

TFCG Technical Paper 50

Addressing gender disparities in community-based forest management in Tanzania

Professor John Jeckoniah and
Professor Suzana Augustino

Morogoro
2022

This report was prepared by:

Professor John Jeckoniah and Professor Suzana Augustino of Sokoine University of Agriculture

On behalf of the project:

Conserving Forests through sustainable, forest-based Enterprise Support in Tanzania' – CoForEST.

The goal of the project is to achieve a sustainable, pro-community natural forest management that transforms the economics and governance of the forest products value chains and contributes to climate change mitigation and adaptation.

The project is designed to achieve its overall goal through three inter-related Outcomes:

Outcome 1: The capacity of national, regional and local authorities and community members is strengthened to implement and scale-up CBFM in ways that diversify livelihoods and reduce deforestation.

Outcome 2: A supportive policy framework and financing mechanism for community based forest management and sustainable natural forest based enterprises is in place

Outcome 3: Research and learning institutions in Tanzania are generating new knowledge about enterprise oriented CBFM and are integrating this in student learning.

The project is financed by the Swiss Agency for Development and Cooperation and is implemented by the Tanzania Forest Conservation Group in partnership with the Tanzania Community Forest Conservation Network (MJUMITA)

Recommended citation: Jeckoniah, J and S. Augustino. 2022. Addressing gender disparities in community based forest management in Tanzania. TFCG Technical Paper 50. p. 43



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

TABLE OF CONTENTS

TABLE OF CONTENTS ii

EXECUTIVE SUMMARY	iv
LIST OF ABBREVIATIONS AND ACRONYMS	vi
1.0 INTRODUCTION	1
1.1 Background information	1
1.2 Objectives of the Assignment	2
2.0 APPROACH AND METHODOLOGY	2
2.1 Research Approaches	2
2.2 Action research	2
2.3 Data collection approaches and procedures	3
Table 1: List of surveyed villages in the project areas	4
2.4 Capacity building	4
3.0 Literature Review	4
3.1 Gender in forestry and natural resources	5
3.1.1 Strengthening women’s participation (Forest User Groups)	7
3.1.2 Strengthening forest, land, and tree tenure rights (Advocacy and campaign)	7
3.1.3 Equitable benefit-sharing mechanisms (Payment for Ecosystem Services: PES)	7
3.1.4 Supporting local institutions, networks, and platforms related to forest landscapes	7
3.1.5 Strengthening women’s access to credit and value chains for forest-related activities and enterprises	8
3.1.6 Building knowledge and skills of women	8
3.1 CBFM, Gender and Climate change	8
4.0 Findings and Discussions	9
4.1 Overcoming the economic, social, cultural, political and legal factors that limit women and other disadvantaged groups from influencing and accessing CBFM benefits	9
4.1.1 Regular education on gender and sustainable management of the CBFM resources	10
4.1.2. Promote development of entrepreneurship activities	12
4.1.3 Support formation of Gender groups in economic activities for livelihood improvement	14
4.1.4 Supporting establishment of secured markets for CBFM products	16
4.1.5 Supporting law enforcement in CBFM implementation	16
4.3 Gender and climate change in CBFM areas in terms of mitigation, coping and adaptation	16
4.4 Proposed strategies to address gender disparities in CBFM	17
4.5 CBFM-related value chains enabling technology for gender empowerment	20
4.6 Synthesis of the gender gaps in CBFM	21
4.7 Gender responsive intervention to close the CBFM related gaps	23
4.7.1 Strengthening Women’s Participation	24
4.7.2 Strengthening Forest, Land and Tree Tenure Rights	24

4.7.3 Designing Equitable Benefit-Sharing Mechanisms	25
4.7.4 Supporting inclusive Local institutions, Networks and Platforms Related to Forest Landscapes	25
4.7.5 Strengthening Women's Access to Credit and value Chains for Forest-Related Activities and Enterprises	26
4.7.6 Building Knowledge and Skills	26
5.0 Conclusions	27
5.1 Recommendations	27
Strengthening Women's Participation	27
Strengthening Forest, Land and Tree Tenure Rights	27
Designing Equitable Benefit-Sharing Mechanisms	28
Supporting inclusive Local institutions, Networks and Platforms Related to CBFM	28
6.0 REFERENCES	29
APPENDICES	31
Appendix 1: Research Questions/Guide for KI and FGD	31

EXECUTIVE SUMMARY

The rationale for addressing gender inequality in CBFM and in forestry related resources is acknowledged in literatures for two main reasons: addressing gender disparity as a rights-based issue to reduce gender inequalities and enable all people to have the right to fair and equal treatment. And, the fact that some opportunities are missed and investments are not effective and efficient in impacting sustainably into people's livelihood because of ignoring gender issues and or implementing gender blind policies. This action research was undertaken to explore strategies to address gender disparities in CBFM in order to propose strategies to: overcome the economic, social, cultural, political and legal factors that limit women and other disadvantaged groups from influencing and accessing CBFM benefits; support the development of CBFM enterprises for livelihood improvement for women and other disadvantaged groups, with an emphasis on sustainable harvesting, processing, value-addition and marketing; change labour networks and the production processes to benefit women and marginalized groups; promote the use of enabling technology for gender empowerment in CBFM-related value chains; understand gender and climate change in CBFM areas.

This study involved communities both men, women, youth, other disadvantaged groups and their local organizations as well as the local government authorities especially the grassroots representatives. The methodology adopted mixed methods within a Participatory Action Research (PAR) approach whereby Key informants, Focus Group Discussion and documentary review were used for data collection. Nine villages were selected from three districts of Morogoro region: Kilosa, Mvomero and Morogoro rural. In each village surveyed, the consultant held a half day participatory meeting to get the local context on how the economic, social, cultural, political and legal factors that limit women and other disadvantaged groups from influencing and accessing CBFM benefits could be used as opportunities for change as well as empowerment and other important emerging issues. This was followed by data collection using Focus Group Discussions, Key informant interviews and documentary. The analysis and interpretation of the collected data was done using content analysis and action plan developed in order to get the participants views on strategies to be adopted to address key issue identified in the survey.

The findings revealed that, in order to overcome the economic, social, cultural, political and legal factors that limit women and other disadvantaged groups from influencing and accessing CBFM benefits, it is important that regular provision of education on gender and sustainable management of the CBFM resources both timber and Non-Timber Forest Products (NTFPs); strengthening development of entrepreneurship activities; supporting formation of youth and women groups engaged in economic activities for livelihood improvement; supporting establishment of secured markets for CBFM products including value chain addition as well as linkages with proper communication become continuous activities in the study villages.

The synthesis of the findings from the surveyed villages suggest that it was hypothesized that the combined initiatives to address poverty and improve the

livelihood of the people engaged in the management of the CBFM will positively impact on reducing gender disparity.

Conclusions

In order to overcome the economic, social, cultural, political and legal factors that limit women and other disadvantaged groups from influencing and accessing CBFM benefits, it is important that regular provision of education on gender and sustainable management of the CBFM resources both timber and Non-Timber Forest Products (NTFPs); strengthening development of entrepreneurship activities; supporting formation of youth and women groups engaged in economic activities for livelihood improvement; supporting establishment of secured markets for CBFM products including value chain addition as well as linkages with proper communication become continuous activities in the study villages. Training should focus on strengthening women and other disadvantaged groups participation in CBFM through engaging them more in the design of institutional framework for CBFM and forest related policy making, formation of groups, networks, and inclusive forest-related platforms, awareness-building actions on their role in forestry value chains, including charcoal, timber and NTFP's and supporting women in forest leadership positions. Climate change have been observed to have impacted gender differently based on roles and responsibilities at community level as far as CBFM benefits are concerned. Water scarcity and decline in other CBFM benefits and inability to engage fully in charcoal business during rain seasons seem to have higher impacts to women and other disadvantaged groups than men.

Recommendations

From the findings it is recommended that capacity building in value addition concept and marketing opportunities for major CBFM products like charcoal, timber and other CBFM related resources need to be up scaled to wider community members including those surrounding projects villages in order to overcome the economic, social, cultural, political and legal factors that limit women and other disadvantaged groups from accessing and benefiting from the resources. The proposed interventions to address gender disparities in the CBFM as observed in this study should also be taken into consideration

LIST OF ABBREVIATIONS AND ACRONYMS

CBFM	Community Based Forest Management
CIFOR	Centre for International Forestry Research
CoForEST	Conserving Forests through sustainable, forest-based Enterprise Support in Tanzania
DAO	District Agricultural Officer
DCDO	District Community Development Officer
DFO	District Forest Officer
DNRO	District Natural Resource Officer
FORVAC	Forestry and Value Chains Development
JFM	Joint Forest Management
KII	Key Informant Interview
LGA	Local Government Authorities
MJUMITA	Mtandao wa Jamii wa Usimamizi wa Misitu Tanzania
MNRT	Ministry of Natural Resources and Tourism
NGOs	Non-Governmental Organizations
PFM	Participatory Forest Management
PORALG	President's Office for Regional Administration and Local Government
SDC	Swiss Agency for Development and Cooperation
SUA	Sokoine University of Agriculture
TAFORI	Tanzania Forestry Research Institute
TFCG	Tanzania Forest Conservation Group
TFS	Tanzania Forest Services Agency
TTCS	Transforming Tanzania's Charcoal Sector Project
VEO	Village Executive Officer
VLSA	Village Savings and Loan Association
VLUMC	Village Land Use Management Committees
WEO	Ward Executive Officer

ACKNOWLEDGEMENTS AND DISCLAIMER

We wish to acknowledge with appreciation the Tanzania Forest Conservation Group for contracting us to undertake this assignment. We are also thankful to the TFCG project team for availing us adequate cooperation and guidance during data collection in the project villages; particularly logistical arrangements that made the whole exercise successful.

We extend our acknowledgements to all the respondents. Local government leaders in different levels and community leaders; administrative and technical staff at all levels for their cooperation to avail information required in this study. We received valuable information, assistance and hospitality from different people. While we acknowledge with thanks all those who availed information to us, we are however solely responsible for any errors, omissions of interpretation, oversights and any other lapses that may be found in this report.

1.0 INTRODUCTION

1.1 Background information

With financial support from the Swiss Agency for Development and Cooperation (SDC), the Tanzania Forest Conservation Group (TFCG) in partnership with the Tanzanian Community Forest Conservation Network (MJUMITA) are implementing the project 'Conserving Forests through sustainable, forest-based Enterprise Support in Tanzania' CoForEST. The overall project goal is to enhance a sustainable, pro-poor community natural forest management that transforms the economics and governance of the forest products value chains and contributes to climate change mitigation and adaptation. It has been reported that compared with men, women are frequently disadvantaged for a range of interrelated cultural, social, economic and institutional reasons – in their access to and control over forest resources, and in the economic opportunities available to them. The CoForEST project aims to bring about change that results in women's and men's opportunities and life chances becoming and remaining equal, including the right for women and men to be different.

Under the previous phase of the CoForEST project, known as the Transforming Tanzania's Charcoal Sector project, a review of the project's work on gender was carried out. The review provided recommendations on gender mainstreaming in Phase 3 planning to undertake research on gender as reflected in the CoForEST project document which commits the project to conduct research on 'gender disparities in the distribution of benefits from CBFM; and an evaluation of strategies to address gender disparities.' While the focus of the first CoForEST gender research in 2020, was on the nature of gender disparities in CBFM, the focus for this research will be on strategies to address gender disparities. The research on gender that was carried out through the CoForEST project in 2020 addressed eight research objectives that had been prioritised in a multi-stakeholder consultation process. These broadly sought to understand the gender disparities in CBFM and forest-based enterprises.

The conclusions from the 2020 CoForEST research on gender and CBFM recommended action research on strategies to address gender disparities in the following priority areas: *overcoming the economic, social, cultural, political and legal factors that limit women and other disadvantaged groups from influencing and accessing CBFM benefits*; the development of CBFM enterprises for livelihood improvement for women and other disadvantaged groups, with an emphasis on sustainable harvesting, processing, value-addition and marketing; changing labour networks and the production processes to benefit women and marginalised groups; the use of enabling technology for gender empowerment in CBFM-related value chains; *gender and climate change in CBFM areas – mitigation, coping and adaptation strategies as well as access to emerging issues like REDD+ and associated co-benefits*.

Therefore, this research is a response to this call in order to generate practicable recommendations to achieve greater gender equity in CBFM and sustainable forest

products value chains. This study generates empirical evidence to address the key priority areas mentioned above based on their inherent nature of the relationship and associations. Therefore, the empirical evidence required for priority areas specified under (ii) to (iv) are implied in the two overarching priority areas.

1.2 Objectives of the Assignment

To contribute new knowledge on strategies to address gender disparities in community-based forest management and sustainable forest-based enterprises, including charcoal production. The research contributes to two of the topics recommended in the 2020 CoForEST gender study to generate practicable recommendations to achieve greater gender equity in CBFM and sustainable forest product value chains. Specifically, the study collected and analysed information on strategies to:

- i) Overcoming the economic, social, cultural, political and legal factors that limit women and other disadvantaged groups from influencing and accessing CBFM benefits;
- ii) Assess gender and climate change in CBFM areas in terms of mitigation, coping and adaptation strategies.

2.0 APPROACH AND METHODOLOGY

2.1 Research Approaches

This study adopted action research approaches where involvement of communities both men, women, youth, other disadvantaged groups and their local organization as well as the local government leadership especially the grassroots representatives was the main focus. This approach provided robust evidence to substantiate the conclusions and recommendations for the objectives for this work. The empirical evidence provides solution-oriented that examine different strategies for promoting gender equity in CBFM and forest-based enterprises. The methodology adopted the mixed methods within a Participatory Action Research (PAR) approach.

2.2 Action research

This method is appropriate for analysing the social and environmental issues, including forestry. The research process itself is designed to have direct positive impacts on the research group, i.e., the stakeholders. At the centre of this is the fact that research in PAR is ideally conducted by the local people, working with other stakeholders for the local people, and other stakeholders creating a win: win situation. PAR ensures 'systematic inquiry involving the collaboration of those affected by the issue being studied for purposes of education and taking action or effecting change' (Green *et al.*, 2003), with the belief that this research method can contribute to increasingly resilient ecosystems and communities. In this complex social and ecological systems PAR used both traditional and scientific knowledge,

as well as addressing the fundamental social (and political) context in which the knowledge is utilized (Ballard and Belsky 2010).

The study adopted participatory observation, community meetings, resource mapping, testimonials and engagement with state authorities to reflect and learn from them while collecting evidences that was used to address gender inequality issues. In this study participant observation as a qualitative approach to collect social data, consultants were part of the participants with shared identity to gain deep understanding and familiarity with the community values, beliefs and way of life as related to CBFM implementation. Community meetings was used through Focus Group Discussions where participants from diverse socio groups that is women, men, youth, knowledgeable elders and village authorities gathered together to share views with consultants on key issues as guided by checklists. Resources mapping was used as a strategy to identify and analyse information from participants on CBFM resources as related to gender empowerment as well as climate change mitigation and adaptation.

During data collection also, different models and initiatives that have been used to mainstream gender and reduce the inequalities in forest related enterprises of the study sites were analysed while at the same time triangulating with approaches used by various practitioners in other areas. Since the aim of the study was to come up with solutions not just those piloted by the project-therefore different approaches to addressing gender-related issues were considered an assessment on how such initiatives were successful or not was done. and trialled during the PAR. Participants were requested analyse and compare the relevance and applicability of the different strategies including those proposed in the CoForEST project to combat gender inequalities and promote equality in order to get their world view on how they anticipated things to work in their favour. The analysis was useful in establishing and proposing feasible practices for actors involved in the forestry related enterprises in the promotion of equality between men, women and other disadvantaged groups in participatory manner. However, apart from the CoFOrEST intervention on gender mainstreaming, there has been no other project that had its intervention focusing on addressing gender inequalities. Most of other development projects were focused on addressing poverty in general and some focused on addressing practical gender needs e.g. access to water, education, infrastructure, afforestation, food security in which gender was acknowledged to be the crosscutting issue.

2.3 Data collection approaches and procedures

In each of the nine villages surveyed (Table 1), the consultant held a half day participatory meeting to get the local context on how the economic, social, cultural, political and legal factors that limit women and other disadvantaged groups from influencing and accessing CBFM benefits could be used as opportunities for change as well as empowerment and other important emerging issues. This was followed by data collection using focus group discussions and Key informant interviews. The analyses and interpretation of the collected data was done and action plan

developed in order to get the participants views on strategies to be adopted to address key issue identified in the survey.

Table 1: List of surveyed villages in the project areas

SN	District		Village	Date of visit
1	Kilosa	1	Msimba	11.11.2021
		2	Ulaya Mbuyuni	13.11.2021
		3	Kitunduweta	12.11.2021
2	Mvomero	4	Maharaka	15.11.2021
		5	Msongozi	18.11.2021
		6	Kihondo	17.11.2021
3	Morogoro district	7	Diguzi	20.11.2021
		8	Mlilingwa	23.11.2021
		9	Matuli	19.11.2021

2.4 Capacity building

In the undertaking of this research, the district level staffs especially those working in the community development and natural resources were involved in analysing the community developed action plans to address gender disparities in the management of CBFM resources and benefits. The consultant involved two masters' students (specializing towards, natural resources, development studies or gender) as research assistant. Their engagement in the study improved their hands-on skills in doing action research especially in data collection, analysis methods and techniques.

3.0 Literature Review

An extensive review of literature was undertaken to review and analyse various strategies implemented by development organisation, NGOs, government and local government or community authorities. In this section a review of what has been tried and what has been learned about those different approaches i.e., the pros and cons of different tried and tested strategies and how the lessons learned from those approaches link with the proposed approach of the study. Such strategies were tested in the field survey in order to assess its applicability and propose practicable strategies for addressing gender disparities in forest resources and enterprises in the project and under Tanzanian context. The identified strategies were examined to develop different options for promoting gender equity in CBFM and forest-based enterprises. During action research in the field, we collected data on which strategies have worked best elsewhere and the ones that may not work in our context, despite the fact that these strategies might have worked better in other

places. The opinion of the local people, including community leaders and local government authorities engaged during this action research, were taken as an important input towards developing the strategies and recommendations.

3.1 Gender in forestry and natural resources

Gender-differentiated roles and responsibilities in forest landscapes have widely been recognized where women are increasingly identified as change agents and eco-friendly managers to influence the development and deployment of solutions. However, gaps still exist in multiples frontiers and require attention. The gaps include participation, leadership, trees and land tenure, and forest use, division of labour and workloads, skills, ecological knowledge, access to technologies, information, benefits and control over resources, access to credit, markets, employment opportunities and policy engagement (Kristjanson *et al.*, 2019).

Women often use natural resources differently than men yet frequently have minimal influence on how local resources are managed. An emerging hypothesis is that empowering more women in local resource decision-making may lead to better resource governance and conservation (Leisher *et al.*, 2016). The question remains on how gender composition of forest and natural resources management groups in the communities' impact on resource governance and conservation outcomes (Leisher *et al.*, 2016). It is frequently reported in literature (Elias *et al.*, 2017) that, across socio-ecological contexts, traditional ecological knowledge is neither homogeneously distributed within the communities nor concentrated among socially more powerful groups (such as elderly men or higher caste groups) who, in the absence of a gender-responsive approach, are often the ones selected as research participants. Different sets of knowledge across gender and age groups reinforce the understanding that, excluding any segment of the community from the research process, usually yields an incomplete representation of the local knowledge held within the village/communities. Participation of diverse groups is important as knowledge held by the different groups in a community usually overlap and complement each other (Muller *et al.*, 2015).

The importance of including women in forest management groups, for better resource governance and conservation outcomes as well as the linkage of their participation in forestry and fisheries management groups, is connected with better resource governance and conservation outcomes. Some researchers have proposed a more inclusive approach by going beyond the focus on men and women. By isolating 'gender' from other social relations (such as age, class, ethnicity), such views on why gender matters for climate change, risk confusing socially constructed roles and responsibilities with biological sex (Arora-Jonsson, 2011). It is proposed to understand gender-based vulnerability as intersecting with other social relations and contexts; as opposed to earlier studies on climate change which had a narrow focus that ignored the complex, dynamic, and intersecting power relations and other structural and place-based causes of inequality (IPCC, 2014).

Gender-responsive integration, in the management of forests and natural resources, is important for two overarching rationales: first it is a rights-based argument. These

investments and efforts should not maintain gender inequalities, but rather work toward advancing gender equality, as all people have the right to fair and equal treatment. Secondly, many opportunities are missed and investments simply are not as effective and efficient as they potentially could be because of ignoring gender considerations or being gender-blind. Therefore, it is important for project designers, implementers and policy makers, and others making decisions affecting the use of forest and forestry-based resources, to be supported and guided on exactly what gender-responsive project activities and policy actions should be considered, which varies according to context (Kristjanson *et al.*, 2019).

There is consensus in literatures that people living in and around forests are best placed to make the efforts needed to transform their undertakings into more equitable and sustainable systems from both environmental and livelihoods perspectives (Patricia *et al.*, 2019). Thus, issues arising due to gender inequalities should not just be seen as problems, but as potential opportunities to take actions that enhance both gender equality and forest resources management, resulting in transformational change on both fronts. Yet project designers, policy makers, and others making decisions affecting forest resources are not receiving much guidance on exactly what gender-responsive project activities and policy actions should be considered, which varies according to different contexts.

Some of the strategies and initiatives to increase governance of the forest related resources by local actors/villages include awareness creation. For example, the research on the impact of increased awareness on forest governance through the *Mama Misitu* awareness raising campaign in forest adjacent villages in Southern Tanzania (Meinich, 2010) found that awareness raising has a positive effect on forest governance, strengthening the local institutions and in improving the power relations with other forest stakeholders. While the study found that increased awareness at the local level may help to prevent corrupt practices within forest governance. The problem is rather a lack of implementation of existing laws and bylaws, where powerful actors may resist legal enforcement and with the lack of legal knowledge at local level this evasion goes unchallenged. Increased awareness could therefore lead to local pressure for improved law compliance as well as establishing the bylaws that reflect and protect local interests. Further, increased awareness of existing laws would benefit the villagers in the wording of by-laws, making sure they don't violate national laws and thus end up with unenforceable legislation. However, despite the effort to decentralize governance in the forest sector, substantial power remains with the district authorities especially in the benefit sharing at village and household levels. It was proposed that by increasing village forest committee (VFC"s) awareness and competence on legal and management issues, they will be able to defend their village's interests in interactions with the district authorities.

The study by FAO which analysed the gender issues in forestry in Kosovo recommended that in order to increase gender equality in forestry there is a need to formulate and assist rural women working in forestry in establishing women's cooperatives and associations for forest products and the creation of networks. The study further argued that there is a need to establish and or strengthen mutual exchange of information and expertise in support of rural women working in forests

and forestry related resources (FAO, 2017). However, such biased approaches may lack male support in the sharing of the labour for some value chain such as timber, hence less women engagement and benefit.

Many types of policy and program initiatives have been tried, tested, and proven effective including political strategies, program designs, and project cycle activities related to forest landscapes. Thus, there are multiple options to consider for closing gender gaps (Kristjanson and Jensen 2018; Marin and Kuriakose 2017). To help overcome the most common types of gender gaps identified in forestry and forestry related resources, six general approaches to gender disparities in forestry policy initiatives have been suggested. These include:

3.1.1 Strengthening women's participation (Forest User Groups)

Forest agencies have historically been male dominated, and timber-related jobs are seen as men's work. As a result, women usually have limited access to information related to forest management (Agarwal, 2001). When women do participate in forest user groups, there is evidence that improved forest condition is a result which has a multiplier effect (Coleman and Mwangi 2015; Leisher *et al.* 2016)

3.1.2 Strengthening forest, land, and tree tenure rights (Advocacy and campaign)

Despite a constitutional right guaranteeing equal access and inheritance of land, it is still not happening in practice in many local contexts. Secure land rights empower women to participate more actively in community-level institutions, including those involved in forest management (Giovarelli *et al.*, 2013). Research evidence shows links between women's land rights and enhanced decision-making power on food choices, nutritional, and educational outcomes at the household level

3.1.3 Equitable benefit-sharing mechanisms (Payment for Ecosystem Services: PES)

The benefits associated with PES can go to individuals, communities, organizations, government agencies, and businesses. The equitable benefit-sharing approaches has been argued to impact on gender transformation for equity (IUCN, 2009)

3.1.4 Supporting local institutions, networks, and platforms related to forest landscapes

There is evidence that organizing women into groups for effective collective action can help them overcome their reluctance to speak out, act, or intervene. This is particularly important for obtaining credit, machinery and tools, access to resources and support services, as well as bulking products to access new markets (Shackelton *et al.*, 2011). Excluding women from community forest groups has been found to have negative efficiency consequences as well as social ones (Agarwal 2001; Agarwal *et al.*, 2006).

3.1.5 Strengthening women's access to credit and value chains for forest-related activities and enterprises

These are interventions aimed at strengthening equitable access to credit which are badly needed in many countries. These include credit programs targeted at women and other traditionally less empowered groups involved in forestry and forestry related enterprises such as non-timber forest products (NTFPs) activities, for example women's roles in forest-related value chains benefit more if these value chains become more gender equitable

3.1.6 Building knowledge and skills of women

Empowering women (and men) in forestry and forestry related enterprises have been undertaken using a wide range of supportive actions, including targeted trainings, technology transfer, business skills development, leadership and negotiation capacity strengthening, and enhanced access to and ability to use market information (Haverhals *et al.*, 2014; Ingram *et al.*, 2016). However, there is considerable overlap between these approaches. For example, actions aimed at strengthening women's participation will also strengthen local institutions. Some gender gaps (and solutions) are more challenging and take longer to address than others. For example, changing laws is more difficult and takes longer than implementing specific project activities at the individual or community level. Other gaps that affect women cannot be addressed directly, but rather need to be worked out at the community governance level. This requires engaging with community authorities and is often based on customary rules. Complicated, local gender gap issues can require creative solutions that, in many cases, are essential precursors for the success of more direct solutions. For example, if community authorities are not willing to accept more inclusive participation of women, then direct support to women on technical/managerial skills may not work.

3.1 CBFM, Gender and Climate change

The effects of climate change and climate variability on forest ecosystems are evident around the world and further impacts are unavoidable. In the forest sector, adaptation encompasses changes in management practices designed to decrease the vulnerability of forests to climate change and interventions intended to reduce the vulnerability of people to climate change. Climate change mitigation describes any action taken to reduce the amount of GHGs in the atmosphere and the potential effects of global warming. These actions might include curbing fossil fuel use, developing sustainable energy sources, reducing deforestation, and increasing reforestation. Forest-based climate change mitigation strategies include: reducing CO₂ emissions produced by deforestation; improving forest management practices to reduce emissions from forest degradation; and increasing forest cover through afforestation and reforestation to increase carbon sequestration. SFM policies and practices, effective forest protection, and increasing the economic returns from non-destructive uses of forest, such as NTFP collection and nature-based tourism, can also help to reduce the rate of deforestation and forest degradation (Collaborative Partnership on Forests, 2008).

The impacts of climate change and linked natural disasters to climate change significantly affect the most vulnerable people and communities, especially those already fighting hunger and poverty in developing countries. Forests provide a wide range of ecosystem services that are important for human well-being, food security, poverty alleviation and livelihoods. Climate change, combined with deforestation, forest degradation and population pressure, threatens the continued provision of such services. Forests and SFM have been insufficiently considered in climate-change adaptation policies and practices in areas of the economy beyond the forest sector (Collaborative Partnership on Forests, 2008).

The study by Kristjanson *et al.* (2019) in Kenya which focused on analysis of the strategies and initiatives to improve gender inequality through REDD+ scheme using gender targeting and mainstreamed “minimum standards” found that such strategy failed to address underlying inequalities. While project design was attentive to equity concerns in distributing benefits, in practice the benefits ended up in the hands of the elite, as the poor and women had no land entitlement. It has been argued (FAO, 2013) that the initiatives to address inequalities should go hand in hand with empowerment. The need to empower women economically and socially in order to strengthen gender equality in rural societies is generally recognized as a necessary prerequisite for increasing sustainable use of resources and promoting economic growth.

4.0 Findings and Discussions

The findings of this study reveal that, most of the interventions undertaken to reduce gender disparities in the access to and control of the resources in CBFM, were also addressing disparities in poverty. Some approaches address the drivers and causes for gender disparity, while others aim at reducing the impact of such disparities as well improving livelihood outcomes. The findings from the surveyed villages suggest that, the combined initiatives to address poverty and improve the livelihood of the people engaged in CBFM, will positively impact on reducing gender disparity.

4.1 Overcoming the economic, social, cultural, political and legal factors that limit women and other disadvantaged groups from influencing and accessing CBFM benefits

Despite the fact that attainment of full gender equity in CBFM implementation to ensure sustainable management of the resources and improved livelihood takes pace gradually, some factors which limit women’s participation still exist in some surveyed villages. All in all, results from the surveyed villages revealed that the majority of respondents both women, men and youth showed that to underpin the barriers on gender equity in CBFM influence and access practical recommendations were mentioned by the majority of participants from the surveyed villages. These included regular provision of education on gender and sustainable management of the CBFM resources both timber and Non-Timber Forest Products (NTFPs); strengthening development of entrepreneurship activities; supporting formation of youth and women groups engaged in economic activities for livelihood improvement; supporting establishment of secured markets for CBFM products

including value chain addition as well as linkages with proper communication. Up scaling should go concurrently with strengthening law enforcement in CBFM implementation through supporting the Village Natural Resources committees.

4.1.1 Regular education on gender and sustainable management of the CBFM resources

During FGD the majority of participants from the nine surveyed villages pointed out that the initiatives for women and men empowerment through increasing income and women participation in development activities have been effective in addressing gender disparity with a view on poverty reduction should continue to be a regular activity by different stakeholders including the community members themselves. Provision of regular seminars, training and campaigns on gender equity in CBFM was mentioned to have effect on overcoming the socio-cultural barriers that limit women to take fully advantage of CBFM like participation and contribution to meetings, decision making as well as engaging in some economic activities with higher income in which some are still men dominated. It was mentioned by almost all of the surveyed village that sensitization on gender equality in CBFM should be a continuous agenda at community level as one of the approaches that would work best to increase women and youth participation and influence on use of resources and benefits. This will help communities to raise more awareness on the importance of women, youth and other disadvantaged groups participation in the development activities and in turn assist to overcome some of the economic, social, cultural, political and legal factors that limit women and other disadvantaged groups from influencing and accessing CBFM benefits.

Regular awareness on breaking the bad gender norms will also assist in breaking the bad gender norms which still persist in some villages and form obstacles in empowering women economically. For example, at Msimba village, respondents agreed that despite the successes in gender empowerment, some men still embrace patriarchy system in which women and youth do not have opportunity to advocate the gender for their wellbeing. The combination of the patriarchy and the traditional values favours a few men over women and imposes restrictions on women initiatives through posing some restrictions on decision making at the household level. This will only be waved away if awareness creation to women, youth and other disadvantaged groups become part and parcel of implementation activities at village, district, regional and national level. Regular trainings also will enable imparting skills to women, youth and other disadvantaged groups who are the majority in terms of illiteracy and later turn it into practical application to ensure community development. Regular education on policy and legal aspects pertaining to CBFM will make youth, women and vulnerable groups become increasingly aware of their rights through different training offered by the government and NGOs hence, being in a better position to demand when on need.

Awareness raising on sustainable utilization of other Non-Timber Forest Products like mushrooms, wild fruits as well as handcrafts was mentioned to be an option to overcome the economic barriers for women, youth and other disadvantaged groups in order to provide an alternative to the current promoted charcoal production intervention in the surveyed villages. To date men in most of the surveyed villages

were observed to be more aware on women's rights as well as the importance of engaging women in income generating activities within the household and the community. The reason behind this was through the education provided by TFCG and other stakeholders, something which has been recommended to continue and be part of LGAs strategic agenda.

At Msongozi village respondents mentioned the level of awareness about the existing gender disparities to be relatively high. During FGD discussion it was reported that in the past men used to be more economically powerful than women, this was mainly due to male dominance in decision making on all productive assets including the use of income accrued from both household production as well as women income. However, from around 2008 years to date the situation of women has changed and their wellbeing is slightly close or similar to that of men. The reason behind women's positive economic changes was mentioned to be their increased engagement in decision making over income accrued from different income generating activities after receiving different life skills and entrepreneurship training which changed their mind-set of depending on men as household income providers. The FGD participants revealed that, most women are now involving themselves in income generating activities such as small business (food vending) due to accumulation of seed money in the VSLAs, and charcoal production.

From participants' observation point of view, men's reactions to women's arguments revealed that, although women were perceived as having no control in decision-making through sensitization in trainings and seminars, they have learned the positive contribution of women participation to decision making and majority of men in the village now consult and or involve women in decision making at the household. Thus, male awareness on gender equality has been the result of both government and NGOS initiatives in providing gender equality education for community and social acceptance of women's rights.

This survey further established that through sensitization through participating in the tailor made training e.g. group formation, income generating activities and VLSA are attributable to the observed changes. Therefore, as compared to the past years, women are currently participating in the village meeting and actively contribute in the decision making at community levels. They are becoming organized and are able to strategically demand for fairly and favourable consideration and deliberation on issues of their interests and for the village development agenda. One good example given by the participant in Msongozi village was that, during school and other social services building construction that took place in the village, women used to be assigned the responsibility of fetching water which was not paid. But, as women considered that activity as heavy burden to them, they organized themselves and decided to requested the village government to consider collecting the monetary contribution from each household for directed the village leaders to buy water pipes that saved as channel for pumping water from the source to the site and their ideas is still working to date hence relieved women labour. Thus, it was evident that currently, women are increasing having control on making decision concerning village development matters, this is attributable to the capacity building initiative undertaken by different development organization including TCFG where

women were organized into groups and given training on income generation activities and other life skills which collectively impacted on their empowerment.

4.1.2. Promote development of entrepreneurship activities

Results from the respondents from the surveyed villages mentioned the need to strengthen and promote entrepreneurial activities including the ones promoted by TFCG to ensure that women, youth and other disadvantaged groups participate fully and improve their economic status. For example, up scaling past initiatives/intervention by other NGOs which provided entrepreneurship education in relation to charcoal production at low costs using simple technology was mentioned in Msimba village. At Maharaka village the majority of participants appreciated efforts done by TFCG on educating charcoal producers in the village, and recommended the need of linking producers to proper markets through supporting infrastructure development and communicate changes in the tariffs for charcoal produced from CBFM.

Promotion and strengthening of the VSLA groups in terms of financial management and accounting skills including record keeping was mentioned to be key in underpinning the social, economic and cultural barriers which limit women from accessing and influencing the CBFM benefits. VLSA has to be promoted as an entrepreneurial activity where women, youth and other disadvantaged groups may realize profit and increase their economic freedom. For example, the majority of participants at Kitunduweta village both admitted that despite women being shouldering most of the activities in production processes of agricultural crops though VSLA benefits their skills in managing the resources and record keeping is low sometimes leading to conflicts within the group during their informal meetings and gathering to make strong and useful decision for the use of resources and benefits. At Msimba village, the majority of respondents mentioned the need to link the VSLA also to large credit and financial facilities like Banks in order to increase their capital to start their own IGAs.

Promotion of VSLA was also emphasized as a way or promoting gender equity in CBFM as witnessed at Msimba village where women reported that they only raise their voices and discuss matters pertaining to CBFM improvement during their gathering in VSLA meetings, where they are the majority, and encourage each other to feel superior to speak before men. Due to the influence of patriarchy cultural practices women are not expected to speak before men as a symbol of respect. However, when they meet in the women only or women dominated formal and informal meetings they usually talk and strategize allot. During the mixed FGD in Msimba village it was confirmed by men participants by saying:

“...we know women are very good at strategizing and making good arguments when they meet in the informal gathering where they know each other well e.g., in village social gathering including funerals, wedding, women groups...but is surprising that they hardly raise and defend issues in village formal meetings” (Elderly man FGD participant at Msimba village)

Further, upscaling VSLA as an entrepreneurial activity will make sense since other women, youth and other disadvantaged groups may be motivated to join and

strengthen the move to bring gender equity in CBFM activities. For example, respondents from FGD at Kitunduweta village witnessed that who have achieved some levels of economically independency are currently role models to other who show much interest to engage in different income generating activities including charcoal production through VSLAs membership. One woman was quoted saying: *“... I used to hear that, women can employ themselves in charcoal production and did not believe, but after joining VSLA, I decided to engage in the business which has improved my life to date”*.

During FGD respondents in surveyed villages witnessed that the income accrued by women from VSLAs during each end of the cycle has influenced the majority of men to either join the group and or support their spouses by providing money to their wives to increase their saving share. However, apart from positive changes that allow women to engage in income generating activities, men still respected in the decision-making on the use of income earned from VLSA. During the FGD the majority of women revealed that they still obey their husband's decision on income. They were frequently quoted saying:

“..... A woman is also a child within the household; therefore, men have all rights to make decisions on the family income”.

In the same vein some added:

“...we allow men to make decisions so that to maintain family peace, otherwise marriage may come to an end and get divorce if you keep on resisting.....”

Through formation of VLSAs many women are now involving themselves in food vending activities, vegetable vending, charcoal production activities and other different income generating opportunities available in the village resulting in their financial freedom and shareholders in the VLSA like their men counterparts do. Also, according to FGD and respondents in the surveyed villages witnessed that through education they are now ready to train other people in nearby village if they are in need of training in all aspects of VLSA, and others like Sustainable charcoal and Timber production as well as Conservation agriculture.

Therefore, promoting and strengthening VLSA in the village is key to increase the pool of women who can manage enterprises to raise their own money and also obtain loans with very low interest rate. The majority of male participants in surveyed villages provided evidences that that majority of women are now economically powerful to the extent that they no longer depend on their spouse's supports. However, it was cautioned that whenever women become economically empowered marital conflicts are likely to happen at the household level. Therefore, while this might be referred to as a strategy towards gender disparities care has to be taken during promotion by involving men in the empowerment initiatives for sustainable development at least in the context of household level.

Upscaling entrepreneurship skills to the majority of village community members is key to the sustainable development of enterprises through use of CBFM resources. During FGD at Diguzi village it was witnessed that different initiatives taken by both Government and NGOs has brought a number of changes in aspects of village infrastructures and the level of economy of residents. Social services changes

included roads maintenance to be passable even during difficult times, dispensary construction, electricity and schools as well as village office development. While on the other hand, level of economy is measured by number of meals taken per day whereby majority households are now able to get up to three meals per day something which was not possible before TFCG and other stake holders' interventions. Other contributors to the economy of Diguzi villagers was mentioned to be some income generating activities such as small business-like vegetable and food vending.

The findings from Ulaya Mbuyuni village with regard to women participation in VSLA indicated that gender disparities have been reduced. The majority of respondents mentioned that awareness on gender equality is relatively high among community members. This is partly contributed for by women participation in the VSLAs in which they occupy higher leadership positions which give them room to raise their voiced voices and actively participate in the decisions making that affect about things their lives. As a result of the initiatives undertaken by the TFCG more youths are now engaged in different income generating activities such as brick making, agriculture, charcoal production and casual labour; women engaged in groups for charcoal production have been empowered and they actively participate in decisions making concerning the use of income from charcoal production and marketing that are received by the village government and there is a network of charcoal production groups from 20 villages that are being organized for the linkages to the external markets.

4.1.3 Support formation of Gender groups in economic activities for livelihood improvement

The majority of participants from all surveyed villages mentioned the need to empower gender through formation of gender organized groups to engage in economic activities for livelihood improvement using CBFM and other related resources. At Msimba and Kitunduweta village for example, a group called "*Wasichana kwanza*" was witnessed to have brought economic changes. Organization of girls in such a group enabled them to secure loan from the LGA for implementing a poultry project. Such a project is contributing to poverty reduction as well as making girls being responsible, economically independent and not to engage in bad social groups like robbery and drugs abuse restricted in the village. Formation of peer groups also was mentioned to have influenced youth due to the majority being self - employed in income generating activities such as charcoal production and marketing. At Kitunduweta village youth groups in the village were mentioned to be trustworthy especially in harvesting of the CBFM products such as charcoal and timber. Despite youth being constrained in their initiatives to empower themselves among other things in relation to the sharing of the benefits accrued from CBFM income generating activities; field participant observations noted that the majority were fully engaging themselves in charcoal production activity and once they get money, had all rights to decide on money uses including family support.

At Maharaka village participants suggested other trainings to empower communities and reduce gaps in gender equity within CBFM communities in all surveyed villages include improved beekeeping, crop farming as well as life skills to youth and women

on enterprises development and access and use of clean water for domestic purposes; life skills and access to capitals for youth to start business enterprises.

Promotion of gender business groups has advantages where it is easier to access capital to establish and manage their own small CBFM enterprises; some youth and women may get loan from financial institutions; easy to provide basic numeracy and life skills education among group members which could help them to start and manage their enterprises and slow or poor mind-set transformation, especially on the dependency syndrome. Direct support to gender groups using available CBFM resources especially for the vulnerable gender groups may assist in creating income generating activities, thus the sustainability of most of the enterprises in the CBFM context. Therefore, the formation of IGAs through CBFM has been found to be one of the successful approach to overcome gender barriers especially for women.

The KI and FGD discussion at Matuli village revealed also that the gap in gender disparity between men and women in term of economic welfare and livelihood development is becoming minimal as a result of sensitization on engaging in economic activities. The discussion further noted that there is a growing trend in which women's livelihood is improving faster than their men counterparts. There was a consensus among FDG participants that level of poverty among women is decreasing due to their engagement in several initiatives that have both increased their access to income from various sources as well as increased access and control of decision making over productive assets including land and establishment of income generating groups in the village. Due to combined initiatives by government NGOs in the area access to social services have also improved. These social services include: Dispensary, village office, school buildings, and good road for transportation. The initiatives to alleviate poverty and reduce gender disparity that have been undertaken in Matuli village apart from TFCG include those introduced by the local organization initiative that aimed at improving the welfare of women by establishment of VLSA in the village. However, the initiative did not materialize and the VLSA groups were never fully established due to poor management and financial fraud by the said founder who after collecting money left the village and her whereabouts is not known to date.

On comparison between men and women level of economic development during FGD in the majority of surveyed villages it was revealed that through sensitization on gender engagement in income generating activities; men had good level of economy than women in the years back, but to date the level is almost half by half since women have freedom to participate in all sorts of income generating activities and their level of economy is overcoming men in terms of income earning. Socially, women were not allowed to engage themselves in income generating activities outside their home; today after being granted with freedom of attending school education and receiving gender equality has increased their level of awareness on their rights. These important changes identified by FGD participants in Diguzi village was a result of TFCG initiatives of poverty alleviations and creation of gender equality in rural areas through CBFM. According to FGD respondents, the majority of women currently have land right ownership something which was not possible before gender different initiatives were introduced in the village.

4.1.4 Supporting establishment of secured markets for CBFM products

In terms of success of these initiatives established by TFCG/MJUMITA and other stakeholders to reduce gender disparities in CBFM, the majority of respondents had opinion that, youth, men and women are currently self-employed in charcoal production activities and created employment to the majority in the village. Despite this success in establishing secured markets for CBFM products, the majority of the village respondents mentioned the need to extend marketing issues to other CBFM products like Honey and others to be able to sell their products outside the production sites. Thus, TFCG market officers should continue with the role of linking the producers of other CBFM products with the market information to get information on available prices in different market places.

For example, the proposed strategies for more improved gender economic development at Maharaka village is evident that strengthening of market linkages for CBFM products including charcoal and timber; improvement of infrastructures such as roads which can simplify the charcoal and timber collection from the forests to the market area is crucial.

4.1.5 Supporting law enforcement in CBFM implementation

Results from all the surveyed villages indicated the need to continue strengthening law enforcement in CBFM implementation to ensure gender equity and maximize benefit sharing. According to participants in FGD and KI majority of members in VNRC agreed to have low capacity to interpret legal frameworks regarding the forests and have inadequate facilities for effective patrols. Strengthening the VNRC will help in minimizing illegal harvesting of trees leading to unsustainable charcoal and timber production especially for those people with no education on sustainable forest utilization.

4.3 Gender and climate change in CBFM areas in terms of mitigation, coping and adaptation

This study found that almost all villages in the study area have experienced climate change effects in terms of erratic rainfall and frequent drought which affect their livelihoods as far as CBFM benefits are concerned. For example, too much rainfall was reported to impair charcoal production based on the nature of kilns used. Frequent drought was reported to result in decline to availability of other forest products especially the NTFPs like as firewood, wild foods as well as water which is important for domestic and livestock survival. For example, this year due to prolonged drought communities at Matuli village lost large number of cattle due to lack of pasture and drinking water.

To cope with the impacts of climate change within gender context, the majority of women, men, youth and other disadvantaged groups in the surveyed village mentioned to continue with tree planting as per national campaigns as well as sustainably utilizing the available resources under CBFM. Some villages opted for cultivation of horticultural crops to cater for the declined wild foods like vegetables however, water scarcity for irrigation was still an issue. The main coping strategy to

adapt to the change was mentioned to include raising economic status of households through engagement in other income generating activities like petty trading as well as formation of credit and saving groups where the money accrued serves various livelihood activities at household level.

All in all, the nine villages' adaptation strategies need to be strengthened. Promotion of rainwater harvesting and borehole technologies could be one of the strategies to assist CBFM communities especially women and other disadvantaged groups access water easily and strengthen their economic gain by having more production time. The establishment and strengthening of the producer and marketing groups was another strategy mentioned to have potential to help women, youth and other disadvantaged groups to cooperate each other in their forest-based activities such as charcoal production and marketing. Promotion of alternative income generating activities as an adaptation strategy to reduce the pressure and total dependence on CBFM resources including utilization of other non-timber forest products was proposed. Respondents also mentioned the need to strengthen the value chain of various CBFM products such as charcoal, timber and the other lesser utilized by linking upstream and downstream actors for increased income. This was mentioned to be possible only if collaboration between LGAs and the community will be effective.

4.4 Proposed strategies to address gender disparities in CBFM

Despite the fact that communities, due to their level of understanding, failed to provide a detailed plan on how to develop and implement the CBFM enterprises for livelihood improvement for women and other disadvantaged groups; the majority of respondents during FGD and KI interview pointed out that currently harvesting of selected CBFM products like charcoal and other NTFPs is done in a sustainable way to ensure that the resources are available for current and future generations. However, lack of proper guidelines and understanding by some community members poses a challenge to the resources. Capacity building in value addition concept and marketing opportunities for major CBFM products like charcoal, timber and other CBFM related resource's is still needed to be up scaled to wider community members including those surrounding projects villages.

The discussion with the KI and FGDs in Kitunduweta village revealed that efforts have been made for mind-set transformation to increase men, women and youth participation in the CBFM for forest conservation and income generating activities for livelihood improvement. As a result, the level of awareness and ownership of the CBFM has increased. Several recommendations were also made to improve sustainability of the CBFM as well as improving the livelihood of men, women and youth. The recommended improvement included; planting trees in their farms for environmental conservation and means of earning income through sale of poles and timber in future; organizing youth and women between 18-35 years to get life skills education and vocational trainings as well as assisting them to access start-up capital for their enterprises; preparations of role models and champions of change from the village (youth and women empowered with life skill education and or

vocational education) who can be used in the mind-set transformation about development issues in the village; organizing, formalizing and registering women and youth groups and provide them with loans and then make critical follow up on their progress until they graduate to become business experts; as well as community empowerment should also focus on adult people so that they can also participate in the CBFM income generating activities to improve their livelihood.

Furthermore, youth and women empowerment proposed strategies to eliminate gender disparities at Kitunduweta village included provision of life skills and vocational education to women and youth as well as basic human rights; inclusion of men in the women empowerment initiatives in LGAs plans to support women participation in decision making both at the household and at community levels; women should be assisted in building their trust and cooperation towards making and supporting their own development agenda of interest as well as be capacitated to make good use of the existing local government channels in reporting about gender violence violence's.

The participants to FGD revealed that women in Ulaya village have attained some levels of economic as compared to men. This is partly because, women are the majority among those who have received training. It was also revealed that women are relatively better off in financial management than their male counterparts who were reported to easily squander the income on leisure such as excessive drinking and womanizing. This has strengthened family bonds and reduced dependency from men who don't feel inferior when women succeed. The KI interviews with village leaders further revealed that women are the majority in the village meeting, and they usually contribute in decision making about their welfare. Hence, women are taking active roles in influencing decision over the use of village land as well as CBFM management. More women have joined in the work that were predominantly men's work e.g. charcoal and timber production especially those with financial ability to hire men for some activities that are masculine in nature like cutting trees. As women autonomy increases and men have resorted in reducing the violence against women in terms of wife battery. The sense of ownership of the community forest has increased hence more engagement in the CBFM related activities by women and youth.

The majority of respondents from Ulaya Mbuyuni village proposed strategies in overcoming gender disparities in the community. These include provision of entrepreneurship and VSLAs education to continue for strengthening income generating activities in the village; and engage men into initiatives meant to empower women for gender equality and the sustainability of the introduced interventions.

Different initiatives established at Maharaka village were mentioned to have succeeded in reducing gender disparities in CBFM, income generating activities as well as benefit sharing for the income received from the VSLAs. The following success were reported during the key informants and FGD interviews and discussions. Firstly, income from the CBFM have been used for the improvement of infrastructures in the village which improved access to markets. Secondly, youth and women have used the opportunities provided for in the CBFM as a source of

employment opportunity, this has happened following the initiatives by TFCG to make the harvesting of charcoal and timber a legal economic activity unlike in the past when it used to be illegal.

Different initiatives established at Kihondo village were proposed to address gender disparities in CBFM and ensure equitable sharing of benefits. These include improvement in market linkages for CBF products including: charcoal and timber production activity this will serve as a motivation for youth and women participating in CBFM activities; capacity building on marketing skills to youth and women so that they can search for market of their forest's products including timber and charcoal as well as capacity building on gender equality for men so that to raise their awareness on gender equity and its importance for development

Initiatives proposed to address poverty and eliminating gender disparities in Msongozi village include continuous provision of life skills education and entrepreneurship for all community members; formalization of forest harvesting to stop illegal harvesting through ensuring proper implementation of laws and by-laws governing the community forests, village forests areas registration and good collection of revenues. The responsible person should be Natural resources committee in collaboration with village leaders. Further, special and soft loans should be provided to charcoal producers to enable them run their families while engaging in the enterprise.

During FGD discussion different strategies to alleviate poverty and gender disparity at Matuli village were mentioned. These include provision of trainings to farmers and livestock keepers on improved agriculture practices for example planting in time and type of seeds that are suitable to their environment be a continuous activity; assurance of market and market information to be easy for communities to sell their products such as charcoal and timber; improvement of infrastructures such as roads and electricity as well as improvement of mobile communication networks in the village as well as provision of more education on business skills and savings.

The majority of FGD respondents revealed that the community in Diguzi village are well informed on the existing gender disparities as they confirmed that women restriction on movement and participation in different income generating activities was socially and culturally unacceptable. They testified that the great changes in all spheres of economic, social, cultural, political and legal happening today is a result of TFCG initiatives and other development stakeholders worked in the village in different times. Thus, to overcome these gender disparities the following strategies were proposed: Assurance of market -linkage for CBFM products such as charcoal and timber. Removal of regular charges of taxes introduced by TFCG and TFS for forest products contradicting buyers in the village; Since majority people in the community depends on agriculture as their main source of income, there is a need for supporting agriculture farming using tractors by providing tractors for land tillage under terms of loans basis to be paid after farmers have harvested their produced crops; the village has good production of milk about 1500 liters by day, however there is no collection point to enable cattle keepers benefit from their investments. Availability of good market is likely to benefit both men, women and youth in the community for good economic development in the village; and continuous

awareness of gender equality among communities has led to high rate of divorces in the village, thus, the FGD majority of respondents proposed that TFCG and other organization as well as the government should continue and strengthen provision of gender equality and equity to all community members focusing more on men so that they can receive and accept these gender dynamics happening in their household for good.

During the discussion with FGD and KI participants at Mlilingwa village it was established that gender disparity exists as it is in many other villages in the district and national at large. The gender disparities in the village were mainly in relation to the participation, use of the CBFM resources, and in decision making regarding the use of benefits obtained. Some of the proposed strategies in CBFM to reduce gender disparities at Mlilingwa village included sensitization to plant timber trees which are highly needed in the market and has good market price something which will benefit all community members basing on their gender categories in the village; as well as formation of conservation agriculture groups which will serves as an alternative livelihood activity in the community. Furthermore, during FGD and KI the majority of respondents emphasized on continuous awareness of community members on the CBFM activities. For example, sustainable charcoal production and timber was mentioned to be performed by the beneficiaries by practicing EDU plots distribution, identification of some trees that are legible to be harvested such as medicinal trees and timber trees during charcoal trees cutting, shifting from one plot to another. This level of awareness needs to be manifested in the timber production process.

4.5 CBFM-related value chains enabling technology for gender empowerment

The major existing CBFM enterprises for livelihood improvement of women and other disadvantaged groups, within the context of sustainable harvesting, processing, value-addition and marketing included charcoal, timber and other NTFPs like mushroom, wild foods and medicinal plants. Results from FGD revealed that the enabling technology needed for women in charcoal making and timber was through use of improved portable kilns and timber harvesting methods which could help women and other disadvantaged groups to harvest and manage their own pieces of land without depending too much on men labour, this have potential to reduce gender inequalities in income distribution. However, given the masculine nature of the activities undertaken in the timber value chain and the level of poverty among women the strategy was not effective in empowering women economically amongst those involved in the timber value chain.

In terms of enabling technology in CBFM related value chain (charcoal and timber) that would be best to gender empowerment, the majority of respondents in FGD and KI proposed the use of labour saving equipment e.g. chainsaw especially for women although its use is constrained by the existing laws and bylaws.

Despite the conflicting laws that prohibit the use of chain-saw, the CBFM beneficiaries at Msongozi village suggested that for both women, men and youth to

enjoy and benefits equally from CBFM, felling trees should be done by axes as usual but cutting logs need to be done by using chain-saw.

4.6 Synthesis of the gender gaps in CBFM

This subsection synthesis the findings obtained from study villages as well are synthesis of the related literatures. Women are increasingly identified as change agents who can influence the development and deployment of solutions. However, there are still multiple gender gaps that need to be addressed. The various elements of gender gaps as reported in literature have been found to be relevant in the study area with some variations. The disparities include gender gaps related to participation, leadership, tree and land tenure rights, forest use, division of labor and workloads, skills, ecological knowledge, access to technologies and inputs, access to information, access to benefits, control over project benefits and income, access to credit, access to markets, access to employment opportunities, and policy engagement (Table 1). This typology is similar to what has been reported by Kristjanson *et al.* (2019).

Table 1: Gender related Disparities in CBFM and related resources

Typology/Issue	Source/causes for the gender disparity (synthesis of literatures)	Observation from the surveyed villages
1. Participation	<ul style="list-style-type: none"> • No or few women or gender experts on project team and or village government • Forest management planning process is non inclusive or male dominated 	<ul style="list-style-type: none"> • The planning process is inclusive but women have generally low level of knowledge of forestry based resources/enterprises • The village government have low capacity to mainstream gender in the forest based resource/enterprises
2. Leadership	<ul style="list-style-type: none"> • Women have fewer leadership roles in community-based forest governance than men, and women's roles are often limited due to typical gendered responsibilities (Save for the VNRCs in the study area) 	<ul style="list-style-type: none"> • Women do not actively participate in leadership roles in community-based forest governance than men, and women's roles are often limited due to typical gendered responsibilities
3. Forest, Tree and Land Tenure Security	<ul style="list-style-type: none"> • Women have more limited access to trees and tree products than men (due to masculine nature in the harvesting of the products) • Women cannot own land and/or trees independently, therefore excluding them from the benefits of tree and land tenure along value chains (for TFCG villages they are empowered to own land) 	<ul style="list-style-type: none"> • Land laws provide for equal access to and control of land and resources. However, in practice the control is skewed in favor of men
4. Forest Use	<ul style="list-style-type: none"> • Spatial patterns of forest use reflect gender norms, security concerns, and women's more limited access to transportation 	<ul style="list-style-type: none"> • Spatial patterns of forest use reflect gender norms, security concerns, and women's more limited access to transportation

Typology/Issue	Source/causes for the gender disparity (synthesis of literatures)	Observation from the surveyed villages
5. Division of Labor/ Workloads	<ul style="list-style-type: none"> • Women face more constraints in hiring labor than men (masculinity nature and poverty) • Women have greater time constraints than men due to their domestic workloads (low women autonomy) 	<ul style="list-style-type: none"> • The division of labour reflect traditional gender divide where women face are disadvantaged due to culture and norms
6. Skills	<ul style="list-style-type: none"> • Women have less access to technical forest-related training (especially in timber value chain) • It is assumed women have less knowledge and fewer skills than male counterparts, so they are marginalized in participation and leadership 	<ul style="list-style-type: none"> • Women have less access to technical forest-related training. There is lack of labour saving equipment that would help more women to engage in the harvest of the natural resources products e.g. timber •
7. Ecological Knowledge	<ul style="list-style-type: none"> • Women have distinct ecological knowledge that is not shared in policy processes and sustainable forest management project design & implementation 	<ul style="list-style-type: none"> • Women knowledge on the existing natural resources have not been taped into
8. Access to Technologies and Inputs	<ul style="list-style-type: none"> • Women have less access to forest product-related processing and other technologies 	<ul style="list-style-type: none"> • Women have less access to forest product-related processing and other technologies
9. Access to Information	<ul style="list-style-type: none"> • Women have higher illiteracy rates and less access to information (e.g. on sustainable forest management practices, agroforestry opportunities; via cellphones, radio, television) (in this study the difference on this was minimal) 	<ul style="list-style-type: none"> • Women have less access to information related to use of natural resources found in the CBFM as compared to men
10. Access to Forest and Agricultural Services	<ul style="list-style-type: none"> • Rural advisory services typically don't address women's needs (e.g. inappropriate tree species; trainings at venues and timings when women can't attend) 	<ul style="list-style-type: none"> • This was not evaluated in this research
11. Access to Benefits	<ul style="list-style-type: none"> • Women have less access to payments for environmental benefits (PES) schemes than do men and more empowered individuals/groups (mainly because the payment is done at household level in which men dominates) 	<ul style="list-style-type: none"> • Women have less access to benefits accrued form the CBF resources as compared to men
12. Control Over Benefits/ Income	<ul style="list-style-type: none"> • Women have less control over income from forests, including non-timber forest products, than do men • Program benefits typically go to male signatories 	<ul style="list-style-type: none"> • Women have less control over income and other benefits accrued from forests and other natural resources from the CBF •
13. Access to Credit	<ul style="list-style-type: none"> • Women in forest landscapes have less access to credit than do men 	<ul style="list-style-type: none"> • Women access to credits is only limited to VLSA which

Typology/Issue	Source/causes for the gender disparity (synthesis of literatures)	Observation from the surveyed villages
	(often linked to lack of land tenure security), or because of a lack of banking options (VLSA have become a reliable option in the study villages)	have become a reliable option in the study villages
14. Access to Markets and Employment Opportunities	<ul style="list-style-type: none"> • Women are more likely to be engaged in informal and typically less remunerative markets than are men (This is due to lack of exposure to distant markets and limitations placed by husbands and male partners) • Women typically have less access to transportation means than do men, which can limit their participation in markets and employment opportunities 	<ul style="list-style-type: none"> • Women are more likely to be engaged in informal and typically less remunerative markets than are men
15. Policy Engagement	<ul style="list-style-type: none"> • Forest agency staff is unaware of gender issues; or how to competently integrate across policy and programming, hence result in gender blind policies 	<ul style="list-style-type: none"> • Women and men are less aware gender issues in the policy formulation and mainstreaming
16. Forest Laws and Regulations	<ul style="list-style-type: none"> • Forest laws and regulations ignore gender issues and opportunities (mainly due to lack of awareness) 	<ul style="list-style-type: none"> • Forest laws and regulations are gender blind or ignore gender issues and opportunities

It is evident that many of the gender disparities as presented in Table 1 affect both the individuals and groups that have historically been marginalized or are less empowered, such as poor, youths, and women. These gaps and challenges for considering and integrating gender in CBFM vary in its severity across different contexts. These gender gaps also overlap, and the policy, project, or programmatic responses to them are often sectoral and context specific in nature, rather than being addressed in a dynamic, collaborative, and comprehensive manner that is likely to be more effective. It is therefore imperative that the intervention to close the gender gap be guided by empirical evidence that reflect context specific reflections.

4.7 Gender responsive intervention to close the CBFM related gaps

As reported in this study (from KI and FGDs), many types of policy and program initiatives have been tried, tested, and some proven effective including, program designs e.g., CBFM, and project cycle activities related to CBFM and forest related resources. Although, it was difficult to prepare a complete action plan for addressing gender disparities in each particular context. The discussion with KI and FGDs reveal that, there should be multiple options to consider for closing gender gaps as also suggested in literatures (Kristjanson and Jensen 2018). Ideally, the earliest stages of project conceptualization identify critical gender dynamics, issues, challenges, and opportunities that can influence desired project outcomes. This study revealed further that the strategies to increase awareness and participation in the CBFM activities as well as empowering women and youth to benefit from the

products accrued from CBM e.g. through the formation of the producer and marketing groups have been found to have impact on overcoming barriers for livelihood improvement. These identified issues can then be translated into designed actions to address those particular gaps. In view of the findings of this study, six general approaches to reduce gender disparities and to make CBFM gender-responsive are suggested. These include:

- i. Strengthening women's participation
- ii. Strengthening forest, land, and tree tenure rights
- iii. Equitable benefit-sharing mechanisms
- iv. Supporting local institutions, networks, and platforms related to forest landscapes
- v. Strengthening women's access to credit and value chains for forest-related activities and enterprises
- vi. Building knowledge and skills of women

4.7.1 Strengthening Women's Participation

In many of the villages surveyed as it is in many other areas in Tanzania, men's participation in forest management decision making exceeds women's, and women seldom play leadership roles in such groups. As a result, women usually have limited access to information related to forest management. When women do participate in forest user groups, there is evidence that improved forest condition is a result (Coleman and Mwangi 2015; Leisher *et al.* 2016). This study revealed that capacity building initiatives including quota setting for women participation in leadership was more effective than generalized approach in which it is usually assumed that the benefit will trickle down to women or assume men and women have equal status and power in the society. Therefore, to increase women's participation the following initiatives can be undertaken:

- i. An inclusive institutional framework for engagement and participation in CBFM and forest related policy making by women, indigenous persons, CSOs, NGOs, private sector
- ii. Quotas or targets for female representation on forest decision-making bodies be set and implemented
- iii. Participatory and inclusive forest/CBFM planning processes be supported throughout the project life cycle
- iv. Capacity strengthening of women's groups, networks, and inclusive forest-related platforms
- v. Awareness-building actions on women's role in forestry value chains, including charcoal, timber and NTFP's
- vi. Supporting women in forest leadership positions

4.7.2 Strengthening Forest, Land and Tree Tenure Rights

The findings of our study reveal that in most of the project villages the introduction of land use planning and sensitization have enabled women to own piece of land including the area for harvesting charcoal. However, the number of women demanding for their right to own land is still relatively low. The sensitization for

awareness creation on land laws and rights as well as formation of economic groups such as VLSA have been found to be effective in increasing women participation and ownership of land and other forestry related resources. Although women play essential roles in the management of forest landscapes, rural women's tenure rights are much less secure than men's across most developing countries (FAO 2013). Secure land rights empower women to participate more actively in community-level institutions, including those involved in forest management. Gender-responsive forest sector laws, regulations, and interventions that protect and enhance women's rights are thus critical, and can include the following initiatives:

- i. Advocate for the enforcement of the legal framework that reflects forests' multiple uses and diverse users' rights e.g., village land use plans
- ii. Contracts (related to concessions, PES schemes) signed by both spouses
- iii. Enforcement of laws that recognize community-based tenure, including specific provisions on respecting and protecting women's rights

4.7.3 Designing Equitable Benefit-Sharing Mechanisms

Benefit sharing is central to many improved forest landscape management initiatives. Developing fair and equitable benefit-sharing arrangements "requires a good understanding of the drivers of deforestation and forest degradation in order to protect the environment and promote sustainable harvesting and use of the CBFM products. These initiatives in the end depends on people's reaction to proposed incentives needed to reverse deforestation and degradation trends, and suitable mechanisms for distributing benefits against agreed responsibilities and obligations".

In attempting to ensure equitable benefit-sharing, there is usually an additional challenge when it comes to women or any individuals or groups that have traditionally had less voice, power, and agency. Therefore, actions to strengthen the capacity of forest agencies for equitable sharing of the CBFM benefit may include.

- i. Advocate and or enforcement of the forest product and services certification schemes that benefit women
- ii. Advocate and or enforcement of Equitable PES initiatives
- iii. Advocate for schemes for financial market/private sector investment in reduced deforestation efforts benefitting women
- iv. Transparent and publicly available information on forest-related revenues collection, distribution, and management

4.7.4 Supporting inclusive Local institutions, Networks and Platforms Related to Forest Landscapes

This study also revealed that local government authorities have improved women participation in meeting by allowing and encouraging them to speak in village assembly meetings. Women participating in CBFM and VNRC have been found to be contributing more ideas. While women have been found to be active in their groups and informal meeting, this can be used as a strategy to further improve their collective actions. Successfully and sustainably managing community forests requires collective action and strong local forest institutions. To promote women's

participation in community forest decision-making processes the following ways are proposed:

- i. Gender parity rules be stipulated for local councils, cooperatives and producer organizations to open up greater access by women to key decision making arenas. Such rule changes can also include social support measures for women, for example by asking village leaders to help women speak out in meetings and become more confident.
- ii. Women and women groups be encouraged to use dedicated spaces such as schools or medical facilities for their meetings to discuss community issues. This will help in transforming the informal discussion by women into formal platforms

4.7.5 Strengthening Women's Access to Credit and value Chains for Forest-Related Activities and Enterprises

Little or no access to credit by women for forest-related activities and enterprises is the norm and not the exception. However, in the context of this study it was revealed that, the introduction of the VLISA by TFCG and other organization have been successful and it saves as reliable source of small capital. However, it was reported that low capital of the revolving fund does not attract men participants and the generally low quality of the products produced from the investment of such VLISA capital.

4.7.6 Building Knowledge and Skills

Another gender gap prevalent in the forest sector is the frequent reality that women are not receiving forest landscape-related information and skills enhancement opportunities as much as men. Empowering women (and men) in CBFM and NTFP enterprises, agroforestry, and other activities involves a wide range of supportive actions, including targeted trainings, technology transfer, business skills development, leadership and negotiation capacity strengthening, and enhanced access to and ability to use market information. Supportive intervention options include:

- i. Inclusive market-oriented activities such as quality improvement campaigns, networking with traders, trade fairs, and others
- ii. Awareness campaigns highlighting forest-related opportunities for women and men (for example, through social media, radio, and TV)
- iii. Interventions introducing labor-saving technologies that free up women's time (such as nut cracking machines, trees for fodder and wood fuel, energy efficient stoves, and biogas plants)
- iv. Equitable and accessible (language, location, timing, methods appropriate for women) technical training opportunities aimed at meeting diverse needs and constraints (such as agroforestry techniques, beekeeping, business skills development)
- v. Training of female "lead" forest advisors/facilitators Funding forest and agroforestry-related rural "edutainment" TV, radio shows, and media campaigns that highlight women's pivotal role in, agroforestry, land restoration, tree- planting, and climate change mitigation efforts

5.0 Conclusions

In order to overcome the economic, social, cultural, political and legal factors that limit women and other disadvantaged groups from influencing and accessing CBFM benefits, it is important that regular provision of education on gender and sustainable management of the CBFM resources both timber and Non-Timber Forest Products (NTFPs); strengthening development of entrepreneurship activities; supporting formation of youth and women groups engaged in economic activities for livelihood improvement; supporting establishment of secured markets for CBFM products including value chain addition as well as linkages with proper communication become continuous activities in the study villages. Training should focus on strengthening women and other disadvantaged groups participation in CBFM through engaging them more in the design of institutional framework for CBFM and forest related policy making, formation of groups, networks, and inclusive forest-related platforms, awareness-building actions on their role in forestry value chains, including charcoal, timber and NTFP's and supporting women in forest leadership positions. Climate change have been observed to have impacted gender differently based on roles and responsibilities at community level as far as CBFM benefits are concerned. Water scarcity and decline in other CBFM benefits and inability to engage fully in charcoal business during rain seasons seem to have higher impacts to women and other disadvantaged groups than men.

5.1 Recommendations

From the findings it is recommended that capacity building in value addition concept and marketing opportunities for major CBFM products like charcoal, timber and other CBFM related resources need to be up scaled to wider community members including those surrounding projects villages in order to overcome the economic, social, cultural, political and legal factors that limit women and other disadvantaged groups from accessing and benefiting from the resources. The proposed interventions to address gender disparities in the CBFM as observed in this study should also be taken into consideration with a few examples as follows:

Strengthening Women's Participation

To increase women participation in the use, benefit, and in decision making of the CBFM resources the following initiatives can be undertaken:

Strengthening Forest, Land and Tree Tenure Rights

Gender-responsiveness in CBFM and forest sector related laws, regulations, and interventions can include the following initiatives:

- i. Advocate for the enforcement of the legal framework that reflects forests' multiple uses and diverse users' rights e.g., village land use plans
- ii. Contracts (related to concessions, PES schemes) signed by both spouses
- iii. Enforcement of laws that recognize community-based tenure, including specific provisions on respecting and protecting women's rights

Designing Equitable Benefit-Sharing Mechanisms

The actions to strengthen the capacity of forest agencies for equitable sharing of the CBFM benefit may include.

- i. Advocate and or enforcement of the forest product and services certification schemes that benefit women for charcoal and timber produced in the TFCH/CBFM versus TFS
- ii. Advocate and or enforcement of Equitable PES initiatives
- iii. Advocate for schemes for financial market/private sector investment in reduced deforestation efforts benefitting women
- iv. Advocate for transparent and publicly available information on forest-related revenues collection, distribution, and management

Supporting inclusive Local institutions, Networks and Platforms Related to CBFM

To promote women's participation in CBFM decision-making processes the following ways are proposed:

- i. Gender parity rules be stipulated for local councils, cooperatives and producer organizations to open up greater access by women to key decision making arenas. Such rule changes can also include social support measures for women, for example by asking village leaders to help women speak out in meetings and become more confident.
- ii. Women and women groups be encouraged to use dedicated spaces such as schools or medical facilities for their meetings to discuss community issues. This will help in transforming the informal discussion by women into formal platforms

Strengthening Women's Access to Credit for Enterprises development

- i. There is a need to strengthen the capacity of VLSAs to increase the capital in the revolving fund and to invest in viable businesses for improved livelihood

Building Knowledge and Skills

Empowering women (and men) in CBFM and NTFP enterprises, agroforestry, and other activities involves a wide range of supportive actions including:

- i. Awareness campaigns highlighting forest-related opportunities for women and men
- ii. Introducing labor-saving technologies that free up women's time
- iii. Equitable and accessible technical training opportunities aimed at meeting diverse needs and constraints (such as agroforestry techniques, beekeeping, business skills development)
- iv. Training of female "lead" forest advisors/facilitators

6.0 REFERENCES

- Agarwal, B. 2001. "Participatory Exclusions, Community Forestry, and Gender: An Analysis for South Asia and a Conceptual Framework." *World Development* 29(10): 1623–1648.
- Agrawal, A., G. Yadama, R. Andrade, and A. Bhattacharya. 2006. "Decentralization and Environmental Conservation: Gender Effects from Participation in Joint Forest Management." CAPRI Working Paper 53. Washington, DC: International Food Policy Research Institute.
- Arora-Jonsson, S. (2011). Virtue and vulnerability: Discourses on women, gender and climate change. *Global Environmental Change*, 21(2), 744-751.
- Coleman, E., and E. Mwangi. 2015. "Conflict, Cooperation, and Institutional Change on the Commons." *American Journal of Political Science* 59(4): 855–865.
- Coleman, E., and E. Mwangi. 2015. "Conflict, Cooperation, and Institutional Change on the Commons." *American Journal of Political Science* 59(4): 855–865.
- Craig Leisher , Gheda Temsah, Francesca Booker, Michael Day, Leah Samberg, Debra Prosnitz , Bina Agarwal, Elizabeth Matthews, Dilys Roe, Diane Russell, Terry Sunderland and David Wilkie (2016).Does the gender composition of forest and fishery management groups affect resource governance and conservation outcomes? A systematic map. *Environ Evid* 5:6 DOI 10.1186/s13750-016-0057-8
- Elias, M., Jalonon, R., Fernandez. M. and Grosse,A. (2017) Gender-responsive participatory research for social learning and sustainable forest management, *Forests, Trees and Livelihoods*, 26:1, 1-12, DOI: 10.1080/14728028.2016.1247753
- FAO (2013). Forests, food security and gender: linkages, disparities and priorities for action. Background paper for the International Conference on Forests for Food Security and Nutrition. Rome. Pg21
- Food and Agriculture Organization (FAO). 2013. "Forests, Food Security and Gender: linkages, Disparities, and Priorities for Action." Background paper presented at the International Conference on Forests for Food Security and Nutrition, Rome, 13–15 May.
- Giovarelli, R., B. Wamalwa, and L. Hannay. 2013. "Land Tenure, Property Rights, and Gender: Challenges and Opportunities for Strengthening Women's Land Tenure and Property Rights." Property Rights and Resource Governance Briefing Paper #7. Washington, DC: USAID
- Haverhals, M., V. Ingram, M. Elias, and B. Basnett Sijapati. 2014. "Gender and Forest, Tree and Agroforestry Value Chains." LEI, CIFOR, Bioversity Brief. Center for International Forestry Research. Bogor, Indonesia.
- Ingram, V., J. Schure, J. Chupezi Tieguhong, O. Ndoye, A. Awono, and D. Midoko Iponga. 2014. "Gender Implications of Forest Product Value Chains in the Congo Basin." *Forests, Trees and Livelihoods* 23(1-2): 67–86
- International Union for Conservation of Nature (IUCN). 2009. "REDD-plus and Benefit Sharing: Experiences in Forest Conservation and Other Resource Management Sectors." Washington DC: IUCN.
- Kristjanson, P., and A. Jensen. 2018. "Gender in Forest Landscape Projects. Actions and Indicators." Program on Forests (PROFOR), World Bank. Washington DC.
- Leisher, C., G. Temsah, F. Booker, M. Day, L. Samberg, D. Prosnitz, B. Agarwal, E. Matthews, D. Roe, D. Russell, T. Sunderland, and D. Wilkie. 2016. "Does the Gender

Composition of Forest and Fishery Management Groups Affect Resource Governance and Conservation Outcomes? A Systematic Map.” *Environmental Evidence* 5:6. <https://doi.org/10.1186/s13750-016-0057-8>

Leisher, C., G. Temsah, F. Booker, M. Day, L. Samberg, D. Prosnitz, B. Agarwal, E. Matthews, D. Roe, D. Russell, T. Sunderland, and D. Wilkie. 2016. “Does the Gender Composition of Forest and Fishery Management Groups Affect Resource Governance and Conservation Outcomes? A Systematic Map.” *Environmental Evidence* 5:6. <https://doi.org/10.1186/s13750-016-0057-8>.

Leisher, Gheda Temsah, Francesca Booker, Michael Day, Leah Samberg, Debra Prosnitz, Bina Agarwal, Elizabeth Matthews, Dilys Roe, Diane Russell, Terry Sunderland and David Wilkie (2016). Does the gender composition of forest and fishery management groups affect resource governance and conservation outcomes? A systematic map *Environ Evid* 5:6 DOI 10.1186/s13750-016-0057

Collaborative Partnership on Forests (2008). Strategic framework for forests and climate change. A proposal by the Collaborative Partnership on Forests for a coordinated forest-sector response to climate change. Collaborative Partnership on Forests; Locatelli B., Evans V. and Wardell A. et al. (2011). Forests and climate change in Latin America: linking adaptation and mitigation. *Forests* 2(1): 431–450

Meinich, S. (2010). The impact of increased awareness on forest governance; A case study of the Mama Mitsu awareness raising campaign in forest adjacent villages in Southern Tanzania. Pg101FAO (2017). Gender, rural livelihoods and forestry Assessment of gender issues In Kosovo’s forestry. FAO, Pg81Patricia Kristjanson, Tamara Bah, Anne Kuriakose, Meerim Shakirova, Gerardo Segura, Katharina Siegmann, Margaux Granat (2019). “Taking Action on Gender Gaps in Forest Landscapes.” Program on Forests (PROFOR). Washington DC.

Muller, J.G, Boubacar R, Guimbo (2015). The ‘how’ and ‘why’ of including gender and age in ethnobotanical research and community-based resource management. *Ambio*. 44:67–78.

Patricia K., Tamara B., Anne K., Meerim S., Gerardo S., Katharina S., Margaux G., (2019). “Taking Action on Gender Gaps in Forest Landscapes.” Program on Forests (PROFOR). Washington DC. Working Paper Pg 39

Patricia Kristjanson, Tamara Bah, Anne Kuriakose, Meerim Shakirova, Gerardo Segura, Katharina Siegmann, Margaux Granat, 2019. “Taking Action on Gender Gaps in Forest Landscapes.” Program on Forests (PROFOR). Washington DC.

Shackleton, S., F. Paumgarten, H. Kassa, M. Husselman, and M. Zida. 2011. “Opportunities for Enhancing Poor Women’s Socioeconomic Empowerment in the Value Chains of Three African Non-Timber Forest Products (NTFPs).” *International Forestry Review* 13(2): 136–151

APPENDICES

Appendix 1: Research Questions/Guide for KI and FGD

General gender analysis

1. What has been the success and failure of the past initiatives to empower women and youth in CBFM/other development initiatives e.g., community awareness and sensitization by LGA/NGOs, producer and marketing groups in CBFM, VLSA in CBFM, women/youth only focused IGAs, business/actors' networks in CBFM)
2. How to overcome the existing economic, social, cultural, political and legal factors limit women and other disadvantaged groups from influencing and accessing CBFM benefits?
3. What approaches and procedures would work best in your area/CBFM context to increase women and youth participation and influence on use of resources and benefits from CBFM?
4. Discussion and detailed planning (participants led/focused) on how the development and implementation of the CBFM enterprises for livelihood improvement for women and other disadvantaged groups should be done (The emphasis be centred on sustainable harvesting, processing, value-addition and marketing for charcoal, timber and other CBFM related resource's)
5. In your views what should be done to ensure the changes in labour networks benefit women, youth and the marginalized groups?

Gender and CBFM

6. What is the impact of economic, social, cultural, political and legal factors on gender relations for women and other disadvantaged groups?
7. How do such changes (in qn6) affect women's position in influencing and accessing CBFM benefits? What should be done for men, women and youth?
8. List the existing CBFM enterprises for livelihood improvement of women and other disadvantaged groups, with an emphasis on sustainable harvesting, processing, value-addition and marketing
9. What enabling technology in CBFM-related value chains (charcoal and timber) works/would best for gender empowerment? What consideration is required for women?
10. What are the strategies in the context of CBFM do men, women and other disadvantaged groups use/adopt in mitigation, coping and adaptation against climate change?
11. What are gendered differences in the strategies adopted? What should be done for men, women and youth to enhance its effectiveness?

Participatory Planning

12. What are the existing strategies to address gender disparities in CBFM?
13. In your view what strategies would work best for gender mainstreaming in the sharing of the CBFM benefits?

14. What plans should be done to overcoming the economic, social, cultural, political and legal factors that limit women and other disadvantaged groups from influencing and accessing CBFM benefits?
15. What initiatives and plans should be developed to ensure CBFM enterprises impact positively on the livelihood improvement for women and other disadvantaged groups? (Ask and guide the participants to develop a draft plan on what should be included in the plan)
16. What changes in men/women networks in the production and marketing processes are required to benefit women and marginalised groups from CBFM benefits? (Ask and guide the participants to develop a draft plan on what should be included in the plan)
17. What are your suggestions on enabling technology for gender empowerment in CBFM-related value chains? (Ask participants to explore on the appropriate and practical technologies)

Appendix 3: Participants to FGD and Key informant's interviews

Village: Msimba Village Date: 11.11.2021	
1	Christian G. Rock
2	William Mlewe
3	Abdala S. Dege
4	Fred Benedict
5	Alex A. Reuben
6	Damian Msaganya
7	Maneno Seleman
8	Raphael Mandongo
9	Asher R. Mandongo
10	William Kakongama
11	Bakari Saidi
12	Hassan Manzengo
13	Imelda Ernest
14	Petro D. Myange
15	Yustin N. Yustin
16	Juvenus P. Mnyameka
Village: Maharaka Date: 15.11.2021	
15	Rehema Mandimu
16	Miwa Selemani Juma
17	AILY S. Matambi
18	Bwakila Ally
19	Elian Castor
20	Annadelt Bussuro
21	Salim Mwimbeki
22	Doroth Kingwandu
23	Anice Mazola
24	Rose Albogast
25	Zakiy Mohamed
26	Jumanne Kibwana
27	Salma Chomoko
28	Handi William
29	Christina Pango
Village: Kihondo Date: 17.11.2021	
30	Tadei Kiyungu
31	Happy M. Joseph
32	Glady Chingilile
33	Patric Said
34	Mwanaisha Salim
35	Paul Kunambi
36	Yasla Alfani
37	Daud Gondo
38	Zaitun Abdala
39	Jafeth Lucas
40	Casta Ndakale
41	Valentina Luka

42	Elizabeth Thomas
43	Rozalia Peter
44	Alex Mfasa
45	Vicent Augusto
Village: Diguzi Date: 20.11.2021	
46	Vicent Augusto
47	Daudi Lukuya
48	Lucas Ndaga
49	Omari Rashidi
50	Maulid Mhanzo
51	Rajabu Rashidi
52	Jahan Maskali
53	Juma Thabit
54	Alfan Dikolome
55	Hamadi Lutala
56	Fatuma Ali
57	Shila Selemani
58	Magongo Ramadhani
Village: Mlilingwa Date: 23.11.2021	
59	Hamza S. Selemani
60	Hidaya A. Chuma
61	Sauda Ally Challe
62	Tunu Rajabu Simba
63	Jiwanji Barati
64	Amina O. Chuma
65	Ally Salum Ally
66	Amiri Sephu
67	Asha Selemani
68	Vicent Clement
69	Salum Ally
70	Sharif Sele
71	Abdalla M.
Village: Msongozi Date: 18.11.2021	
72	Saidi Ramadhani
73	Omary Chambo
74	Said
75	Zainabu Mshamu
76	Charles Thadei
77	Asha Sungura
78	Amina Rashidi
79	Joseph Charles
80	Ramadhani A. Mshamu
81	Mrisho
82	Onesmo Nyamoga
83	Shabani Ally
84	Hamad Salum
85	Cosmas Kidia

Village: Ulaya Mbuyuni Date 13.11.2021	
86	Selemani H. Saidi
87	Piaron L. Peter
88	Mohamed Hilari
89	Amos Maloda
90	Ashura Mohamed
91	Mkwati Kilongola
92	Charles Mgonda
93	Khadija Iddi
94	Tausi Majaliwa
95	Ashura Hussein
96	Shani Mnazari
97	Selemani Nyabinda
98	Saidi Ally Kimasiri
99	Selemani Ismail
Village: Maturi Date 19.11.2021	
100	Elizabeth Mkoba
101	Sharifa Selemani
102	Nassoro Ismail
103	Sadick Kondo
104	Thobias Mohamed
105	Esta Harron
106	Aza Saidi
107	Fatuma Mohamed
Village: Kitunduweta Date 12.11.2021	
108	Zena Mohamed
109	Bernard Gumbo
110	Happiness Mapunda
111	Saidi Ramadhani
112	Meresiana Yusuph
113	Kenneth Samson
114	Patrick Malechela
115	Vickness Madeje
116	Iddi Madimba
117	Mayugi Ally
118	Fatuma Radhid
119	Hamisi Nyasi
120	Ramadhani Kapinga
121	Faraji Khalifa