



GENDER AND FOREST PRODUCTS VALUE CHAIN
FROM VILLAGE LAND FOREST RESERVES OF
SONGEA AND NAMTUMBO DISTRICTS
- MASTER THESIS FOR SOKOINE UNIVERSITY
OF AGRICULTURE

HUSSEIN A NYANGASSA

2021



The United Republic of Tanzania
MINISTRY OF NATURAL RESOURCES
AND TOURISM



Ministry for Foreign
Affairs of Finland

**GENDER AND FOREST PRODUCTS VALUE CHAIN FROM VILLAGE
LAND FOREST RESERVES OF SONGEA AND NAMTUMBO
DISTRICTS**

HUSSEIN A NYANGASSA,

**A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE IN
ENVIRONMENTAL AND NATURAL RESOURCE ECONOMICS, SOKOINE
UNIVERSITY OF AGRICULTURE. MOROGORO, TANZANIA**

2021

ABSTRACT

Gender differences influences people's experience of and access to forest resources in Village Land Forest Reserves (VLFR). However, empirical evidences about gender and forest product value chain is limited to inform forest value chain development. The study analyzed gender roles and relations along value chain for forest products from Village Land Forest Reserves in Songea and Namtumbo districts. Specifically the study mapped the gender value chain for forest products from the Village Land Forest Reserve (VLFRs), examine the gender roles and relations of forest products from the VLFRs and assess the benefits by gender at each node of the forest products value chain from the VLFRs. Data were collected using various methods such as the questionnaire survey, key informants interviews, focus group discussions and direct observations. The collected data were analysed descriptively and the content analyses. The study revealed that forest products harvested were mushroom (27%), vegetables (11%) the honey (9%), firewood (38%) and the medicinal plants (15%). On the gender roles and relations along the forest products value chain, male dominated in all roles such as the protection of the VLFRs (85%), beehives management (100%), processing (100%), trading in urban markets (100%) and end use (60%). Also on the benefits men gains more benefits from the forest products from the VLFRs. Male had a mean revenue score of Tshs 1,830,000 medicinal plants, a mean revenue score of Tshs 2,388 for mushroom and a mean revenue score of Tshs 89,000 for the honey forest product. The key challenges were distance to the forest sites, lack of support from the husbands, improper means of transport to the market, access to capital and low literacy level .This study concluded that the government as well as the non-governmental organizations

such as FORVAC should address the issue of gender inequalities in addressing the gender biased issues in obtaining benefits from the VLFRs.

DECLARATION

I, Hussein Abubakary Nyangassa do hereby declare to the Senate of Sokoine University of Agriculture that this dissertation is my own original work done within the period of registration and that it has neither been submitted nor being concurrently submitted in any other institution.

_____.

Hussein Abubakary Nyangassa

(MSc. Candidate)

_____.

Date

The declaration is confirmed

_____.

Prof. J. M. Abdallah

(Supervisor)

_____.

Date

_____.

Dr. G.Z. Nyamoga

(Supervisor)

_____.

Date

COPYRIGHT

No part of this dissertation may be reproduced, stored in any retrieval system, or transmitted in any form or by any means without prior written permission of the author or Sokoine University of Agriculture in that behalf.

ACKNOWLEDGEMENTS

I am wholeheartedly thankful to my supervisors Prof. J.M. Abdallah and Dr. G.Z Nyamoga for their assistances, advices in shaping my study from the beginning of the research proposal to data collection and report writing of the thesis. I am also thankful as well to all the lecturers at the Department of Forest and Environmental Economics for their unconditional help and guidance during my studies.

I am also thankful to all my family members who played a greater role on funds provision during my studies time and their patience in all hardships they faced while I was doing my studies. I also grateful to the ones who helped me in data collection from the study areas which were Songea district and Namtumbo. Very heartfelt thanks also to the FORVAC Ruvuma Cluster Coordinator, Mr. Marcel Mutunda for his abundant assistant during the data collection.

Particular thanks are directed to Forestry and Value Chains Development programme (FORVAC) that provided funds for this research work.

My heartfelt gratitude goes to the Almighty God for blessing and giving me knowledge, good health and strength all the time.

DEDICATION

This research work is dedicated to my beloved and caring mother, Mwandile Kiguhe and my beloved aunt Tatu Kiguhe for their immense sacrifices that they made to me in my education career and my life in general, may Allah bless them abundantly.

Table of Contents

ABSTRACT	1
DECLARATION	3
COPYRIGHT	4
ACKNOWLEDGEMENTS.....	5
DEDICATION	6
LIST OF TABLES	9
LIST OF FIGURES	10
LIST OF APPENDICES	11
ABBREVIATIONS	12
CHAPTER ONE	13
1.2 Problem Statement and Justification.....	15
1.3 Objectives	17
CHAPTER TWO	18
LITERATURE REVIEW	18
2.1 Definition of Key Terms/ Concepts.....	18
2.2 The Role of Value Chain Mapping.....	19
2.3 The Gender Roles and Relations along Value Chain	19
2.4 Theoretical Framework.....	Error! Bookmark not defined.
2.5 Conceptual Framework.....	21

CHAPTER THREE.....	23
3.0 METHODOLOGY	23
3.1 Description of the Study Area	23
3.2 Research Design and Sampling Procedures.....	23
3.3 Data Collection and Analysis	25
CHAPTER FOUR.....	27
4.0 RESULTS AND DISCUSSIONS	27
4.1 Forest products from Village Land Forest Reserves in Songea and Namtumbo Districts	27
4.2 Forest products Value Chain from Village Land Forest Reserves	29
4. 3 Gender roles and relations at different nodes in VLFRs	33
4.4 Benefits by gender along the forest products value chain	35
CHAPTER FIVE.....	38
5.0 CONCLUSION AND RECOMMENDATIONS	38
5.1 Conclusions.....	38
5.2 Recommendations.....	39
REFERENCES.....	41
APPENDICES	45

LIST OF TABLES

Table 1: Benefits distributions by gender along the value chain	36
---	----

LIST OF FIGURES

Figure 1 Conceptual Framework for gender roles and relation for forest products value chains.....	22
Figure 2; Forest products harvested from Village Land Forest Reserves	28
Figure 3: Major value chain in Songea and Namtumbo Districts	29
Figure 4: Value chains interventions.....	31
Figure 5: Value chain nodes showing gender distributions	32
Figure 6: Gender roles along the value chain.....	34

LIST OF APPENDICES

Appendix 1: Questionnaire for the household's survey	45
Appendix 2: Checklist for Focused Group Discussion	51
Appendix 3: Checklists for key Informant.....	51

ABBREVIATIONS

CBFM	Community Based Forest Management
FORVAC	Forestry and Value Chains Development Programme
JFM	Joint Forest Management
NGO	Non – Governmental Organization
URT	United Republic Of Tanzania
SPSS	Statistical Package for Social Sciences
VLFRs	Village Land Forest Reserves
MNRT	Ministry of Natural Resources and Tourism
VNRC	Village Natural Resource Committee
FGD	Focused Grouped Discussion

CHAPTER ONE

1.0 BACKGROUND

About 15.5% of global forest areas are under control of about one billion people, and the area under community management is increasing (Ghimire & Lamichhane, 2020). Forest in developing countries managed under community-based approaches is increasing and is currently estimated at about 732 million hectares which is about 28% of the world's forests and is representing 62 countries (Gilmour, 2016).

Communities' involvement in the management of forests has adopted various names such including participatory forestry, joint-forest management, community forestry. All these types of community involvement emphasis decentralization of forest management rights in mutually enforceable responsibilities, with the aim of producing positive ecological, social and economic outcomes (Cater and Grownow, 2006). Several studies show that community-based forest management (CBFM) is successful in enhancing conservation in some developing countries e.g.in India, Thailand, Nepal, Vietnam, Ghana, Chinese Taipei, Tanzania, Guatemala, Sudan, Peru, Nicaragua, and Mexico (Linuma & Tang'are, 2018; Asmin *et al.*, 2019).

Tanzania is among pioneer countries that officially recognize the role of communities in the management of forests (Lupala *et al.*, 2017). Communities are involved in various ways such as joint forest management (JFM) and community-based forest management (CBFM). The guiding principle underlying community-based forest management model is that local communities have land and rights to control and manage forest resources on their land (Agarwal, 2009; Gruber, 2019). This builds on an exceptional

condition in the country, where centralized power are expected to allow villages to own property in its own right as a community group (Macharia, 2015).

Gender differences has influences on people's experience of and access to forest resources in Village Land Forest Reserves (VLFR). Forest products such as firewood, fodder and non-timber items which fall mainly in women's domain also have a shorter gestation period and greater potential for extraction than timber which falls mainly in men's domain. Such gender and class differences in forest dependence and use, in turn, impinge on the stakes women and men, the poor and the well-off have in conservation and extraction (Agarwal, 2009).

Traditions have large influences on the gender roles in value chains as in other production activities (KIT *et al.*, 2012). Change in gender roles and relations can be understood by combining value chain analysis. Laven *et al.* (2009) argue that the node that a group of gender (e.g. women and girls) located and their activities within and along the forest products' chain may have implication on their livelihoods, income generating activities or household tasks and on gender roles and relation within the household or at the community level. Generalizations of the impact of forest products value chain intervention on gender roles and relations are always tricky as may differ from place to place (Faida, 2006). It is imperative to have empirical evidence from as many perspectives as possible whether forest value chain interventions change gender, roles and relations and how such changes impact on women (Poschen *et al.*, 2014). In different value chains women are said to be the most in undertaking different activities

of productions but their benefits in the value chain are undermined and their contribution to the economy is largely invisible.

1.2 Problem Statement and Justification

Community Based Forest Management (CBFM) is the key to long-term forest management and considerable benefits to rural livelihoods in some of the country's poorest and most degraded areas (Promita, 2017). For a variety of reasons, the promise of benefit from the management of these CBFM has yet realized in the majority of areas.

Gender in a society are often mirrored in culture, economics, business, environment which people lives, politics and religion (Mburu, 2015). In most of the communities, gender roles and responsibilities are linked to culture and religion. In the Namtumbo and Songea districts the communities who inhabits the areas have culture that defines different gender roles and responsibilities. However, participation in development projects often induces changes in roles and responsibilities esteemed by a society to belong to different gender. The roles performed by women are increasingly changing to resemble those performed by men as developing countries embrace gender equality (Presser and Sen, 2000).

The participation in forest products value chain may change gender perception in the business development (Poschen *et al.*, 2014). The production and marketing of forest products is an important source of rural employment and income.

It is argued that gender roles and relations determine distribution of benefits along the value chain activities (Jeckoniah *et al.*, 2013). However, evidence based information about gender and forest product value chain is limited to inform development of forest value chain programmes such as FORVAC.

In literature, little is known about the gender roles and relations at different nodes of the forest products value chain especially from Village Land Forest Reserves. This study explored gender along value chain by assessing who do what, who gain what (income/benefits distribution) and why, where women and girls located along the forest products value chain and why.

The results from the study creates awareness on how the gender roles issues are tackled in forest products value chain so as to make proper management and utilization of the VLFRs. Moreover, the study increases awareness on the application gender analysis in the forest value chain. Also the findings contributes to the understanding of location of the women and girls in nodes, and gender income distribution along the forest products value chain.

1.3 Objectives

1.3.1 Main objective

The overall objective of this study was to analyze gender roles and relations along value chain for forest products from Village Land Forest Reserves in Songea and Namtumbo districts.

1.3.2 Specific objectives

The specific objectives are to:

- i. Mapping gender distribution along value chain for forest products from the VLFRs;
- ii. Examine the gender roles and relations along value chain for products from VLFRs in Namtumbo and Songea districts;
- iii. Assess benefits by gender at each node along value chain for forest products from VLFRs in Namtumbo and Songea districts;;

1.4 Research Questions

- i. Who do what, and why, where women and girls located along the forest products value chain and why?
- ii. What are the different roles played by different gender along the value chain?
- iii. How does the gender affect the profitability along the value chain?
- iv. How the benefits from harvests and trade are distributed along value chain?

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 DEFINITION OF KEY TERMS/ CONCEPTS

2.1.1 VILLAGE LAND FOREST RESERVES

According to the Forest Act of 2002, Village Land Forest Reserve shall be either be a declared or the gazette. It may be owned and managed by one village or more villages which are within one local authority or more local authorities. The village land forest reserves are governed by several village bodies such as the Village Natural Resources Committee (VNRCs) and the Village Council. All these bodies tend to assure that there is proper management and utilization of the resources in the Village Land Forest Reserve for sustainable development of the village. Within these bodies governing the Village Land Forest Reserve, gender equity have to be highly considered as mentioned in the Tanzanian Forest Act of 2002. According to Ingram *et al.*(2016), the engagement of all gender groups in accessing and using different forest products, as well as their participation in different nodes of the forest products value chain, is extremely difficult, particularly in the Village Land Forest Reserve. This has been a major challenge since it doesn't consider gender perspectives thus causing different conflicts and a lot of biasness in accessing the forest products resources, thus hindering the sustainable development of the rural communities.

Haji *et al.* (2015) argued that CBFM is among the alternatives to forest protection. There is belief that community-based monitoring system can bring more benefits in terms of livelihood security and poverty reduction as well as providing important indirect benefits

to the poor in terms of improved local governance and empowerment (Ghimire & Lamichhane, 2020).

2.2 The Role of Value Chain Mapping

The value chain mapping of various forest or agricultural products is an important phase that allows for the capture of various value chain aspects in a given value chain analysis. These dimensions of the value chain includes product flows, the actors involved in the chain, costs and margins at different levels of value chain nodes are captured by value chain mapping (Ingram *et al.*, 2016). Value chain mapping create awareness of actors to have broad perspective beyond their involvement in the value chain and help them to get an extensive understanding of connection between actors and the value chain processes (Ingram *et al.*, 2016). Nevertheless, Value chain mapping has the role of classifying the location and position of the poor in the value chain as they are primarily targeted population for poverty reduction (Tieguhong *et al.*, 2015). Consequently, as the available resources are scarce, it is important to prioritize extents of the value chain to be mapped based on the scope and objective of the value chain analysis.

2.3 Gender Roles and Relations along Value Chain

The analysis looks at gender roles and relations in the management of the chain (Ngeywo *et al.*, 2016). Gender roles grew through social, cultural, economic and political process different activities that men and women play in the community. As it is in many other production activities, gender roles in value chains are influenced by traditions (KIT *et al.*, 2012). The women involvement in value chains development interventions is based on what they already do in producing different forest products (Ingram *et al.*, 2014). As

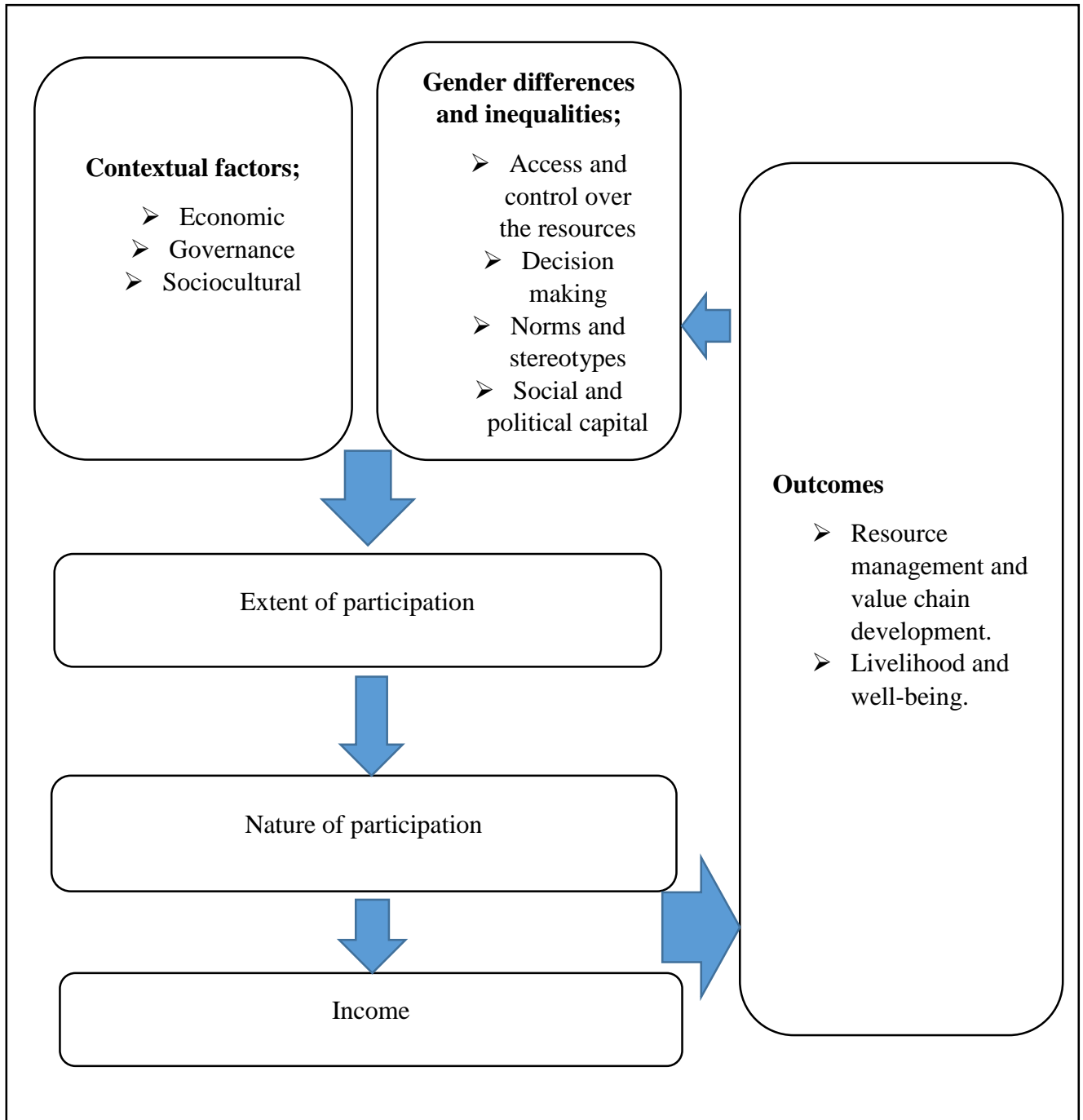
different gender are involved in value chain development undertakings the benefit obtained will also trickle down to the ones involved (Nang'ole *et al.*, 2011).

In some traditions women usually abide the primary responsibility for preparing meals and caring for children and other family members, although men have extra responsibilities for these roles in many communities (FAO, 2013). Conversely, traditional gender division of labour seems to be altering through the impact of labour movement.

Various works, roles and labor valuing create differential access to decision making, profits and services. The difference in valuing of work and access to decision making, benefits and resources strengthen surviving power relations which in turn reinforces prevailing gender roles. Certain kinds of work have been categorized as being female or male activities, because of the socialization practice on the labour division which specifies different roles for different gender. However, as there are major variations in Africa, there is the same division of roles in the forestry sector and different genders are to a large extent involved in most of the forest products value chain activities (Harbi *et al.*, 2018). Numerous studies have emphasized the need to identify, support and appreciate the roles played by different gender in household food security, nutrition and health, population growth and environmental management.

2.5 Conceptual framework

The study's conceptualized that value chains are fixed in and shaped by gender norms, ideologies and power relations on numerous levels. Also dynamics vary across contexts, gender inequalities and these are often influenced by intersecting social relations such as class, ethnicity, and generation. In addition to the moral imperative of addressing gender equality, inequalities along the value chain may inefficiencies. Addressing the issue of gender equality becomes an important means of increasing efficiency and sustainability of the forest products value chain. In addition to offering a framework for value chain analysis also allows for a more normative analysis aimed at identifying how benefits are distributed along the chain, and how unequal patterns of benefit distribution could be changed. It does so by making visible changing aspects of insertion and elimination along various nodes of the value chain, providing understandings into the role of formal and informal institutions in supporting or regulating the chain as well as examining linkages and power relations between chain actors and stakeholders. The conceptual framework is summarized in figure 1 below;



CHAPTER THREE

3.0 METHODOLOGY

3.1 Description of the study area

The study was conducted in Songea district and Namtumbo district. Songea and Namtumbo districts are mainly agrarian where 87% of its population reside in rural areas and are actively engaged in land-based production. The major economic activities of the region are agricultural farming, livestock rearing, lumbering, fishing, bee keeping, mining and trading. The villages under study include included Matimira A, Litowa and Liweta villages for Songea district and Kilangalanga and Masuguru villages for Namtumbo district. These villages are the ones which have a high growth of adapting to the Village Land Forest Reserves approach in the Songea and Namtumbo districts.

3.2 Research design and sampling procedures

Research design is the framework of research methods and techniques chosen by a researcher. The design allows researchers to improve in on research methods that are suitable for the subject matter and set up their studies up for success. This study employed the cross-sectional design where the data were collected at a single point in time.

The data used in this study were collected using a household survey in 4 villages in Songea and Namtumbo districts. In total, 152 households were interviewed. Purposive selection of the study villages was based on the adoption of the VLFRs. Presence of the VLFRs in the villages was used as an indicator on selectin the villages under study. Then the target population involved the actors in the forest products value chain. A

total of 152 households from each village register list were randomly selected for the interviews. The selection of the sample size is supported by Mbeyale (2009) who reported that, a sample of at least 30 participants is sufficient irrespective of the population.

3.2.1 Sampling frame, Unit and Procedure

Non-probability and probability sampling strategies were used in the investigation. The wards/villages that practice VLFR were chosen via purposeful sampling. In comparison to other villages in the district, the chosen villages had to be closest to the chosen forest. The list of villages bordering the specified village land forest reserves used as the sampling frame during village sampling. Then, to find the households where the actors' live, simple random sampling was used. When sampling households for the study, the sampling frames was the updated lists of households' registers in the sampled villages. All chairpersons and executive officers in the selected study sites were asked to update lists of households in their respective areas by excluding households which no longer existed and/or adding those ones which were missing in their lists. Only the head of the household was interviewed at the household level. According to Boyd *et al.*, (1981), the sample size was determined by taking 5% of the intensity from each sampling frame.

3.3 Data collection and analysis

Primary data was employed for data collection in this study. Primary data which was obtained from the respondents/ household heads and the key informants.

Objective 1 To map the gender distribution along the value chain for forest products from the VLFRs;

The data collected included the actors in the forest products value chain. The focused grouped discussions (FGD) were done to collect the data. The focus group discussion consisted of the key informants such as village leaders, the leaders of village environmental committee, District natural resource officers, District agricultural and extension officers. The content analysis and descriptive analysis was done for this research objective.

Objective 2 To examine the gender roles and relations along the value chain for forest products from VLFRs in Namtumbo and Songea districts;

Interviews through the semi-structured questionnaires were done to identify gender positions in the forest products value chain and the type of activities that they are mostly involved in. Variables such as the activities which are done by different gender at each node in the forest products value chain. Descriptive analysis was used as the method of analysis.

Objective 3 To assess benefits by gender at each node along value chain for forest products from VLFRs in Namtumbo and Songea districts;

The interviews through semi-structured questionnaires were conducted to the key informants, and the different gender at each node along the forest products value chain.

The interviews were done in both the villages with VLFRs. The variables such as the prices and costs of the forest products from the VLFRs were collected as the variables from the actors. The descriptive analysis was used as the method of data analysis.

CHAPTER FOUR

4.0 RESULTS AND DISCUSSIONS

4.1 Forest products from Village Land Forest Reserves in Songea and Namtumbo districts

4.1.1 Forest products found in VLFRs

Different forest products were identified to be found in the Village Land Forest Reserves found in Songea and Namtumbo districts. The forest products found in the Village Land Forest Reserves included honey, mushroom, firewood, timber, medicinal plants, vegetables and bamboo plant. These were identified through Focused Group discussions in all of the villages which were Matimira A, Masuguru village, Liweta village, Litoa village and Kilangalanga village. In all of these villages in both districts, declared that the harvesting of the products has not started but are on a planning phase. Some products are harvested in Village Land Forest Reserves for household uses such as cooking, making local beer and medicinal plants for treating different diseases. This was highlighted during focused group discussion where it was reported that;

“Forest products found in our Village Land Forest Reserve are medicinal plant, boriti (timber), firewood, honey (through a recent formed group of honey producers), mushroom and vegetables. But all these aren’t harvested yet since we are on a planning phase but products like mushroom, firewood, medicinal plants and are taken from the Village Land Forest Reserve for household uses” (Litowa village FGD).

This study report on forest products discovered on Village Land Forest Reserves follows up on a previous study that identified various items found in the Village Land

Forest Reserves, including timber (trees), bamboo plants, and mushrooms (Sunderland and Doye, 2004).

Some of the forest products that are harvested for different household uses in the villages includes medicinal plants, vegetables, honey, firewood and mushroom. Figure 1 below shows that, firewood leads with a higher percentage of being harvested from the Village Land Forest Reserves with a percentage of 38%.

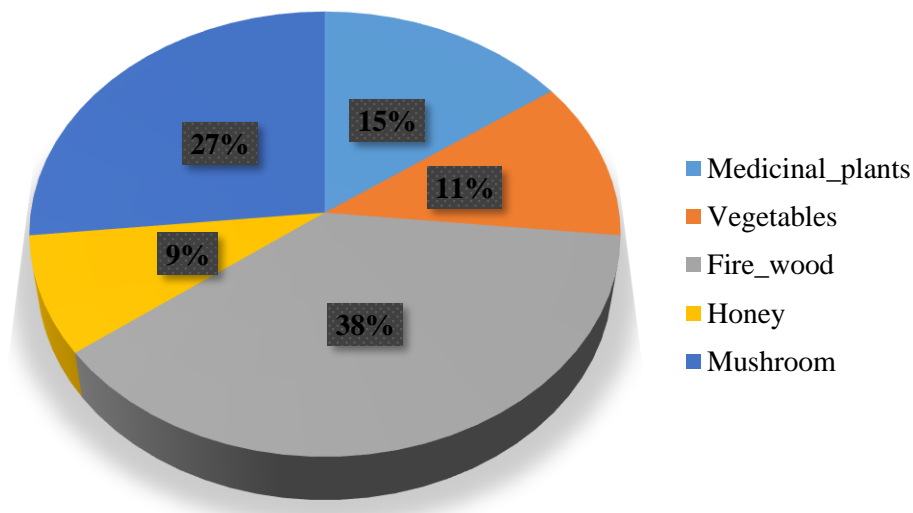


Figure 2; Forest products harvested from Village Land Forest Reserves

Other forest products from the Village Land Forest Reserves include mushroom (27%), medicinal plants (15%), vegetables (11%) and honey (9%). This study shows that firewood has a higher percentage thus most of the households in the villages uses different forest products mainly for their household uses despite using them for raising their income through value addition processes. This is in line with the study which identifies different products found in the Village Land Forest Reserves such as the timber (trees), bamboo plants and mushroom (Sunderland and Doye, 2004).

4.2 Forest products value chain

This study recognized three major value chains channels in Songea and Namtumbo district. The first channel consists of the individual harvester direct to the consumer. The second was individual harvester to the informal trader then to the consumer. And the last was group of harvesters to the informal trader to the consumer. These channels of forest products value chain are shown on Figure 4.

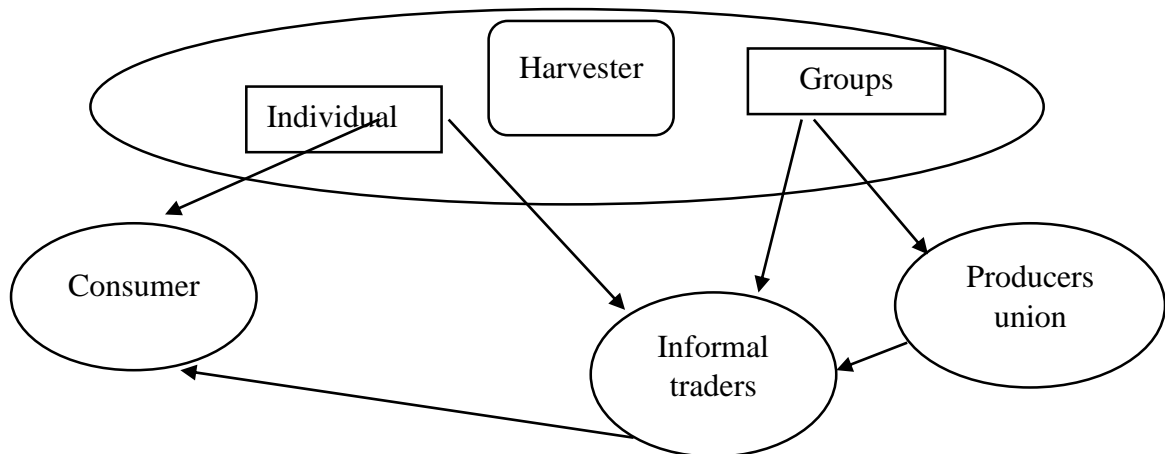


Figure 3: Major value chain in Songea and Namtumbo Districts

Jeckoniah *et al.* (2013), observed that a product might have one or more channels of the forest products value chain. Therefore, this confines with the results of the study of different forest products value chain from the Village Land Forest Reserves in Namtumbo and Songea districts. Also, the study by Sunderland (2014) showed that although the forest products have high economic values, women do not often participate in livelihood activities and have restricted access to the processing knowledge and market prospects where men are frequently involved in many noticeable livelihood activities and trading high value forest products.

Most information on the participation concerns the harvesters/collectors, where men are reportedly to participate more than women in the VLFRs. The results mirrors the study by Sunderland *et al.*, 2014, which found that whilst both men and women participates in collection and processing for trade. Differences in male and female participation in harvesting are influenced by physical nature of the task, household responsibilities and distance to the VLFRs.

4.2.1 Value chain interventions of forest products from VLFRs

Different value chain interventions are conducted in the study areas. In the districts of Songea and Namtumbo, the investigation found different value chain interventions conducted by the actors getting products from the VLFRs. The product upgrade plan and the vertical upgrading are the ones that has been identified. The product upgrading procedure which included drying, packaging, soaking and filtration were used in upgrading the value of the forest products from the VLFRs. Men dominated most of these activities as presented in (Figure xx). On the other hand, vertical upgrading process was done in honey production where there was formation of honey producing groups and in the case of mushroom there was selling of the mushroom in pieces which

added value of the mushroom rather than selling in bags. It's only the vertical upgrading process in the case of the medicinal plant, where the treated individuals would link other people to use or go to be treated by the same medicinal plants.

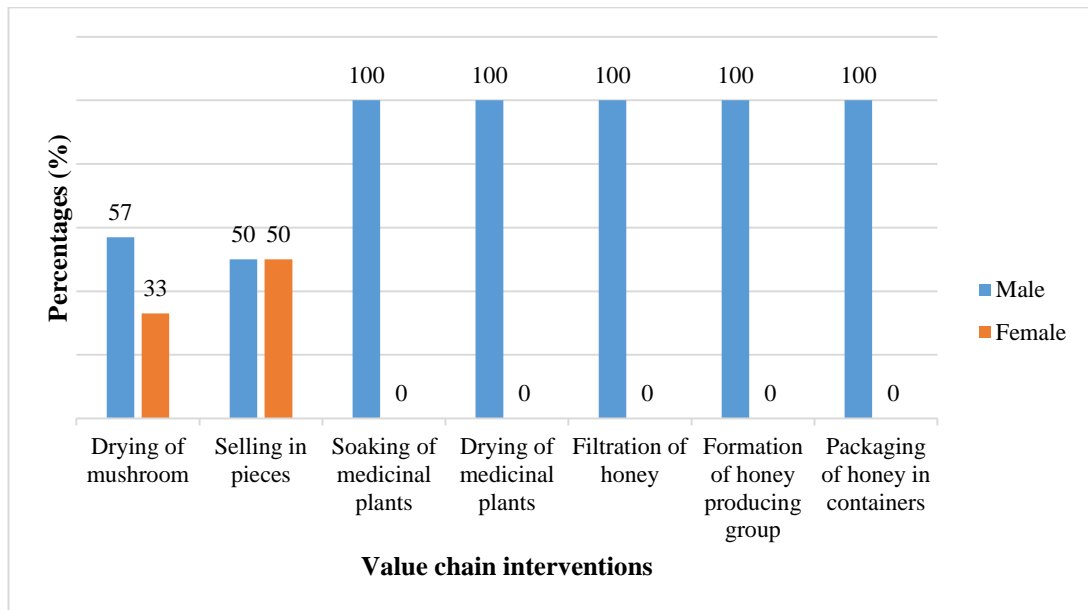


Figure 4: Value chains interventions

This is in line with Singh's (2012) study, which identified vertical upgrading of sabai grass in India through business operations and interlinking of traders. In addition, Konate & Ouedraogo (2010) highlighted product upgrading through support to improve the quality of shea butter, which would meet end user satisfaction. As a result, these value chain interventions play a critical role in improving product quality throughout the value chain.

4.2.2 Gender distributions along the forest products value chain

Results revealed that men dominated all nodes. The value chain nodes included harvesters, traders and consumers. In terms of gender distributions, at harvesting node men were 71% while women were 29%. For the trading node, men were 80.5% and women 19.5% whereas for the consumers men had 60% and women had 40% (Figure 2).

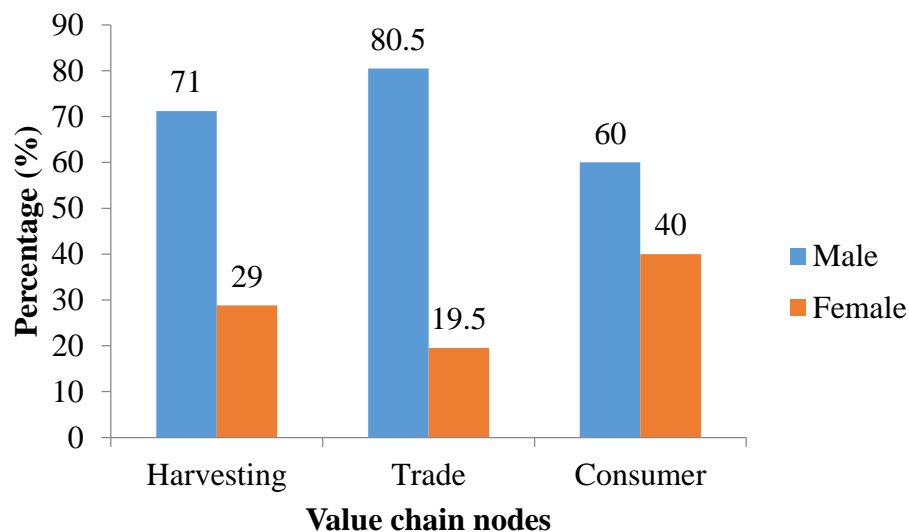


Figure 5: Value chain nodes showing gender distributions

A thorough examination also reveals that what women do in value chains is always influenced by the environment they live in and the needs they have. Women in cities, for example, can trade full-time, whereas women in rural areas can only deal part-time. Because it fits in with other responsibilities or because they have fewer opportunities, rural women can work part-time. Shillington (2002) says the same thing as this study, that mapping gender distributions along the value chain provides a better understanding of the roles played by each gender and labor division.

The majority of data on participation pertains to harvesters/collectors, with men allegedly participating in VLFRs at a higher rate than women. The findings are similar to those of Sunderland *et al.*, 2014, who discovered that both men and women participate in trade collecting and processing. The physical nature of the labor, home duties, and distance to the VLFRs all influence male and female participation in harvesting.

Male dominance was detected rather than female dominance at the trader stage. In every case, men were said to be more involved (80.5 %) than women. Men's dominance is primarily influenced by factors such as household obligations, distance from trading places, social restrictions/prescriptions, access to finance, and literacy level.

4. 3 Gender roles and relations at different nodes in VLFRs

4.3.1 Gender roles at different nodes in VLFRs

The roles and relation of different gender along the forest products value chain consisted of protection, extraction, hanging of beehives, trading in rural market, trading in urban market, processing and consumption. According to Figure3, 85% of actors were men in protection roles. In extraction harvesting of forest products 60% were male. In placing of beehives, men constitute of 100% , on trading in the rural market for different forest products, men constitutes of approximately 63% and 33% of women while on trading in urban market 100% are men . On the processing of the forest products, men consists of 100% also on consumption of forest products men had 60% and women had 40%.

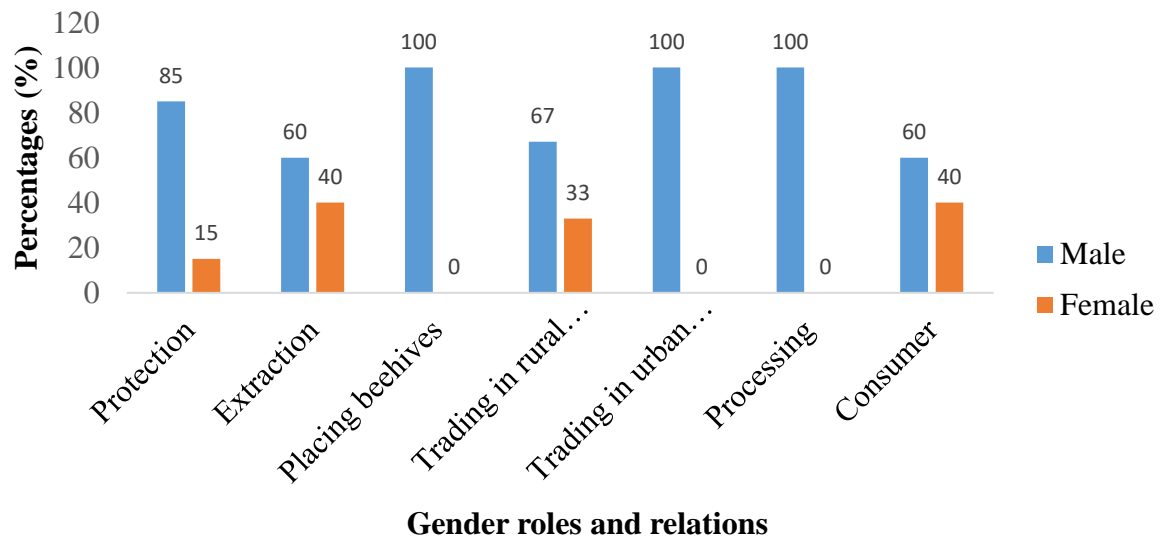


Figure 6: Gender roles along the value chain

The harvesters mostly consisted of the forest patrol and the forest products extractors. In harvesting node, men were highly involved since women were restricted by their husbands to involve themselves in the harvesting activities which includes the protection and extraction roles and had no awareness of different forest activities and their importance to the economy of their households. The trader's node was mostly occupied by men and a lot consisted of the processors. Traders in rural urban market were male. The major constrained that limited females involvement was lack of capital to enable them engage in trade e.g. transportation of forest products to the market Ingram *et al.* (2016) had similar observation that there is a high challenge in participation of all gender groups in accessing capital for the conduction of the forest related businesses.

Village Natural Resource Committees (VNRCs) manage VLFRs on behalf the Village Governments. Composition by gender of the VNRCs shows male domineering. For

example in the Masuguru village in Namtumbo district had 11 male and 6 female, the VNRC of Kilangalanga village had 8 male and 3 female, and Litowa had 12 male and 5 female. The key challenges were distance to the forest sites where women are said not to be able to handle it, lack of support from the husbands who are not willingly to let their wives to participate in the said male activities and low awareness of the villagers on the importances of protecting the VLFRs.

Women's and men's varied engagement in chains was attributed to differences in norms and surrounding the gendered division of labor in (36 percent) of the studies. This shows that gendered power relations, especially inside households but also in businesses, have an impact on men's and women's participation in chain activities and the benefits they get. As contributing factors, inequitable gender power relations in terms of decision-making at the home and community levels were mentioned.

4.4 Benefits by gender along the forest products value chain

The amount of money made through forest product trading varied depending on where you were in the chain. Village governments and VNRCs claimed that the VLFR products do not generate any revenue for them, but that they do bear the costs of patrolling against illicit harvesters.

Members of the VNRC are normally paid for the time they spend patrolling over the VLFRs. For every patrol activity, each member is given Tshs 10,000. During their protection efforts, members of the Village Resources Committee were also able to obtain various forest products from the Village Land Forest Reserves. According to the Village Natural Resources Committee's survey, men are the majority in all of the villages with Village Land Forest Reserves in the Songea and Namtumbo districts because they are numerous. This demonstrates that men earn more money than women

for a variety of reasons, including restrictions placed on women by their husbands who believe their wives are incapable of working in VNRCs.

This is in line with a previous study by Jeckoniah *et al.*, 2013, which found that due to a lack of support, over 36% of women were doing tasks or activities that were deemed to be men's occupations. Jeckoniah *et al.*, (2013) also discovered that the majority of women who are married to their husbands do not receive support from them. The medicinal plant value chain had a benefit/revenue of around Tshs 183,000 Tsh per year, according to Table 1. The majority of this benefit went to men who practiced informal medicine in the countryside and used herbal medicine to cure ailments. On the mushroom value chain, males profited more, earning Tshs 2388 per day, while female mushroom collectors earned Tshs 1250 per day (Table 1). This variation in mean is related to the fact that men are highly concentrated in mushroom trading, whilst women are highly concentrated in mushroom picking for eating.

Table 1: Revenues by gender along the value chain

Value chain	Gender	Benefit(Tsh)	Costs (Tshs)
Medicinal Plant	Male	1830000	0
	Female	0	0
Mushroom	Male	2388	0
	Female	1250	0
Honey	Male	89000	10000
	Female	0	0

In the instance of the honey value chain, Litowa village had only one group that began producing and selling honey for human use. "Kanyaga Twende" was the name of the honey group, which consisted of only three men. As a result, women are no longer active in the honey value chain in the Songea and Namtumbo districts' Village Land Forest Reserves. The average cost of a male was 10,000 Tshs, which included the expense of transportation to the town to sell honey. The honey-selling group had a profit of 99,000 Tshs, resulting in an 89,000 Tshs revenue/benefit ratio.

CHAPTER FIVE

5.0 CONCLUSION AND RECOMMENDATIONS

5.1 Conclusions

According to the report, communities in the Namtumbo and Songea districts have been denied the right to extract or harvest forest resources such as timber, mushrooms, honey, and medicinal plants from adjoining Village Land Forest Reserves. Because the Village Land Forest Reserves have yet to begin operations, this is the case. Despite having access to forest products from the Village Land Forest Reserves, members of the Village Natural Resources Committees tend to pick medicinal plants, mushrooms, honey, and firewood for a variety of purposes. Men are responsible for around 71% of the harvesting node, whereas women are responsible for approximately 29% of the harvesting node. Men make up 80.5% of the trading node, while women make up 19.5%, while men and women make up 60% and 40% of the value chain's consumer node, respectively.

On gender roles and relations at different nodes of the forest products value chain from the Village Land Forest Reserves results shows that most of the roles are done by men since the women are abstained from the various activities done in the forest. The roles and relations had the results such as follows; men have 85% and female have 15% in protection roles. In extraction of forest products men have 60% and 40% women. In pacing of beehives, men constitute of 100% with 0% of women. On trading in the rural market for different forest products, men constitutes of 63% and 33% of women while on trading in urban market 100% are men and 0% are women. On the processing of the forest products, men consists of 100% and women 0% also on consumption of

forest products men had 60% and women had 40%. This shows that women haven't been able to participate in various forest activities due some factors which are lack of trainings which will make them aware of the importance of participating in different forest activities, also customs and traditions which assigns certain works for the men and women and husbands resisting their wives to participate in forest activities.

In comparison to women, men tend to benefit more at each node of the forest products value chain because they are the ones who are most involved in all stages of the value chain, particularly the trading stage. Contrary to women who are mostly involved in the collecting or picking of the forest product from the Village Land Forest Reserves of benefits acquired by each gender, men tend to dominate and gain more benefits.

5.2 Recommendations

Based on the above-mentioned research results, discussion and conclusions, the following recommendations are made:

- i. The government through the village governments and the Village Natural Resources committee should conduct more education trainings to increase awareness of the villagers especially women on the advantages of participating on the VNRCs. This will encourage villagers to invest more in forest activities due to insurance of returns.
- ii. The government and other value chain programme institutions such as FORVAC should train villager to harvest forest products in a sustainable manner and also teaching them the value addition processes. This will help

to reduce conflicts related to the availability of the forest products from the Village Land Forest Reserves.

- iii. Production and marketing strategy for the forest products from the Village Land Forest Reserves need to be in place in order to act as guide in price controlling, quality as well as ensuring sustainability of trade in forest products from Village Land Forest Reserves.
- iv. The government as well as the non-governmental institutions should increase the struggles towards the decreasing of the gender inequalities which prevents equality on accruing of benefits.

REFERENCES

- Agarwal, B. (2009). Gender and forest conservation: The impact of women's participation in community forest governance. *Ecological Economics*, 68(11), 2785–2799. <https://doi.org/10.1016/j.ecolecon.2009.04.025>
- Asmin, F., Darusman, D., Ichwandi, I., & Suharjito, D. (2019). Mainstreaming community-based forest management in West Sumatra: Social forestry arguments, support, and implementation. *Forest and Society*, 3. <https://doi.org/10.24259/fs.v3i1.4047>
- Faida, M. (2006). *Chain empowerment: Supporting African farmers to develop markets*.
- Ghimire, P., & Lamichhane, U. (2020). *Community Based Forest Management in Nepal: Current Status, Successes and Challenges*.
- Gruber, J.S. (2019). Key Principles of Community-Based Natural Resource Management: A Synthesis and Interpretation of Identified Effective Approaches for Managing the Commons, *Environmental Management* 45(1):52-66
- Harbi, J., Erbaugh, J. T., Sidiq, M., Haasler, B., & Nurrochmat, D. R. (2018). Making a bridge between livelihoods and forest conservation: Lessons from non timber forest products' utilization in South Sumatera, Indonesia. *Forest Policy and Economics*, 94, 1–10.
- Ingram, V., Haverhals, M., Petersen, S., Elias, M., Basnett, B. S., & Sola, P. (2016). Gender and forest, tree and agroforestry value chains. *Gender and Forests*, 221–242.

- Ingram, V., Schure, J., Tieguhong, J. C., Ndoye, O., Awono, A., & Iponga, D. M. (2014). Gender implications of forest product value chains in the Congo basin. *Forests, Trees and Livelihoods*, 23(1–2), 67–86.
- Jeckoniah, J. N., Mdoe, N. S. Y., & Nombo, C. N. (2013). *Mapping of gender roles and relations along onion value chain in Northern Tanzania*.
- Linuma, O. F., & Tang'are, J. (2018). Community Perceptions towards Participatory Forest Management, A Case of Kazimzumbwi Forest Reserve in Kisarawe, Tanzania. *International Journal of Scientific and Research Publications (IJSRP)*, 8(10). <https://doi.org/10.29322/IJSRP.8.10.2018.p8217>
- Lupala, Z. J., Lusambo, L. P., & Ngaga, Y. M. (2017). Feasibility of Community Management of Miombo Woodlands for Carbon Project in Southern Highlands of Tanzania. *International Journal of Ecology*, 10.
- Mbeyale, G. E. (2009). The impact of institutional changes on the management of common pool resources in Pangani River Basin. A case study of Eastern Same Kilimanjaro, Tanzania. Thesis for Award of PhD Degree at University of Dar es Salaam, Tanzania. 307pp.
- Mburu, P. D. M. (2015). *Mapping of the honey value chain and analysis of changes in gender roles and factors influencing women empowerment among beekeepers in Kitui County, Kenya*. University of Nairobi.
- Ngeywo, J., Egesah, O., Biwott, T., & Waliaula, J. (2016). *Gender Based Determinants of Coffee Consumption for Management of Coffee Production in Kenya*.

Poschen, P., Sievers, M., & Abtew, A. A. (2014). Creating rural employment and generating income in forest-based value chains. In *Forests and Rural Development* (pp. 145–166). Springer.

Promita, R., Biswajit Mukherjee,. (2017). *Attitudes and cooperation: Does gender matter in community-based forest management? - ProQuest*.
<https://search.proquest.com/openview/63f9988981cc8d9d55ff9b6a8934347b/1?pq-origsite=gscholar&cbl=33210>

Rubin, D., & Manfre, C. (2014). Promoting gender-equitable agricultural value chains: Issues, Opportunities, and Next Steps. In *Gender in agriculture* (pp. 287–313). Springer.

Singh AK. 2012. Money doesn't grow on trees: It grows on the ground! In Laven A and Pyburn, eds. *Challenging chains to change: Gender equity in agricultural value chains development*. Amsterdam: KIT Publishers, Royal Tropical Institute.

Sunderland T, Achwiadan R, Angelsen A, Babigumira R, Ickowitz A, Paumgarten F, Reyes-Garcia V and Shively G. 2014. Challenging perception about men, women and forest product use: A global comparative study. *World development*. 64:S56-S66

Sunderland, T. and Ndoeye, O. (eds.) 2004 Forest products, livelihoods and conservation: case studies of Nontimber forest product systems. Volume 2-Africa. Bogor, Indonesia: CIFOR.

Tieguhong, J. C., Ingram, V., Mala, W. A., Ndoye, O., & Grouwels, S. (2015). How governance impacts non-timber forest product value chains in Cameroon. *Forest Policy and Economics*, 61, 1–10.

APPENDICES

Appendix 1: Questionnaire for the household's survey

The interviews will take between 30-45 minutes of your time. I would like to assure you that information in this questionnaire will be used only for the intended research purposes. No names of residents/respondents are required in this questionnaire. I greatly appreciate your participation in this study.

Section A; Identification variables

Identification number	
1. Time of the interview starts	
2. Name of the interviewer	
3. Date of interview	
4. Questionnaire/household number	
5. Interviewee; a) Household head b) Spouse c) Others (specify)	
6. Village name	
7. Ward	
8. Division	
9. District	
10. Region	

B. Household socio-economic characteristics

12. Total size of household

13. Number of children; Female Male 14. Number of adults; Female Male 15. Years residing at the area;

16. Provide the following information for the household members;

Household member	Gender	Age	Marital status	Education level	Main occupation	Income/wage/salary
	1)Male 2)Female		1. Married 2. Never married 3. Widowed 4. Divorced 5. Separated	1)Illiterate 2)Primary 3)Secondary 4) Adult 5) College 6)University 7) Others	1)Employee 2)Formerly employed 3)Casual laborer 4)Firewood/charcoal 5) House work	

C. Household engagement in community forest

20. Do you engage yourself in VLFRs?

.....

21. What caused you to/not to engage in community forestry?

.....

17. What are the roles performed by different groups in VLFRs? Use the following guideline

Roles	Men	Women	Disabled	Children
Timber				
Bee keeping				
Protection				

18. What are your roles in managing the forest under the village?

.....

.....

.....

19. How do you benefit from the VLFRs?

.....

.....

23. What are the forest products, uses, quantities consumed and unit cost for each product?

Forest product	Types of uses	Amount consumed (indicate units)	Unit price(if marketed) (Tshs)

24. Do you consider VLFR an imperative forest management strategy? Why?

.....

22. How much do you (are you willing to) pay for protection/management of VLFRs?

.....

26. What are the main challenges (to be improved) in VLFR?

- a). d)
 b) e)
 c) f)

27. Has VLFR improved forest condition in your area? (Yes/No) Explain

How/Why

- a).
 b)
 c)

28. Has VLFR improved your income status? (Yes/No) Explain **How/Why**

.....

29. Has there been gender discriminations in accessing the forest resources? Explain.

.....
.....

30. Which gender has more access to the forest resources? Why?

.....
.....

31. What is the situation for the disabled, women and children in accessing the forest resources?

.....
.....

32. What could be done to improve their rights (disabled, women) to access to access forest resources?

.....
.....

33. What interventions do you do to upgrade your products?

.....
.....
.....

Appendix 2; FOCUSED GROUP DISCUSSION QUESTIONS

1. What are the roles performed by different gender in the community?
2. Who are the actors in the forest products value chain in the area?
3. What are the activities done in the forests?
4. What are the benefits obtained through conducting community forests?
5. What are the limitations to access the forest resources?
6. How are women benefiting from the community forestry?
7. What products do women get from the forest?
8. Are there any extra values found from the VLFR?
9. Do you gain income from the VLFR?
10. How do you gain income from the VLFR?

Appendix 3; Checklist for Key Informant

1. Who are allowed to engage in community forestry?
2. What are the roles of different gender in VLFRs?
3. Why did you opted for VLFR management approach?
4. How can you gauge its overall performance
5. What are the benefits and challenges under VLFR approach?

FCG.