the community itself, management decisions are made by local people and profits directly go to the community (Khanal & Babar, 2007).

Mekit community based ecotourism has been one of Ethiopian ecotourism initiatives designed to promote environmentally sustainable tourism while improving the livelihood of the local community. The area has beautiful scenery and wildlife that can offer opportunities for travel and enabled to develop community based ecotourism and empower local communities whilst conserving natural and cultural landscapes. Nevertheless, there are academically overlooked challenges of natural resources conservation management as it has cross-cutting substance, wide application and overwhelmed with various unaddressed questions. Thus, this research pursued to investigate major challenges of natural resources conservation management in terms of natural resources management and community based ecotourism development.

1.1 Statement of the Problem

Ecotourism has the greatest pro-poor impact on rural communities due to customer comes to product creating room for direct sell that fosters the creation of economic multiplier effect (Manu, Isaac & Kuuder, Conrad-J.Wuleka, 2012). In practice, however, ecotourism’s principles may be corrupted,
watered down and hijacked (Koens, Dieperink & Miranda, 2009). Mader (2004) acknowledges that community based tourism is not always successful and let us look failures as pathways to success. Some of the problems observed are benefits going to a small group committee, environmental damage, sex tourism and indigenous people becoming vulnerable (Khanal & Babar, 2007). Holland (2000) shows that even with the best participatory techniques and local commitment to accountability, the patterns embedded in local communities create serious barriers for achieving sustainability.

Involvement of local residents is often regarded as key to sustainable development but they are expected to be part of tourism product, share benefits and inevitably share costs. Ethiopian tourism development policy encourages communities at destinations in particular and the public in general to participate and benefit from the development (MoCT, 2009). Ecotourism development is not always an easy activity due to different challenges like inadequate funds, inadequate facilities at the site, fluctuating visitor inflow, language barrier, poor commercial viability of products in terms of value and price (Manu, Isaac & Kuuder, Conrad-J. Wuleka, 2012). While ecotourism rhetoric suggests that there is much support for ecotourism ventures, it is difficult to find successful cases of this in practice (Scheyvens, 1999). Moreover, many small scale ecotourism initiatives have been set up which have failed owing to a lack of market assessment, organization, quality and promotion (WWF International, 2001). It is still difficult to find what approaches causing success or failure in using ecotourism as conservation and development approach (Harrison, D; Schilpani, S, 2007; Schilcher, 2007). Tourism planners and developers are gearing towards community participation in planning to get attention in the early laissez-faire approach but there is still a great neo-liberal oriented policies that are not necessarily akin to community involvement in decision-making (Shahmirzadi, 2012).

One dimension of this research is designed for analysis of the impacts of ecotourism ventures on natural resources conservation management local communities. The rationale behind this study is that ecotourism should promote both conservation and development at the local level. Despite there are many studies conducted in Ethiopia on the issues of ecotourism, almost all of them were mainly concerned with positive aspects of ecotourism development. Therefore, as empirical studies about challenges of natural resources conservation management have been hardly studied in Mekit, this study was held to investigate the major challenges of natural resources conservation management for sustainable ecotourism development in Mekit.

2. Methodology
2.1. Research Design

Descriptive research design and descriptive correlation design were used to meet the objectives of this study. Data has been collected using cross-sectional survey to provide a clear picture and analyzed empirically focusing on who, what, when, where and how of a topic and narration of facts and characteristics (Cooper & Schindler, 2008; Babbie, et al., 2007). Descriptive research design was selected due to it gives insight into the present challenges and attempts to determine status of phenomenon under investigation. Besides identifying present conditions, it also points out present needs of the condition under investigation. So it helped to identify the existing ecotourism initiatives success as well as natural resources management challenges.

Mixed research approach was applied due to it provides an advantage to adapt the strength and avoid the weaknesses of using a single (qualitative or quantitative) research method. Mixed method has become popular due to quantitative and qualitative methods provide better understandings of problems despite the procedures are time-consuming, requiring extensive data collection and analysis in new research development methods (Creswell, 2012). The nature of this study cannot be addressed using either qualitative or quantitative method on which some data can be numerical while others are demanding phenomenological explanations. Qualitative data were gathered from FGD and interview of government officials, local leaders and document analysis to triangle conclusions drawn with questionnaires.
2.2. Population
Population for this study were local communities, culture and tourism office experts, and community project managers.

2.3. Source of Data
This study used both primary and secondary sources of data. The primary data were collected through formal interviews with tourism experts, and questionnaire survey for local communities and FGD for community representatives. Secondary data were collected from document analysis of reports, plans, policies, statistics, papers, proceedings, documentation, archival, articles, strategies, internet and books including both published and unpublished records.

2.4. Research Instruments
There are many ways to collect information in research, such as interviews, observation, checklist, questionnaire, existing record review, and focus group discussion. Amongst questionnaire, interview, and focus group discussions were used in this study. To overcome shortcomings of each instruments and to use the merits of employing tested instruments, researchers used locate and modify from previous research tools that were validated by senior experts and team members for its content validity and conducted pre-test to check appropriateness and reliability.

Assistant data collectors were employed and got the necessary orientation on how to collect data as well as respondents met and oriented on the purpose before gathering data. Interviews were recorded by digital voice recorder and notes were also taken throughout the course of interview. Close-ended questions were used as their effectiveness and response rates are high when respondents are educated or has strong interest in studying ongoing topic. Self-administered questionnaires used as they can complete questionnaires when it is convenient, check personal records, offers anonymity and avoids bias (Cooper & Schindler, 2008).

Qualitative methods for this study embraced semi-structured interviews, in-depth interviews, expert interviews, participant observation and document analysis to diminish bias of each method, increase credibility and dependability, provide rich data and comprehensive insight. Semi-structured interview was conducted with local households with a fairly open framework and atmosphere that allow for focused, conservational and two-way communication between interviewers and household representatives to obtain both general and specific qualitative and quantitative data relevant to specific issues (Hesse-Biber, 2006).

2.5. Data Collection Procedures
This study employed different methods for data collection process that are divided into three major sequential phases for the opportunity to have in-depth investigation, holistic views and logical comparison. The first step was conducted as a pilot study on strengthening the data collection instrument. The second step followed on refining all steps and successful methods discovered and readjusted under pilot step to examine on multi-stakeholders of ecotourism, geography and time constraint required additional help from other parties to accelerate and finish fieldwork successfully. The final step involved profound analysis of study areas in comparison to the best practices and experiences of other ecotourism in Ethiopia and elsewhere with similar contexts.

2.6. Sampling Technique
Sample from local community respondents were drawn through convenient sampling method due to applying systematic sampling method was difficult. Number of people planned to be benefited from ecotourism project (Mekit) was obtained from regional office. Representative respondents from this site were determined based on stratified sampling method.FGD participants were selected purposively based on their relevance in terms of providing information about ecotourism challenges. This study also used purposive and snowball sampling techniques. Purposive sampling utilized to select samples from local community focal persons, culture and tourism office experts, and community
project managers, tour guides, cooks. Snowball sampling used to select key informants who have knowledge in the area of ecotourism, destination management, and community empowerment.

2.7. Sample Size Determination

Based on the information obtained from Amhara National Regional State culture and tourism bureau, Mekit has a potential participants of 1500. Thus, using Yemane’s formula the sample size was calculated as: \( n = \frac{N}{1 + \frac{Ne^2}{N(N-1)}} \) (Yamane, 1967); where, \( n \) is sample size, \( N \) is population size, \( e \) is level of precision&confidence interval is 95%.

2.8. Data Analysis Procedure

To strengthen content validity of data, published items from previous works were employed. As reliability refers to the research trustworthiness and conformability to assure the reliability of data, all the interviews and group discussion were recorded and transcribed word for word. Interpretation of data collected from interview, group discussion, and observation checklist used a descriptive approach utilizing summary data and unattributed quotes to illustrate dominant issues in respondents’ own words or legal document. Processes of transcribing/interpreting from Amharic to English as well as identifying themes, coding, and clustering were carried out.

The nature of research which involves mixed methods for collecting data from different sources required different methods of data preparation and analysis based on scientific principles (Decrop, 1999). Qualitative analysis is largely based on words, texts or contextualized forms that needs to be done through sequential fundamental steps of analysis to avoid writing imprecise explanation or interpretation (Neuman, 2003). Content analysis has become a hybrid analysis approach that focuses more on qualitative aspects to strengthen advantages of quantitative procedure in interpreting formal aspects of materials was applied (Neuman, 2003).

Descriptive statistics, such as mean, mode, median, frequencies and standard deviation were used. SPSS version 22 used to organize, tabulate and graph data for interpretation. Descriptive analysis of data using measures of central tendency and variation followed by more sophisticated inferential analysis, examine confidence intervals and effect sizes to report results as basis for inferences about the large population.

2.9. Quality Assurance Mechanisms

Quality of this study was assured through preparation of standardized data gathering instruments, presentations, progress reports, meetings with stakeholders, end-users and so forth. Collecting valuable comments, monitoring data validity and reliability, data verification, triangulation, dedication, team spirit, performance appraisal evaluation, presenting output through seminars, conferences and publications are also other means.

3. Results and Discussion

3.2 Ecotourism in Mekit

Majority of the respondents were leading their lives through mixed agricultural practice 185(98.4%) and trading 3(1.6%). About 186(96.8%) respondents believed that natural resources conservation practice is right to ecotourism development whereas the remaining 6(3.2%) were not. Evaluation towards ecotourism development benefit and natural resource conservation practice has been done in Hana Mequat (22.9%), Wajla (14.9%), AyneAmba (15.4%), Boye (11.2 %), Atero (20.7%), and Yedekulach (14.9 %). Most respondents 179(95.2%) were participating on natural resources conservation practice and ecotourism development while the remaining 9(4.8%) were not participating. Again 182(96.2 %) respondents perception towards the increasing of plant species coverage on each site was positive while 6(3.2%) respondents disagreed.
Figure 1: Respondents understanding on the level of natural resource status in Mekit

As indicated in the above figure 1, 182(96.8%) respondents said that the level of natural resource status in the ecotourism site is showing an increment but the remaining 6(3.2%) respondents were disagreeing. Arnstein (1969) established a ladder of citizen participation that acknowledges community participation is the means how citizens can induce significant social reforms to share benefits of affluent society by devising 8 rungs ladder. Community participation can be influenced by the level of awareness, availability of startup money, government consent, mistrust of authorities to local community, conflicting interest and administration system; inclusion of stakeholders, recognition of individual and mutual benefits, appointment of legitimate convener, perception, formulation of aims and objectives (Kibicho, 2008); coordination among stakeholders, information disseminations, awareness, administrations structure and systems.

Therefore, local community participation is a widely accepted criterion of sustainable tourism (Cole, 2006) and community development, who ultimately controls and benefits from tourism (Telfer, 2003). Organizational support for community participation in tourism development is appearing worldwide in the form of cooperation, conferences, and projects (Harrison, 2003). Tourism has become a prime hope and one of the mechanisms of tackling poverty in Sub-Saharan Africa countries including Ethiopia to accomplish social rehabilitation and development.

Being endowed with the abundance of natural heritage, Mekit has great potential that is yet to be capitalized on (Frost & Shanka, 2002). Ethiopian government aimed to utilize its tourism development potentials for community development both in rural and urban areas (MoCT, 2009). This is due to the belief that tourism industry is well placed as one of the major means through which development of local communities can be achieved by involving local communities and ensures that their potential role is tapped and maintained through active participation in the industry (Beeton, 2006).

Thus, results above and various literatures confirmed that if local communities are participated and empowered, there would be a chance to rehabilitate and increase their natural resource coverage to Mekitecotourism sites.

3.2 Natural Resources Conservation Practice in Mekit

<table>
<thead>
<tr>
<th>Items</th>
<th>N Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soil conservation practice</td>
<td>188</td>
<td>1.00</td>
<td>5.00</td>
<td>4.3404</td>
</tr>
<tr>
<td>Water storing and sipping practice</td>
<td>188</td>
<td>3.00</td>
<td>5.00</td>
<td>4.5053</td>
</tr>
<tr>
<td>Afforestation program</td>
<td>188</td>
<td>2.00</td>
<td>5.00</td>
<td>4.6755</td>
</tr>
</tbody>
</table>
Reforestation program & 188 & 4.6809 & 0.56099
Different practice to restore degraded land & 188 & 4.7287 & 0.44581
Rule and regulation for conservation & 188 & 4.6649 & 0.67771
Zoning for natural resource conservation & 188 & 4.5851 & 0.97465
Ecotourism site has clear demarcation & 188 & 4.1223 & 1.36845
There are other alternative livelihood options in ecotourism site & 188 & 2.2394 & 1.61581
There are resettlement practice & 188 & 3.2553 & 1.31983

Valid N (listwise) & 188

N = Number of Respondents, Mi = Minimum, Max = Maximum, M = Mean, Std = Standard Deviation

The above table 1 results on soil conservation practice (M=4.3404, Std=1.02954), water storing and sipping practice (M=4.5053, Std=0.57112), afforestation program (M= 4.6755, Std=0.71353), reforestation program (M= 4.6755, Std=0.71353), different practice to restore degraded land (M=4.7287, Std=0.44581), rule and regulation for conservation (M=4.7287, Std=0.67771), zoning for natural resource conservation (M=4.5851, Std=0.97465) and ecotourism site has clear demarcation (M=4.1223, Std=1.36845) indicated that they have been fully performed in Mekit.

However, other alternative livelihood options in ecotourism sites (M=2.2394, Std =1.61581) and resettlement practice (M=3.2553, Std=1.31983) were not fully implemented. This due to that impact of tourism on host governments and residents has become more widely recognized that planners and entrepreneurs must take the view of the host community into account if the industry is to be sustainable in the long term (Williams, J; Lawson, R, 2001). Deconstruction of the tourist-local dichotomy, where tourist and tourism have been accepted increasingly as more meaningful human activities, can contribute to the valuation of a tourism based community in this post-modern era (Wearing & McDonald, 2002). Who will be involved in decisions on tourism still emerge when demographic and economic changes are occurring within local communities (Reed, 1997).

Community tourism analysts tend to assume implicitly, planning and policy process is a pluralistic one in which people have equal access to economic and political resources (Reed, 1997). In fact, Jamal & Getz (1995) argue that residents' opinions on tourism development within the community can vary greatly depending on scale of tourism development, perception of benefits and overall sustainability of destination. Davis & Morais (2004) agree that there are studies that have shown attitudes toward rural tourism development differ depending on whether the people are business owners, planners, politicians, developers, workers, residents or members of certain ethnic groups.

### 3.3 Local Community Perceptions on Ecotourism Benefits

#### Table 2: Perceptions towards ecotourism benefits

<table>
<thead>
<tr>
<th>Items</th>
<th>N</th>
<th>Mi</th>
<th>Max</th>
<th>M</th>
<th>Std</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ecotourism reduced soil erosion</td>
<td>188</td>
<td>1.00</td>
<td>5.00</td>
<td>4.6809</td>
<td>0.84287</td>
</tr>
<tr>
<td>Ecotourism increase water potential</td>
<td>188</td>
<td>3.00</td>
<td>5.00</td>
<td>4.8085</td>
<td>0.44545</td>
</tr>
<tr>
<td>Ecotourism encourages plant diversity</td>
<td>188</td>
<td>3.00</td>
<td>5.00</td>
<td>4.8191</td>
<td>0.46164</td>
</tr>
<tr>
<td>Ecotourism restore degraded land</td>
<td>188</td>
<td>1.00</td>
<td>5.00</td>
<td>4.7660</td>
<td>0.66099</td>
</tr>
<tr>
<td>Ecotourism increases biodiversity</td>
<td>188</td>
<td>2.00</td>
<td>5.00</td>
<td>4.7872</td>
<td>0.54473</td>
</tr>
<tr>
<td>Eco-tourism encourages local community to conserve the site</td>
<td>188</td>
<td>3.00</td>
<td>5.00</td>
<td>4.7553</td>
<td>0.54107</td>
</tr>
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</table>

Valid N (listwise) & 188

N = Number of Respondents, Mi = Minimum, Max = Maximum, M = Mean, Std = Standard Deviation

The above table 2, assessment mean and standard deviation values of the respondents towards local community perceptions on ecotourism benefits demonstrated that there are a maximum average mean regarding benefit on ecotourism reduced soil erosion (M=4.6809, Std=0.84287), ecotourism increase water potential (M=4.8085, Std=0.44545), ecotourism encourages plant diversity (M=4.8191,
Std=0.46164), ecotourism restore degraded land (M=4.7660, Std=0.66099), ecotourism increases biodiversity (M=4.7872, Std=0.54473), ecotourism encourages local community to conserve ecotourism site (M=4.7553, Std=0.54107).

Therefore, the result above summarized as local communities who are settled around Mekit have excellent understanding on ecotourism development benefit. Regardless of continuing discourse on tourism development and its impacts, there was consensus that needs to focus on relationship between positive and negative impacts of tourism activity (Jafari, 1990). Applying the principles of sustainable development, knowledge-based approach aims to achieve economic, environmental and socio-cultural sustainability that demands consideration of relationship between positive and negative impacts of tourism as well trade-offs.

3.4 Challenges on Natural Resources Conservation Practice

Table 3: Human made challenges on natural resources conservation

<table>
<thead>
<tr>
<th>Items</th>
<th>N</th>
<th>Mi</th>
<th>Max</th>
<th>M</th>
<th>Std</th>
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</thead>
<tbody>
<tr>
<td>Agricultural land expansion</td>
<td>188</td>
<td>1.00</td>
<td>5.00</td>
<td>4.4362</td>
<td>1.09991</td>
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<tr>
<td>There are deforestation</td>
<td>188</td>
<td>1.00</td>
<td>5.00</td>
<td>4.6330</td>
<td>1.61820</td>
</tr>
<tr>
<td>Illegal hunting</td>
<td>188</td>
<td>1.00</td>
<td>5.00</td>
<td>3.0745</td>
<td>90441</td>
</tr>
<tr>
<td>Use free grazing</td>
<td>188</td>
<td>1.00</td>
<td>5.00</td>
<td>3.9840</td>
<td>1.19480</td>
</tr>
<tr>
<td>Increasing settled population</td>
<td>188</td>
<td>1.00</td>
<td>5.00</td>
<td>4.2819</td>
<td>1.02914</td>
</tr>
<tr>
<td>Locals doesn’t have sense of ownership</td>
<td>188</td>
<td>1.00</td>
<td>5.00</td>
<td>3.9043</td>
<td>1.27560</td>
</tr>
<tr>
<td>Road construction</td>
<td>188</td>
<td>1.00</td>
<td>5.00</td>
<td>3.6223</td>
<td>1.47018</td>
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<tr>
<td>Human wild life conflict</td>
<td>188</td>
<td>1.00</td>
<td>5.00</td>
<td>3.1968</td>
<td>87055</td>
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<td>Land ownership problem</td>
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<td>5.00</td>
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<td>1.53823</td>
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<td>There are no voluntary evacuation</td>
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<td>1.00</td>
<td>5.00</td>
<td>3.1064</td>
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<td>Low perception of community towards natural resource conservation</td>
<td>188</td>
<td>1.00</td>
<td>5.00</td>
<td>2.2021</td>
<td>1.32099</td>
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<tr>
<td>There are government participation</td>
<td>188</td>
<td>1.00</td>
<td>5.00</td>
<td>4.3245</td>
<td>1.50792</td>
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<td>There are coordination b/n stakeholders</td>
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<td>1.00</td>
<td>5.00</td>
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<td>1.46847</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>188</td>
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</table>

N = Number of Respondents, Mi= Minimum, Max = Maximum, M= Mean, Std = Standard Deviation

As the result is shown in the above table 3, ecotourism site of Mekit has been highly challenged due to agricultural land expansion, deforestation and population expansion. Mean and standard deviation values of respondents showed that ecotourism site of Mekit has been still affected by illegal hunting, local communities have no sense of ownership, free grazing, human wildlife conflict, land ownership problems, involuntary evacuation of local communities from their site, less government participation, poor collaboration and coordination among stakeholders.

Table 4: Natural challenges on natural resources conservation

<table>
<thead>
<tr>
<th>Items</th>
<th>N</th>
<th>Mi</th>
<th>Max</th>
<th>M</th>
<th>Std</th>
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<td>Wildlife disease</td>
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<td>Climate change</td>
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<td>1.00</td>
<td>5.00</td>
<td>3.0638</td>
<td>96803</td>
</tr>
<tr>
<td>Wild fire</td>
<td>188</td>
<td>1.00</td>
<td>5.00</td>
<td>2.5638</td>
<td>88431</td>
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<td>Wild animal conflict</td>
<td>188</td>
<td>1.00</td>
<td>5.00</td>
<td>2.4628</td>
<td>81016</td>
</tr>
<tr>
<td>Wild animal migration</td>
<td>188</td>
<td>1.00</td>
<td>5.00</td>
<td>2.9043</td>
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</tr>
<tr>
<td>Valid N (listwise)</td>
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</table>

N = Number of Respondents, Mi= Minimum, Max = Maximum, M= Mean, Std = Standard Deviation
The above table 4, showed that ecotourism site of Mekit is relatively moderate from naturally caused catastrophes such as wildlife disease (M=2.8138, Std=1.11979), climate change (M=3.0638, Std=0.96803), wild fire (M=2.5638, Std=0.88431), wild animal conflict (M=2.4628, Std=0.81016), and wild animal migration (M=2.9043, Std=0.73228).

**Table 5: Paired sample T-test on local community Vs natural resource conservation participation**

<table>
<thead>
<tr>
<th>Items</th>
<th>t</th>
<th>df</th>
<th>Std. Deviation</th>
<th>Sig (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid N (listwise)</td>
<td>17.150</td>
<td>187</td>
<td>1.85411</td>
<td>.001</td>
</tr>
</tbody>
</table>

The above table 5 paired sample T-test result (0.001 < 0.05) showed that there are no a significant difference between local communities participation and natural resources conservation practices.

**Table 6: Pearson correlation on local community Vs natural resources conservation participation**

<table>
<thead>
<tr>
<th>Items</th>
<th>Mean</th>
<th>Co</th>
<th>t</th>
<th>df</th>
<th>Std. Deviation</th>
<th>Sig (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keble</td>
<td>3.3670</td>
<td>-.213</td>
<td>17.150</td>
<td>187</td>
<td>1.79672</td>
<td>.003</td>
</tr>
<tr>
<td>Participation</td>
<td>1.0479</td>
<td></td>
<td></td>
<td></td>
<td>21407</td>
<td></td>
</tr>
</tbody>
</table>

The above table 6 result indicated that local community participation on natural resources conservation practice is uncorrelated or negatively correlated (-0.21317). The significant value from table 7 also confirmed that there are no a significant difference between local communities and natural resources conservation participation.

**Table 7: One way ANOVA of sex Vs perception of locals towards natural resources conservation**

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>.982</td>
<td>1</td>
<td>.982</td>
<td>8.212</td>
<td>.005</td>
</tr>
<tr>
<td>Within Groups</td>
<td>22.252</td>
<td>186</td>
<td>.120</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>23.234</td>
<td>187</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The above table 7 one way ANOVA result (0.005 < 0.05) showed that there are a significant difference between groups’ sex and perceptions of local communities towards natural resources conservation practices.

**Table 8: Sex Vs local community perceptions towards participation on natural resource conservation**

<table>
<thead>
<tr>
<th>X²</th>
<th>Value</th>
<th>df</th>
<th>Sig. (2-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex Vs participation</td>
<td>911</td>
<td>1</td>
<td>.340</td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>188</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The above table 8 X² result (0.340 > 0.05) indicated that there is no statically associations between sex and perceptions of local communities towards natural resources conservation practices.

**Table 9: Age Vs local community participations on natural resources conservation**

<table>
<thead>
<tr>
<th>X²</th>
<th>Value</th>
<th>df</th>
<th>Sig. (2-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age Vs participation</td>
<td>10.076a</td>
<td>3</td>
<td>.018</td>
</tr>
</tbody>
</table>

The above table 9 X² result (0.018 < 0.05) demonstrated that there is statically associations between sex and participation of local communities towards natural resources conservation practices.

**Table 10: Education Vs local community participations towards natural resources conservation**

<table>
<thead>
<tr>
<th>X²</th>
<th>Value</th>
<th>df</th>
<th>Sig. (2-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education Vs participation</td>
<td>72.819</td>
<td>4</td>
<td>.000</td>
</tr>
</tbody>
</table>
The above table 10 X² result (0. 000<0.05) showed that there is no statically associations between educational level and participation of local communities towards natural resources conservation.

Acknowledgement

We would like to extend great appreciation to all participants of respondents, research members and financial support of University of Gondar. Without support of all the above mentioned individuals, institutions and others, this study would not have been completed successfully.

References


