IMPACT OF MICROFINANCE ON LIVELIHOOD DIVERSIFICATION OF WOMEN AGRO- PROCESSORS IN THE NORTHERN REGION OF GHANA

BY

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DECLARATION

I, Fadilah Mohammed, hereby declare that this thesis, **"Impact of Microfinance on Livelihoods Diversification of Women Agro Processors in the Northern Region of Ghana"**, is completely my innovative work produced from research undertaken under supervision; that no portion of it has been presented for an additional degree somewhere else and that this thesis has been submitted for examination with the approval of my supervisors. I also declare that any quotation or a rephrase from published and unpublished work (s) of any other person (s) have been duly acknowledged

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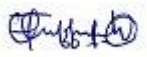

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ABSTRACT

The dominant agro-processing activities in the Northern Region include shea butter and rice processing. Despite the extension of microfinance services to women agro-processors (shea butter and rice processors) by Governmental and some non-governmental microfinance institutions and banks in the region, agro-processors have still not been able to improve upon their performance in terms of output and income. This poor performance does not only limit the growth of agro-processing enterprises but also, it limits poverty reduction efforts/ activities in the area. This study, therefore, assessed the impact of microfinance on livelihoods diversification of women agro-processors using 402 agro-processing enterprise owners. The study was undertaken in fifteen (15) communities drawn from the Tamale Metropolis and the Kumbungu District of the Northern Region of Ghana. A cross-sectional survey design was used with the collection of both quantitative and qualitative data. The methodology used was the treatment and control approach which involved the use of techniques such as interviews, focus group discussions and observations. Descriptive and inferential statistics such as frequencies, pie charts, histograms, Ordinary Least Squares (OLS) Linear regression model, Probit regression analysis, Analysis of variance, *t*-test and Chi-Square analysis supported by qualitative narratives were employed in analysing the study's data. Results of the study revealed that socio-cultural and socio-economic characteristics of women agro-processors had a significant influence on women agro agro-processors' participation in microfinance programmes. Additionally, education, household size, labour, credit, number of loans taken, and training were positively related to the output of shea butter and rice processors. The study further found out that, majority (69.4%) of women agro-processors enterprises had experienced some level of growth because of their participation in MF programmes. However, there was no significant difference in agro-processors participation in MF programmes and the number of people employed (labour) between the various levels of participation in MF programmes. Results of a t-test found a significant difference in average monthly household expenditure on food, clothing, health, education and social activities between participants and non-participants of MF programmes. Also, the majority (58%) of women agro-processors surveyed had diversified their livelihoods activities. Participants of MF programmes were more likely to engage in diversified livelihoods as compared to non-participants. Similarly, results of a Probit regression analysis found that with Pseudo $R^2 = 0.7228$, the Probit regression was found to be significant with 72% of the variation in livelihood diversification being jointly explained by the variation in the selected independent variables. The study also revealed that collateral lending, savings demand, high-interest rate, small loan sizes, and unfavourable repayment terms are the challenges agro-processors encounter when accessing MF products particularly microcredit from MFIs**.** It is therefore recommended that; the central bank should reduce interest charged on loans given to MFIs to enable them to subsidise credit given to women agro-processing borrowers as advocated by the welfarist approach. This would enhance agro-processors' microenterprise development and poverty reduction in the studied communities and Ghana as a whole.

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DEDICATION

I dedicate this thesis to my children, Rafeeda Wunzooya Seidu, Rafeeka Wunitira Seidu, Nadia Katari Seidu and Farouk Pumaaya Seidu and my lovely Mother Umu-Kulsum Sani and Father Ahmad Mohammed Mukhtar.

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ACET	Africa Center for Economic Transformation
AGRA	Alliance for Green Revolution in Africa
BA	Behavioral Attitudes
BoG	Bank of Ghana
CBRDP	Community Based Rural Development Programme
DFID	Department for International Development
DIF	Social Investment Fund
FAO	Food and Agriculture Organization
FASDEP	Food and Agriculture Sector Development Policy
FINSSP	Financial Sector Strategic Plan
FNGOs	Financial Non-Governmental Organizations
GCSCA	Ghana Cooperative Susu Collection Association
GDP	Gross Domestic Product
GLSS	Ghana Living Standards Survey
GSS	Ghana Statistical Service
IFJ	Investment for Food and Jobs
ISSER	Institute of Statistical Social and Economic Research
MDB	Money Deposit Banks
MFI	Microfinance Institution
MDGs	Millennium Development Goals
MoFA	Ministry of Food and Agriculture
MTNDPF	Medium-Term National Development Policy Framework
MVA	Manufacturing Value Added
NBSSI	National Board for Small Scale Industries
NDPC	National Development Planning Commission
NGOs	Non-Governmental Organization
NTE	Non-Traditional Export Earnings
OLS	Ordinal Least Squares
PERD	Planting for Export and Development

PFG	Planting for Food and Jobs
PHC	Population and Housing Census
RCB	Rural and Community Banks
RFSP	Rural Financial Service Project
RTIMP	Root and Tuber Improvement and Marketing Programme
SEND	Special Educational Needs and Disability
SLA	Sustainable Livelihoods Approach
SLCs	Savings and Loans Companies
TPB	Theory of Planned Behavior
UN	United Nations
UNDP	United Nations Development Programme
UNIDO	United Nations Industrial Development Organization
SN	Subjective Norm
PBC	Planned Behavioral Control
TRA	Theory of Reasoned Action
SMEs	Small, Medium Enterprises
MFARN	Microfinance Action Research Network
MDAs	Ministries, Departments and Agencies
MASLOC	Microfinance and Small Loans Centre
RCBs	Rural Community Banks
SLCs	Savings and Loans Companies
EU	European Union
DD	Double-Difference
SMCP	Savings and Micro-Credit Programme
ATE	Average Treatment Effect
FHHs	Female-Headed Households
MHHs	Male Headed Households
LD	Livelihoods Diversification
DECSI	Debit, Credit and Savings Institutions
FGD	Focus Group Discussion
SPSS	Statistical Package for the Social Sciences

CHAPTER ONE

INTRODUCTION

1.0 Background

The global population is projected to surpass the 9 billion mark by 2050 and agriculture has a crucial role to play in raising global food production to commensurate with the growing food demand to ensure food security, create additional jobs and improve income growth. (FAO and UNICEF, 2017). This is to ensure poverty eradication and rural economic prosperity, especially in developing countries (FAO and UNICEF, 2017). This is because most of the world's poor live in rural areas, with 70 percent of the rural population employed in the agricultural sector (World Bank Group, 2017). In Africa, agriculture is central to growth and economic development since it provides the livelihood for over half of the population, and constitutes the largest contributor to GDP, food security and poverty reduction, particularly among rural households (AGRA, 2018; Osei-Akoto et al., 2013; Todaro and Smith, 2012). In Ghana, the agriculture sector has traditionally served as the mainstay of the economy because of the contribution of the sector to Gross Domestic Product (GDP), foreign exchange earnings and labour absorption (GSS, 2013). For example, agriculture sector contributions to foreign exchange earnings averaged 45% in the 1990s but declined to 40% in the 2000s (ISSER, 2011). Also, the share of the sector in GDP was 40.3% in 2004 but dropped to 18.5% in 2017 (MOFA, 2011; MoF, 2018), showing the dwindling role the sector plays in the economic performance of the country. The 2010 Population and Housing Census (PHC) further estimated that over 13.4 million people constitute agricultural households, representing 54.2% of the total population, of which 73.5% are from rural agricultural households (GSS, 2013).

However, attempts to transform Africa's agriculture must go beyond boosting productivity and output to making the sector profitable through expanding and modernizing the agribusiness sector. Thus, modernization and development of the agro-processing industry is a catalyst for bolstering Africa's industrialization drive and increasing employment and incomes, which will reciprocally stimulate agricultural growth and improve farmers' incomes (African Centre for Economic Transformation, ACET, 2017).

Agro-processing encompasses the post-harvest activities needed to transform, preserve, and prepare agricultural produce for intermediary or final consumption (ACET, 2017). The various activities or services that are embedded in agro-processing include storage, grading and standardization, transport, packaging, distribution, marketing, and financing, and the value-added by these processes play a pivotal role in transforming agriculture in Ghana in particular, and Africa as a whole (ACET, 2017). Agro-processing constitutes an integral component of Ghana's agriculture value chain, contributing significantly to food security, employment creation, export earnings, and diversification of rural economies in Ghana. Ghana's population growth rate of about 3% continue to surpass 2% growth rate in food production, making the role of food processing and marketing more important in reducing food spoilage, food insecurity and widespread poverty (Okorley and Kwarteng, 2000). Although the sector is dominated by small and medium-scale female players, it remains the largest employer of the rural labour force in most agricultural communities in the country (Afful-Koomson and Fonto, 2015). Also, not only was the share of agro-processing manufacturing value added (MVA) in total MVA above 50% in 2011 and 2014 (ACET, 2017; UNIDO, 2011), but also, its share

of total export earnings increased by 38% between 2004 and 2011 (Oduro and Offei, 2014). Furthermore, agro-processing firms contributed 86.3% of the country's total Non-Traditional Exports (NTEs), generating US$2.16 billion in export earnings in 2014.

The agro-processing industry also offers enormous opportunities for increasing food security and nutrition, exportability of agricultural produce, rural enterprise development and diversification of rural economies, and farmers' incomes and livelihood security (Owoo and Lambon-Quayefio, 2017). However, the agro-processing industry, which is dominated by women with low educational levels and skills, is characterised by low productivity, low-value addition to agricultural commodities and weak linkages with marketing and financial services (Afful-Koomson and Fonto, 2015). Given the low operating capacity and scale of agro-processing firms, food spoilage and wastage, post-harvest losses and food insecurity are rising significantly in the country (Vowotor et al., 2013). For example, the estimated magnitudes of the postharvest losses for food crops in the country range from 7.5 – 53.8% for maize, 6.3 – 19.1% for rice, 10.4 – 26.5% for cassava, 23.8 – 97.3% for yam, 10 – 94% for cowpea, 11.2 – 70% for fish, and 20 – 50% for tomato (Owoo and Lambon-Quayefio, 2017; Vowotor et al., 2013).

In Ghana, productivity and uptake in the industry continue to be low due to many constraints, including lack of modern agro-processing equipment, high cost of equipment, limited access to extension services, poor managerial skills, and inadequate financial services (Owoo and Lambon-Quayefio, 2017). Besides, most

women in the agro-processing industry rely on energy-exhausting traditional processing technologies for processing, resulting in low yields and poor product quality (MoFA, 2007). Even though women constitute 50% of the total agriculture labour force and contribute more than 95% in agro-processing in Ghana (FAO, 2012), they have limited access to agricultural resources and essential services such as land, agrochemicals, improved seeds, and finance (Jost et al., 2016). Women in the agro-processing industry also have limited access to physical markets and price information, which renders them less price competitive, technically inefficient, and unprofitable (SEND Ghana, 2014). These gender-based constraints hinder growth in productivity, product quality, and profitability in the agro-processing industry in the country and are generally attributed to cultural, policy and institutional factors (MoFA, 2007).

Currently, there is growing concern and interest among policymakers, stakeholders, and international development partners in improving productivity, competitiveness, quality, incomes, and living standards of small-scale agro-processors in the country (Andam et. al., 2015). Past interventions in the agro-processing industry have yielded limited positive impacts on the development of the industry. For example, the establishment of mechanization centres and improvement of incentive structures for increased uptake of agro-processing activities under the Food and Agriculture Sector Development Policy (FASDEP II) did little to promote the intended agro-based industrial development in the country (MoFA, 2007; MoFA, 2010). Also, the provision of business development training, new technologies, and linkages with large-scale industries for root and tuber processors under the implementation of the Root and Tuber Improvement and Marketing Programme (RTIMP) had mixed results on improving income and food security (MoFA, 2020). Given this, the Government of

Ghana developed the agriculture development and investment plan dubbed "Investing for Food and Jobs (IFJ): an agenda for transforming Ghana's agriculture (2018-2021)" to operationalize government vision in the Medium-Term National Development Policy Framework (MTNDPF). It is within the objectives and strategies of IFJ agenda (2018-2021) that government fashioned out its current flagship programmes including the Planting for Food and Jobs (PFJ), Planting for Export and Rural Development, Rearing for Food and Jobs, One-District-One-Factory, and One-District-One-Warehouse, among others to transform and modernize agriculture in the country (MOFA, 2018). Implementation of the IFJ is expected to drive the agenda for structural transformation of the economy through modernizing the agri-food system and transfer of resources to farmers, agri-food enterprises, and other value chain actors (MOFA, 2019; MoF, 2018; MOFA, 2017;). The PFJ programme particularly seeks to improve the marketability of food crops by establishing strong linkages between the producers (farmers), private aggregators, public food programmes, and food and feed processing enterprises (MOFA, 2019).

While the implementation of these programmes may produce positive returns, socio-cultural related gender imbalance (for example, women having no right to own property, women serving as property to their husbands, religious beliefs) in access to external financial services, productive resources such as land, and extension services among agro-processors especially poor smallholder women processors are causing low uptake and poor adoption of productivity-enhancing and quality-improving processing technologies (MoFA, 2007). These tend to reverse the anticipated benefits of these programmes. It is therefore believed that to solve the problem of lack of adequate access to financial services, microfinance must play a crucial role.

Microfinance is the provision of a variety of financial services to poor, low-income people and micro and small enterprises that lack access to banking and related services" (United Nations, 2013). The importance of microfinance as a development tool cannot be underestimated as it has succeeded in creating entrepreneurial opportunities for the relegated and vulnerable people who are frequently excluded from the formal financial sector (Wijesiri, 2016). Microfinance institutions have demonstrated tremendous effort to promote financial inclusion of the poor in developing countries as reported by the Microcredit Summit Campaign Report (Gray, Rao and Rogers, 2015). The report further discloses that about 211 million customers were served by microfinance institutions in 2013 and more than half of these clients were among the poorest at their first loan applications. Also, all clients with outstanding loans dropped from 116 million in 2012 to 114 million in 2013 (Wijesiri, 2016).

The use of microfinance as a model for improving the wellbeing of the rural poor especially in developing countries stems from the demand by the Microfinance Summit in 1997 to organize $ 20 billion over ten years to support microfinance; the declaration of 2005 as a year of micro-credit by the United Nations, and the eventual award of the Noble Peace Prize to a generally commended originator of contemporary microfinance, Professor Muhamad Yunus and the Grameen Bank (Annim and Alnaa, 2013).

Also, the evolution of microfinance as an important instrument in the fight against poverty can be traced to the acknowledgement of credit market failures, especially in the banking sector which has led to a shift from the banking sector to microfinance, which combines both savings by the poor and extending credit to the poor to sustain

their livelihoods (Okojie et al., 2006). This presupposes that savings services, and not just loans, can assist in improving the wellbeing and livelihoods of the rural poor in general and women in particular (Vonderlack and Schreiner, 2002).

Microfinance, however, has been operated in Ghana for more than five decades as history indicates that the first credit union in Africa was established in Northern Ghana in 1955 by the Canadian Catholic Missionaries in the Upper West Region (BoG, 2007). This study argues that harnessing the rapid growth of microfinance services such as micro-credit, micro-saving, and insurance, as well as financial management and business training services is critical to helping women agro-processors have access to adequate financial services to enhance processing productivity, growth, and diversification by increasing working capital, expanding processing scale, hiring external labour, and acquiring improved processing technologies and equipment. Thus, a well-planned and a well-implemented microfinance project that provides microcredit and savings to small scale agro-processing enterprises in Ghana has a greater potential to increase uptake and expand existing agro-processing microenterprises, increase productivity, smooth income, and consumption flows, diversify income and livelihoods, and thus improve overall welfare (Oladele and Ward, 2017). This study, therefore, seeks to analyse the influence of microfinance on the livelihoods and livelihoods diversification of women agro-processors in the Northern Region of Ghana.

1.1 Problem Statement

In Ghana, the introduction of the rural banking system in the 1970s was intended to increase access to financial services for rural and under-served populations, including women agro-processing firms (Egyir, 2010). However, despite Ghana's large and diversified agricultural base, the performance of agro-processing industries,

particularly smallholder women group enterprises are low (Ampadu-Ameyaw and Omari, 2015). Although levels of financial inclusion in the country are growing, the financial needs of agro-processing firms, dominated by women are significantly underserved (Trombetta et al., 2017).

The Northern Region of Ghana has the highest microfinance branch network. The incidence of poverty in the region is not only high (50.4%), but it is the biggest single contributor to the total poor population in Ghana (GSS, 2014). According to the GLSS, Northern Ghana accounts for more than one-third of all poor households in the country (GSS, 2018), while women are the worst victims. Northern Ghana has consistently lagged in terms of per capita income, education, access to potable water, good infrastructure, and health (World Bank Group, 2017). Most of the microfinance institutions provide a variety of financial services to women involved in agro-processing activities such as shea butter, rice, and groundnut oil processing, among others, aiming at improving livelihood security and reducing poverty (Al-Hassan et. al 2013; Schindler 2010). Broadly, services provided by these MFIs are financial intermediation, mostly loans and saving services and social intermediation, mostly training of agro-processors and market sourcing. Most agro-processing enterprises invest the microfinance loans mainly into financing agro-processing activities such as shelling, husking, drying, milling, and acquisition of equipment and storage facilities among others (Sagarik, 2016). Yet, the extent to which participation in these microfinance programmes impact on the ability of women in agro-processing enterprises to increase production, expand the scale, improve livelihood outcomes, and engage in livelihoods diversification have not been encouraging (Ampedu-Ameyaw and Omari, 2015). The possible reasons why women agro-processors,

despite their access to the numerous financial intermediations do not have improved livelihoods include socio-cultural and economic factors, personal characteristics of processors, and factors related to financial and social intermediations. Socio-cultural factors such as the inability of women to make decisions regarding their participation and utilization of microfinance products because of the strong sense of patriarchy in the studied communities which makes men take decisions for their female counterparts has the possibility of preventing processors from participating in microfinance programmes and even if they do, they may not be able to utilize microfinance resources for the intended purpose. This has the possibility of affecting the performance of women agro-processing enterprises, consequently their inability to attain their livelihoods outcomes. Socio-economic factors including inadequate assets owned by women agro processors that could be used as collateral for loans could also influence the participation and utilization of microfinance products for improved livelihoods performance. Additionally, issues relating to financial and social intermediation such as high interest rates, timing of loans, collateral demand, repayment rates, inadequate training on financial management could affect the utilization of microfinance resources which has repercussions on the performance of women agro-processing enterprises and hence their attainment of improved livelihoods. However, this study investigates how socio-cultural factors affect women agro processors participation and utilization of microfinance products from microfinance institutions and dealing with financial and social intermediation as constraints.

There is plethora of literature which throw more light on the factors contributing to the underperformance of agro-processing sectors, especially women agro-processing enterprises. These include low technology adoption among women agro-processors

(Mohammed, 2011); poor access to financing and microfinance access (Mago and Hofisi, 2016; Akudugu, 2014; Egyir, 2010); gender-based livelihood empowerment challenges (Mago and Hofisi, 2016; Ampadu-Ameyaw and Omari, 2015; Akudugu, 2014; Okorley and Kwarteng, 2000); and poor agricultural productivity (Akadilaudugu, 2014). Other existing studies highlight the livelihood opportunities and challenges of small-scale rural women in agro-processing (Quayefio and Owoo, 2017; Ampadu-Ameyaw and Omari, 2015; Okorley and Kwarteng, 2000; Debile et al., 2012; Zakaria, 2009).

This study, therefore, sought to bridge this knowledge gap by assessing the influence of socio-cultural factors and issues relating to financial intermediation on the participation of women agro-processors in microfinance programmes, and its effects on output, growth, livelihood outcomes and diversification among women agro-processors in the Northern Region of Ghana.

1.2 Research Questions

How do socio-cultural factors of women agro-processing microfinance participant's influence livelihoods diversification in the Northern Region of Ghana?

Specific Research Questions

This study is guided by the following specific research questions:

(1) How do socio-cultural factors influence women agro processor's participation in microfinance programmes?

(2) How do socio-cultural factors influence women agro processor's utilization of microfinance products?

(3) To what extent do access to microfinance products influence output of women agro-processing enterprises?

(4) To what extent do access to microfinance products influence growth of women agro-processing enterprises?

(5) How does access to microfinance products influence livelihoods outcomes of women agro-processors?

(6) To what extent do access to microfinance products influence livelihoods diversification of women agro-processors in the study areas?

(7) What challenges do women agro-processors face in accessing microfinance products?

1.3 Objectives of the Study

The overall objective of the study is to analyse the impact of socio-cultural factors of women agro-processing microfinance participants on livelihoods diversification in the Northern Region of Ghana.

The specific objectives of the study are: To

1. Analyse how socio-cultural factors influence women agro-processors' participation in microfinance programmes.

2. Examine how socio-cultural factors influence women agro-processors' utilization of microfinance resources from microfinance institutions.

3. Analyse the extent of influence of access to microfinance products on the output of women agro-processing enterprises.

4. Analyse the extent of influence of access to microfinance products on the growth of agro-processing enterprises.

5. Investigate how access to microfinance programmes influence livelihoods outcomes of women agro-processors.

6. Investigate the extent of influence of access to microfinance products on the diversification of women agro-processing enterprises in the study areas.

7. Examine the challenges faced by women agro-processors in accessing microfinance products.

1.4 Research Hypotheses

Based on the research questions and objectives of this study, the following hypotheses were formulated and tested.

Table 1:1 Research Questions and Hypothesis

Research questions	**Hypotheses**
(1) How do socio-cultural factors influence women agro-processors' participation in microfinance programmes?	H_0: Socio-cultural factors do not influence women agro-processors' participation in microfinance programs. *Ha:* Socio-cultural factors influence women agro-processors' participation in microfinance programs.
(2) How do socio-cultural factors influence women agro-processors' utilization of microfinance resources?	H_0: **S**ocio-cultural factors do not influence women agro-processors' utilization of financial resources from microfinance services *Ha:* **S**ocio-cultural factors influence women agro-processors' utilization of financial resources from microfinance programmes.
(3) To what extent does access to microfinance services influence output of women in agro-processing enterprises in the Northern Region?	H_0: Access to microfinance services does not influence the output of women in agro-processing enterprises in the Northern Region. *Ha:* Access to microfinance services significantly affects the output of women in agro-processing enterprises in the Northern Region.
(4) To what extent does access to microfinance services influence the growth of women's agro-processing enterprises in the Northern Region?	H_0: Access to microfinance services does not significantly influence the growth of women's agro-processing enterprises in the Northern Region. *Ha:* Access to microfinance services significantly influence the growth of women's agro-processing enterprises in the Northern Region.
(5) How does access to microfinance services impact on livelihoods outcomes of women agro-processing enterprises?	H_0: Access to microfinance services does not influence the livelihood outcomes of women agro-processing enterprises.

	Ha: Access to microfinance services influence livelihood outcomes of women agro-processors in the Northern Region.
(6). To what extent does access to microfinance services impact on livelihood diversification of women agro-processing enterprises in the Northern Region of Ghana?	H_0: Access to microfinance services does not influence livelihood diversification of women in agro-processors in the Northern Region. *Ha:* Access to microfinance services influences livelihoods diversification of women agro-processors' in the Northern Region.
(8) What challenges do women agro-processors face in accessing microfinance services?	H_0: Women agro-processors do not face any challenge in accessing microfinance services *Ha:* Women agro-processors do face challenges in accessing microfinance services

Source: Author's Stated (2019)

1.5 Significance of the Study

Findings and recommendations from this study might contribute to existing knowledge by revealing the relationship between socio-cultural beliefs of societies and women's participation levels and utilization pathways of microfinance services in the agro-processing industry. It might also reveal the extent to which participation and utilization affect output, growth of livelihoods, and livelihoods diversification of these women in a poverty-stricken environment. This knowledge could provide insights on how both existing and new policy interventions could be revised, developed /improved upon, and deployed towards increasing and broadening levels of financial inclusion among rural women in agro-processing activities in Northern Ghana in particular, and Ghana as a whole.

Additionally, the study is expected to assist and enhance the understanding and appreciation of policymakers and stakeholders by providing locality-specific, socio-cultural effects, and the specific effects of microfinance services on the performance

and livelihoods of women in agro-processing activities in a highly economically impoverished place like Northern Region. This will allow an understanding of the impact of microfinance on livelihoods diversification of small and medium-sized enterprises that are possible to expand and ultimately offer employment for rural households through livelihoods diversification. This is particularly important for the formulation of policies aimed at promoting the relevance of microfinance to livelihoods diversification of women agro-processors in the study area.

Also, organizations such as NGOs, rural development organizations, the district assemblies, and the National Board for Small Scale Industries (NBSSI) who offer training and education to women micro-entrepreneurs will find the study results useful for policymaking. Again, gender-associated establishments, in their involvement in women empowerment and poverty reduction amongst poor rural women, will find the study findings useful. These findings will help narrow the gap in knowledge regarding the topic.

1.6 Profile of the Study Area

Northern Region (Shown in Figure 1) is in the Savannah ecological area, which is bounded by Upper West and Upper East Regions to the north, Cote d'Ivoire to the west, the Brong Ahafo and the Volta Regions to the south, and Togo to the east (GSS, 2013). The Region is endowed with natural water resources such as the Black and White Volta Rivers and their tributaries such as the Nasia and Daka. These rivers do not only serve as sources of drinking and irrigation water, fishing, and the construction sand but also, they are used for transportation of goods and humans

among others. The predominant economic activity is agriculture; from which crops, mainly yam, maize, millet, groundnuts, cowpea, and rice among others, are produced (GSS, 2013). The main industrial activities in the Region include agro-processing activities such as rice milling, shea butter and vegetable oil extraction, cotton ginning and textile or smock making. The linkage of the agricultural sector to investment and business activities in the manufacturing sector is through such industrial crop production as rice, cotton, groundnuts, shea nuts and beans, especially soya beans. There are other small-scale industries involved in vehicle repairs, pre-fabrication of spare parts and manufacturing of farm implements. The rest are cloth and leather works, pottery, and carpentry (Tamale Metropolitan Assembly, 2006-2009; Tolon Kumbugu District Assembly, 2006-2009).

The population of the region rose significantly to over 2.5 million in 2010 from 1.8 million in 2000, recording a remarkable intercensal growth rate of 2.9% (GSS, 2013). Among the districts in the region, Tamale Metropolis has the largest population (371,351), followed by Yendi Municipality (199,592), while Chereponi has the least population (53,394). The total number of household heads of which males constitute the largest share is (85.0%) compared to females (15.0%). The average household size in the region (7.7 persons) is higher than the national average (4.4 persons) due to widespread practice of polygamy, nuclear and extended family systems. The Region recorded an overall literacy rate of 4.9%, which is markedly lower than the national rate of 21.9%. A total of 62.5% of the population are not literate in any language, while only 16.3% and 1.5% are literate in English only and a Ghanaian language only respectively (GSS, 2013). Tamale metropolis has the lowest proportion of the male population who has never been to school (27.7%), followed by Bunkpurugu-Yunyoo

(38.4%), Bole (47.9%), while the remaining districts record more than 50%. The most urbanized city in the region is Tamale metropolis (65.4%), followed by Savelgu Nantong (30.3%), while Tolon-Kumbugu is the least urbanized district. Skilled agricultural, forestry and fishery workers constitute the bulk of employed labour force (74.0%); while clerical, service and sales workers make up the smallest share of the labour force (0.4%) in the region (GSS, 2010). However, a significant proportion of all establishments in the region are in the services sectors (such as financial institutions and banking, retail, telecommunication), while about one-fifth are in both agriculture and industry (GSS, 2014). As a result, in terms of persons' engagement by establishments, more than three-quarters of persons are engaged in the service sector, while a relatively smaller number of persons are engaged in agriculture and industry (GSS, 2014). Further, informal establishments particularly small-sized and micro-sized establishments predominate in the region, with less than 10% of establishments in all the districts operate in the formal sector (GSS, 2014).

Figure 1. 1: Map of Ghana Showing the Northern Region

MAP OF GHANA SHOWING THE NORTHERN REGION

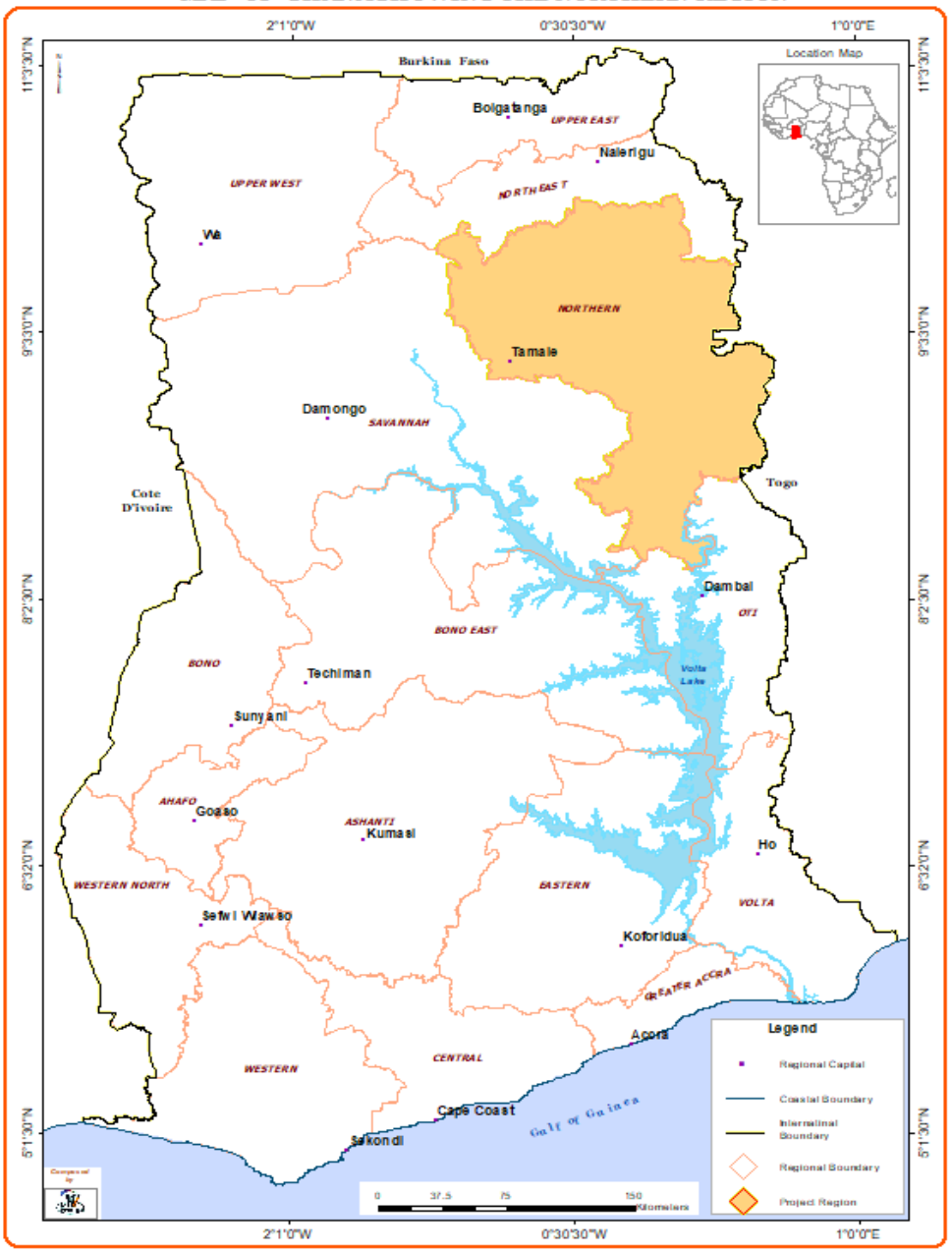
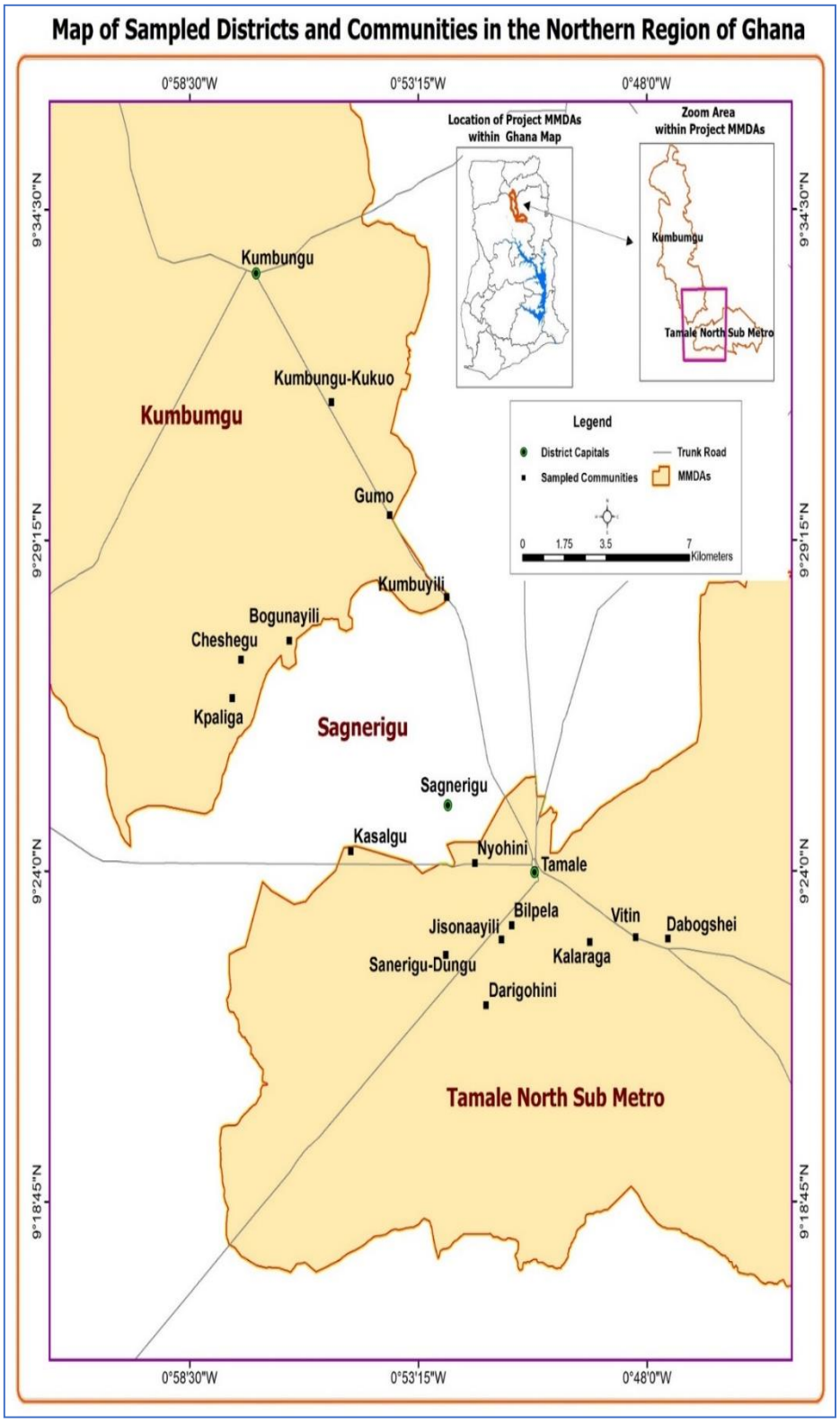


Figure 1.2 Map of Sampled Districts and Communities in the Northern Region



1.7 Limitations of the Study

The design of this study is mainly cross-sectional in that it collected and analysed data on access to microfinance services, output and growth of agro-processing enterprises, and the livelihood outcomes and diversification of women for a particular time. Therefore, the results will only reflect the women's one-time access to microfinance services and its impact on agro-processing performance and livelihood diversification for a given year without taking into consideration sustained access to microfinance and performance over time. Therefore, the results on agro-processing performance and women's access to microfinance, and their livelihood activities may be affected by accidental year effects, thereby reducing the predictive value and the representativeness of the findings. Given these challenges, research respondents were asked to provide explanations where data series appeared extreme.

Another significant limitation to this study is the inability of the researcher to ensure that the data provided by respondents were not inaccurate. This problem bothers on the validity and reliability of data and research findings since respondents may not be willing to supply data on their businesses, access to microfinance and the livelihoods activities accurately. As a result, the research team employed measures such as building positive rapport and trust with research participants, upholding data collection ethics, and good interview techniques, among others, to enhance the integrity of research data and findings. An additional limitation to the study is that the research was conducted in the Northern Region of Ghana and information gathered on women agro-Processors with different socio-economic backgrounds. Hence results of the study might not be generalized as a true reflection of the whole country. Notwithstanding the limitations outlined, the findings provide some useful insights for

further research. For instance, the use of time-series data could make it possible to examine the long-term effect of microfinance products on the livelihoods and livelihoods diversification of women agro-processors. This implies that further research on how microfinance programmes affect women agro-processors livelihoods and livelihoods diversification using time series data and longitudinal research design is necessary. Additionally, the study established that microfinance has a constructive impact on the livelihoods of agro-processors. Nonetheless, to evaluate its effect on poverty reduction, further empirical exploration involving a sample of poor households only becomes critical.

1.8 Organization of the Study

This study is organized into eleven (11) separates chapters. Chapter One [1] is the introduction of the research problem, objectives, significance of the study and limitation of the study and profile of the study area. Chapter Two [2] deals with operational definition of concepts used in the study, a review of existing theories and empirical literature related to the problem of microfinance and livelihoods of women in agro-processing. Chapter Three [3] summarizes the research methodology which includes the method of selecting respondents, data collection, processing, analysis, and presentation. The results and discussions are presented in Chapter Four [4], Chapter five [5], Chapter six [6], Chapter seven [7], Chapter eight [8], Chapter nine [9], and Chapter ten [10] while Chapter Eleven [11] provides a summary of findings, conclusions, and recommendations from the study.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

The purpose of this chapter is to explore relevant theoretical and empirical literature related to the research objectives. The chapter focuses on conceptual framework of the study, definition of concepts involved in the study by various authors and authorities, and review of relevant literature. Relevant obtainable literature is reviewed under the following headings: Concept of sustainable livelihoods, overview of sustainable livelihoods framework, livelihoods assets, livelihoods strategies and outcomes, theories underpinning microfinance programmes, the concept of livelihoods and livelihoods diversification, microfinance and economic development of women, role of microfinance institutions in the development of SMEs, approaches used in microfinance service delivery, socio-cultural factors and women's participation in microfinance programmes, utilization of micro finance resources by women and microfinance and household livelihood outcomes. The section finally to discusses the conceptual framework developed for the study.

2.1 Operational Definition of Concepts

The fundamental concepts that were explored in the study are explained in this section. These concepts are very important to the purpose and objectives of the study.

Microfinance

United Nations defined microfinance as, "the provision of a variety of financial services to poor, low-income people and micro and small enterprises that lack access to banking and related services" (United Nations, 2013). This study conceptualizes microfinance as the provision of financial services such as microloans, savings, micro-insurance, and pre-financing of agro-processors in the form of input supply.

Microcredit

It is a dominant theme of microfinance and is broadly recognised as the practice of offering small, collateral-free loans to members of groups or cooperatives living in both rural and urban communities who otherwise would not have access to the capital necessary to begin small businesses. This study conceptualizes micro-credit as the provision of small loans to either individuals or groups; particularly poor women who have a very low standard of living to enable them to invest in their livelihood activities to improve upon their businesses and wellbeing and to repay within a certain period with interest (Khandakar and Rahman, 2006).

Livelihoods

A livelihood comprises the capabilities, assets and activities required for a means of living (Chambers & Conway, 1991). Livelihoods can also be seen as a means of support or subsistence; adequate stocks and flows of food and cash to meet basic needs. This study views livelihood of women microfinance beneficiaries as agro-processing including all economic activities the women agro-processors diversify into to enable them to meet their basic needs and aspirations and to overcome risk.

Livelihood Outcomes

Livelihood outcomes are the achievements or output of livelihood strategies. That is a process through which various livelihood activities are explored by people to meet their financial, human, physical and natural needs (Chambers and Conway, 1991).

Livelihoods Diversification

Ellis (1997) defined livelihood diversification is defined as the process by which rural families construct a diverse portfolio of activities and social support capabilities to survive and to improve their standards of living. This concept is used in this study as attempts by individuals and households to find new ways to raise incomes and reduce vulnerability. It includes both on-farm and off-farm activities which are undertaken to generate additional income to that of the main household agro-processing activities.

Agro-processing

The FAO (1997) describes agro-processing as the transformation of products originating from agriculture, forestry, and fisheries. Agro-processing in this study refers to the act of transforming products/produce originating from agriculture, forestry, and fisheries

2.2 Theoretical Literature

It is important to note that scholars have over the years tried to measure the impact of microfinance on livelihoods. Hence this section reviews literature on the sustainable livelihoods framework and explores some of the theories underpinning the study.

2.2.1 Sustainable Livelihoods Framework

The sustainable livelihoods framework is an analytical framework which enables an understanding of the factors inducing the ability of people to enhance their livelihoods. The sustainable livelihoods framework is a tool designed to advance an understanding of livelihoods, mostly the livelihoods of the poor. The frequently cited and used Sustainable Livelihoods Frameworks are the DFID Sustainable Livelihoods Framework and the IFAD Sustainable Livelihoods Framework. These Frameworks provide a means of understanding the factors affecting people's livelihood strategies and distinctive relations among them. It is applicable in planning innovative development activities and evaluating its role in livelihood sustainability completed by existing activities. The DFID Sustainable Livelihoods Framework specifically, provides a list of significant issues and plans out the way these link to each other; considers essential influences and procedures; and underlines the numerous relations among the different factors which influence livelihoods. The sustainable livelihoods framework does not attempt to be perfect and does not also work in straight forward manner but has been positioned on people. The objective of the sustainable livelihood's framework is to support stakeholders with varied perspective to involve in organized comprehensible discussion on the numerous issues that affect livelihoods, their comparative positions, and how they interrelate. This subsequently would assist in the certification of suitable entry points for provision of livelihoods (DFID, 1999). Factors and elements in the DFID Sustainable Livelihood Framework and their relation and application to sustainable livelihoods analysis are:

Vulnerability Context: The vulnerability context borders the external environment in which people exist. People's livelihoods and the wider availability of assets are essentially affected by serious trends as well as shocks and seasonality, of which they

do not have control over. These trends include Population trends, trends of resources, economic trends, governance, technological trends etc. whilst shocks include human shocks, natural shocks, economic, conflict, seasonality of prices, production, health, employment opportunities among others (DFID, 1999).

Livelihoods Assets or the Asset Pentagon: The asset pentagon rests at the core of the livelihood's framework, within the vulnerability context. The pentagon has been developed to information about people's assets to be presented visually, thereby bringing to life important inter-relationship between various assets. The shape of the pentagon can be used to indicate schematically the variation in people's access to assets. The centre point of the pentagon, where the lines meet, represent zero access to assets while the outer perimeter represents maximum access to assets. It is significant to note that, a single physical asset can generate multiple benefits such that if a person has access to land which is a natural resource, he/she may also be well-endowed with financial capital, as he/she is able to use the land as collateral for loan.

Likewise, livestock can generate social capital for owners and at the same time used as productive physical capital (animal traction) and remain as a natural capital (DFID, 1999).

Livelihoods Outcomes and Livelihoods Strategies

Individuals engage in different livelihoods strategies to attain certain needs and aspirations. Individuals seek a variety of livelihoods outcomes (Chambers and Conway, 1992). The livelihoods outcomes that individuals seek to attain vary significantly at all levels within communities and households. Livelihood's outcomes are the successes of livelihoods strategies (DFID, 1999). In general perspective, the common livelihoods outcomes include increase in income, increase wellbeing,

reduction in vulnerability, improved food security and improved or sustainable use of resources DFID, 1999). Hence for households to achieve their desired livelihoods outcomes, they need to engage in a wider range of livelihoods strategies based on their assets (physical, financial, human, social and natural capitals). An individual's ability to access various combinations of assets helps to determine how vulnerable or robust a livelihood is or may be.

2.3 Theories Underpinning Microfinance Programmes

Though numerous theories can serve as the basis for the study of the impact of microfinance on the livelihoods of women, the theories below best explain the concepts.

2.3.1 Restriction of Opportunity Theory

The restriction of opportunity theory was adopted to support the study. This was propounded by Ampadurai in 2004 and upgraded by Chakravati in 2006 as cited by Omondi (2014). The advocates of this theory think that poverty is caused by the unfair environment, lack of social and economic capital (Avortri and Wereko, 2016). The theory stresses that the environment in which persons reside exercises excessive influences on their day-to-day lives. The day-to-day life of a person is reliant on the opportunities and resources that exist or lack of them in his/her environment. Lack of opportunities and the desired resources in the community may push the individual in such a community to dive into poverty (Omondi, 2014). This implies that the poor are poor because they are deficient in the necessary resources or capacity which will stimulate or transform their mind-set and situation. This means that the more resources are made accessible to the individual or better opportunity existing in his or

her environment, the better the status of the person (Avortri and Wereko, 2016; Omondi, 2014; Apadurai, 2004).

The restriction of opportunity theory was adopted for the study because, since advocates of the theory are of the view that poverty is caused by unfair environment, (lack of social and economic capital) the researcher is of the view that, the underperformance of women agro-processors may be due to unfair environment such as lack of finance which is an economic capital and training which serves as social capital. Therefore, the lessons lent from review of the above literature are that, when agro-processors are provided with these capitals they are likely to improve on their performance in terms of improved output and growth of their enterprises and consequently improvement in their livelihoods. Hence, this theory is applicable to the study because variables such as economic capital in the form of access to finance and training given by microfinance institutions in the form of social capital are included in the work as treatment variables.

2.3.2 The Economic Theory

Other theories that underpin the study are the economic and human resource theories. These theories have been suggested for assisting microfinance interventions at the macro-level (El-Solh, 1999). The economic theory states that microfinance encourages the effective use of labour and capital as factors of production, hence promoting economic growth and eventually attaining sustainable development (Avortri and Wereko, 2016). A lot of literature supports the conventional idea that savings and investment stimulate economic growth (Jangili, 2011; Anoruo and Ahmad, 2001). This has further been emphasised by a macroeconomic theory that gross domestic savings rate increases investment rate and this higher investment rate in turn influences economic growth. This is because a rise in income increases savings

and in turn raises investment which speeds up economic growth by increasing aggregate demand in the economy (Hundie, 2014). This proposal unceasingly determines most development struggles today not excluding the idea of microfinance.

Access to microfinance programmes is said to permit the formation of new micro-enterprises (Avotiri and Wereko, 2016). Studies by Mosley and Hulme (1996) mentioned a greater number of results of empirical studies that point to a strong and positive relationship between growth and the share of investments in the gross domestic product (GDP). Certainly, it is this notion that motivates microfinance. It is expected that like the positive correlation between financial investment and economic growth, financial investment in the poor through microfinance services is expected to lead to improved incomes of the poor and eventually leads to poverty reduction (Abdin, 2016). Hence this study is of the view that access to microfinance interventions in the form of micro-credit, savings and training giving to women agro-processors in the form of financial and human capital as factors of production can help in the development of new skills for their agro-processing activities which will in turn lead to increase in output and income for income or livelihoods diversification and consequently improved savings. Therefore, the lessons learnt from the above theory are that access to microfinance products by women agro- processors is likely to enhance their effective use of labour through increase in production because of increase in capital. This will consequently improve their output and income resulting into their ability to improve upon their savings, investment, and employment. Improvement in savings will then enhance their ability to improve on their livelihood aspirations. Hence variables of interest from the theory that are linked to this study include labour use, income, training, savings, investment, and employment.

2.3.3 The Human Resource Theory

Human resources theory is a general term for the strategies, tactics and objectives used by business operators to administer policies and procedures related to employees and workforce (Agarwala, 2009). The human resource theory is rather like the economic one. The supporters of this theory are of the view that microfinance can increase the ability of the poor to create income leading to the successive improvement in their livelihood. They argue that, since microfinance is generally accepted as being labour-intensive, enabling access to microfinance in effect is likely to result in the acquisition of new skills and the upgrading of prevailing ones and thus increase the ability of the poor to create income and expand their livelihood (Yaboa, 2010). Microfinance interventions maintain effective use of labour and capital as factors of production and hence contribute to economic growth and eventually to sustainable development through enhancing the formation of new micro-enterprises (Yaboa, 2010). The study, therefore, is of the view that the participation of women agro-processors in microfinance programmes is likely to expose them to training which will help develop their human capital through formation of new skills for improved agro-processing leading to increased output and eventually improvement in income, savings, and livelihoods diversification. This eventually results into improvement in the general wellbeing of women agro-processors. The theory is applicable to this study because variables that underpin the theory which involves acquisition of finance, labour use, improved skills, savings, and investments are of interest and used in the study.

2.3.4 Empowerment Theory

In addition to the theories that have been considered as fundamental to microfinance, is a supplementary theory of empowerment which suggests that the poor become

empowered when they take part in microfinance programmes (Ringkvist, 2013; Morduch and Haley, 2002). Empowerment is a process by which individuals obtain additional influence concerning factors that shape their lives. Microfinance is viewed as a policy instrument that tries to empower women and decrease income and consumption poverty, and socioeconomic vulnerability. Women's rights and gender equity are currently essential aspects of pro-poor development planning (Herath, 2018). There are so many issues within the gender and poverty discourse in which women are viewed to be disproportionately poor due to their lack of access to and control over resources. Gender inequalities are mainly evident in resource-based entitlements such as land titles, property rights and credit. Therefore, the justification that access to credit will produce income and livelihood choices with more prospects gives women more power to negotiate within the household and this contributes to household wellbeing (Herath, 2018). The study, therefore, learnt from the above theory that, the participation of women agro-processors in microfinance programmes can improve their finances as well as their human capital in the form of provision of micro-credit, training, an extension of agro-processors social networks through their engagement in groups and consequently improvement in their livelihood's aspirations. The ability of agro-processors to meet the financial needs of the household will in turn improve upon their social status in the household and the community and serve as a form of empowerment. Therefore, variables of interest from the above theory are, land titles, property rights, credit, income, consumption, and vulnerability which was measured as livelihoods outcomes.

2.3.5 Rural Livelihoods Diversification

According to the Sustainable Livelihood Framework, 'rural livelihood diversification' is the process by which households construct a diverse portfolio of activities and

social support capabilities for survival to improve upon their standard of living' Ellis (1998) as cited in Zakaria (2009). Giving attention to risk spreading, consumption smoothing, labour allocation smoothing, credit market failures, and coping with shocks can enhance the implementation, and reworking over time of varied rural livelihoods. Though diversity in livelihood leads to compound relations with poverty, income distribution, farm productivity, environmental conservation and gender relations that are not upfront are sometimes counter spontaneous and can be ambiguous (Zakaria, 2009). Works on livelihoods have admitted that external developments and shocks play a significant role in promoting rural people in the direction of a diversified livelihood approach. Also, diversification options are firmly entrenched in the micro-economic sense of farming households (Ellis, 2000; Nelson, 1999). Numerous factors discovered and investigated by works in livelihoods as affecting rural livelihoods diversification options are discussed:

Accessibility of Key-Assets: It has been argued that accessibility of key-assets such as savings, land, labour, education and/or access to market among others influence rural households and individuals' decision to diversify their livelihood approaches (Ahmed et al., 2018; Abdulai and Crole, 2001; Dercon and Krishan, 1996).

Maximization of Return per Unit of Labour: Proponents of this view explained that at any given period, a rural household will select the highly efficient opportunity to guarantee the preservation of its consumption level (Ahmad, 2015; Zakaria, 2009). For example, accessibility of a surplus of household labour may have an impact on the household decision to participate in wage labour to benefit from the surplus and thus diversifying their labour use and their income making activities.

Risk Management: Another factor that has been identified as influencing diversification behaviour of rural households is risk management, (Ahmad, 2015;

Akudugu, 2014; Hussein and Nelson 1999; Chambers 1997; Bryceson 1996; Reardon 1992). The underlying rationale of this case is that earlier knowledge of crop or market failure can trigger diversification as a way of spreading potential risk and decreasing the impact of total or partial breakdown on household consumption.

Gender Relationships: Another important factor in determining the diversification process is gender relations. Social structure and culture can substantially impact the comparative access to different resources among women and men or limitations such as mobility among gender as clarified by Warren (2001). In certain cultures, migratory wage labour or off-farm enterprises are essentially men's business, which ends up in transferring to women the whole responsibility for traditional subsistence and cash cropping which is otherwise known as the "feminization of agriculture" (Dolan, 2002; Gladwin, 2001).

Other socio-economic factors that are said to influence livelihoods diversification are the gender of the household head, household size, households' participation in development programs and amount of credit (Ahmed et al., 2018).

2.4 Empirical Literature

This section explores relevant literature on socio-cultural factors and women's participation in microfinance, utilization of micro-financial resources by women, the role of microfinance institutions in the development of small, medium enterprises (SMEs), microfinance and economic development of women, microfinance and household livelihood outcomes, and microfinance and livelihoods diversification.

2.4.1 Socio-demographic characteristics of women agro-processors

Existing literature establish the effect of social variables like age, educational experience, allocation of household resources, etc. on rural women capability to attain livelihoods security and improve their wellbeing (Zakaria, 2009). For example, as suggested by the life cycle theory, there exist a relationship between productivity and age. The theory expects that productivity increases with age early in the life cycle and decreases with age late in the life cycle as depreciation of human capital exceeds investment. As indicated by Johnson and Neumark (1997) productive age is mostly believed to be between the ages of fifteen (15) and forty-nine (49).

Also, Indication from empirical studies has it that educational level of farmers increases their output levels through increase knowledge of the production processes and easy understanding of research materials of new agronomic practices (Seyoum et al., 1998). It is also argued by Caswell (1997) that education opens new horizons for women and has a positive impact on women's participation in formal employment. This implies that level of education achieved by rural women has a significant bearing on the quality of household human capital owing to its capacity to open up new horizons for women in employment.

2.4.2 Microfinance Industry and Economic Development in Ghana

Before the introduction of formal banking schemes, a lot of poor people, mostly women in addition to people living in rural communities depended greatly on informal banking facilities as well as semi-formal savings and loan services in Ghana (Egyir, 2010). Among existing cooperatives during the 1920s, was the cocoa farmers' cooperative which was involved in savings and credit. At that time, informal microfinance in Ghana had a mission of providing social and economic support to the disadvantaged particularly women and their families in rural areas (Egyir, 2010).

The first non-formal financial institution in Ghana was established in the Northern Region by the Canadian Catholic Missionaries in 1955 to inspire thrift and savings among member farmers, traders, processors, and non-agricultural workers for industrious ventures to advance the socio-economic lives of the people (Egyir, 2010). In the early 1970s, this idea of non-formal financial institutions was extended to the creation of the first rural bank at Nyakrom. Today, there are 28 African countries where the credit union operates. A credit union enables the poorest in a community to save and access loans for income-generating activities (Egyir, 2010). The activities of these institutions were not seen as part of the conventional financial division hence their influence on financial expansion and development was not acknowledged or recognized (Annim, 2010).

However, these perceptions about non-formal financial institutions changed in the 1990s when poverty concerns turn out to be a portion of the country's development programme. The change from growth-led strategies to poverty reduction strategies created opportunities for pro-poor programmes and policies. Upon identifying availability and access to credit as the main limitation to the advancement of pro-poor activities, some Governmental and Non-governmental organizations began to provide financial facilities to the poor (Annim, 2010). Meanwhile, several organizations responsible for executing micro financing projects reorganized to become the Micro Finance Action Research Network (MFARN) in 1996 performs a vigorous role in policy discussion, construction and execution of programmes connected to micro-financing throughout the country (Egyir, 2010). The objectives of the network included strengthening the capacity of MFIs through training; sensitizing government

and stakeholders; contributing to the creation of employment opportunities; and providing of support and empowerment to the poor and the marginalized in society (Egyir, 2010). Several ministries, departments, and agencies (MDAs) at the level of government have created units for the activities of microfinance. MDAs that carry out microfinance programmes include the Ministry of Finance and Economic Planning, Office of the Senior Minister, Ministry for Women and Children Affairs, Bank of Ghana, and the Ministry of Local Government, Rural Development and Environment (Egyir, 2010).

In 2006, a principal body, well-known as the Microfinance and Small Loans Centre (MASLOC) was formed to co-ordinate and rationalize activities of the microfinance industry with the mandate to coordinate all microfinance activities in the country particularly, government programmes and supplement the activities of other microfinance high bodies. The number of microfinances executing institutions is made up of both formal and informal organizations. There are five broad classes of institutions that provide financial and technical services in the microfinance industry. These are Rural and Community Banks (RCBS), Savings and Loans Companies (S & Ls), Financial Non-governmental Organizations (FNGOs), Credit Unions and Susu Collectors Association of Ghana. All these institutions are found in all the regions of Ghana and have created their apex bodies. There are also some formal banks and companies like insurance companies which have either collaborated with existing microfinance institutions or formed microfinance divisions. The intensified attention and worries of microfinance activities in Ghana determine the consideration of corresponding services and indicate the need for market growth in the direction of

competition. Shareholders' continued attention and anxieties are partly highlighted by the apparent accessibility of real demand for financial services.

Governments all over the developing world have prioritized enhancement in the incomes of the poor as a measure of their struggle for intensifying social and economic growth (Owusu, 2012). The delivery of microfinance has been recognised as one of the important mechanisms to improve the livelihood of low-income families throughout the developing world as a measure in accomplishing this objective Adongo and Stork, 2005 cited in Owusu (2012). Microfinance institutions have demonstrated tremendous effort to promote financial inclusion of the poor in developing countries as reported by the Microcredit Summit Campaign Report (Gray, Rao and Rogers, 2015). The report further discloses that about 211 million customers were served by microfinance institutions in 2013 and more than half of these clients were among the poorest at their first loan applications. Besides, all clients with outstanding loans dropped from 116 million in 2012 to 114 million in 2013 (Wijesiri, 2016).

The use of microfinance as a model for improving the wellbeing of the rural poor especially in developing countries stems from the demand by the Microfinance Summit in 1997 to organize $ 20 billion over ten years to support microfinance; the declaration of 2005 as a year of micro-credit by the United Nations, and the eventual award of the Noble Peace Prize to a generally commended originator of contemporary microfinance, Professor Muhamad Yunus and the Grameen Bank (Annim and Alnaa, 2013).

Also, the evolution of microfinance as an important instrument in the fight against poverty can be traced to the acknowledgement of credit market failures, especially in the banking sector which has led to a shift from the banking sector to microfinance, which combines both savings by the poor and extending credit to the poor to sustain their livelihoods (Okojie et al., 2006). This presupposes that savings services, and not just loans, can assist in improving the wellbeing and livelihoods of the rural poor in general and women in particular (Vonderlack and Schreiner, 2002).

Microfinance, however, has been operated in Ghana for more than five decades as history indicates that the first credit union in Africa was established in Northern Ghana in 1955 by the Canadian Catholic Missionaries in the Upper West Region (BoG, 2007). Besides, self-help savings and credit associations have been widely practised in the rural localities of Ghana even before microfinance gained global recognition. Currently, Microfinance Institutions (MFIs) that operate in the country are broadly categorized into three: formal MFIs such as Rural and Community Banks (RCBs), Savings and Loans Companies (SLCs) and some commercial banks; semi-formal MFIs such as credit unions, Financial Non-Governmental Organizations (FNGOs), Finance Houses, and cooperatives; and informal MFIs including 'Susu' companies, non-deposit-taking moneylenders, Susu collectors under the Ghana Cooperative Susu Collectors Association (GCSCA) (BoG, 2011; BoG, 2007). These MFIs are generally registered, supervised and regulated by the BoG under the Non-Bank Financial Institutions Act 2008 (Act 774) and the new Banking Act 2004 (Act 673) (BoG, 2011). After several decades of policy reforms in the microfinance sub-sector, including Financial Sector Improvement Project, Financial Sector Strategic Plan (FINSSP), the Rural Financial Services Project (RFSP), the United Nations

Development Programme (UNDP) Microfinance Project, the Social Investment Fund (SIF), and the Community Based Rural Development Programme (CBRDP), the sector experienced remarkable growth over the period (BoG, 2007). The number of MFIs distributed across the country grew significantly to 707 institutions in 2018 from 347 in 2017 (BoG, 2018; BoG, 2017b).

Access to microfinance such as micro-credit and savings provide a substantial benefit to the poor by helping to improve their livelihoods, create and expand microenterprises, increase productivity, smooth income and consumption flows, enlarge and diversify their income sources, and thus improve their welfare (Habte, 2016). In Ghana, microfinance serves people who are engaged in running small and medium enterprises, including agro-processors, and their families. Microfinance services have a progressive influence on basic needs; knowledge and skills; employment and income; and assets of beneficiaries including self-esteem, creativity and critical reflection (Yeboah, 2017). Critics of microfinance have argued that the provision of microfinance services alone to the poor is inadequate in engendering positive impact on their livelihood but rather access to a blend of livelihood assets achieves positive impact (South African Ministry of Agriculture, 2010). However, it has been found that financial capital is the most essential element in creating a sustainable business that produces good income (Oladele and Ward, 2017). Microfinance conveys the impact of credit to the rural poor in the form of loans, savings, and training. This enables the poor to grow their incomes, sustain their enterprises as well as enhance their ability to diversify into alternative businesses to decrease their susceptibility to external shocks. Microfinance can also be used as a

device for self-employment, particularly for women to grow into industrious managers of the economy (Kavitha, 2007).

The United Nations Capital Development Fund (2004) asserts that the role of microfinance in development can be categorized broadly into three to include: helping poor families to meet their needs and be protected against risks, associated with the improvement in household economic welfare and support to empower women by supporting women's economic participation and as a result promote gender equality. Provision of microfinance empowers the poor to involve in pre-entrepreneurial activities and micro-enterprises to improve their livelihoods which in turn have constructive repercussions for their macro economy (Adongo and Stork, 2005). As reported by the African Development Bank (2003), provision of effective microfinance services to low-income people, particularly the rural poor has been recognized by development practitioners, policymakers, and multilateral and bilateral lenders to be essential for several reasons:

Firstly, it is a fact that it can be a serious component of an effective poverty reduction approach. It enhances in access and proficient delivery of savings, credit, and insurance facilities and can enable the poor to smooth their consumption, manage their risks better, build their assets gradually, develop their microenterprises, enhance their income earning capacity, and enjoy an improved quality of life. Besides, the provision of microfinance services can contribute to the enhancement of allocation of resources, promotion of markets and improved technology adoption which, consequently, supports economic growth. Secondly, in the absence of constant availability of formal microfinance programmes, a lot of low-income families will

remain dependent on insufficient self-finance or informal sources which restrict their capacity to vigorously partake in and benefit from opportunities of development. A third reason is that microfinance can offer an operative way to support and empower deprived women who constitute a substantial percentage of the poor and suffer unreasonably from deprivation. Finally, microfinance can contribute to the growth of financial schemes through the incorporation of financial markets (African Development Bank, 2003).

2.4.3 Socio-cultural Factors and Women's Participation in Microfinance

Participation of women in microfinance refers to their involvement in microfinance programmes. Certain socio-economic as well as personal characteristics of women agro-processors are likely to influence their participation in microfinance programmes. Studies by Chemjor (2013) on the determinants of participation by women in microfinance programmes established a relationship between personal characteristics such as age, level of education, religious and political affiliation and social networking etc. and cultural factors such as women's right to property ownership, women being treated as property, male chauvinism, marriage styles, family size, gender stereotype, family type and inheritance practices and social networking and women's participation in microfinance programmes. Also, the legal and regulatory framework of microfinance can have a significant influence on the participation of women in microfinance programmes. There are a lot of impediments such as social-cultural and socio-demographic factors, poverty, unemployment, low household income and societal discriminations in developing countries that hinder the actual participation of women in community-based microfinance despite the critical role that women play in the economic growth of their households and societies (Luke and Chu, 2013).

In a study to investigate the factors that influence women participation in community-based microfinance programmes using descriptive research design, Welikhe (2014) established that there exists a significant relationship between the socio-cultural and demographic factors and the women' participation in community-based microfinance programmes. After assessing the participation of women in microfinance institutions' programme to observe the variation in women borrowers' participation rates in 105 developing countries by analysing participation rates using selected determinants such as legal status, outreach, external control and target clients with evidence from the multi-national study, Bezboruah and Pillai (2013) study results concluded a preference to participation in unregulated microfinance institutions, mainly NGOs, which proposes that, despite the beginning of formal financial institutions, women in developing countries are more likely to pursue loans from informal microfinance institutions.

Based on the review in this section, the following socio-cultural characteristics were delineated for analysis: age, marital status, religious affiliation, literacy status, residential location, membership of an association, livelihood choice, type of agro-processing enterprise was accentuated as likely determinant of women borrowers' participation in microfinance programmes.

2.4.4 Utilization of Micro Finance Resources by Women

Utilization of financial resources from microfinance services can be looked at in terms of the use of microloans in consumption smoothing, investment or production, asset acquisition and for use for other purposes. Over the years in most developing countries, governmental and non-governmental organizations have introduced microfinance programmes aimed at the poor to eradicate poverty. Based on the

opinion that women have the greatest likelihoods than men to be constraint in terms of credit access, wage labour market and unfair share of power in household decision making, several of these microfinance programmes have explicitly women as their target group (Pitt et al., 2006). However, there have been a lot of criticisms regarding the undesirable effects of microfinance including increasing the affliction of workloads of women, disturbing the balance of family resulting in increased divorce rates and domestic violence, and women serving only as channels for acquiring loans for their husbands (McCarter, 2006; Kabeer and Rajasekhar, 1997). This means that due to the fungible nature of microfinance resources (micro-loans), there is the likelihood of women not using loans disbursed to them by microfinance institutions for the intended purposes.

It is generally acknowledged among development practitioners and academics that improved access to microfinance; particularly microcredit has a positive influence on the lives of poor entrepreneurs, especially women (Alhassan and Akudugu, 2012). As a result, one of the reasons for extending microfinance services to women is to empower them in terms of having the opportunity to take part in decision making both in their households and in their communities at large. Meanwhile, studies revealed that women's empowerment is inhibited because they don't control the use of their loans, as men take more of the decisions associated to women's loans utilization than women do in decisions relating to men's loans (Alhassan and Akudugu, 2012; Kabeer, 1998). Additionally in a study to examine the empowerment effect of rural women access to microcredit, Ganle et al., (2015) found that whilst some women were empowered in various ways due to their access to microloans; several other women had little control over the use of loan funds and therefore are not better off as

a result of their exposure to microcredit, and other women were worse off because of the exposure to harassment and abuse emanating from their indebtedness and default in loan repayment.

Chowdhurya and Mukhopadhaya (2014) conducted a study to compare the relative efficiency of microcredit recipients' men and women in utilizing credit to achieve efficiency to explore their specific needs. They used a multidimensional model with a sample of 562 collected from 78 randomly chosen in villages in Bangladesh. Their results revealed that women have better saving patterns and much better access to markets and other important information compared with men, except government information. Findings of their study further showed that, despite better income and savings, land-holding size and homeownership patterns of women are declining, and women are continuously disadvantaged in making decisions at their workplaces, performing political works and suffer from insecurity problems with more mental stress. Furthermore, most women micro-credit beneficiaries use a significant part of their microloans for health and education of their children and this help significantly in the eradication of poverty (Pitt and Khandker, 1998). However, microfinance programmes have been criticised that, often women borrowers are forced to hand over-borrowed funds to men, particularly their husbands who subsequently use the funds for their purposes. The behaviour of these men is likely to put additional burden on the women.

Also, a study to assess the determinants of credit acquisition and utilization among household farmers with the drive towards sustainable output in Ekiti State in Nigeria revealed that household size, marital status, educational level, occupational status, and

farm size had a significant effect on the amount of agricultural credit acquired by farmers. The study recommends that household farmers should acquire adequate credit facilities (Aladejebi et al., 2018). Based on the review of literature in this section, the various indicators for assessing how a loan is procured and used by women agro-processors were defined. More importantly, the various uses that these women put their loans to became clearer. The issue of women not able to make their own decisions was questioned as the literature revealed that most women use their monies to improve or expand on their enterprises.

2.4.5 Approaches used in Microfinance Service Delivery

Microfinance is the provision of a variety of financial services to poor, low-income people and micro and small enterprises that lack access to banking and related services (United Nations, 2013). The importance of microfinance as a development tool cannot be underestimated as it has succeeded in creating entrepreneurial opportunities for the relegated and vulnerable people who are frequently excluded from the formal financial sector (Wijesiri, 2016). Microfinance programmes are continuously geared towards the provision of both financial and non-financial services to the poor particularly those who run small and medium scale enterprises with the emphasis on poverty reduction and economic improvement of the poorest of the poor (Owusu, 2012). Microfinance institutions utilize different approaches to achieving this objective. According to Morduch (1999), two main varied approaches of microfinance delivery have been identified in microfinance service delivery in microfinance literature. These approaches are the institutional approach otherwise known as the financial market approach and the welfarist approach which is also known as the direct credit approach. Robinson (2001) classified these into the financial system approach and poverty lending approach.

Supporters of the institutional approach to microfinance service delivery claim that MFIs must be able to function to cover the cost from the revenues they accrue. The institutionalists believe that self-sufficiency of MFIs enhances long-term sustainability which enables better poverty alleviation in the long- run (Ferka, 2011). The institutional approach condemns subsidization of MF service delivery with the argument that it leads to high default rates and cost of transaction which leads to the collapse of many MF programmes. It stresses the significance of being able to absorb the cost of lending money out of the income made from unsettled loan portfolios and the reduction of operational cost as much as possible (Hermes and Lensink, 2011). This argument stems from their belief that subsidization causes ineffective financial resource allocation leading to the unsustainability of MFIs (Ferka, 2011).

The institutionalist further argues that assumptions made by economists in support of the welfarist approach that, interest rates on loan repayment must be small have been seen to be wrong since MFI customers are not creditworthy and that commercial banks in rural areas collapsed because of the high cost of offering financial services to poor families (Ferka, 2011). Whereas the institutional approach condemns subsidization as has been explained by Morduch, (1999), the welfarist approach emphasizes subsidizing microfinance programmes to reduce the cost for MFIs to enable them to offer low-interest rates on their loans. In this approach performance of microfinance institutions are measured by conducting studies on families with an emphasis on individuals living standards, ownership and number of savings accounts, capital accumulation, improvement in productivity, incomes, food expenditures and social services such as access to health and education (Congo, 2002).

Advocates of the welfarist approach contend that the poor cannot afford higher interest rates. Consequently, targeting financial sustainability eventually betrays the idea of extending micro-financial resources to a greater number of groups of poor borrowers. Advocates of the financial services or institutional approach, still claim that there is no experimental indication demonstrating that the poor cannot afford higher interest rates; however, there is an undesirable association between the financial sustainability of the institution and the poverty status of customers (Hermes and Lensink, 2011). Additionally, it is important to mention that using self-sufficiency as a prerequisite to MFI's sustainability as proposed by the institutionalist point of view, is indefensible pending the appreciation that there seems to be a trade-off between sufficiency and targeting of clients (Hermes and Lensink, 2011).

With regards to the assessment of the impact of microfinance, two approaches have been identified; these are the intended beneficiary and the intermediary school of thought (Hulme, 2000). The intended beneficiary school of thought is said to have been originated from the traditional project cycle approach and results from the view that the impact from the aid-funded project needs to be measured and accredited to serve as a justification for the project (Johnson, 1998 cited in Kessy, 2013). The approach, therefore, sees financial services particularly credit services that can be contributory to improving livelihoods opportunities through increasing incomes, reducing vulnerability, and alleviating oppressive debt relations. It also assesses the extent to which beneficiaries have benefited from intervention by taking into consideration observable changes in their lives, growth of their businesses and their general economic improvement. The intermediary school of thought emphasizes

changes in microfinance institution's sustainability by focusing on its finances and operations (Kessy, 2013).

Two main approaches of microfinance delivery have been identified in microfinance service delivery. These are the institutional approach otherwise known as the financial market approach and the welfarist approach. Whereas the institutional approach condemns subsidization as has been explained by Morduch (1999), the welfarist approach emphasizes subsidizing microfinance programmes to reduce the cost for MFIs to enable them to offer low-interest rates on their loans. With the welfarist approach, the performance of microfinance institutions is measured by conducting studies on families with an emphasis on individual's living standards, ownership and number of savings accounts, capital accumulation, productivity improvement, incomes, food expenditures and social services such as access to health and education (Congo, 2002). Review of the literature, therefore, reveals the importance of considering the above-stated variables when conducting a microfinance impact assessment on agro-processors. Again, the discussion of literature in this section helped on conceptualising the issues of access to microfinance product and outputs. This brought financial intermediation as a critical variable to assess when women join microfinance programmes. The financial intermediation as explained in the conceptual framework bothers on loan repayments, the timing of the loan, loan collateral, interest rates, the small size of loans, among others.

2.4.6 Role of Microfinance Institutions in the Development of SMEs

One of the shared problems confronting small and medium-sized enterprises (SMEs) all over the world is the accessibility of external financial facilities (Thaker et al., 2020). Small and medium-sized enterprises are minor, autonomous enterprises that

employ a small number of people and a given number of employees depending on the country in which the business is located (Thaker et al.,2020). In the developing world, improving the livelihoods of the poor has become a priority for most Governments in their efforts to increase the level of human development (Owusu, 2012). The role of small and medium-sized enterprises (SMEs) in the growth of the Ghanaian economy, provision of employment, and the overall alleviation of poverty cannot be underestimated. Yet, it is common to see most of these SMEs collapsing shortly after their establishment with the basic reason being unavailability of financial resources. Microfinance has been one of the sources of finance to small and medium-sized enterprises. In a study to examine the impact of microfinance institutions on inclusive financing of small to medium-sized enterprises in the Harare Central Business District using a quantitative descriptive design, Mayo (2018) found that access to credit, savings enhancement, provision of business and financial management training by microfinance institutions has a positive effect on the development and growth of small and medium-sized enterprises. Also, in examining the impact of financial support on sunflower production in the Lira District of Uganda, Auma et al., (2020) found that access to financial support results in the acquisition of technology, agro-inputs, and extension services that lead to increase in production and output.

Osoro and Muturi (2013) in their study on the role of financial institutions on the growth of SMEs in Kenya revealed that accessibility of savings accounts to entrepreneurs by micro finance institutions support entrepreneurs to develop the values of saving and that provision of training is positively related to the growth of SMEs. It was therefore concluded that provision of credit, training and cheap form of savings assist in the development of small and medium-sized enterprises (Osoro and

Muturi, 2013). Similarly, in a study to assess the role of microfinance in reducing the poverty rate in Sudan et al., (2017) found that microfinance has a positive impact on business development in the form of an increase in employment. Provision of microcredit to women contributes greatly to creating employment for the productive male associates who may not have access to the credit facility hence MFIs contribute to increasing family's income through creating new employments (Mohamed and Al-Shaigi, 2017). Also, in assessing the effects of services provided by microfinance institutions on the welfare of urban households in Malaysia, Loke et al (2020) found that most of the services provided by microfinance institutions comprising microcredit, micro insurance and training had aided urban households to make more income and improve their socio-economic welfare. Fatoki and Asah (2011) investigated the impact of firm and entrepreneurial characteristics impact on access to debt finance by SMEs in South Africa and found that, firm and entrepreneurial characteristics impacts on access to debt finance by SMEs. Also, the World Bank (2010) reports that micro, small and medium-sized enterprises constitute 99% of an estimated 19.3 million enterprises in the European Union (EU) and provide about 65 million jobs which represent two- thirds of all employment.

In the developing world particularly Africa, SMEs constitute the largest proportion of businesses and employ a significant proportion of the population (Anane et al., 2013). The United Nations Capital Development Fund (2004) identified three broad roles played by microfinance. These include assisting extremely poor households to meet their basic needs and protect against risk, improvement in household economic welfare, and support in women empowerment by supporting women's economic participation and hence promoting gender equality. Yeboah (2017) in his study on the

impact of microfinance on grassroots development using SMEs in Kwabre East District of Ashanti Region in Ghana as the case study found that individual operators of SMEs and their families benefit directly from the impact of microfinance through its impact on basic needs; employment; income; knowledge and skills and assets. In addition to these positive impacts, of microfinance were creativity, self-esteem, and critical reflection. SMEs owners who receive microfinance products and services are said to be better off with regards to improving the activities of their SMEs, improving their productivity, and ensuring prudent financial management compared to those without microfinance services (Anane et al., 2013).

In a study to investigate the effects of microfinance on micro and small business growth in Nigeria using a panel data and multiple regression analysis to analyse a survey of 502 randomly selected enterprises finance by microfinance banks in Nigeria, Babajide (2012) found that access to microfinance does not improve the growth of micro and small enterprises in Nigeria, though, some firm-level characteristics such as business size and business location, were found to have a constructive effect on enterprise growth. Babajide (2012) therefore recommends a recapitalization of the Microfinance banks to increase their capacity to support small business growth and expansion. Contrary to the findings of Babajide (2012), a study examined whether microfinance products, for example, loans, savings, insurance, and education affect small business growth in Ghana. Using descriptive and inferential statistics to analyse responses of 248 small business owners, and a multiple linear regression model, the study revealed that all the microfinance products positively affect small business growth, and the greatest influence is microloans (Gyimah and Boachie, 2018).

Similarly, Gichuk et al., (2014) in their study to investigate selected factors (credit and dividends accessed from table banking groups, entrepreneur's experience, education levels of women entrepreneurs and income of women entrepreneurs) perceived to influence the performance of women-owned small micro-enterprises in Kenya by adopting cross-sectional survey design and a sample of 225 women entrepreneurs who participate in Village Saving and Credit Associations from Nakuru Town Kenya, it was revealed that income, credit, and education level of the respondents had a positive change in the net profits and capital of Small Micro Enterprises (SMEs). Hence, Village Savings and Credit Associations were recognised as one of the effective strategies that could empower more women entrepreneurs in the rural and urban areas to access affordable credit.

Furthermore, in estimating the impact of financial development and financial instability on poverty reduction using time series data set of Bangladesh between 1974 and 2013, it was revealed that financial development reduces poverty directly through the provision of greater credit access in addition to savings opportunity for the poor and indirectly through promoting economic growth. Notwithstanding the positive impacts of financial development on poverty reduction, financial instability which arises alongside financial development is detrimental to the poverty reduction process (Abdin, 2016).

Based on this section of the literature reviewed, the variable of enterprise growth was conceptualised and applied to women in agro-processing enterprises. Microfinance can potentially determine the growth or decline of micro-enterprises.

2.4.7 Microfinance and Economic Development of Women

According to the Women's World Banking Global Policy Forum (1995), poor people worldwide are operating microenterprises and small businesses. However, most of these people have no access to the formal banking system because of their lack of collateral, high transaction cost per loan for small-scale ventures and the risk of operating in the informal sector. Commercial banks frequently emphasize on men and formal businesses neglecting women who make up the large and developing segment of the informal economy and register the highest repayment rate (ILO, 2007). Studies have shown that provision of financial services to women encourages better equal opportunity and societal welfare as current studies provide by directing the bulk of their earnings into the nutrition of their children, clothing, health, and education compared to their male counterparts (International Development Research Centre, 2020). concrete indication of women using their incomes and savings in extra industrious ventures compared to their male counterparts by directing a bulk portion of their earnings into the nutrition of their children, clothing, health, and education (International Development Research Centre, 2020). Hence, financial inclusion of women can result in better security and wealth for both sexes, their families, enterprises, and communities at large, particularly, with the significant role women play in moulding succeeding generations (IDRC, 2020).

One of the principal strategies for poverty alleviation by the international community of donors since the 1990s has been microfinance programmes specifically targeted at women. This is because female clients make up eighty-five percent of the poorest microfinance clients reached, register the highest repayment rate, and contribute larger portions of their income to household consumption compared to their male

counterparts (ILO, 2007). According to the United Nations Capital Development Fund (2004), the role of microfinance can be categorized into three. These include helping extremely poor families meet basic needs and guard against risks, enhancing the household's economic welfare, and ability to empower women through its subsidiary role in women's economic participation to ensure gender equity.

In a study to analyse the social and economic impact that microfinance has on participants lives, especially on women in Mediterranean countries, Corsi et al., (2006) found that access to credit can change women's conditions, giving women the chance to find their way out of poverty. Their results also indicate that microfinance activities, granting loans only to women to have guaranteed high return rates, can stimulate women's empowerment by providing economic emancipation, which can result in broader levels of empowerment. Corsi *et al*., (2006) further established a possible contention that, financial empowerment is more effective than programmes designed to fight gender discrimination directly. Also, Annim and Alnaa (2013), undertook a study to assess the impact of access to microfinance programmes by rural women on poverty reduction in Rural Households in the Upper East Region of Ghana. They used the Treatment and Effect Estimation Technique to examine data on 250 beneficiaries and 250 non-beneficiaries in five districts in the Region. They concluded that access to microfinance by rural women contributes positively to consumption expenditure leading to poverty reduction amongst rural households in the Upper East Region of Ghana.

Besides, a study to analyse access to microfinance services and its effect on the performance of small-scale women business entrepreneurs in Enugu State, Nigeria, Ike, (2012) used the Double-Difference (DD) Estimator to compare changes in outcome measures (i.e., change from before to after the intervention) between microfinance beneficiaries and non-beneficiaries. He found that the actual income of beneficiaries improved by about 46.67% (from N162, 480.00 to N238, 480.42), whereas that of the non-beneficiaries increased only by 11.6%. The mean increase in income of beneficiaries was found to be significantly different from that of non-beneficiaries at $p = 0.05$. Ike (2012) therefore, suggested that training, which is one of the essential services of microfinance institutions, should be highly implemented to improve the performance of clients.

In a study to ascertain whether microcredit members in Bangladesh are stuck in poverty and debt, as have been argued in recent years by critics of microfinance, Khandker and Samad, (2013) used a long panel survey in Bangladesh over 20 years beginning in 1991/92, found that participants of microfinance derive a variety of benefits from microcredit. These include helping beneficiaries to earn income and consume more, accumulating assets, investing in children's schooling, and getting out of poverty bracket. Findings of their study further indicate that the positive effect of microfinance on beneficiaries did mean that non-participants had failed to progress over the period. Additionally, Khandker (2005) researched to examine the effects of microfinance on poverty reduction at both the participant and aggregate levels using panel data from Bangladesh, Findings of his study proposed that, access to microfinance contributes to poverty reduction, particularly for female members,

including general poverty reduction at the village level. Consequently, microfinance helps not only poor participants but also the local economy.

However, upon questioning the conventional wisdom that, the benefits of microfinance begin with poverty reduction and are then followed by social liberation, Lakwo and Leo (2010) conducted a case study in Uganda. They used a consensual people-centred relevance test to assess the impact of microfinance on poverty alleviation. Results of their study revealed that microfinance does not improve the well-being of clients that much. Their study found only a marginal improvement in well-being achieved by clients. Nevertheless, a subsequent (gender) power relations analysis reveals that despite the marginal well-being gains, female clients achieved more liberation. Mumin, et al., (2018) in their study to examine the impact of access to working capital and micro-enterprise development training programmes on household income and economic vulnerability among participants of development initiatives in the eKasih (national poverty data bank) in Peninsular Malaysia found that length of participation and the total amount of loan taken were found to increase household income.

Further, in a study to explore the over debated question on the role of microfinance as a financial intermediary for enhancing women empowerment through a survey, Aruna and Yothirmayi (2011) found that microfinance has a profound influence on the economic status, decision making power, knowledge and self-worth of women participants of self-help group linkage programme in Hyderabad, and that access to microfinance and its productive utilization is found to cause significant differences in women empowerment levels.

Also, a study to examine the contribution of microfinance to the socio-economic empowerment of women in Ghana using the Opportunity International Savings and Loans as a case with the adoption of the survey method in gathering data, Ablorh, (2011) found that access to microfinance has contributed greatly to economic empowerment of women through improvement in their businesses and the status of women both at the family level and in the society in general.

Weber and Ahmad, (2014) explored whether microfinance influences empowerment by comparing women in higher loan cycles of a Pakistani microfinance institution with those in the first loan cycle regarding their empowerment using a survey and multivariate statistical methods, such as propensity score matching. Their study found that women in higher loan cycles were highly empowered. It was then concluded that microfinance has an impact on the empowerment of female borrowers. However, results of an investigation to determine the impact of microfinance on household welfare in Botswana using a nationally representative sample of 503 households and an econometric model adapted from Coleman (1999), found that microfinance had no significant effect on household welfare. The results of the study further indicated that household welfare is positively and significantly influenced by educational level, household assets and being in paid employment in the public/private sectors. However, women's access to microfinance has led to their empowerment through participation in household expenditure decisions making; being respected by family members and the community; and participation in local leadership activities which addresses the strategic needs of women (Okurut et al., 2012).

Habte (2016) conducted a study in rural areas of Eritrea to find out whether the Savings and Micro-Credit Programme (SMCP) is a microfinance institution had improved the livelihood of its clients by employing a quasi-experimental cross-sectional survey design involving structured and a semi-structured questionnaire administered to 500 respondents of whom 200 represented the treated group and 300 the controlled group. A logit regression was employed to identify the factors that determine household participation in the SMCP. Results of the study found that age of the client household, household size, marital status, level of education of the client household, the size of the first-round loan, entrepreneurial experience, type of loan product offered by the institution, ownership of livestock and microenterprise, the perception of the client on involuntary deposits, the occurrence of a negative event (shock) to the household and village access to electricity were found to have a statistically significant effect on the household's probability to participate in the SMCP. Additionally, the marginal effects were also computed to evaluate the contribution of each of these factors to the likelihood of participating in the SMCP. Findings reveal that participation in the SMCP had a significantly higher average treatment effect on the treated (ATT) households. Profits generated from off-farm and small microenterprises, the values of household and livestock assets, food and non-food consumption expenditures and nutrition quality, were found to be higher on average for the treated households than for the controlled households (Habte, 2016).

Also, microfinance provision, along with the support and opportunities for collaboration given to clients throughout the lending process, can create positive conditions for psychological and social capital to flourish. This, in turn, can inspire new venture creation and contribute to the growth of existing ventures, especially for

poor entrepreneurs who may have less access to all forms of capital (financial, social, and psychological). Provision of microfinance along with support and opportunities for collaboration given to clients throughout the loaning process can create positive conditions for psychological and social capital to flourish. It can at the same time, motivate new venture creation and contribute to the growth of existing ventures, particularly for poor entrepreneurs who may have less access to all forms of capital (financial, social, and psychological) (Newman et al., 2014).

2.4.8 Microfinance and Household Livelihood Outcomes

This sub-section reviews the literature on microfinance and livelihoods outcomes of women. The livelihood of an individual expresses the process by which the individual acquires his or her basic provisions of life. That is processes through which various livelihood activities are explored by people to meet their financial, human, physical and natural needs. Livelihood outcomes are the achievements or output of livelihood strategies. Women engage in diverse livelihood approaches and activities to acquire their basic livelihood outcomes (Uddin, 2011). This strategy is typical of most rural women in meeting their livelihoods aspirations. Microfinance institutions support poor people to carry out income-generating activities to increase their incomes and are also capable of assisting them to deal with shocks and uncertainties (Fofana et al., 2015).

In a study to assess the impact of Debit Credit and Saving Institution's (DECSI) microcredit service on the livelihood of household borrowers residing in Mekelle City Ethiopia using a semi-structured questionnaire in collecting data from a sample of 287 respondents, Diro and Regasa (2014) found that participation in microcredit has a significant positive effect on household's average monthly income, consumption

expenditure, savings and housing improvement, whereas the number of employments generated to and out of household members showed no difference. Also in a study to assess the impact of Microfinance Institution (MFI) on the livelihoods of women using a descriptive approach to collect both primary and secondary data, Attah (2015) found that access to MFIs services contributed greatly in accessing credit and savings mobilization which helped in women's ability to improve their petty trading, hence increase their income, which subsequently leads to good health and education for their families, acquisition of assets and taking part in household decision making.

By looking at microfinance and women economic development, as well as microfinance and household livelihoods outcomes, they guided the choices of the statistical tools to be used in addressing this objective of study. The ideal scenario will be to compare groups of agro-processing women borrowers to ascertain differences in outcomes because of participation in microfinance programmes.

2.4.9 Microfinance and Livelihoods Diversification

Livelihood encompasses the abilities, assets (including both material and social resources) and activities required for a means of living (DFID, 2000). The analysis of livelihoods is based on income (in cash, kind, or services) acquired from employment and from remuneration through assets and entitlements. The component of sustainability with regards to livelihoods suggests that individuals or community members can challenge and overcome moments of stress and/or crisis and can maintain or even improve existing and future skills and assets without exploiting their supply of natural resources (UNDP, 2017).

Chambers and Conway, (1992) defined livelihoods as a term that describes the capabilities, capital (human, social, productive, economic, and natural) and activities needed to sustain life. The term livelihoods have been recognised as a movable and flexible term which can be connected to locales (rural or urban livelihoods), jobs (farming, pastoral, or fishing livelihoods), a social difference (gendered, age-defined livelihoods), directions (livelihood pathways, trajectories), dynamic patterns (sustainable or resilient livelihoods) and many more (Scoones, 2009).

From the viewpoint of livelihood diversification, Ellis (2000) indicated that "a livelihood comprises the assets (natural, physical, human, financial, and social capital), the activities, and the access to these (mediated by institutions and social relations) that together determine the living gained by the individual or household." The study conceptualizes livelihood diversification as the expansion of livelihoods sources because of the increase in income. As a result of the variation in gender roles, responsibilities, and resources, the livelihoods need of men and women are not usually the same. Additionally, the effect of diverse livelihoods intervention will also vary with regards to gender. For instance, a technology to relieve the workload of men may result in an increase in the workload of women and the vice versa. Also, women and men are expected to vary in their ability, authority and/or accessibility to take part in livelihoods analysis or interventions (Pasteur, 2002). Therefore, it is very important to consider overcoming these barriers in conducting livelihoods studies. Owing to the inability of the agricultural sector to respond to the income needs of the rural population, there has been a growing reliance by both rural and urban poor on alternative livelihoods which include paid employment, micro-enterprises, and services such as carpentry, weaving and self-employed businesses such as agro-

processing, food processing and stalls, tailoring and repairs of shoes among others (Motondi, 2011; Sharma, 2001).

Research from a variety of disciplines in Africa and Asia have established that rural folk on these continents hardly concentrate on livestock, crop, or fish production to the entire elimination of additional income generation activities, but rather, have traditionally diversified their productive activities to include a variety of additional industrial sources (Dercon and Krishnan, 2003; Adams and Mortimore, 1997). Most households in Africa and Ghana in particular rural households are engaged in several economic ventures not excluding farming and animal rearing, off-farm activities such as petty trading, agro-processing, small- scale manufacturing and the provision of labour (Duggal et al., 2002). This acknowledgement has directed many researchers to characterize rural livelihoods as fashioned from a collection of resources, or activities.

Iiyama et al., (2008) in their study of income and livelihood diversification strategies, and soil management strategies in Kenya found that households that earned off-farm income, and those that engaged in innovative agricultural activities earned more than twice the income of the lowest income groups, which were also least diversified. Also, diversification of income sources has been one of the shared strategies implemented by the poor, especially women to ensure continuous income flow. The extent to which the sources of income of the poor households are expanded shows its capability to tolerate shocks from a single source of income. People, therefore, make their living by combining a complex web of activities and interactions.

Rural livelihoods diversification usually happens due to improved importance of off-farm wage labour in household livelihood range or through the development of new forms of on-farm/on-site production of non-conventional saleable commodities. In each situation, diversification takes a form of temporary change of household livelihood collection (occasional diversification) or a cautious effort to enhance household capacity to benefit from ever-changing opportunities and manage with unforeseen limitations (strategic diversification) (Warren, 2002). According to Warren (2002) however, each of the above-mentioned situations with regards to livelihoods diversification does not suitably demonstrate diversification as a rural livelihoods approach. Livelihoods as explained by Warren (2002), rather involves maintaining continuously a diversified range of activities and regulating them following eventualities to maximize return, spread risk, or achieve other household objectives. Through having the competence to run a varied set of activities, households that diversify the sources of their livelihood stand a better chance of enjoying higher flexibility and resilience capacity than households that are dependent on agriculture (Warren, 2002).

In a study to explore the linkages between household headship and livelihood diversification in three Uganda districts, Dolan (2004) found that the gender of the household head distinguishes households' abilities to construct satisfactory livelihoods, though households are diversifying into a range of non-farm activities. Female household heads, specifically, face different challenges because of disparity in access to productive resources and cultural norms, which determine their access to more profitable livelihood approaches. Dolan (2004) concludes that the success of diversification rests on the types of off-farm activities in which households are likely

to engage in addition to the structure of the household itself. Since Female-Headed Households (FHHS) own few productive assets, they have a smaller number of options to organize savings and investment for productive diversification. For instance, FHHS are more likely to diversify into self-employed activities; branded by low- entry barriers and weak returns, whereas Male Headed Households (MHHS) are more likely to engage in formal wage employment or skilled trade activities, which offer greater potential for moving out of poverty (Dolan, 2004).

In a study to investigate the determinants of income diversification among farm households in Niger State, Nigeria, Sallawu et al., (2016) revealed through a Tobit regression model that, farm size, age, level of education, farm income, non-farm income, credit use, livestock ownership, household size, poverty status, and occupation were the significant determinants of income diversification in the study area.

Also, a study to explore the linkages between agricultural and rural development governance and rural livelihoods diversification in Bosnia and Herzegovina, Montenegro, and Serbia, found that, though rural livelihoods are progressively diversified a significant portion of households still involve in agriculture (Berjan, (2014). It was further established that, for livelihoods diversification strategies to thrive, rural households need to tackle numerous difficulties for developing new income-generating activities which include lack of financial resources as well as weak business skills. Hence, to completely exploit rural economy diversification potentials there is the need for numerous interventions together with refining rural governance, enhancing service delivery in rural areas, upgrading rural people's human capital, strengthening rural social capital, and improving upon physical capital, access to

finances by rural population as well as creating a favourable and enabling legal and legislative environment promoting diversification. (Berjan, 2014).

Liao et al., (2015) investigated the relationship between livelihood diversification and household incomes in an ancient pastoral setting among Kazak pastoral households in the Altay and Tianshan Mountains of Xinjiang, China using a combination of qualitative and quantitative methods. Findings of their study indicate that livelihood diversification barely translates into higher incomes or better standards of living in northern Xinjiang. Also, even in the presence of other livelihood approaches, households with satisfactory assets pick up pastoral production which is built on extensive livestock herding as practically their main source of income, whereas those who are deficient in these assets diversify in other less needed livelihood strategies and show significant acute poverty (Liao et al., 2015). Similarly, Dadi (2016), did a study to assess rural households' involvement in livelihood diversification (off-farm and non-farm activities) and the various factors that affect and increase the involvement of households in various diversification activities. Using both qualitative and quantitative methods, a household survey, focus group discussion and key informant interview in gathering data found that households' involvement in various diversification activities is affected by credit services, education, household's size, and farm holding size. The study revealed that lack of access to credit is found to be the major institutional constraints of households to involve in various diversification activities.

In a study to explore the livelihood strategies of rural women with a focus on income diversification and demographic adjustment in Olonkomi Locality using data from 150 households socio-economic and demographic survey, group discussions, interview, and other secondary sources, Woldetsadik (2013) indicated a population growth rate of Olonkomi locality to be 2.4 percent leading to a reduction in access to land and other resources. As a result, it is relevant to push many rural households particularly women, to adopt diversified livelihoods strategies to enable them to cope with livelihoods problems. Thus, these women engage in casual and unregulated labour of income-generating activities including processing and selling local beverages, selling firewood, making handicrafts and petty trading, among others.

A cross-sectional study evaluated the magnitude of Livelihood Diversification (LD) and the influence of some socio-demographic factors in severe food insecurity among smallholder farmers in Kadida Gamela District, Southern Ethiopia, using data collected from 200 households, simple random sampling, the Berger-Parker Diversity Index (activity-based) and the Simpson Index to measure the level of livelihood diversification and the Ordinal Least Square (OLS) to examine key determinants of LD found that, the majority (65%) of households engage in 2to 3 livelihood sources. Yet, the general level of diversification, compared to possible available opportunities, was found to be small. Regression analysis of the results also indicates that level of education of the head of the household, access to credit, participation in food for work programme and the land size owned by households were the key predictors of livelihood diversification (Mentamo and Geda, 2016).

Also, a study to assess the livelihood strategies engaged in by rural households, investigate the most remunerative strategy, and identify the factors that influence a household's choice of better strategies in rural Nepal using data collected in 453 households from three villages of central Nepal and analysed quantitatively within a sustainable livelihood framework found that the majority (61%) of the households diversified their income to non-farm sources. The study further revealed that livelihood diversification to business/enterprise strategies adopted by 16% of the households is the most lucrative strategy followed by commercial farming that includes 13% of the sample and is more relevant to poverty reduction. The study also found that landholding; education, agriculture and skill training, access to credit, and proximity to the road and market centre are the major factors influencing the adoption of higher returning livelihood strategies (Khatiwada et al., 2017).

The extensive review of empirical works in this section assisted in conceptualising livelihoods strategies and diversification. The section also provided understanding on how to measure the variable of livelihoods diversification using a regression model.

2.5 Conceptual Framework

Camp (2001) defined a conceptual framework as a structure which a researcher trusts can best explain the regular development of a phenomenon to be studied. A conceptual framework also refers to a model that permits a researcher to explore the relationship between variables in a consistent and recommended style (Anderson, 1990). The Sustainable Livelihood Approach (SLA) was adopted for the study. The approach is relevant because it emphasises a household as a unit of analysis in production and consumption as well as resource mobilisation and allocation decision making processes. The approach focuses on a microfinance client's household as a

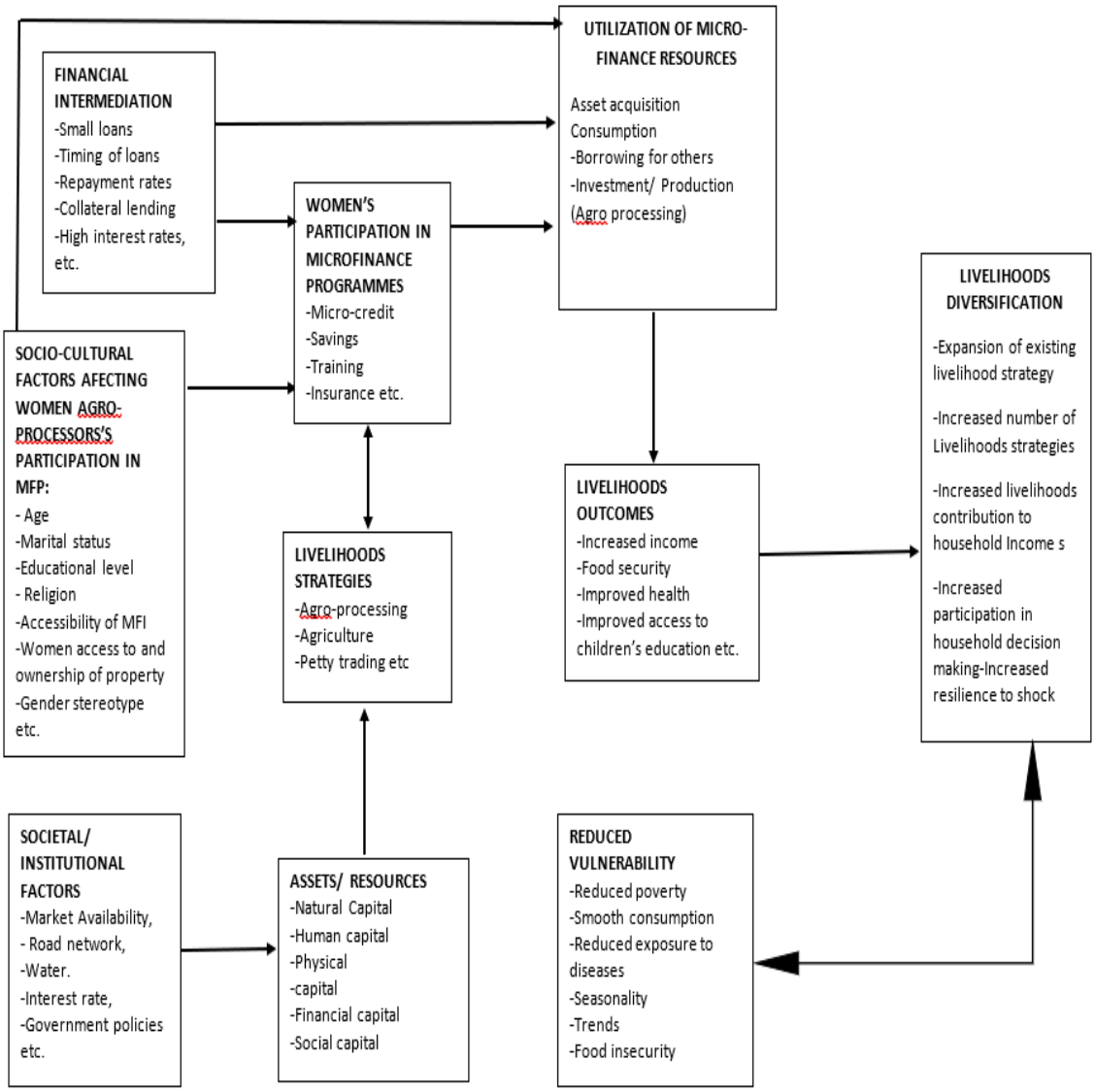
unit of analysis in assessing the impact of the treatment variables. Additionally, it considers microfinancing as the provision of additional financial resources so that households would optimally exploit their assets and resource endowments to achieve improved livelihood outcomes. The sustainable livelihood framework was adopted, modified, and used for enterprise-level analysis.

Women agro-processors draw on human, physical, financial, natural, and social capitals to create their livelihood strategies. These capitals serve as inputs for women agro-processors in carrying out their processing activities as shown in Figure 2.1 with a straight linkage between assets/resources and livelihoods strategies. Microfinance institutions usually introduce their services in the form of microcredit and compulsory savings into the capital pool of women beneficiaries in the form of financial capital, training on financial and microenterprise development in the form of human capital and encourage the formation of groups and cooperatives in the form of social capital. Again, societal, or institutional factors such as market availability, road network, and availability of water and government policies can also influence the use of resources or capital inputs which will, in turn, affect the livelihoods strategies of women agro-processors.

It is hypothesised that socio-cultural factors such as age, marital status, educational level, the religious affiliation of women agro-processors, accessibility of microfinance institutions, women's rights to own property and gender stereotype will influence the participation of women agro-processors in microfinance programmes and at the same time their utilization of microcredit facilities. In addition, issues related to financial intermediation such as small loan amounts, high interest rates, collateral lending and the timing of loans given are likely to influence the participation of women agro processors in microfinance programmes as well as their utilization of microfinance

resources. Besides, utilization of microfinance resources in the form of investment or production is expected to have a direct influence on livelihoods outcomes of beneficiaries in the form of increased income, food security and improved health status of beneficiaries which will, in turn, have a direct impact on the diversification of livelihoods strategies of women agro-processors in the form of expansion of existing livelihood strategy, increased number of livelihoods strategies, increased livelihoods contribution to household incomes, increased participation in household decision making and increased resilience to shocks and vulnerabilities. The conceptual framework which guides the study is presented in Figure 2.1 below.

Figure 2.1: Conceptual Framework



Source: Author's Construct (2019) (Adapted from DFID Sustainable Livelihoods Framework)

2.6 Summary

The literature reviewed has revealed a general lack of financial resources by women worldwide particularly, those who run small and medium-sized enterprises and microfinance have been introduced to address the situation with the provision of both financial and non-financial products to improve the livelihoods of the poor particularly women. Before the introduction of formal banking schemes, a lot of poor people, mostly women in addition to people living in rural communities depended greatly on informal banking facilities as well as semi-formal savings and loan services

in Ghana (Egyir, 2010). Two main approaches of microfinance delivery have been identified in microfinance service delivery to include the institutional approach otherwise known as the financial market approach and the welfarist approach. With the welfarist approach, the performance of microfinance institutions is measured by conducting studies on families with an emphasis on individual's living standards, ownership and number of savings accounts, capital accumulation, productivity improvement, incomes, food expenditures and social services such as access to health and education (Congo, 2002). Review of the literature, therefore, reveals the importance of considering the above-stated variables when assessing the impact of access to microfinance programmes on the livelihoods of agro-processors.

Also, the literature reviewed proposes that impediments such as socio-cultural factors, socio-demographic factors, poverty, unemployment, low household income and societal discriminations in developing countries hinder active participation of women in community-based microfinance programmes despite the critical role that women play in the economic growth of their households and societies. Access to microfinance programmes will not only enhance the growth of small and medium-sized enterprises through improvement in output of processed products but will also lead to increased incomes, employment, savings, which will, in turn, lead to the overall improvement in livelihoods and livelihoods diversification capabilities of clients. This could result in the hiring of more employees, an increase in savings and investment, growth in the assets of women enterprise owners and an increase in profit-enhancing enterprise growth. The next chapter deals with the overall methodology as well as research design, the population of the study, sampling procedure and sample size, and data collection methods used in the study.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter is devoted to the discussion of the research design and methods applied in data collection and analysis. The procedure in the selection of research participants, the tools, and techniques of data collection, as well as the methods of data analysis and presentation, are explained and presented in this section. The specific themes presented and discussed include the research design, target population, sampling procedure, data collection instruments, data collection procedures, and data analysis and presentation methods.

3.1 Research Design

Research design is a "blueprint" that enables the investigator to come up with solutions to problems and guides him or her in the various stages of the research (Frankfort-Nachmias and Nachmias, 1996). The key purpose of a research design is to certify that evidence obtained assists a researcher to answer the questions as explicitly as possible. A single-visit cross-sectional household survey design was adopted in this study with which primary data about households' socio-demographic characteristics, access to microfinance and other institutional services, and agro-processing activities and performance for the year 2019 were obtained from sampled women in shea and rice processing. Single-visit Cross-sectional surveys aim at establishing the frequency (or level) of a specific characteristic, in a defined population at a particular point in time (Casley and Lury, 1987). This design was used because compared to other survey designs cross sectional survey designs are generally easy and inexpensive and several surveys can be conducted to see trends over time (Casley and Lury, 1987). Additionally, a selected portion of the population is used from which findings of the

study can later be generalized (Glasow. 2005). Finally, because of the larger sample of people who answer surveys, it holds a better description of the comparative characteristics of the general population involved in the study (Glasow. 2005). With this background, both quantitative and qualitative methods of data collection and analysis were adopted in this study.

3.2 Population of the Study

The population for the study comprised of all women involved in agro-processing activities, including the processing of maize, rice, shea butter, soybeans, cassava, and groundnut oil among others, and who are residents in the Northern Region of Ghana. However, based on the agro-processing mapping of the Northern Regional office of the Ministry of Food and Agriculture and the 2010 Population and Housing Census, only women engaged in shea butter and rice processing was targeted for sampling since they are the two most widely processed foods among women in the region (GSS, 2013). A proportion of the total women in shea butter and rice processing was, however, selected for an interview during data collection because it would have been technically difficult and extremely expensive to have surveyed the whole population, especially when the population is non-registered (Anderson *et al*. 2010).

3.3 Sampling

3.3.1 Sample size

The sample size for this study was determined using a statistical procedure to ensure that inferences can be made for the whole population. Based on (Anderson *et al*. 2011), the sample size was determined using the desired margin of error formulae as follows:

$$E = Z_{\alpha/2}\frac{\sigma}{\sqrt{n}} \qquad [1]$$

where E denotes desired margin of error, n is the sample size, σ is the sample estimate of the standard deviation, and $Z_{\alpha/2}$ is the Z-critical value which is determined from the confidence level. From equation [3.1], the sample size formula is deduced as follows.

$$n = \frac{Z_{\alpha/2}^2 \sigma^2}{e^2} \qquad [2]$$

The study used a 3 per cent desired margin of error, which is recommended for largely quantitative studies (Bartlett *et al*., 2001). Based on a pilot study conducted in February 2019 in three selected districts in the Northern Region (Tamale, Saveligu, and Kumbungu), the sample standard deviation for participation level in microfinance was computed to be 31%. Therefore, at 95% confidence level, which corresponds to 1.96 z-critical value ($Z_{\alpha/2}$), the sample size of 410 women agro-processors was determined as follows.

$$n = \frac{1.96^2 (0.31)^2}{0.03^2} = 410.198$$

Therefore, the sample size for the study is approximately 410 agro-processing women. However, data from only 402 respondents were used for analysis due to missing data for 8 respondents.

3.3.2 Sampling Technique

The adoption of an appropriate sampling method to select a representative sample of households for data collection is as significant as the data and the results that would be generated from the study to inform policy decisions and influence industrial behaviours. In this study, multi-stage probability sampling techniques were employed to select respondents for collection and analysis of quantitative data. But the

applicability of any probability sampling method primarily depends on the availability or generation of a complete list of sampling units and/or numbers and locations of all respondents in the enumeration areas to form a complete sampling frame. It was based on these that a listing of all women in shea butter and rice processing activities was done in all enumeration areas before respondents were randomly sampled using Microsoft Excel tool.

Also, the Northern Region was the largest in Ghana (GSS, 2013) and as a result, it was quite implausible to conduct the study in all the districts and communities. As a result, based on the density and licensed microfinance institutions (MFIs)p and women in shea butter and rice processing activities, Tamale Metropolis and Kumbungu Districts were selected for the study since they had not only the largest proportion of women involved in the processing of shea butter and rice but also at least one licensed MFI. In the second step, 9 out of 15 and 6 out of 9 enumeration communities in which shea butter and rice are intensively and extensively processed were proportionately and randomly selected from Tamale and Kumbungu Districts, respectively. The use of the proportionate allocation method in the distribution of communities between the districts was accomplished based on the community sampling frame obtained from the Northern Regional MoFA office, which was critical for reducing sampling bias. A total of 15 communities were selected from the two selected districts in which respondents were randomly sampled for the interview (refer to Table 3.1 for names of sampled communities in the two districts). In the last step, due to lack of complete sampling frame of women in shea butter and rice processing in all selected communities, a total of 28 women were equally allocated to each of the selected communities in the two districts, which translated into 420

women. Thus, a total of 252 and 168 respondents were allocated for random sampling in Tamale Metropolis and Kumbungu district, respectively. The increase in the total sample size by 10 was to make up for shortages in some communities.

Table3.1: Sample Size and Sampling Communities

Sampled districts	Number of sampled communities	Names of sampled communities	Sample size
Tamale Metropolis	9	• Kasalgu • Jisonaa-yili • Darigohini • Nyohini • Saganarigu-Dungu • Bilpela • Dabogshe • Kalariga • Vitin	252
Kumbungu	6	• Kukuo • Gumo • Kumbuyili • Cheshegu • Kpalga • Bongnaayili	168
Total	15		420

Source: Field Survey (2019).

3.4 Data Collection and Analysis

3.4.1 Discussions with Tamale Metropolitan Assembly, MoFA, and Bonzalli Rural Bank Staff

Formal and informal discussions were held with the planning officers of the Tamale Metropolitan Assembly and the Kumbungu District, a staff of Ministry of Food and Agriculture and the Coordinator of Microfinance service of Bonzalli Rural Bank of Kumbungu. The purpose of the discussions was to first inform them about the objectives of the research and to gather more secondary data concerning access to microfinance services by women in the study areas. Another reason for the meetings was to identify agro-processing communities and agro-processing communities that had access to microfinance services. Discussions with the above-mentioned staff were

highly beneficial as it enabled the researcher to improve upon the research methodology and the research design.

3.4.2 Reconnaissance Survey/ Pre-Field Visits

A familiarization tour or pre-field visit, and telephone calls were carried out by the researcher to familiarize herself as well as to win the confidence of the respondents. The researcher visited each of the communities at least once to identify the agro-processing communities and to hold discussions on the purpose and aim of the study with key informants from the communities before the actual data collection exercise. These visits were very fruitful as they enabled the researcher to identify agro-processing groups in the various communities and announce dates of actual data collection exercise to respondents.

3.4.3 Pre-Testing of Questionnaires

Pretesting of data collection instruments specifically the questionnaire and the interview guide was carried out at Kanvilli a suburb of Tamale, which is one of the agro-processing communities in the Tamale Metropolis. Sixteen (16) questionnaires were administered to eight (8) shea butter processors and eight (8) rice processors who were randomly selected for the pre-testing. Pre-testing of the data collection instruments enabled the researcher to improve upon their quality and reduce some of the mistakes that stood up in the process of translating questions from the English language to the local dialect. The pre-tested results were analyzed and finalized by taking into consideration factors such as the logical flow of the questions, clarity and suitability of the questions, repeated questions etc. Pre-testing of the data collection instruments was also very useful as some questions were dropped, others were

reframed, and some questions were added, and this helped in the improvement of the data collection instruments.

3.4.4 Report on Pre-Test

This report presents findings on the analysis of pre-test data collection instruments that were administered to women agro-processors at Kanvilli. The objective of the pre-test was to enhance the creation of comprehensive data collection instruments designed to measure the relationships between the impact of microfinance and livelihoods diversification of women agro-processors in the study areas. After entry of the pretested data into SPSS, the data were tested for reliability and validity using different methods. The pre-tested data was checked for content and face validity. Content validity was checked by taking into consideration the full range of relationship that exists between microfinance and livelihoods diversification. Even though experts say content validity is not a strong form of validation, it is none the less important (Bartlett, 2013). Face validity is a form of content validity. It is also a weak form of validation as its purpose is to make sure that the instrument is measuring what it is supposed to assess.

After scrutinizing the data for content and face validity it was realised that whilst most of the questions in the questionnaire were repeated, some questions had problems regarding construction. Others had problems with the arrangement in terms of how the questions follow one another. Certain questions and skips also needed to be added to the questionnaire to increase its content validity. The researcher also found that a lot of time was spent, approximately one hour on each questionnaire at the initial stage of the administration exercise which later reduced to about 45 minutes after the enumerator became used to the questions and improved her questioning skills. To improve the questionnaire **a**ll repeated questions were removed, questions

that had problems with construction were reconstructed to bring out the real meaning of the intended constructs. Some questions were also rearranged to improve their logical flow.

For the Likert type scale questions, Cronbach's Alpha was conducted on the pre-test data. The analysis found Cronbach's Alpha of 0.886 as such the questions with the Likert type scale was found to be reliable in measuring the study concepts. This is because literature indicates that for data collection instruments to be reliable then it must report an Alpha value or coefficient which ranges from zero (0) to one (1). Validity was also checked for the various studied variables and corrections made.

3.4.5 Sources of Data

This study mainly sought to analyse systematically and empirically the impact of microfinance services on the livelihoods and livelihoods diversification of women in agro-processing in the Northern Region of Ghana. Towards meeting this objective, primary data was obtained on socio-demographic, economic, socio-cultural, financial, agro-processing activities, livelihood outcomes, and livelihoods diversification characteristics of women engaged in shea butter and rice processing in the region. Data collection took place from 9th May to 4th June 2019.

3.4.6 Data Required and Methods of Collecting Data

Semi-structured household questionnaires containing both closed and open-ended questions were used to gather quantitative data on women in shea butter and rice processing activities in the sampled communities using a face-to-face interview technique of data collection in the language that was most intelligible to the respondents. Focus group discussions were also held in each of the studied communities. As part of the efforts to ensure reliable and accurate information from

respondents, the questionnaire was made more flexible and recall-friendly decomposing it into sections, including socio-demographic characteristics, access to microfinance services, agro-processing activities and performance, and livelihood outcomes and diversification among others (Appendix A). In addition to these, enumerators from the University for Development Studies, who were not only sufficiently financially motivated but were also highly proficient in both English and the native language of respondents were used during data collection to reduce distortion and misinterpretation of data from respondents. A checklist was also used for focus group discussions. The questionnaire was pre-tested with selected respondents outside the selected communities before data collection commenced. This process helped the research team to improve upon the instrument concerning clarity in the wording of questions, infusion of local terms to connect concepts with local content and knowledge, rephrasing of questions deemed sensitive, determination of appropriate period per interview, and providing additional instructions, among others.

Before data collection, the informed consent form and ethical approval were obtained from the University of Ghana Ethics Committee. This form was used to obtain written informed consent from all respondents for acceptance to participate or otherwise before the commencement of an interview.

3.4.7 Questionnaire Administration

The direct interview approach which is also referred to as the face-to-face method of interview was employed in administering the questionnaire. Structured and semi-structured questions were administered to research subjects under this approach to obtain information relevant to the topic under investigation. The structured questionnaire included a closed ended type of questions where the respondents could only choose the answer from the given alternatives given by the interviewer while the

semi- structured questionnaire allowed the interviewee to add their opinion on some interesting questions. In all, four hundred and two (402) questionnaires were administered to respondents consisting of 113 full participants, 181 partial participants and 108 non-participants of microfinance programmes. The use of this approach was highly beneficial as it provided a chance for the researcher to elaborate the purpose of the research and an opportunity to seek the consent of the respondents before the commencement of the interview. This helped in sustaining the cooperation and interest of the respondents. Averagely twenty women agro-processors involving ten microfinance beneficiaries and ten non-beneficiaries were interviewed on each day. Sample of details of the questionnaire can be found in appendix A.

3.4.8 Focus Group Discussion (FGD)

Focus group discussion is a data collection technique that involves organizing research subjects and facilitating discussions with them on the research topic. One focus group discussion each comprising at least six (6) members and a maximum of twelve (12) members were held for beneficiaries and non-beneficiaries of microfinance in each agro-processing community. In all fifteen (15) FGDs were held with an average number of participants of eight (8) per each. In all one hundred and twenty-seven (127) women agro-processors took part in the FGDs. These numbers of people were considered for the focus group to have effective group control and participation of members. The purpose of the focus group discussions conducted was to have comprehensive discussions on relevant concerns regarding socio-cultural factors influencing women agro-processors' participation in microfinance programs as well their utilization of micro-financial resources. Also, fifteen (15) key informant interviews comprising five (5) members from microfinance institutions and ten (10) from the studied communities was also conducted. Participants of the focus group

discussion were drawn from women agro-processors who were chosen and interviewed through simple random sampling technique.

3.4.9 Summary of Data Required and Data Collection Methods

Table three (3) below depicts the summary of data required for the study and the methods used in data collection based on the objectives of the study.

Table 3.2: Summary of Data Required and Method of Data Collection

Concepts	Objective	Attributes	Data collection method	Source of data
(1) socio-cultural factors influencing women agro processor's participation in microfinance programmes	To analyse how socio-cultural factors influence women agro processor's participation in microfinance programmes	• Age of respondent • marital status, • . Educational level • Household size • Marital status • Gender stereotypes • Start-up capital • Business size etc.	Questionnaire and focus group discussion	Women agro-processors
(2) socio-cultural factors influencing the utilization of financial resources from microfinance services	To Examine how socio-cultural factors influence the utilization of financial resources from microfinance programmes by women agro-processors	• Age of respondents • Marital status • level of education • Experience of entrepreneur • Age of agro-processing enterprise • Number of dependants • Rights of women to own property • How MF products are used, etc	Questionnaire and focus group discussion guide	Women agro-processors
(3) Extent to which access to microfinance services influence the output of agro-processors.	Analyse the extent of influence of access to microfinance services on the output of agro-processing	• Number of bags of rice used to process • Number of bags of rice processed now • The number of calabashes of shea butter used to process.	Questionnaire	Women agro-processors
(4) Extent of influence of access to microfinance services on the growth of agro-	Analyse the extent of influence of access to microfinance services on the growth of agro-processing enterprises	• Number of calabashes processed now • Changes in income/returns	Questionnaire	Women agro-processors

processing enterprises		• Changes in savings • Changes in capital • changes in employment/labour uptake.	Questionnaire	Women agro-processors
(5) Extent of influence of access to microfinance programmes on livelihoods outcomes of women agro-processors	To Analyse the extent of influence of access to microfinance services on livelihoods outcomes of women agro-processing enterprises	• . Expenditure on health • Expenditure on children's education • Expenditure on food • Expenditure on social activities • Expenditure on clothing.	Questionnaire	Women Agro processors and Microfinance Institution
(6) Extent of influence of access to microfinance products on diversification of women agro-processors in the study areas	To Investigate the extent of influence of access to microfinance programmes on livelihoods Diversification of women agro-processors	• Demand for main agro-processed products • Expansion of existing agro-processing Enterprise • Creation of additional income-generating activities	Questionnaire	Women Agro processors
(7) Challenges faced by women agro-processors in accessing microfinance services	Investigate the extent of influence of access to microfinance products on diversification of women agro-processing enterprises in the study areas	• High-interest rates • Timing of loan disbursement • Availability of collateral etc.	Questionnaire Checklist.	Women agro-processors Focus group discussion Key Informant

3.5 Editing and Coding of Data

Four steps were considered in editing and coding the data. The total number of questionnaires assigned to each community and district concerning beneficiary status (beneficiaries and non-beneficiaries) was checked to make sure they were up to the assigned number. Secondly, the data was scrutinized and inspected for correctness and uniformity of information on each questionnaire about each research objective. Thirdly, editing of the data was done to make sure that all interview schedules were completed as required. At the fourth stage of editing and coding, both open-ended and closed-ended questions were coded after having known the responses through editing. Qualitative data that was collected during focus group discussions and which was in the local dialect was translated and transcribed. To ensure that the transcription reflected the information that the interviewee intended to convey, this process was carefully carried out, and the scripts carefully read and compared to the recordings. The qualitative data was then coded into themes and sub-themes. Both quantitative and qualitative data were then entered into SPSS software for analysis

3.6 Data Analysis and Presentation Methods

Data collected was entered, processed, and edited using Microsoft Excel 2007 before it was exported into SPSS for final analysis. The data was analysed by employing quantitative and qualitative methods. The type and nature of data collected, which were determined fundamentally by the various specific objectives of this study, informed the choice of the specific quantitative and qualitative analytical methods used to generate results of this study.

Table 3. 3: Summary of Analytical Approach

Objective	Concepts and measurement of variables	Analytical approach/framework
1.To analyse how socio-cultural factors influence women agro-processor's Participation in Microfinance Programmes	A. Socio-cultural factors Age Marital status Household size Religion Literacy Residential location Property ownership B. Participation in MFP Full participation Partial participation Non-participation	A. Descriptive statistics Frequency counts Mean B. Chi-square test of association
2.To Examine how socio-cultural factors influence the utilization of financial resources from microfinance services by women agro-processors	C. Source of financial resource MFIs /banks "Susu" groups, Friends/relatives etc C. Utilization of MF Resources Investment Consumption Purchase of inputs	A. Descriptive statistics Frequency distribution (Tables and graphs) B. Chi-square test C. Qualitative narratives.
3.To Analyse the extent of influence of access to microfinance services on the output of agro-processing enterprises.	The trend of output over the years	A. Ordinary Least Square (OLS) linear regression model. B. Qualitative narratives
4.To analyse the extent of the influence of access to microfinance services on the growth of agro-processing enterprises	A. Returns on investment B. Number and trend of labour engaged C. The trend of output over the years D. Current agro-processing enterprise stock value E. Trend of enterprise value over the years F. Growth of agro-processing enterprises G. Trend of labour engaged, H. Trend of income, I. Trend of Savings and trend of returns on investment	A. Descriptive statistics B. Analysis of Variance with F – test C. Trend of income D. Trend of savings, Trend of labour used E. F. Trend of investments G. Probit Regression

5.To investigate the extent of influence of access to microfinance programmes on livelihoods outcomes of women agro-processors	A. Livelihood strategies or activities Agro-processing Farming Trading etc. B. Livelihood outcomes Expenditure on food, Clothing, Health care, Education/ Training, Social activities Savings. Livelihood assets	A. Descriptive statistics frequency B. Mean Comparison t-test C. Qualitative narratives
6.Investigate the extent of influence of access to microfinance products on diversification of women agro-processing enterprises in the study areas	1. Expansion of existing enterprises 2. Additional livelihoods activities	A. Descriptive Statistics B. Chi-Square test C. Probit Regression
7.Challenges faced by women agro-processors in accessing microfinance services	E. List of Challenges / Constraints F. Ranking of constraints in order of severity	A. Thematic Analysis Qualitative narratives

3.6.1 Socio-Demographic, Economic, Financial and Livelihood Characteristics of Agro-Processing Women

Descriptive statistical tools such as frequency tables, mean, and standard deviations were used to analysed and describe the socio-demographic, economic, financial and livelihood characteristics of agro-processing women. The results of these analyses are displayed or presented using tables, graphs, and charts.

3.6.2 The Relationship between Socio-cultural Characteristics of Women Agro-Processors and their Participation in Microfinance Programs

Contingency tables were used to analyse data on the relationship between socio-cultural characteristics of women agro-processors such as marital status, age, education, religion, location, household size among others and their participation in microfinance programs. The Pearson chi-square test was further applied to determine the statistical significance of the various relationships between the socio-cultural characteristics of women agro-processors and their participation in microfinance programs. Specifically, the Pearson chi-square test was used to test for independence of two categorical variables such as participation level in microfinance and the various socio-cultural and other characteristics of women in shea butter and rice processing. The Pearson chi-square test for independence uses the contingency table to compare observed frequencies to expected frequencies about socio-cultural and other indicators between microfinance participants and non-participants. This comparison provides an idea about the dependence (correlation) between the variables. The chi-square (χ^2) value is computed based on the observed and expected frequencies as follows:

$$\chi^2 = \sum_i \sum_j \frac{(f_{ij} - e_{ij})^2}{e_{ij}}, \qquad [3]$$

where f_{ij} is observed frequency for contingency table category in row i and column j and e_{ij} is expected frequency for contingency table category in row i and column j based on the assumption of independence.

Hypothesis: H_0 : Socio-cultural characteristics of women in agro-processing are independent of their participation in microfinance programs

H_1 : Socio-cultural characteristics of women in agro-processing are not independent of their participation in microfinance programs.

The test for independence rejects the null hypothesis if the differences between observed and expected frequencies provide a large value for the test statistic. Thus, based on the p-value approach, and given a level of significance (α), the null hypothesis (H_0) will be rejected if the p-value $\leq \alpha$.

3.6.3 Relationship between Socio-cultural Characteristics of Women Agro-Processors and Choice of Microfinance Service Utilization Pathways.

The data requirements for this objective were also analysed using contingency tables and Pearson chi-square test of independence. These analytical methods were used to test whether the socio-cultural characteristics of women agro-processors such as marital status, age, education, religion, location, household size among others were independent of their participation in microfinance programs (see equation 3 for the computation of the chi-square value).

Hypothesis: H_0 : Socio-cultural characteristics of women in agro-processing are independent of their choice of microfinance service utilization pathway

H_1 : Socio-cultural characteristics of women in agro-processing are not independent of their choice of microfinance service utilization pathway.

The test for independence rejects the null hypothesis if the differences between observed and expected frequencies provide a large value for the test statistic. Thus, based on the p-value approach, and given a level of significance (α), the null hypothesis (H_0) will be rejected if the p-value $\leq \alpha$.

3.6.4 The Effect of Access to Microfinance Services on Output of Women in Agro-Processing Enterprises

The effect of microfinance participation on the output of women agro-processors was analysed using the Ordinary Least Square (OLS) linear regression model. This is because the dependent variable, agro-processing output, is continuous. This implies that agro-processing output was measured as a continuous variable in terms of a total kilogram of rice or shea butter processed in a typical week. The total output of women in agro-processing (dependent variable) was regressed on independent variables such as socio-demographic, economic, microfinance access, and factors of production as well as general household-level characteristics using the linear regression model. The results provide information about the specific inputs, institutional services, and household characteristics that statistically and significantly influence the output of agro-processors in the region.

The relationship between agro-processing output, production factors, individual characteristics and microfinance participation was analysed using the linear production function:

$$y_i = \beta_0 + \mathbf{x}'\beta + \delta_i W_i + \varepsilon_i \qquad [4]$$

where y_i is the agro-processing output for the *ith* woman; β is a vector of parameters to be estimated; $\mathbf{x}$ is a matrix of observed production factors and other household characteristics; W_i is a binary variable for microfinance participation [$W=1$ if a woman had participated in microfinance service $W=0$ if a woman had not participated in microfinance service]; ε_i is the random error term. The effect of microfinance participation on women agro-processing output is the primary objective of equation [4], which can be evaluated by estimating the coefficient δ. A single parameter β measures the marginal effect of a change in an explanatory variable, which is defined as the change in the expected value of the dependent variable, y_i, upon a unit change in the value of any of the independent variables, $\mathbf{x}$, assuming that all other regressors are held constant. In partial derivatives, the marginal effect is calculated as.

$$\beta_k = {\partial E(y_i)}/{\partial \mathbf{x}}, other \quad X^{'s} \quad are \quad constant \qquad [5]$$

e_i is the random error term representing the difference between the observable value of the dependent variable, y_i, and its expected value. The error term has a standard normal probability distribution with a mean of zero and constant variance. Given that all the Gauss-Markov assumptions of the OLS linear regression model are held, the empirical agro-processing output function estimated was as follows:

$$\begin{aligned} output_i = {} & \beta_0 + \beta_1 age_i + \beta_2 Educ_i + \beta_3 Cre_i + \beta_4 Lab_i + \beta_5 Loan\_num_i + \beta_6 Loc_i \\ & + \beta_7 Training_i + \beta_8 income_i + \beta_9 HH\_size_i + \varepsilon_i \end{aligned} \qquad [6]$$

Separate output regression models were also estimated for rice and shea butter processors to understand the processing dynamics and challenges of each processing

line. Unique and food-specific processing challenges are mostly hidden in aggregate data sets and analysis. Measurement units of variables in the empirical model are provided in Table 3.5.

Table 3. 4: Description of Variables Used in the Regression Model

Variable	Description
Output	Kg
Educ	The educational level of the respondent in completed schooling years
Age	Age of respondent in years
Cre	Access to credit from MFI (1 yes, 0 otherwise)
Lab	Labour days used in processing
Loan_num	Number of times loan is taken from MFI
Training	Access to training (1 yes; 0 otherwise)
Income	The income of respondent (GH¢)
loc	Location of agro-processor (1 if Urban-core; 0 otherwise)
HH_size	Household size (number)

Source: Author's Construct (2019)

3.6.5 The Effect of Access to Microfinance Services on the Growth of Women's Agro-Processing Enterprises.

The effect of microfinance service on the growth of women's agro-processing enterprises can be analysed using either the OLS linear regression or the discrete choice regression model. The choice of each regression model depends on how the dependent variable, growth, is measured in this study. Growth is a flow concept that measures a temporal change in a variable like capital, output, or income, and this is largely influenced by changes in capital stock, labour force, technological progress, and attitudes (Todaro and Smith, 2012). For small businesses, growth can be measured using several indicators, including changes in sales revenue, business capital, customer demand, profits and losses, market share, workforce health, among others (Forbes, 2017). Among these growth measurement indicators, change in business capital, savings, employment, and income were used to measure the growth

of shea butter and rice processing firms in this study. Business capital, defined as the financial assets or money required to produce goods and services, is important for acquiring assets, maintaining operations, and expanding production (Investopedia, 2019). In accounting, capital is defined as the summation of assets and liabilities. Therefore, a positive change in business capital between start-up year and the current year is an indication of the growth of the business in terms of size of assets, debt, and operations. Change in capital implies a change in the overall size and financial standing of the business unlike changes in sales revenue, employment, profits, and output. Change in the capital also envelops changes in all the other measures of growth, including assets, working capital, profits, customer demand, and workforce health, among others. Besides, it was easier for respondents to recall their initial capital investment and the current value of assets and liabilities compared to data on their past and current sales revenue, output, and customer demand and so on. It was on the bases on these factors that the study chose to change in capital to measure the growth of the agro-processing enterprises. Change in financial accounting is computed as:

$$C = A + L \qquad [7]$$

where C is the value of capital, A denotes the value of assets, and L denotes the value of liabilities. Based on equation [7], change in capital from business starting year to the current year (2019) is calculated as;

$$\Delta C\left(C_t - C_{t-1}\right) = \left[\left(A + L\right)_t - \left(A + L\right)_{t-1}\right] \qquad [8]$$

where C_t denotes the value of capital at the current year and C_{t-1} is the value of capital at the year the business was established. Therefore, any agro-processing woman whose total value of capital change over time is greater than zero is

considered to have experienced growth in her enterprise, while those with a total value of capital change over time equal to or less than zero have not achieved growth. Algebraically, this can be stated as follows:

$$\begin{aligned} \Delta C(C_t - C_{t-1}) &= [(A+L)_t - (A+L)_{t-1}] \succ 0 \quad Growth \\ \Delta C(C_t - C_{t-1}) &= [(A+L)_t - (A+L)_{t-1}] \leq 0 \quad no-growth \end{aligned} \qquad [9]$$

Analytically, to measure the effect of microfinance participation on the probability of an agro-processing woman to experience growth can be modelled using discrete choice estimation methods. In this study, growth of an agro-processor is measured as a binary variable (refer to equation 9) such that growth or otherwise of an agro-processor (dependent variable) is regressed on the various socio-demographic characteristics, inputs used in agro-processing, and microfinance participation using a binary Probit model. This provided information about how specific inputs, microfinance services and both individual and household characteristics statistically and significantly influence the probability of an agro-processing enterprise achieving growth or otherwise. In the binary Probit model, the dependent variable takes only two values (0/1). Therefore, its distribution is undoubtedly the Bernoulli, or binomial with the tail, with a probability of p_i (Wooldridge, 2013; Greene, 2002).

The Probit model in this study assumes that there is an underlying latent variable g^*, which is unobserved and measures the utility an agro-processing woman derives from the growth of her enterprise or otherwise. This latent variable is defined by the regression relationship as;

$$g^* = \beta' x_i + \mu_i \qquad [10]$$

where x_i is the characteristics of the women in agro-processing activities, including microfinance participation, β''s are the unknown parameters to be estimated, and μ_i is the stochastic error term which is assumed to be independently and identically normally distributed at id N (0, σ^2).

In practice, the dependent binary variable g_i is observed and defined as

$$\left\{\begin{array}{llll} g_i = 1 & if & g^* \succ 0 & growth \\ g_i = 0 & if & otherwise & no-growth \end{array}\right\} \qquad [11]$$

$$g_i = \left\{\begin{array}{llll} 1 & with & probability & p \\ 0 & with & probability & 1-p \end{array}\right\} \qquad [12]$$

Therefore, based on equations [11] and [12], a regression model is formed by parameterizing $p(g_i)$ as a function of an index function $\beta' x_i$. So, the conditional probability of an agro-processing woman achieving growth can be estimated using the function below.

$$\Pr(g_i = 1/x) = \Pr(\mu_i > -\beta' x_i)$$

$$= F(\beta' x_i) \qquad [13]$$

where F is the cumulative distribution function for μ on $(-\infty, \infty)$ to ensure that the bounds $0 \le p \le 1$ are satisfied. This implies that the observed values of g_i are just realizations of a binomial process with probabilities given by equation [13], which varies with the characteristics, x_i, of each woman. Therefore, the likelihood function of the Probit model is;

$$L = \prod_{g_i=0} F(-\beta' x_i) \prod_{g_i=1} F[F(\beta' x_i)] \qquad [14]$$

The functional form for F in equation [14] depends on the assumptions made about μ in equation [10]. Since it is normally distributed, then

$$F(\beta' x_i) = \int_{-\infty}^{\beta' x_i} \phi(z) dz \qquad [15]$$

From equation [14], the marginal effect, which measures the effect of changes in one of the explanatory variables on the probability of a woman achieving growth is given by the derivative defined as;

$$\frac{\partial}{\partial x_{ik}} \Phi(x_i' \beta) = \phi(x_i' \beta) \beta_k \qquad [16]$$

The empirical Probit model estimated is specified as follows:

$$\begin{aligned} growth\_cat_i \quad = \quad & \beta_0 + \beta_1 Educ_i + \beta_2 Training_i + \beta_3 Cre_i + \beta_4 Lab_i + \beta_5 Loan\_num_i + \beta_6 Loc_i \\ & + \beta_7 Age_i + \beta_8 Income_i + \beta_9 Agro\_type_i + \beta_{10} HH\_size_i + \varepsilon_i \end{aligned}$$

Table 3. 5: Description of Variables Used in the Growth Probit Regression Model

Variable	Description
Growth_cat	Growth Category (1 if experienced growth; 0 otherwise)
Educ	The educational level of the respondent in completed schooling years
Age	Age of respondent in the year
Cre	Access to credit from MFI (1 yes, 0 otherwise)
Lab	Labour days used in processing
Loan_num	Number of times loan is taken from MFI (Participation level)
Training	Access to training (1 yes; 0 otherwise)
Income	The income of respondent (GH¢)
loc	Location of agro-processor (1 if Urban-core; 0 otherwise)
HH_size	Household size (number)
Agro-type	Type of agro-processing (1 if shea butter; 0 rice)

Source: Author (2019)

3.6.6 Relationship between Access to Microfinance Services and Livelihood Outcomes of Women in Agro-Processing

The mean-comparison t-test was used to analyse data requirements of the objective of analysing the relationship between microfinance participation and women's livelihood outcomes. This test shows how significantly the differences in mean household expenditures on food, education, health, clothing, and social events, as well as the amount of savings between microfinance participants and non-participants. Specifically, the relationship between agro-processing women' livelihoods outcomes and the use of microfinance services was established by statistically testing the significance level of the mean difference in household savings and expenditures on food, clothing, education, health and social events between microfinance participants and non-participants using the mean-comparison t-test. The following table shows the theoretical presentation and the hypotheses of the mean-comparison t-tests between microfinance participants and non-participants.

Table 3. 6: Mean-Comparison t-test of Livelihoods Outcomes and Microfinance Participation among Women in Agro-Processing Activities

Livelihood outcomes	Microfinance participant (1) Mean	Microfinance non-participant (0) Mean	Difference (D)= (0-1) H_0: D = 0
Savings	XXXX	XXXX	H_1: D < 0
Expenditure on food	XXXX	XXXX	H_1: D < 0
Expenditure on clothing	XXXX	XXXX	H_1: D < 0
Expenditure on education	XXXX	XXXX	H_1 : D < 0
Expenditure on health	XXXX	XXXX	H_1: D < 0
Expenditure on social events	XXXX	XXXX	H_1: D < 0

Source: Author (2019)

Hypothesis: H_0 : There is no significant difference in mean household savings and expenditures on food, clothing, education, health and social events between microfinance participants and non-participants (H_0: D = 0).

H_1 : Mean household savings and expenditures on food, clothing, education, health, and social events are significantly higher among microfinance participants compared to non-participants ($H_{0:}$ $D < 0$).

The *a priori* expectation that livelihood outcomes will be higher among microfinance participants compared to non-participants is based on the theoretical argument that microfinance increases the financial capacity and management competency of small enterprises, which leads to high enterprise performance and its concomitant impacts on household savings, income, and welfare.

3.6.7 The Effect of Access to Microfinance Services on Livelihood Diversification of Women in Agro-Processing.

Livelihood diversification in this study is operationalized as engagement in additional livelihood or income-generation activities apart from processing either rice or shea butter. So, for a shea butter processor, processing of any other food, farming, petty trading among others. Therefore, any respondent with additional livelihood and income-generation activity is considered to have diversified her livelihood. The data required to assess the effect of microfinance participation on the likelihood of livelihood diversification among women involved in agro-processing was analysed using discrete choice estimation method. More specifically, livelihood diversification is measured as a binary variable such that women who have diversified their livelihood are coded 1, while those involved in only one livelihood activity are coded 0. And based on this 0/1 probability bound, the likelihood function of the Probit regression model in equation [14] can be estimated to measure the effect of microfinance participation and other factors on the likelihood of an agro-processor being livelihood diversified or otherwise.

The empirical livelihood diversification Probit regression model estimated is specified as follows:

$$live\_div\_cat_i = \beta_0 + \beta_1 Educ_i + \beta_2 Age_i + \beta_3 Cre_i + \beta_4 Lab_i + \beta_5 Loan\_num_i + \beta_6 HH\_size + \beta_7 Loc_i + \beta_8 Agro\_type_i + \beta_9 Income_i + \varepsilon_i$$

Table 3. 7: Description of Variables Used in the Livelihood Diversification Probit Regression Model

Variable	Description
Live_div_cat	Livelihood diversification category (1 if diversified; 0 otherwise)
Educ	The educational level of the respondent in completed schooling years
Age	Age of respondent in the year
Cre	Access to credit from MFI (1 yes, 0 otherwise)
Lab	Labour days used in processing
Loan_num	Number of times loan is taken from MFI (Participation level)
Training	Access to training (1 yes; 0 otherwise)
Income	The income of respondent (GH¢)
loc	Location of agro-processor (1 if Urban-core; 0 otherwise)
HH_size	Household size (number)
Agro-type	Type of agro-processing (1 if shea butter; 0 rice)

Source: Author (2019)

3.7 Challenges of Data Collection Process

The major challenge that the researcher foresaw was whether the women agro entrepreneurs would have the interest to give an audience due to the involving nature of their processing activities. However, this challenge was overcome by collecting the data during the lean season when agro-processors were less busy.

Besides, most respondents initially showed little interest to grant audience to researchers with the complaint that, researchers always visit them for similar activities, but they have since not benefited from those visits. This problem was resolved by using Assembly persons and secretaries for women processors who were in groups. Because these people were familiar with the processors, they helped in

explaining the essence of the research to them and in mobilizing them, and that made the exercise easier. Challenges for the urban District i.e., Tamale Metropolis was different, as some respondents demanded money before they could give the audience to interviewers. However, this challenge was overcome as respondents were made to understand that the research was for academic purpose and not for monetary gains.

3.8 Ethical Considerations

In research particularly social research, it is very important to always consider ethical issues as it involves interfering with the private lives of human subjects. Ethics involves the moral negotiation, choice, and liability on the part researchers throughout the research process (Edwards and Mauthner, 2002). In this kind of research, people are asked questions that demand them to provide information that is supposed to be confidential and which they would not want to disclose to the public domain. Hence research subjects were made to understand that confidentiality to information they provided would be held as confidential as possible. They were also made to understand that their names coupled with the information given will not in any way be kept in the public domain. As such pseudonyms were used for respondents in reporting the qualitative information. Respondent's consent was also sought before the data collection exercise.

3.9. Chapter Summary

Chapter three discussed the research design and the merits of adopting a cross-sectional household survey and the collection of both quantitative and qualitative data. Data was obtained using one-on-one interview method from 402 women involved in agro-processing of rice and shea butter using a semi-structured questionnaire and checklist for focus group discussions. The sampled respondents were selected using a multi-stage random sampling procedure, from the district level

to community and to household level, to reduce sampling bias and enhance the predictive and generalization ability of the study results and findings. The SPSS data analysis software was used to estimate OLS and Probit regression models, as well as undertake chi-square and mean comparison t-tests to generate results and findings. The next chapter presents the results and discussions of the study.

CHAPTER FOUR

SOCIO-CULTURAL FACTORS AND PARTICIPATION IN MICROFINANCE

4.0 Introduction

This section presents results and discussions of socio-cultural factors affecting women agro-processors' participation in microfinance to address the first specific objective of the study. The first objective of the study sought to analyse how socio-cultural factors influence women agro processor's participation in microfinance programmes.

4.1 Level of Participation in Microfinance Programme

Microfinance institutions (MFIs) in the study area provide both financial and social intermediation largely to women operating in the informal sector of the economy. MFIs in the study area provide mostly savings and credit, and to some limited extent insurance and financial products as part of their financial intermediation activities. They also provide and facilitate business development services, training and capacity building and market sourcing to women groups in the study area as a way of social intermediation programmes.

In the study, women agro-processors who have participated in both financial and social intermediation activities of MFIs were classified as full participants, while those who have only participated in financial intermediation (credit and savings) were classified as partial participants and those who have never participated in any microfinance programme as non-participants. As presented in Figure 4.1 a significant proportion (45%) of the women agro-processors surveyed were partial participants of microfinance services, while 28.1% were full participants and 26.9% being non-

participants. Non-participation of some women agro-processors in microfinance programmes in the study area could be attributed to some socio-cultural factors. For instance, during a key informant interview with one of the coordinators of the microfinance programme in the study area, he lamented that:

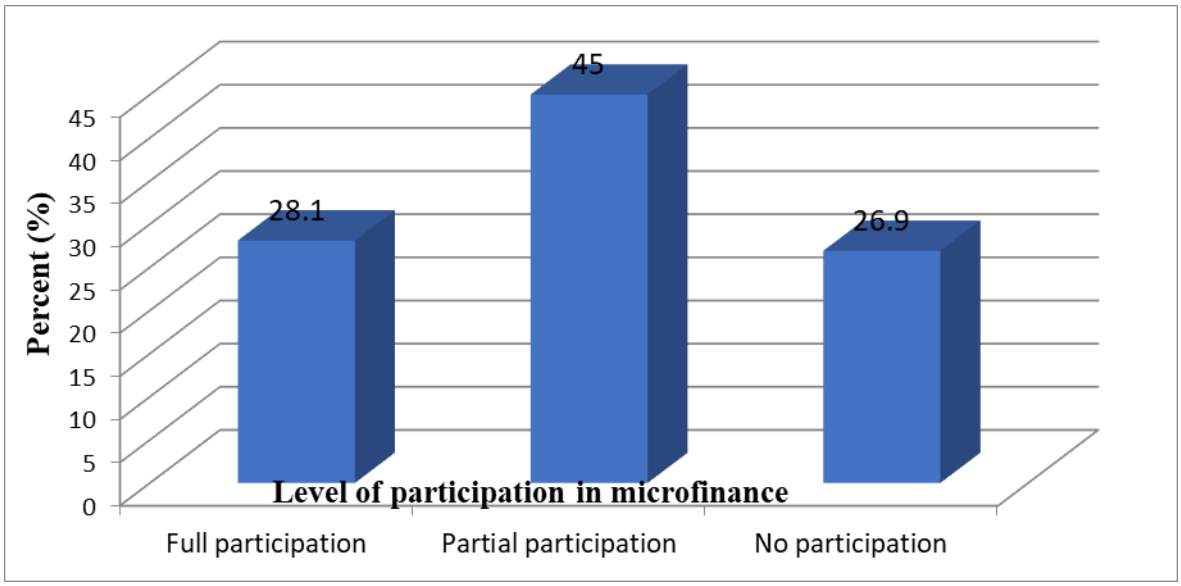
> ‘‘Most *women in the study area are scared to participate in microfinance programmes because of leadership challenges with regards to the mentality of their husbands, some husbands have the feeling that their wives will rub shoulders with them if they begin to benefit from microfinance products such as microcredit, as a result, they feel threatened any time their wives show interest in microfinance programmes. Some husbands because of their cultural background also have the mentality that women have no right to own property either in kind or in cash since women themselves are properties to their husbands. And so, women do not need to engage much in programmes that can lead them to gain financial freedom”*

(Verbatim Comment by a staff of MFI at Kumbungu on the 12th of May 2019).

Other reasons for non-participation of some women agro-processors in microfinance programmes that came to light during the study was high illiteracy rate among agro-processing women coupled with the land tenure system of the study area that does not favour women and the Islamic religious belief that the interest charge on loans is prohibited. Lack of education among these women makes them lack or have low confidence in themselves and this prevents them from participating in microfinance programmes. Also, the non-participation of women in microfinance programmes could be due to fear put in these women by their immediate family members or husbands who may be required to repay loans contracted by their family members in

times of default. These findings corroborate that of Echavez, Zand and Bagaporo (2012) whose study results identified reasons for non-participation of women in microfinance programmes as being the matter of relatives stopping them from participating, the fear that they would struggle in making repayments, the fact that loan was not needed and the opposition to taking a loan due to a belief that it involves interest and so un-Islamic.

Figure 4. 1: Bar Graph Showing Level of Participation in Microfinance



Source: Field Survey, 2019.

4.2 Socio-cultural Factors and Level of Participation in Microfinance

The study adopted bivariate analysis in assessing the association between socio-cultural factors and women agro-processors' level of participation in microfinance programmes. Specifically, the Chi-square test of association was applied in testing the hypotheses relating socio-cultural factors and women agro-processors' participation in microfinance programmes. Demanding and using products of microfinance institutions are individual decisions subject to his/her awareness, interest, and ability to access financial services from microfinance institutions. Many

factors ranging from socio-cultural to institutional influence people's demand and use of financial products offered by microfinance institutions.

4.2.1 Level of Participation in Microfinance and Age Group of Respondents

To assess the relationship between age of respondents and their participation in microfinance, a cross-tabulation of age and microfinance status as participant and non-participant and Chi-square test of association was conducted. This was done to test the hypothesis:

$H_0$1: there is no significant relationship between age and participation in microfinance programmes

Ha1: there is a significant relationship between age and participation in microfinance programmes

The result, as presented in Table 4.1, with Pearson Chi-Square (χ^2) = 12.399; df = 4; *p*-value = 0.015 confirms a significant relationship between microfinance participation and age category at 5% level of significance. As such, the null hypothesis was rejected in favour of the alternative. Thus, the age of women agro-processors influences their level of participation in microfinance programmes. As shown in Table 4.1, women agro-processors in their middle age (36 – 60 years) were found more likely to participate either fully or partially in microfinance programmes compared with the young and the elderly. Almost half (49.5%) of women agro-processors in their middle age participated partially in microfinance compared with 32.3% and 44.4% respectively of young and the elderly who also participated partially. Also, 28.1% of the younger respondents participated fully in microfinance services compared with 28% and 29.6% respectively of that of those in their Middle Ages and the elderly.

Also, young respondents were found more likely not to have participated in microfinance compared with their counterparts in their Middle Ages and the elderly. As shown in Table 4.1, more than one – third (39.6%) of young respondents were non-participants compared with 22.6% and 25.9% respectively of those in their Middle Ages and the elderly. The predominance of respondents in their Middle Ages participating in microfinance programmes could be ascribed to the fact that the majority (49.5%) of respondents in this age group are within the active age group and so can work to meet their set targets. They also have dependents and wider networks which serve as a motivation for them to work to generate more income to cater for their needs and so would like to benefit from any intervention that could enable them to improve their incomes and welfare of themselves and that of their families. Studies that corroborate this finding is that of Jumpah, Asare and Tetteh (2018) who identified age as one of the factors that positively influence women's participation in microfinance programmes.

Table4. 1: Level of Participation and Age group of Respondents

Level of participation in microfinance	Age group							
	<35 Years (Youth)		36 - 60 years (Middle age)		>60 years (Aged)		Total	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Full Participants	27	28.1	78	28.0	8	29.6	113	28.1
Partial Participants	31	32.3	138	49.5	12	44.4	181	45.0
Non- Participants	38	39.6	63	22.6	7	25.9	108	26.9
Total	96	100	279	1002	27	100	402	100

Source: Field Survey, 2019. Pearson Chi-Square (χ^2) = 12.399; df = 4; P – value = 0.015 (Significant).

4.2.2 Level of Participation in Microfinance and Marital Status of Respondents

Table 4.6 presents cross-tabulation of the level of participation in microfinance and marital status of respondents. A Chi-square test of the relationship was conducted to

assess the relationship between marital status and participation in microfinance. This was done to test the hypothesis:

$H_0$2: there is no significant relationship between marital status and participation in microfinance programmes.

Ha2: there is a significant relationship between marital status and participation in microfinance programmes.

The result of the test, as shown in Table 4.2 with Pearson Chi-Square (χ^2) = 0.888; df = 2; P-value = 0.641 established no significant relationship between marital status and participation in microfinance programmes. As such the null hypothesis could not be rejected. This confirms that respondents' marital status as married and not married does not influence their participation in microfinance programmes. Thus, married women agro-processors, as well as those who were not married, had an equal likelihood of being participants of microfinance programmes. However, during a focus group discussion in one of the communities, a respondent lamented that:

> ''*Our husbands do not want us to engage in microfinance especially microcredit because in most cases if we default, they are compelled to pay the loans, but we engage in it because they are irresponsible, and we suffer to take care of our children. So, we need to engage in microfinance programmes to benefit from their interventions to help improve our wellbeing"*

(Verbatim Comment by Amina at Gumo on the 22nd of May 2019).

This implies that, even though some husbands may prevent their wives from engaging in microfinance programmes, some women may use the inability of their husbands to meet the basic needs of their families as a reason to participate in microfinance programmes since they will benefit from its products which would help them meet their basic needs and that of their children. This finding corresponds with

that of Addai (2017) whose study found that majority of the women customers of MFIs are married and hence may require the services of MFIs to be empowered to manage their homes. Table 4.2 below provides detailed information on the level of women agro-processors' participation in microfinance and their marital status.

Table 4.2: Level of Participation in Microfinance and Marital Status

Level of participation in microfinance	Marital Status				Total	
	Married		Single			
	Frequency	%	Frequency	%	Frequency	%
Full Participants	101	27.8	12	30.8	113	28.1
Partial Participants	162	44.6	19	48.7	181	45.0
Non- Participants	100	27.5	8	20.5	108	26.9
Total	363	100	391	100	4021	100

Source: Field Survey, 2019. Pearson Chi-Square (χ^2) = 0.888; df = 2; P – value = 0.641 (Not Significant).

4.2.3 Level of Participation in Microfinance and Religious Background

The study also examined the influence of religion on women agro-processors' participation in microfinance services. As such the following hypotheses were set:

$H_0$3: there is no significant relationship between participation in microfinance and religious background of women agro-processors

Ha3: there is a significant relationship between participation in microfinance programmes and religious background of women agro-processors

The result of Chi-square test as shown in Table 4.3 with Pearson Chi-Square (χ^2) = 0.203; df = 2; P-value = 0.904 found no significant relationship between participation in microfinance and religious background of respondents. Therefore, the null hypothesis could not be rejected. Thus, religion plays no significant role in women agro-processors' participation in microfinance programmes. However, contrary to this finding some respondents mostly from Islamic religious background indicated during a focus group discussion that, even though their religion does not permit them

to engage in microfinance programmes particularly microcredit, they are compelled to participate because they need to earn a living and can only do that by obtaining capital from microfinance institutions to be able to engage or even expand their livelihoods. Several reasons have been given by respondents as to why their religion forbids credit. These include the fact that the religion forbids interest charges on loans and the belief that a creditor who passes on will not meet the mercy of Allah until the credit is settled. The non-significance of the role of religion in women agro-processors' participation in microfinance programmes is contrary to the findings of Mansori, Safari, and Ismail (2018) that, religiosity has the highest impact on peoples' intention to apply for Islamic microfinance products as a person with a higher level of religiosity has higher tendency to apply for Islamic microfinance products as they possibly will think this product conforms with the Shariah law compared to the conventional microfinance products.

Table 4.3: Level of Participation in Microfinance and Religion of Respondents

Level of Participation	**Religion**					
	Islam		**Christianity**		**Total**	
	Frequency	**%**	**Frequency**	**%**	**Frequency**	**%**
Full Participants	108	28.3	5	23.8	113	28.1
Partial participants	171	44.9	10	47.6	181	45.0
Non- participant	102	26.8	6	28.6	**108**	26.9
Total	3811	100	21	100	402	100

Source: Field Survey, 2019. Pearson Chi-Square (χ^2) = 0.203; df = 2; P – value = 0.904

4.2.4 Level of Participation in Microfinance and Literacy of Respondents

The study additionally examined the relationship between literacy, measured by 'Yes' if the respondent can read and/or write and 'No' if the respondent cannot read

and/write, and participation in microfinance. Again, the Chi-square test of the relationship was applied to test the following hypotheses:

$H_0$4: there is no significant relationship between literacy status of women agro-processors and their participation in microfinance programmes

Ha4: there is a significant relationship between literacy status of women agro-processors and their participation in microfinance programmes

The results, as displayed in Table 4.4 with Pearson Chi-Square (χ^2) = 0.057; df = 2; P-value = 0.972, failed to establish significant relationship between literacy and participation in microfinance programmes. As such the null hypothesis could not be rejected. Thus, both literate and illiterate women agro-processors were equally likely to have participated in microfinance programmes.

This finding suggests a high level of illiteracy for both beneficiaries and non-beneficiaries alike. The predominance of illiterate women in agro-processing could be attributable to the fact that these illiterate women do not have the knowledge and skills to work in formal institutions because of lack of formal education coupled with their lack of capital to start very lucrative livelihood ventures. This was observed in one of the focus group discussions held in one of the communities under Kumbungu Districts where a participant lamented thus:

> ''*I have never been to school; I only learnt how to process shea butter when I was staying with my aunt who raised me since that was her main livelihood activity. I, therefore, started the shea butter processing business when I got married as a means of livelihood*…''

(Verbatim statement Asana Abdul Rahman on 8th May 2019 at Kumbuyilli)

Hence, these women need the support of microfinance institutions to run their informal agro-processing businesses. The results also show that microfinance institution in the study areas focus on less educated and the illiterate women to empower them to realize their specific potentials. This finding is in line with the belief that most customers of microfinance institutions are not very educated (Boateng et al., 2015). However, it opposes that of Habte (2016), Coleman (1999), Zaman (1998), and Khandker (1998) with their position that well-educated households stand a better chance of coping with paper works involved in microfinance institutions and therefore have the probability of participating in microfinance programmes.

Table 4.4: **Level of Participation in Microfinance and Literacy of Respondents**

Level of Participation in Microfinance	**Ability to Read and Write**					
	Yes		**No**		**Total**	
	Freq.	**%**	**Freq.**	**%**	**Freq.**	**%**
Full Participants	20	28.6	**93**	28.0	113	28.1
Partial Participants	32	45.7	149	44.9	181	45.0
Non- Participant	18	25.7	90	27.1	108	26.9
Total	70	100	332	100	402	100

Source: Field Survey, 2019. Pearson Chi-Square (χ^2) = 0.057; df = 2; P – value = 0.972

4.2.5 Level of Participation in Microfinance and Residential Location of Respondents

A respondent's residential location as urban, peri-urban, or rural was assessed against her participation in microfinance and Chi-square test conducted to test the following hypotheses:

$H_0$5: there is no significant relationship between the residential location of the respondent and her participation in microfinance programmes

Ha5: there is a significant relationship between the residential location of the respondent and her participation in microfinance programmes

With Pearson Chi-Square (χ^2) = 7.474; df = 4; P-value = 0.024 as shown in Table 4.5, the null hypothesis was rejected in favour of the alternative. Thus, there is a significant relationship between the residential status of respondents and their participation in microfinance programmes at 5% level of significance. This means that an agro – processor's residential location has an influence on her participation in microfinance programme. The result shows that respondents from peri-urban areas were more likely to be full participants of microfinance programmes compared with their counterparts from urban and rural areas. As shown in Table 4.5, slightly more than one-third (35%) of peri-urban respondents were full participants of microfinance programmes compared with only 24.1% and 26.7% respectively of those from rural and urban areas who were also full participants of microfinance programmes. Thus, many of the partial participants of microfinance programmes were from rural areas compared with those from urban and peri-urban communities.

This was contrary to expectation because many of the microfinance institutions are in urban centers. Perhaps the facilitation and intermediation roles often played by NGOs who mostly target rural communities especially with women groups could account for rural women's agro-processors being more likely to benefit from microfinance programmes. This finding corroborates that of Loca, Moisiu, and Ceku (2014) who indicated in their study that, targeting of rural women by some NGOs in the provision of microfinance programmes correlates with the same target group of microfinances worldwide. Table 4.5 provides detailed information on the level of participation in microfinance and residential location of women agro-processors.

Table 4.5: Level of Participation in Microfinance and Respondents Location

Level of Participation in Microfinance	Location of Respondents						Total	
	Rural		Peri-Urban		Urban			
	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Full Participant	39	24.1	42	35.0	32	26.7	113	28.1
Partial Participant	75	46.3	53	44.2	53	44.2	181	45.0
Non-Participant	48	29.6	25	20.8	35	29.2	108	26.9
Total	162	100	120	100	120	100	402	100

Source: Field Survey, 2019. Pearson Chi-Square (χ^2) = 7.474; df = 4; P – value = 0.024

4.2.6 Level of Participation in Microfinance and Membership of Association

Community-based groupings are a facilitator of women access to microfinance services as groups are often used as collateral in accessing loans from microfinance institutions. Therefore, women group membership status was cross tabulated with their participation in microfinance and the result presented in Table 4.11. This was done to test the following hypotheses:

$H_0$6: there is no significant relationship between group membership and participation in microfinance programmes among women agro-processors

Ha6: there is a significant relationship between group membership and participation in microfinance programmes among women agro-processors

The Chi-square test of the relationship as shown in Table 4.6, with Pearson Chi-Square (χ^2) = 75.024; df = 2; P-value = 0.000 confirmed a significant relationship between group membership and participation in microfinance programmes. As such, the null hypothesis was rejected in favour of the alternative hypothesis. This means that women agro-processors group membership is a significant predictor of their participation in microfinance programmes. This implies that women agro-processors who belong to associations stand a better chance of benefitting from microfinance

interventions compared to women agro-processors who do not belong to associations. Women in groups or associations are normally exposed and thus, share information and as a result, stand a better chance of having awareness regarding opportunities like microfinance interventions. Hence, they are more likely to influence one another to participate in microfinance programmes since they most often have similar interest and face similar social problems.

The opportunity available to women agro-processors who belong to associations to benefit from microfinance interventions may also be attributable to the fact that most microfinance institutions prefer to work with clients who are in groups. This finding is in line with that of Sarma and Borbora (2014) who indicated in their study that, most microfinance institutions use the group lending approach because group pressure is used by as an incentive to higher loan recoveries. As shown in Table 4.6, women who were in groups were more likely to be full or partial participants of microfinance compared with those who were not members of any groups/ associations. As shown in Table 4.6, 31.4% and 49.9% of respondents who belonged to associations/cooperatives were respectively full participants and partial participants of microfinance, compared with only 9.8% and 18% of respondents who were not members of associations/cooperatives who also participated fully and partially in microfinance programmes.

Table 4.6: Level of Participation in Microfinance and Membership of Association

Level of Participation in Microfinance	**Do you belong to any Association/Cooperative**					
	Yes		**No**		**Total**	
	Frequency	**%**	**Freq.**	**%**	**Freq.**	**%**

Full Participants	107	31.4	**6**	9.8	113	28.1
Partial Participants	170	49.9	11	18.0	181	45.0
Non- Participant	64	18.8	44	72.1	108	26.9
Total	3411	**100**	61	100	**402**	100

Source: Field Survey, 2019. Pearson Chi-Square (χ^2) = 75.024; df = 2; P – value = 0.000 (Significant)

4.2.7 Level of Participation in Microfinance and Household Size of Respondents

Women agro-processors surveyed mostly relied on their household labour supply to meet the labour needs of their enterprises. As such household size is an important socio-cultural factor in agro-processing. Chi-square test was conducted to test the hypotheses:

$H_0$7: there is no significant relationship between household size and participation in microfinance programmes among women agro-processors

Ha7: there is a significant relationship between household size and participation in microfinance programmes among women agro-processors.

The result of the Chi-square test as shown in Table 4.7 with Pearson Chi-Square (χ^2) = 5.518; df = 4; P-value = 0.238, found no significant relationship between household size and participation in microfinance. This means that respondents in large or small households were found equally likely to participate in microfinance programmes. As such the null hypothesis could not be rejected in favour of the alternative. As shown in Table 4.7, 26.5% and 47.3% of respondents with household sizes of >10 respectively were full participants and partial participants of microfinance, compared with only 26.1% of respondents who were non-participants of microfinance programmes. Additionally, respondents with household sizes of 6-10 members constitute 28.8% and 42.4% of full participants and partial participants of

microfinance programmes compared with their counterparts (28.8%) who are non-participants of microfinance.

The finding of the study that women agro-processors in large or small households are equally likely to participate in microfinance programmes may be, whether an agro processor is from a large household or a small household, they both face similar environmental conditions, similar agro-processing challenges and similar economic as well as the living condition and this can serve as a push or pull factor to participation in microfinance programmes to better their living conditions and that of their families. However, this finding is contrary to that of Aggrey (2019), Habte (2016), and Chemjor (2013) whose studies highlighted household size as an influential factor to the need and utilization of microfinance services because the bigger the family, the greater the demands for the necessities of life such as food, clothing, shelter, and education. This may require the participation of women agro-processors to demand microfinance products that would enable them to meet these basic needs.

Table 4.7: **Level of Participation in Microfinance and Household Size**

Level of Participation in Microfinance	**Household Size of Respondents**						**Total**	
	<6		**6 -10**		**>10**			
	Freq.	**%**	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**
Full Participant	7	53.8	36	28.8	70	26.5	113	28.1
Partial Participant	3	23.1	53	42.4	125	47.3	181	45.0
Non-Participant	3	23.1	36	28.8	69	26.1	108	26.9
Total	13	100	125	100	264	100	402	100

Source: Field Survey, 2019. Pearson Chi-Square (χ^2) = 5.518; df = 4; P – value = 0.238 (Not Significant).

4.2.8 Level of Participation in Microfinance and Livelihood Choice of Respondents

The main livelihood activity engaged in by the women agro-processors surveyed was cross-tabulated against their participation in microfinance programmes to test the following hypotheses:

$H_0$8 there is no significant relationship between participation in microfinance programmes and main livelihoods of women agro-processors

Ha8: there is a significant relationship between participation in microfinance programmes and the main livelihoods of women agro-processors

The result of the test, as shown in Table 4.8 with Pearson Chi-Square (χ^2) = 12.330; df =6; P-value = 0.015 confirmed a significant relationship between main livelihood activity and participation in microfinance at 5% level of significance. As such the null hypothesis was rejected in favour of the alternative hypothesis. Thus, women agro-processors' choice of main livelihood activities is significantly related to their participation in microfinance programmes.

The results indicate that respondents with shea butter processing as their main livelihood activity were found more likely to be full or partial participants of microfinance compared with those who have rice processing, petty trading, and farming as their main livelihood activities. As presented in Table 4.8 overwhelming majority (80.3%) of respondents with shea butter processing as their main livelihood activity participated fully (28.3%) and partially (52%) in microfinance. Also as shown in Table 4.12, 28% of respondents whose main livelihood activity is rice processing were full participants of microfinance programmes while 28.3%, 24.5% and 31.5 of respondents with shea butter, petty trading and farming respectively have

shea butter processing, petty trading and farming also participated fully in microfinance programmes.

The predominance of shea butter processors as full and partial participants of microfinance programmes may be attributed to the fact that most NGOs provide them with buyers who come from outside the country to purchase their processed shea butter, hence these NGOs also support the women by providing them with microcredit either in cash or in-kind in the form of inputs (shea nuts, processing equipment and tools for picking nuts) to expand their production. These NGOs then buy the processed butter from the women shea butter processors and export it to their clients abroad or the clients come down to the processing communities to purchase the butter and send to their countries.

However, rice processors do not have this opportunity as almost all their processed rice is sold locally. This finding is in line with that of (Ding, 2018) who indicated that households whose livelihoods activities involve the use of more agriculture-related inputs are more likely to participate in microfinance programs.

Table 4.8 Level of Participation in Microfinance and Main Economic Activity

Level of participation in microfinance	**Main Economic Activity**								**Total**	
	Rice processing		**Shea butter processing**		**Petty trading**		**Farming**			
	Freq.	**%**	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**	**Freq**	**%**

Full Participation	47	28.0	36	28.3	13	24.5	17	31.5	113	28.1
Partial Participation	64	38.1	66	52.0	28	52.8	23	42.6	181	45.0
Non-Participation	57	33.9	25	19.7	12	22.6	14	25.9	108	26.9
Total	1681	100	127	100	531	100	54	100	402	100

Source: Field Survey, 2019. Pearson Chi-Square (χ^2) = 12.330; df =6; P – value = 0.015 (Significant).

4.2.9 Level of Participation in Microfinance and Type of Agro-Processing Enterprise

Level of participation in microfinance as conceived in this study influence women agro-processors' choice of the type of agro-processing enterprise they engage in. To ascertain this conception, the following hypothesis was formulated and tested using Chi-square test of relationship.

$H_0$9: there is no significant relationship between the level of participation in microfinance programmes and the choice of the type of agro-processing enterprise

Ha9: there is a significant relationship between the level of participation in microfinance programmes and choice of the type of agro-processing enterprise

The results of the Chi-square test, as shown in Table 4.9 with Pearson Chi-Square (χ^2) = 6.531; df = 2; P-value = 0.038, confirmed significant relationship (at 5% level of significant) between the level of participation in microfinance programmes and choice of the type of agro-processing enterprise. As such the null hypothesis was rejected in favour of the alternative.

The result, as presented in Table 4.19, indicates that full and partial participants of microfinance programmes were more likely to be shea butter processors. As shown in Table 4.9, an overwhelming majority (78.5%) of shea butter processors were

either full participants (26.5%) or partial participants (51%) compared with 29.8% and 38.9% of rice processors who were respectively full and partial participants of microfinance programmes.

The predominance of shea butter processors as full and partial participants of microfinance programmes may be attributed to the fact that several interventions by stakeholders including some NGOs in the agro-processing sector channelled to rural communities have targeted shea butter processors, and microfinance has been one of such interventions. Some of these interventions include linking processors to buyers of processed butter for export and the introduction of energy and time-saving equipment for processing. As such, women shea butter processors require more funds to enable them to increase production to meet the demands of their customers hence, their participation in microfinance programmes.

Other interventions targeted at shea butter processors is the introduction of energy-saving simple equipment's aim at reducing drudgery involved in shea processing activities. Therefore, the need to acquire these equipment's might compel women shea butter processors to participate in microfinance programmes to be able to benefit from its products such as microloans to purchase this equipment. This finding corroborates that of Mohammed (2011) whose study revealed that shea butter processors depend on products from microfinance institutions in the form of microloans and training to acquire energy-saving equipment's which enhances their enterprise growth. The finding additionally supports that of Auma et al., (2020) whose study results revealed that, access to financial support results in the acquisition of technology, agro-inputs, and extension services that lead to increase production and output.

However contrary to interventions received by shea butter processors, rice processors interviewed complained of lack of some basic equipment that would have made their processing activities easier, less time consuming, and which would have improved the quality and prices of their processed rice. This was captured in one of the focus group discussions in which a participant lamented that,

‘‘*Yes, we pick the foreign materials and broken rice with our hands because we do not have the machine used in picking them. If we had the picking machine it would have made our work easier as it would have limited the time use in picking, improve the quality of our rice and help improve the price of our rice”*

(Verbatim Comment by Mamuna at Kumbuyili on the 10th of May 2019).

Table 4.9: **Level of Participation in Microfinance and Type of Agro-processing**

Level of Participation in Microfinance	**Type of Agro-processing**					
	Shea butter processing		**Rice Processing**		**Total**	
	Frequency	**%**	**Frequency**	**%**	**Frequency**	**%**
Full participants	54	26.5	**59**	29.8	113	28.1
Partial participants	104	51.0	77	38.9	181	45.0
Non- participants	46	22.5	62	31.3	108	26.9
Total	204	100	198	100	402	100

Source: Field Survey, 2019. Pearson Chi-Square (χ^2) = 6.531; df = 2; P – value = 0.038 (Significant).

4.3 Chapter Summary

Chapter four presented results and discussions of socio-cultural factors influencing women agro-processors’ participation in microfinance programmes to address the first specific objective of the study. Chi-square test of association was applied in testing the hypotheses relating to socio-cultural factors and women agro-processors’ participation in microfinance programmes. Analysis of the results found that a significant proportion (45%) of the women agro-processors surveyed were partial participants of microfinance programmes, while 28.1% were full participants and

26.9% being non-participants. The results further confirmed a significant relationship between age, residential location, main livelihoods activity and choice of livelihoods activities between full, partial, and non-participants of microfinance programmes. However, there was no significant association between marital status, literacy, household size, and religion between full, partial, and non-participants of microfinance programmes. The next chapter presents results and discussions of the influence of socio-cultural factors on microfinance products utilization pathways.

CHAPTER FIVE

SOCIO-CULTURAL FACTORS AND MICROFINANCE SERVICE UTILIZATION PATHWAYS

5.0 Introduction

This section presents results and discussion on the utilization of financial resources from microfinance services and the extent to which agro-processors' socio-cultural factors influence the use to which borrowed microfinance resources are put into. This section specifically presents information directed to address specific objective two of this study. This objective seeks to 'examine the influence of socio-cultural factors on the utilization of financial resources from microfinance institutions by women agro-processors.'

5.1 Borrowing among Women Agro-Processors

Most (90%) of the respondents have ever taken loan/credit from various sources. Only 40 respondents (representing 10%) indicated that they have never borrowed monies as part of their business. The agro-processors interviewed often sourced their loans from many sources with some of them taking loans from multiple sources. However, the majority (81%) of respondents often sourced their loan from MFIs and friends/relatives (72%). Some of them also often take a loan from Susu or Village Savings and Loans groups (36%), money lenders (45%), banks (12%) and others (2%) as shown in Figure 5.1.

As presented in Figure 5.2, the majority (84%) of the respondents who took loans indicated that they often invest their loan in their agro-processing enterprises, while 35% said they often invest in other businesses besides their agro-processing business

and 45% and 28% respectively said they often borrow for consumption and for others like their husbands or family relations.

However, when asked what they use the bulk of the borrowed monies for? It emerged that, 59.8% often invest in their agro-processing enterprises, while 12.9% said they often invest the bulk of their borrowed funds in other businesses with 15.4% and about 12% indicating they respectively often use a bulk of the borrowed monies for consumption and borrowing for others as shown in figure 5.3.

This implies that the existence of women micro-enterprises depends greatly on access to microfinance services. This finding is not surprising since the main intension of these women in contracting credit/ loans is to improve on their agro-processing businesses. This further implies that, even though some pieces of literature argue that women microfinance borrowers do not use their borrowed funds for the intended purposes and that some women even borrow for their husbands, it is not generalizable to all borrowers. This finding of the study is in line with that of Boateng, Boateng, and Bampoe, (2015) who reported that the majority (53%) of their respondents said they contracted credit for the expansion of their businesses. The finding also corroborates that of (Sagarik, 2016) whose study found that most agro-processors invest their borrowed microfinance resources into their agro-processing activities.

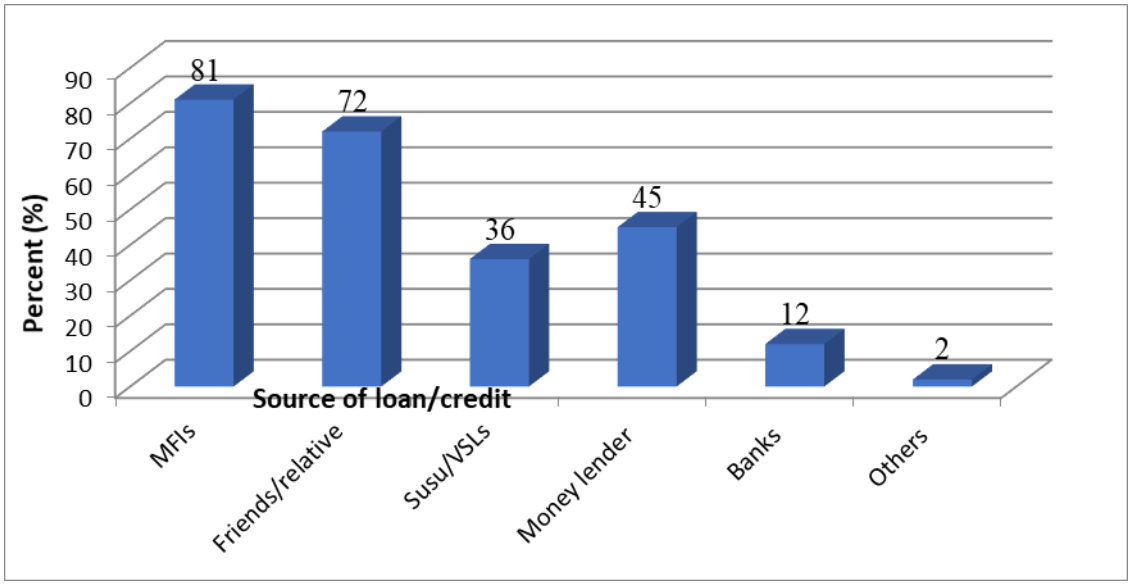
However, during a focus group discussion, it was revealed that even though women agro-processors often contract loans with the core aim of investing borrowed financial resources into their businesses, some of them often end up spending some of the resources on meeting very pressing needs of their households such as payments of ward's school fees or even on consumption. This was confirmed during a focus group discussion by one of the respondents who made a statement that,

> *"About 40% of the initial loan I took from Bonzali Rural Bank Microfinance was used to pay my daughter's school fees when she gained admission into the senior secondary school; the savings I made for the past year was not enough to take care of her admission fees let alone to make other expenses to prepare her for school, fortunately, the loan I applied for earlier was given to me at that critical time that I needed it and so I used about 40% of it in paying her fees and also prepared her for school".*

(Verbatim Comment by Adamu Issah on the 15th of May 2019 at Darigohini).

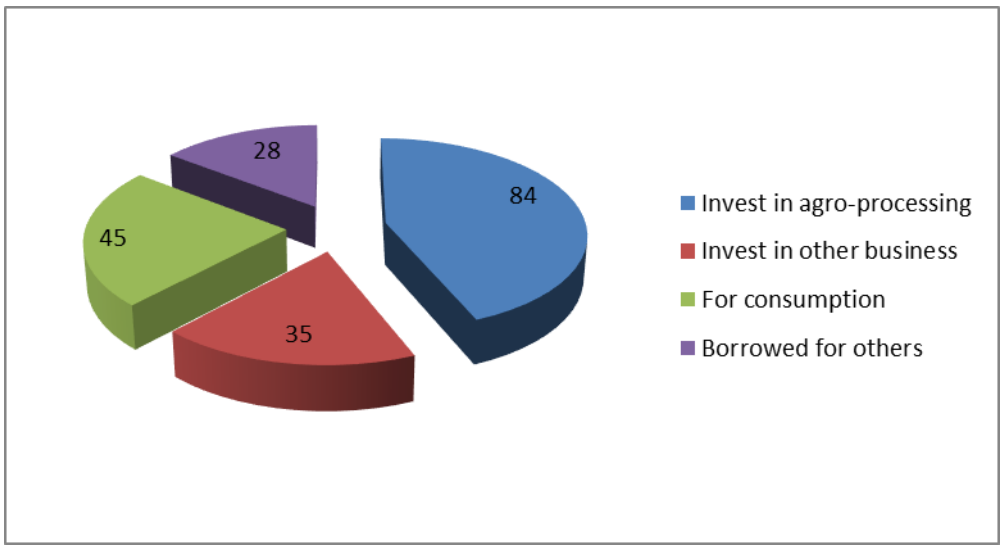
Besides, an interview with a key informant revealed that, because of the inability of women to make decisions in their households due to the cultural reason that, the man is the head of the family and so should be the one to take decisions concerning their wives and children, some microfinance participants end up not using credits/loans given to them by microfinance institutions for the intended purposes. This is because culturally, husbands have to approve for their wives to apply for loans and so are said to have the right to make decisions on how loans taken by their wives should be utilized with the reason being that the man must pay when the woman incurs liabilities. This is said to limit the growth of women agro-processing enterprises and consequently, higher default rates among microfinance participants.

Figure 5.1: Bar Graph Showing Distribution of Source of Loans



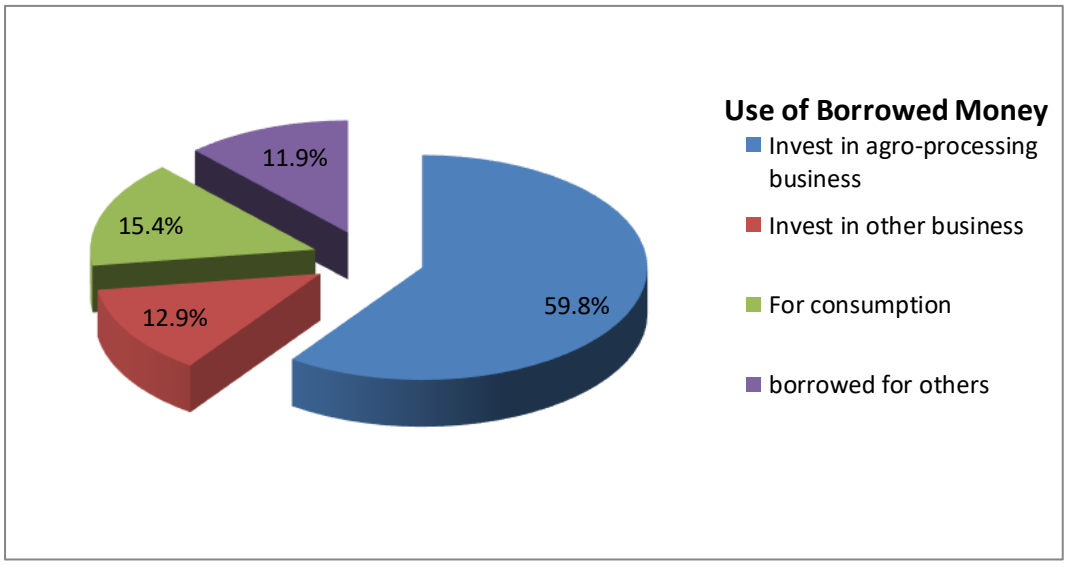
Source: Field Survey, 2019.

Figure 5. 2: Pie Graph Showing use of Borrowed Money



Source: Field Survey, 2019.

Figure 5.3: Pie Graph Showing use of Bulk of Borrowed Money



Source: Field Survey, 2019.

5.2 Socio-cultural Factors Influencing Respondents' Credit Utilization

The use of borrowed money from microfinance institutions is critical in the improvement of the general well-being of women borrowers. However, individual use of borrowed monies will largely depend on their socio-cultural and other circumstances. As such, the study examined socio-cultural and other factors influencing women agro- processor's use of borrowed monies.

Bivariate analysis was employed in assessing the relationship between selected socio-cultural factors and agro-processors use of borrowed financial resources. It was conceived in this study that agro-processors age, household size, religious background, ability to read and/or write, membership of community and livelihood grouping, and main livelihood activities would have a significant influence on their use of borrowed financial resources. These factors were expected to determine whether an agro-processor would invest her borrowed monies in her business, use it for consumption or borrow to be given to others.

5.2.1 Credit Utilization and Age of Respondents

To assess the relationship between age and credit utilization of respondents, a cross-tabulation of age and credit utilization status as 'participant' and non-participant' and Chi-square test of association was conducted. Respondents' age category as young, middle-aged, or aged is likely to have a significant effect on the investment of their borrowed monies on their businesses or use it for household consumption or surrender to others, mostly husbands and other male relatives. The data was therefore subjected to Chi-square analysis to test the following hypotheses:

$H_0$10: there is no significant relationship between women agro-processors' age and the use to which they often put their borrowed financial resources.

Ha10: there is a significant relationship between women agro-processors' age and the use to which they often put their borrowed financial resources.

Result of Chi-square test shown in Table 5.2 with Pearson Chi-Square (χ^2) = 6.525; df = 6; P-value = 0.367 found no statistically significant relationship between age and use of borrowed financial resources. As such the null hypothesis could not be rejected. It is therefore argued that agro-processors' ages do not significantly influence their use of borrowed financial resources. Thus, young as well as middle and aged respondents were found equally likely to invest their borrowed monies in their businesses, use it for household consumption or borrowed to be given to others.

As can be seen in Table 5.2 majority (57.3%) and (59.5%) of middle-aged women agro-processors (36-60 years) invest their borrowed funds into their agro-processing and other businesses respectively followed by the aged (60+ years**)** who constitute 26.9% and 21.6% of the studied population respectively. However, for processors

who invest their borrowed funds in consumption and borrowing for others, the middle-aged agro-processors again form the majority (61.4% and 58.8%).

The predominance of the middle-aged agro-processors utilization of borrowed funds into their agro-processing and in other businesses could be attributed to the fact that women in this age group have a lot of responsibilities to carry out including feeding their families and paying their children's school fees. As a result, women in this age group in the study area work very hard on their businesses as well as diversifying into other business to earn more income to be able to meet their obligations in their households. Women in this age group also work very hard because of the high poverty situation in rural areas especially in the northern part of Ghana.

This finding supports that of Egyir (2016) who indicated in his study that, due to the inability of most men to earn enough income to take care of their household needs, the survival of most households depends on women. Table 5.2 below provides detailed information on age and use of borrowed money by respondents.

Table 5.2: Use of borrowed money Age group of respondents

Use of Borrowed Money	Age Group of Respondents						Total	
	18 - 35 years (youth		36 - 60 years (middle age)		60+ years (aged)			
	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Agro-Processing	27	15.8	98	57.3	46	26.9	171	100
Other Business	7	18.9	22	59.5	8	21.6	37	100
For Consumption	9	20.5	27	61.4	8	18.2	44	100
Borrowed for Others	10	29.4	20	58.8	4	11.8	34	100
Total	53	18.5	167	58.4	66	23.1	286	100

Source: Field Survey, 2019. Pearson Chi-Square (χ^2) = 6.525; df = 6; P – value = 0.367 (Not Significant).

5.2.2 Use of Borrowed Money and Marital Status of Respondents

In assessing the relationship between marital status and use of borrowed monies, Chi-square test was applied to the following hypotheses:

$H_0$11: there is no significant relationship between marital status and the use to which women agro-processors put their borrowed financial resources

Ha11: there is a significant relationship between marital status and the use to which women agro-processors put their borrowed funds

The Chi-square test results as shown in table 4.15, with Pearson Chi-Square (χ^2) = 3.224; df = 3; P-value = 0.358, found no statistically significant relationship between marital status and use of borrowed microfinance resources. As such the null hypothesis could not be rejected. Thus, married respondents as well as singles do not differ significantly in their decision on how to use their borrowed funds. However, analysis of the results shows that the majority (64.3%) of married women agro-processors invest their borrowed funds into their agro-processing businesses compared with 60% of unmarried women processors. Also, an equal percentage (10%) each of women agro-processors invest their borrowed funds into other businesses.

The non-significance of the Chi-Square test is surprising as there is still a high sense of patriarchy among members of the studied communities. For instance, during a focus group discussion in one of the communities a participant lamented that:

> *"Men and for that matter, our husbands are seen as heads of our households and leaders in the community in general, while women are followers and are expected to succumb to their authority. As a result, most of them use their positions as heads and leaders of families to control women in all aspects including their economic and financial matters. We, women, have to seek their endorsement before taking part in microfinance programmes especially*

microcredit and so they most often want to dictate to us as to how loans are taken should be utilized"

(Verbatim Comment by Azara Issah on the 18th of May 2019 at Darigohini).

However, the higher percentage of married women processors investment of their borrowed micro-loans in their agro-processing enterprises could mean that, because they are married, they have more responsibilities and so need the services of microfinance institutions to be able to invest much into their processing enterprises and need to work hard in their businesses to earn more income to be able to manage their families.

This finding corresponds with that of Addai (2017) whose study found that majority of the women customers of MFIs are married and hence may require the services of MFIs to be empowered to manage their homes. Table 5.3 provides detailed information on respondents' use of borrowed money and their marital status.

Table 5.3: Use of Borrowed Money and Marital Status of **Respondents**

Use of borrowed money	**Marital Status**				**Total**	
	Married		**Not Married**			
	Frequency	**%**	**Frequency**	**%**	**Frequency**	%
Invest in Agro-processing	173	64.3	18	60.0	191	63.9
Invest in other Business	27	10.0	3	10.0	30	10.0
For Consumption	45	16.7	7	23.3	52	17.4
Borrowed for Others	24	8.9	2	6.7	26	8.7
Total	257	2	269	100.0	30	100.0

Source: Field Survey, 2019. Pearson Chi-Square (χ^2) = 3.224; df = 3; P – value = 0.358(Not Significant).

5.2.3 Use of Borrowed Money and Status of Respondents within the Household

Gender structured household status as either headed by male or female was analysed against the use of borrowed financial resources and Chi-square test applied to test the following hypotheses:

$H_0$12: there is no significant relationship between gender of household head and use of borrowed monies.

Ha12: there is a significant relationship between gender of household head and use of borrowed monies.

With Pearson Chi-Square (χ^2) = 6.723; df = 3; P-value = 0.041 the test result confirmed significance (at 5% level of significant) between gender household headship status and use of borrowed financial resources (see Table 5.4). As such, the null hypothesis was rejected in favour of the alternative. Thus, women agro-processors from male-headed household differ significantly from those agro-processors from a female-headed household in how they often use their borrowed microfinance resources.

As shown in Table 5.4, 64.3% of respondents from male-headed household invested their borrowed monies on their agro-processing enterprises and only 60.6% of their counterparts from female-headed households also invested their borrowed financial resources on their agro-processing enterprises. However, whereas 18.2% of respondents from female-headed households invest their borrowed financial resources on other businesses only 9% of their counterparts from male-headed households invested their borrowed funds on other businesses. Thus, respondents from female headed-households were found more likely to invest their borrowed microfinance resources on other businesses compared with their counterparts from

male-headed households. Also, slightly more respondents from the male-headed household (17.7%) than female-headed households (15.2%) were found more likely to use their borrowed microfinance resources to meet their consumption expenditure.

This finding is not surprising as the socio-cultural background of respondents in the study area have male household heads as breadwinners of the household and makes it mandatory for them to take care of household consumption whilst women play a supportive role.

The lower percentage (9%) of women agro-processors from male-headed households' investment of borrowed financial resources into other businesses could be, since women need to seek approval from their male heads (mostly husbands) before taking decisions concerning themselves or their children. As indicated earlier, due to the strong level of patriarchy among members of the study communities, most men use their positions as heads and leaders of families to control women in all aspects of their lives even including their economic and financial matters. Also, cultural norms in the study communities assign roles and responsibilities to both women and men and this shapes how women utilize their borrowed funds from microfinance institutions.

This finding is in line with that of Mukamana, Sengendo and Okiria (2017) which reported that women are required to involve in income generation activities that can take place close to their homes so as for them to be able to shear their time between their economic activities and their reproductive roles as women and by so doing allows men to perform the task that requires more mobility and interaction with the public.

Table 5.4: Use of Borrowed Money and Status of Respondent's within the Household

Use of Borrowed Money	Household headship status				Total	
	Female-headed		Male headed			
	Frequency	%	Frequency	%	Frequency	
Invest in Agro-processing	20	60.6	171	64.3	191	63.9
Invest in other Business	6	18.2	24	9.0	30	10.0
For Consumption	5	15.2	47	17.7	52	17.4
Borrowed for Others	2	6.1	24	9.0	26	8.7
Total	33	100	266	100	299	100

Source: Field Survey, 2019. Pearson Chi-Square (χ^2) = 6.723; df = 3; P – value = 0.041

5.2.4 Literacy of Respondents and Use of Borrowed Money

The use to which literate women put their borrowed microfinance funds to use as compared to their counterparts who could not read and/or write and the results are presented in Table 5.6. Chi-square test was then applied to test the following hypotheses:

$H_0$13: there is no significant difference between literate women agro-processors and illiterate women agro-processors in terms of the use of their borrowed financial resources.

Ha13: there is a significant difference between literate women agro-processors and illiterate women agro-processors in terms of the use of their borrowed financial resources.

With Pearson Chi-Square (χ^2) = 5.845; df = 3; P-value = 0.018 as presented in Table 5.5, the null hypothesis was rejected in favour of the alternative hypothesis. Thus, there is a significant difference between literate women agro-processors and illiterate women agro-processors in terms of the use of their borrowed microfinance funds. As shown in Table 5.5, respondents who could read and/or write were found less likely to use their borrowed monies for household consumption compared with their

counterpart who could not read and/or write. As shown in the Table, only 11.5% of literate respondents use their borrowed monies for household consumption while 18.6% of respondents who could not read and/or write spent their borrowed monies on household expenditure. However, the majority (65.4%) of respondents who could read and write invested their borrowed resources into their agro-processing businesses compared with 63.6% of processors who could read and write.

Most of the literate women agro-processors utilization of their borrowed funds in their agro-processing businesses could be that, with the education they have they might have better knowledge regarding loan terms and conditions compared to women processors who cannot read and or write. Additionally, literate women agro-processors may also have adequate and better knowledge on the implications of defaulting in the settlements of their loans on their businesses and may take adequate precautionary measures with regards to the utilization of borrowed funds.

This finding supports that of Asanoy (2004) which indicated that educated borrowers had higher levels of knowledge and skills in loan utilization compared to illiterate ones, and contradicts that of Ibrahim and Zareba, (2015) which indicated that age and education level of borrowers have no significant effect on loan repayment behaviour of the borrowers.

Table 5.5: Use of Borrowed Money and Literacy of **Respondents**

Use of borrowed money	**Ability to Read and Write**				**Total**	
	Yes		**No**			
	Frequency	**%**	**Frequency**	**%**	**Frequency**	
Invest in agro-processing	34	65.4	157	63.6	91	63.91
Invest in other Business	4	7.7	26	10.5	30	10.0
For Consumption	6	11.5	46	18.6	52	17.4
Borrowed for Others	8	15.4	18	7.3	26	8.7
Total	**52**	**100**	**247**	**100**	**299**	**100**

Source: Field Survey, 2019. Pearson Chi-Square (χ^2) = 5.845; df = 3; P – value = 0.018 (Significant).

5.2.5 Use of Borrowed Money and Respondents' Location

Women agro-processors' place of residence as rural, peri-urban and urban were conceived to affect their use of borrowed financial resources. As such, the following hypotheses were formulated and tested using Chi-square test of relationship and results presented in Table 5.6.

$H_0$14: there is no significant relationship between residential location and use of borrowed financial resources of women agro-processors

Ha14: there is a significant relationship between residential location and use of borrowed financial resources of women agro-processors

With Pearson Chi-Square (χ^2) = 10.872; df = 6; P-value = 0.092 the null hypothesis was rejected in favour of the alternative. Thus, the analysis confirmed a significant relationship at 10% of significance between residential location and use of borrowed microfinance resources.

As shown in Table 5.6, agro-processors from rural areas were found more likely to invest their borrowed microfinance resources in their agro-processing enterprises compared with their counterparts from the peri-urban and urban communities. Whereas 71% of the respondents from rural areas invested their borrowed monies on their agro-processing enterprises, only 58.4% and 59.5% of their counterparts respectively from peri-urban and urban communities invested same on their agro-processing enterprises.

The lower percentage of peri-urban and urban respondents' investment into their agro-processing enterprises compared to their rural counterparts could be ascribed to the high cost of living in the peri-urban and the urban areas coupled with their expenditures on social amenities which are absent in the rural communities. It could

also be because of the availability of other business opportunities in the peri-urban and urban areas in which agro-processors might diversify their livelihood activities into compared to processors in the rural areas.

This finding supports that of Ibrahim and Zareba, (2015) whose study results indicate that loan utilization and repayment performance are significantly influenced by the locality of borrowers. Table 5.6 provides detailed information on the use of borrowed money from microfinance institutions and respondents location.

Table 5.6: Use of Borrowed Money and Respondents' Location

Use of Borrowed Money	Respondents Location						Total	
	Rural		Peri-Urban		Urban			
	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Agro-Processing	88	71.0	59	58.4	44	59.5	191	63.9
Other Business	9	7.3	13	12.9	8	10.8	30	10.0
Consumption	16	12.9	17	16.8	52	25.7	52	17.4
For Others	11	8.9	12	11.9	3	4.1	26	8.7
Total	124	100	101	100	74	100	299	100

Source: Field Survey, 2019. Pearson Chi-Square (χ^2) = 10.872; df = 6; P – value = 0.092 (Significant)

5.2.6 Use of Borrowed Money and Religious Background of Respondents

In testing the relationship between the religious background of respondents and their use of borrowed microfinance resources, the following hypotheses were formulated and tested using Chi-square test of relationship and results presented in Table 5.7.

$H_0$15: there is no significant relationship between religious background of respondents and their use of borrowed financial resources

Ha15: there is a significant relationship between the religious background of respondents and their use of borrowed financial resources

The test results, as shown in Table 4.20 with Pearson Chi-Square (χ^2) = 7.319; df = 3; P-value = 0.062, confirmed a significant relationship between religious

background of respondents and their use of borrowed microfinance funds. As such the null hypothesis was rejected in favour of the alternative.

As shown in Table 5.7, about two-thirds (64.6%) of respondents who are followers of Islamic religion invested their borrowed monies on their agro-processing compared with 50% of their Christian counterparts who also invested their borrowed funds in their agro-processing enterprises.

The higher percentage (64.6) of women agro-processors who are followers of Islamic religion investment of their borrowed funds into their agro-processing enterprises could be attributed to the fact that they have larger household sizes as a result of the practice of polygamy, which is one of their belief systems, hence have a higher labour force that can be taped into their agro-processing businesses when they expand production. The larger household size of Muslim processors may also explain why they invest much in household consumption (17.5%) compared to their Christian counterparts. The differences in the utilization of borrowed funds by agro-processors who are followers of Islamic religion, and the Christian religion might also be attributable to differences in belief systems of these religions.

This finding supports the work of Mansori et al., (2018) which indicated that followers of religions have different behaviours in decision-making regarding contracting loans and loan repayment performance of farm households. Table 5.7 below provides detailed information on the use of borrowed money and the respondent's religion.

Table 5.7 Use of Borrowed Money and Respondents' Religion

Use of Borrowed Money	Respondents' religion				Total	
	Islam		Christianity			
	Frequency	%	Frequency	%	Frequency	%
Agro-Processing	184	64.6	7	50.0	191	63.9
Other Business	29	10.2	1	7.1	30	10.0
Consumption	50	17.5	2	14.3	52	17.4

For Others	22	7.7	4	28.6	26	8.7
Total	**285**	**100**	**14**	**100**	**299**	**100**

Source: Field Survey, 2019. χ^2 = 10.872, df = 6, P = 0.092 (Significant)

5.2.7 Use of Borrowed Money and Membership of Association

The study also assessed the relationship between membership of the group and use of borrowed monies. It is expected that respondents who were members of groups such as livelihood-based groups, e.g., agro-processors association, and farmer-based organizations would benefit from sharing of ideas and experience among their colleagues and as such, better equipped to make informed decisions on the use of their financial resources. As such the Chi-square test of relationship was applied in testing the following hypotheses:

$H_0$16: there is no significant relationship between membership of association and use of borrowed financial resources.

Ha16: there is a significant relationship between membership of association and use of borrowed financial resources.

Table 5.8 presents cross-tabulation of membership of association and use of borrowed money and Chi-square test results. With Pearson Chi-Square (χ^2) = 13.855; df = 3; P-value = 0.003 the null hypothesis was rejected in favour of the alternative. Thus, there is a significant relationship between membership of association and use of borrowed funds at 1% level of significance.

Respondents who belonged to associations were found more likely to invest their borrowed monies into their agro-processing enterprises compared with those who did not belong to any association. As shown in Table 5.8, 64.4% of respondents who were members of association indicated that they often invest their borrowed monies

into their agro-processing enterprises compared with 58.3% of those who did not belong to any association. Also, respondents who did not belong to any association were more likely to use their borrowed monies in consumption expenditure. As presented in Table 5.8, 41.7% of the respondents who did not belong to any association spent their borrowed monies on household consumption compared with only 15.3% of those who belonged to the association.

The likelihoods of respondents who belong to associations to invest their borrowed monies in their agro-processing enterprises could be attributed to the fact that agro-processors who are in associations or groups are normally targeted for business development training by some NGOs and microfinance institutions in the study area.

This assertion was confirmed by one shea butter processor during a focus group discussion that;

> *"Some NGOs as well as microfinance institutions provide those of us in associations or groups with business development training that enable us to improve upon our businesses. For instance, Bonzali microfinance has trained us on financial literacy, how we should invest our borrowed funds and how to keep records on our businesses to know if they are growing or not"*

(Verbatim Comment by Napari Alhassan on the 19th of May 2019 at Kalariga).

Also, the likelihoods of investment of borrowed funds into agro-processing enterprises by respondents who belong to associations could be attributed to the fact that agro-processors who belong to associations develop social networks which enable them to exchange and share information regarding their livelihoods as well as their general wellbeing. As a result, agro-processors in associations discuss issues concerning their livelihoods activities and microfinance products given to them and

how to invest and manage them to be able to pay back their loans without any difficulty. Associations also serve as collateral for women agro-processors when they apply for micro-credit facilities from microfinance institutions that operate based on solidarity group's model.

These findings corroborate that of Anderson et al., (2016) which indicated that most customers of microfinance join associations because of the promise of getting a loan but continue to stay in because of network and support from their colleagues. Table 5.8 provides details of the relationship between agro-processors use of borrowed funds from microfinance institutions and members of the association.

Table 5.8: Use of Borrowed Money and Membership of Association

Use of Borrowed Money	Do you belong to any association				Total	
	Yes		No			
	Freq.	%	Freq.	%	Freq.	%
Agro-Processing	177	64.4	14	58.3	191	63.9
Other Business	30	10.9	0	0.0	30	10.0
Consumption	42	15.3	10	41.7	52	17.4
For Others	26	9.5	0	0.0	26	8.7
Total	275	100	24	100	299	100

Source: Field Survey, 2019. Pearson Chi-Square (χ^2) = 13.855; df = 3; P – value = 0.003 (Significant).

5.2.8 Household Size of Respondents and Use of Borrowed Money

Agro-processors often relied on their family's labour sources for their labour demand as such the study assessed the relationship between household size and use of borrowed money by applying Chi-square test to the following hypotheses:

$H_0$17: there is no significant relationship between household size and use of borrowed monies by women agro-processors

Ha17: there is a significant relationship between household size and use of borrowed monies by women agro-processors

With Pearson Chi-Square (χ^2) = 9.418, df = 6; P-value = 0.029, the analysis confirmed a significant relationship between household size and use of borrowed monies. As such the null hypothesis was rejected in favour of the alternative.

As shown in Table 5.9, respondents from large households were found more likely to spend their borrowed monies for household consumption. As shown in the Table, 23.5% and 15.3% of respondents respectively from households with 6 – 10 persons and more than 10 persons, spent their borrowed monies on their household consumption expenditure compared with 9.1% of respondents from households with less than 6 persons who also spent their borrowed monies on their household consumption expenditure.

This finding was expected since households with more members will spend much on household consumption. However, the majority (72.7%) of respondents with household sizes of <6 invest their borrowed funds in their agro-processing enterprises compared with respondents with 6-10 (56.5%) and >10 (66.5%) members respectively. Thus, agro-processors with small household sizes would always stand a better chance of not facing many difficulties in the repayment of their borrowed funds.

This finding corroborated that of and Zareba, (2015) whose study found that, by investing a greater percentage of borrowed microfinance funds into running their agro-enterprises, there is the likelihood to generate more income through improvement in the business performance. Thus, loan utilization affects repayment

rates. Below is Table 5.9 which provides detailed information on women agro-processors use of borrowed money and their household sizes.

Table 5.9: Use of Borrowed Money and Respondents Household Size

Use of Borrowed Money	Household size						Total	
	<6		6 – 10		>10			
	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Agro-Processing	8	72.7	48	56.5	135	66.5	191	63.9
Other Business	0	0.0	7	8.2	23	11.3	30	10.0
Consumption	1	9.1	20	23.5	31	15.3	52	17.4
For Others	2	18.2	10	11.8	14	6.9	26	8.7
Total	11	100	85	100	203	100	299	100

Source: Field Survey, 2019. Pearson Chi-Square (χ^2) = 9.418[a]; df = 6; P – value = 0.029

5.3. Chapter Summary

This chapter presented results and discussion on socio-cultural factors influencing women agro-processors' utilization of microfinance resources from microfinance programmes which addressed specific objective two of this study. Agro-processors interviewed often sourced their loans from many sources. However, the majority (81%) of respondents often sourced their loans from MFIs. Respondents put their borrowed funds into many uses, mostly investing part in their agro-processing businesses, part for consumption, part for investing in other businesses and sometimes giving part to others. Results of the Chi-Square test confirmed a significant relationship between gender of household headship status, literacy, residential location, religion, membership of the association and household size of respondents and their utilization of microfinance resources. However, the study found no significant relationship between age and marital status of respondents and their utilization of microfinance resources. The next chapter presents results and discussions on the influence of microfinance programmes on the output of women agro-processors.

CHAPTER SIX

INFLUENCE OF ACCESS TO MICROFINANCE PROGRAMMES ON OUTPUT OF WOMEN AGRO - PROCESSORS

6.0 Introduction

This chapter presents results and discussion on the extent to which participation in microfinance programmes influence the output of women agro-processors' enterprises. The chapter is devoted to addressing specific objective three of this study which sought to 'Analyse the extent of influence of access to microfinance products on the output of agro-processing enterprises'

6.1 Effect of access to microfinance Programmes on output

The effect of access to microfinance services on the output of women agro-processors' enterprises was assessed by applying Multiple Linear regression to assess the effects of selected independent variables on output.

6.2 Results of Multiple Linear Regression on output

Table 6.1a and 6.1b respectively presents the descriptive statistics and results of multiple linear regression analysis conducted to assess the effect of access to microfinance services on the output of women agro-processors. Separate regression results for shea butter output and rice output are also shown in Table 6.1b.

Table 6.1a presents descriptive statistics of the variables used in the regression model to assess factors affecting output of shea butter and rice processors. As shown in table 6.1a, the output per women shea butter processors was 176.76kg (SD = 84.53) with a minimum of 53.10kg and maximum of 390.00kg while that of rice processors

was 520kg (SD = 103.34) with a minimum of 120.34kg and maximum of 982.23kg per processor per week.

The average age of respondents surveyed is 44.15 years (SD = 10.23) with only few of them (17%) being able to read and/or write. Only few (28%) of the respondents have ever taken part in formal training regarding agro- processing. Also, most (73%) of the respondents have ever accessed credit with average number of loans taken per respondent being 2.06 (SD = 1.7). The average monthly income per respondent is GHC 678.54 (SD = 837.31) with average household size of 13.76 persons (SD = 7) per household.

Also as shown in the Table 6.1b, both regression models were found to be significant predictors of factors affecting the output of women agro-processors. With adjusted R-square of 0.71 and 0.57.7, about 71% and 57% respectively of the increase in shea butter output and rice output were jointly explained by the selected independent variables.

Seven variables, namely education (significant at 10%), household size (significant at 10%), location (significant at 1%), labour (significant at 5%), credit (significant at 1%), number of credit/loans taken (significant at 5%) and training (significant at 1%) were found to be significant determinants of the output of shea butter processors. While education, household size, labour, credit, number of loans taken and training were positively related to the output of shea butter processors, location of agro-processors was negatively related to output. Thus, education, access to credit, labour, household size, and the number of times an agro-processor takes a loan to contribute positively to the output of shea butter processors.

Access to microfinance services and the number of loans taken have a significant positive effect on the output of shea butter. As shown in Table 6.1b, with a coefficient of 8.08267, women agro-processors who participated in microfinance services were more likely to have high output compared with those who did not participate in microfinance programmes. Similarly, those who have taken more loans had more output.

Also, six variables namely education (significant at 5%), location (significant at 5%), labour (significant at 1%), credit (significant at 1%), number of loans taken (significant at 1%) and training (significant at 1%) were found to have a significant effect on the output of rice processors. The variable 'credit' denoting participation in microfinance programme was positively related to the output of rice processors. This implies that rice processors who participated in microfinance programmes were processing more than those who did not participate in microfinance programmes. Similarly, the number of loans taken has a positive effect on the output of rice processors. As revealed by a respondent in a focus group discussion:

> "*I used to process small quantities of shea butter per week but now thanks to the microfinance institution that gave me credit, I have now expanded my business"*

(Verbatim Comment by Adama Mohammed on the 17th of May 2019 at Vittin).

Another respondent also indicated that:

> *"I used to process two (2) bags of rice a week but with the help, a microfinance loan my friend introduced me to I have doubled the number of bags I process a week to 4 (four) bags"*

(Verbatim Comment by Amina Yahya at Kasalgu on 20th May 2019).

This finding is not surprising as a key informant interview with a staff of one microfinance institution revealed that, their institution provides women agro-processors with training on financial literacy, business management and health management skills. This was intended to help women carry out their businesses profitably to enable them to become financially independent and to enable them to take control of their lives. As part of the business management training, the study revealed that the microfinance institution invites resource persons to train women on how to maximize production with effective use of their scarce resources. Also, some governmental and non-governmental organizations provide additional training to these women on topics such as improved processing of rice and shea butter, shea picking and storage, improved packaging of rice and shea butter, fire prevention and safety precautions in agro-processing. Organizations that provide the training include Action Aid Ghana, Ministry of Food and Agriculture (MoFA), Africa 2000 Network, Arvenash, Ghanaian Danish Development Programme (GDCP), Girls Growth and Development (Gigdev), Savana Fruit Company (SFC), Netherlands Development Organization (SNV), Millennium Development Authority (MiDA), Sundial and Techno Serve. For health management, women are trained on reproductive health and how to take care of themselves to prevent work-related hazards. For all these training the microfinance institutions and the NGOs are said to bear the cost involved.

Microfinance participants exposed to these training, have indicated several benefits that have been gained from the training. These include skills in processing quality rice and shea butter which help to attract better prices and market for their produce, improved income, knowledge on fire prevention, and reduced drudgery because of

their exposure to improved equipment's use in processing such as the roaster and kneader for shea butter processing.

This finding supports that of Auma et al., (2020) whose study results revealed that, access to financial support results in the acquisition of technology, agro-inputs, and extension services that lead to increase production and output. The finding is also in line with that of Kireti and Sakwa (2014) whose study found that access to microcredit services improves income levels, stocks, and output of enterprises and expenditure on health and education services.

Table 6.1a: Descriptive statistics of variables used in the regression on factors influencing output of shea butter and rice processors

Variable	Mean	Std. Dev.	Min.	Max.
Output of shea butter	176.76	84.53	53.10	390.00
Output of rice	520.00	103.34	120.34	982.23
Age	44.15	10.23	25.00	75.00
Education	0.17	0.38	0.00	1.00
HHsize	13.76	7.00	2.00	41.00
Loc.	0.40	0.49	0.00	1.00
Lab.	4.14	1.17	3.00	9.00
Credit	0.73	0.44	0.00	1.00
No. Loan	2.06	1.70	0.00	9.00
Train	0.28	0.450	0.00	1.00
Income	678.54	837.31	10.00	5040.00
Type.Agro-pr	0.507	0.50	0.00	1.00

Source: Field Survey, 2019.

Table 6.1b: Coefficients of Regression Model on Factors that Influence Output of Women Agro-Processors

Variable	Shea Butter Processors			Rice Processors		
	Coef.	Std. Err.	t	Coef.	Std. Err.	T
Education	26.78902*	15.16595	1.77	1.098687**	.4143892	2.65
Age	.0796488	.5564525	0.14	-.0071302	.0162972	-0.44

HHsize	15.95418*	10.65636	1.49	-.0009642	.0287956	-0.03
Loc.	-91.27468***	12.4235	-7.35	-1.084747**	.3571874	-3.04
Lab.	4.283456**	1.130884	3.79	.6722985***	.1374548	4.89
Credit	8.082671***	1.358020	5.95	2.1990258***	.5462441	4.02
No. of loan	2.163557**	.7409683	2.92	.1014327***	.0038215	26.54
Income	.0080893	.0099357	0.81	.000122	.0001712	0.71
Train	14.70233***	1.123490	13.09	2.3569498***	.3628223	6.50
_cons	222.0418	51.77851	4.29	3.606484	1.16551	3.09
F (9, 150) = 8.79; Prob > F = 0.0000; R-squared = 0.7452; Adj R-squared = 0.71				F (9, 129) = 6.61; Prob > F = 0.0000; R-squared = 0.61; Adj R-squared = 0.57		

Source: Field Survey, 2019.

6.3: Chapter Summary

This chapter presented results and discussion on the extent to which women agro-processors' participation in microfinance programmes influence the output of their agro-processing enterprises. The chapter addressed specific objective three of this study.

Results of separate Multiple Linear regression applied and assessed the effects of selected independent variables on the output of both rice and shea butter found that both regression models were significant predictors of factors affecting the output of women agro-processors. While education, household size, labour, credit, number of loans taken and training were positively related to the output of shea butter processors, location of agro-processors was negatively related to output. Similarly, six variables namely education, location, labour, credit, number of loans taken, and training were found to have a significant effect on the output of rice processors. The

next chapter discusses the influence of access to microfinance programmes on the growth of women agro-processing enterprises.

CHAPTER SEVEN

INFLUENCE OF ACCESS TO MICROFINANCE PROGRAMMES ON THE GROWTH OF AGRO-PROCESSING ENTERPRISES

7.0 Introduction

This chapter presents results and discussion of the influence of participation in microfinance programmes on the growth of women agro-processors. This section, therefore, addresses specific objective four of this study which sought to "*Analyse the extent of influence of access to microfinance products on the growth of agro-processing enterprises"*.

Growth can be measured by a change in a variable like capital, output, or income, and this is largely influenced by changes in capital stock, labour force, technological progress, and attitudes (Todaro and Smith, 2012). For small businesses, growth can be measured using several indicators, including changes in sales revenue or income, business capital, customer demand, profits and losses, savings, market share, workforce health, among others (Forbes, 2017). Among these growth measurement indicators, income, number of people employed (labour), investment and

accumulation of savings were used to measure the growth of shea butter and rice processing firms in this study.

7.1 Level of Participation in Microfinance Programmes and Growth Indicators

Indicators used to assess the growth of agro-processors' enterprises were income, number of people employed (labour), and accumulation of savings. Growth of enterprise is measured by the increase in the number of employees, increase in income/returns and an increase in savings and investment. It is expected that access to microfinance would have a positive effect on the growth of agro-processors' enterprises. As a result, the analysis assessed level of participation in microfinance and income, number of employees and savings and investments.

7.1.1 Level of Participation in Microfinance Programmes and Income of Agro-Processors

The study employed the Analysis of Variance (ANOVA) to test the hypothesis that 'there is no significant relationship between the level of participation in microfinance and income/returns from agro-processors' enterprises. Tables 7.1a and 7.1b respectively present descriptive statistics and ANOVA of the level of participation in microfinance and income/returns.

As shown in Table 7.1b, which presents descriptive statistics of income of respondents who participated in microfinance fully, partially or those who have never accessed microfinance products, the ANOVA analysis with F = 123.418 and P = 0.000, the analysis confirmed a significant difference in the income/returns of agro-processors' who participated fully, partially and those could not participate in microfinance programmes.

As shown in Table 7.1b, while respondents who participated fully in microfinance programmes made average income/returns of 1,546.02 GH¢, those who participated

partially made average income/returns of 731.22 GH¢ and those did not participate in microfinance programmes had an average income of 506.06 GH¢. It is therefore clear that those respondents who participated in both financial and social intermediation services of microfinance programmes made more income compared with those who participated only in financial intermediation and those who never participated in any microfinance programme.

Also, as shown by the post hoc test in 7.1c, the analysis confirmed a significant difference in average income between full participants and partial participants (P =0.000), full participants and non-participants (P = 0.000) and partial participants and non-participants (P = 0.001) at 1% level of significance.

This finding supports that of Attah (2015) whose study found that access to MFIs services contributed greatly to accessing credit and savings mobilization which helped in women's ability to improve their petty trading, hence increase their income, which subsequently led to good health and education for their families, acquisition of assets and taking part in household decision making. Table 7.1a, 7.1b and 7,1c provide detailed information on the level of participation in microfinance and income/returns of women agro-processors.

Table7.1 a: Level of Participation in Microfinance Programmes and Income/Returns

Level of participation in microfinance	N	Mean	Std. Deviation	Std. Error	Minimum	Maximum
Full participant	113	1546.02	373.881	35.172	450	2500
Partial participant	181	731.22	669.106	49.734	80	6000
Non – participant	108	506.06	379.560	36.523	20	2000
Total	402	899.76	671.347	33.484	20	6000

Source: Field Survey, 2019.

Table 7.1b: ANOVA of Level of Participation in Microfinance and Income/Returns

Level of participation in microfinance	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	69075609.442	2	34537804.721	123.418	.000
Within Groups	111657693.108	399	279843.842		
Total	180733302.550	401			

Source: Field Survey, 2019.

Post Hoc Test was conducted to determine where the significant difference exists. Since more than two categories are being compared here, if ANOVA found a significant difference, then the Post Hoc test is conducted to determine the pair in which the significant difference exists. Hilton and Armstrong (2006) observed that if data are analysed using ANOVA, and a significant F value obtained, a more detailed analysis of the differences between the treatment means will be required. The best option is to apply posthoc tests.

Table7. 1c: Multiple Comparisons of Level of Participation in Microfinance and Income

(I) Level of Participation in microfinance		(J) Level of participation in microfinance	Mean Difference (I-J)	Std. Error	Sig.
Tukey HSD	Full Participant	Partial participant	814.802*	63.424	.000
		Non – participant	1039.953*	71.187	.000
	Partial Participant	Full participant	-814.802*	63.424	.000
		Non – participant	225.151*	64.321	.001
	Non – Participant	Full participant	-1039.953*	71.187	.000
		Partial participant	-225.151*	64.321	.001

Source: Field Survey, 2019. ***The mean difference is significant at the 0.05 level.**

Levene's statistics F (2, 399) = 3.722; P = 0.025

7.1.2 Level of Participation in Microfinance Programmes and Number of People Employed

Results of F-test conducted from the ANOVA (results as presented in Table 7.2b) found no significant difference in the number of persons employed by agro-processors who participated fully, partially, or never participated in microfinance services. With F – test of 1.353 (P = 0.260) the analysis found no significant difference in the number of persons employed by participants and non-participants of microfinance services.

This finding corroborates that of Diro and Regasa (2014), Chowdhurya and Mukhopadhaya (2014) and Ike (2012) who found that microcredit participation has a positive significant effect on household's average monthly income, consumption expenditure, savings, and housing improvement, whereas the number of employments generated to and out of household members showed no difference.

It, however, contradicts that of Mohamed and Al-Shaigi (2017) which found that provision of microcredit to women contributes greatly to creating employment for the productive male associates who may not have access to the credit facility and therefore MFIs contribute to increasing of family's income through creating new employments. Tables 7.2a and 7.2b provide detailed information on descriptive statistics and ANOVA results of the level of participation in microfinance and the number of people employed.

Table7. 2a: Descriptive Statistics of Level of Participation in Microfinance and Number of People Employed

Level of participation in microfinance	N	Mean	Std. Deviation	Std. Error	Minimum	Maximum
Full participant	113	4.1681	1.20936	.11377	3.00	9.00
Partial participant	181	4.0387	1.16125	.08631	3.00	9.00
Non – participant	108	4.2685	1.15691	.11132	3.00	8.00

Total	402	4.1368	1.17483	.05860	3.00	9.00

Source: Field Survey, 2019.

Table7. 2b: ANOVA of Level of Participation and Number of People Employed

Level of participation in microfinance	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.728	2	1.864	1.353	.260
Within Groups	549.748	399	1.378		
Total	553.475	401			

Source: Field Survey, 2019.

7.1.3 Level of Participation in Microfinance Programmes and Savings of Agro-Processors

Results of ANOVA and post hoc analysis, as shown in the Tables 7.3a, 7.3b and 7.3c with F – value of 84.055 (P = 0.000) confirmed a significant difference in the savings of full participants, partial participants, and non-participants of microfinance services at 1% level of significance.

Also, Levene's test of equality of population variance was conducted to assess the hypothesis:

Null hypothesis (Ho): There is no equality of population variance among the groups being compared and the Alternative hypothesis (Ha): There is equality of population variance among the groups being compared. From the analysis as showed in the table 7.3c, with Levene's statistic F (2, 399) = 23.041; P = 0.000 the null hypothesis was rejected in favour of the alternative which implies the data set met the equality of variance assumption.

As shown in Table 7.3a, the average savings of full participants of microfinance programmes amount to GH¢713.08, and that of partial participants is GH¢, 276.30 and those who have never participated in microfinance programmes have average savings of 323.46 GH¢. Thus, full participants of microfinance programmes made

significant higher savings compared with partial and non – participants of microfinance programmes.

Also, the Post Hoc analysis, as shown in Table 7.3c, found a significant difference between the savings of partial participants and non-participants (P = 0.000) with a mean difference of 436.78GH¢. Similarly, there was a significant difference between the savings of full participants and partial participants (P = 0.000) with a mean difference of 389.62 GH¢.

This implies that participation in microfinance programmes either partially or fully has a positive effect on the savings of women agro-processors. Thus, agro-processors who are participants of microfinance programmes are more likely to improve on their savings and therefore save better compared to their non-participant counterparts.

This finding is in line with that of Chowdhurya and Mukhopadhaya (2014) who reported in their study that, women participants of microfinance programmes have improved savings patterns and much better access to markets and additional significant information, excluding facts about politics and government. Table 7.3a, 7.3b and 7.3c provide detailed information on level participation in microfinance and savings of women agro-processors.

Table7.3a: Descriptive Statistics of Level of Participation in Microfinance and Savings

	N	Mean	Std. Deviation	Std. Error	Minimum	Maximum
Full participant	113	713.0796	226.94580	21.34926	15.00	900.00
Partial participant	181	276.2983	297.93428	22.14528	15.00	1950.00
Non – participant	108	323.4630	341.60198	32.87067	6.00	2400.00
Total	402	411.7463	348.33125	17.37318	6.00	2400.00

Source: Field Survey, 2019.

Table7. 3b: ANOVA Table of Level of Participation in Microfinance and Savings

Source of variance	Sum of Squares	Df	Mean Square	F	Sig.

Between Groups	14423001.095	2	7211500.547	84.055	.000
Within Groups	34232197.025	399	85794.980		
Total	48655198.119	401			

Source: Field Survey, 2019.

Table7. 3c: Multiple Comparisons of Savings across Levels of Participation in Microfinance

(I) Level of Participation in Microfinance	(J) Level of Participation in Microfinance	Mean Difference (I-J)	Std. Error	Sig.
Full Participant	Partial Participant	436.78130*	35.11770	.000
	Non – Participant	389.61668*	39.41631	.000
Partial Participant	Full Participant	-436.78130*	35.11770	.000
	Non – Participant	-47.16462	35.61465	.382
Non – Participant	Full Participant	-389.61668*	39.41631	.000
	Partial Participant	47.16462	35.61465	.382

Source: Field Survey, 2019. *The mean difference is significant at the 0.05 level

Levene's statistic F (2, 399) = 23.041; P= 0.000

7.1.4 Level of participation in microfinance programmes and investment

The average amount of investment made by women agro processors who participated fully, partially, or non-participants of microfinance programmes were compared using ANOVA to test whether there is a significant difference in the investment made by the groups. The result is shown in the tables 7.4a, 7.4b and 7.4c.

As shown in the table 7.4c the data set met the assumption of population variance with Levene's statistic F (2, 399) = 4.722; P = 0.009 indicating that the groups being compared have equality of population variance.

With F-value of 84.055 (P =0.000), the analysis found a significant difference in the amount of investment made by women agro-processors' among the levels of participation in microfinance programmes at 1% level of significance. Women agro-processors who participated fully in microfinance programmes made an average of 570.46GHC while partial participant made an average of 221.04GHC and non-participants made an average of 258.78GHC (table 7.4a).

Post Hoc test conducted, as shown in the table 7.4.c, found a significant difference in average investment made between full participants and partial participant (P = 0.000) at 1% level of significance with mean difference of 349.43GHC and that of full participants and non-participants (P = 0.000) at 1% level of significance with a mean difference of 311.69GHC.

However, there was no significant difference in the investment made by partial participants and non-participants of microfinance programmes. Women agro-processors surveyed make investments in different forms including purchase of inputs for their agro-processing, animal rearing, food banking, buying cloths and cooking utensils and most often invest in their children's education.

Table 7.4a: Descriptive statistics of investment across levels of participation in microfinance

Level of Participation	N	Mean	Std. Deviation	Std. Error	Minimum	Maximum
Full participant	113	570.4637	181.55664	17.07941	12.00	720.00
Partial participant	181	221.0387	238.34742	17.71622	12.00	1560.00
Non – participant	108	258.7704	273.28159	26.29653	4.80	1920.00
Total	402	329.3970	278.66500	13.89855	4.80	1920.00

Source: Field Survey, 2019.

Table 7. 4.b: ANOVA of Investment made and level of participation in microfinance

Level of participation in microfinance	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	9230720.701	2	4615360.350	84.055	.000
Within Groups	21908606.096	399	54908.787		
Total	31139326.796	401			

Source: Field Survey, 2019.

Table 7.4 c: Post Hoc Multiple Comparisons of investment

	(I) Level of participation in microfinance	(J) Level of participation in microfinance	Mean Difference (I-J)	Std. Error	Sig.
Tukey HSD	Full participant	Partial participant	349.42504*	28.09416	.000
		Non – participant	311.69335*	31.53305	.000
	Partial participant	Full participant	-349.42504*	28.09416	.000
		Non – participant	-37.73170	28.49172	.382
	Non – participant	Full participant	-311.69335*	31.53305	.000
		Partial participant	37.73170	28.49172	.382

Source: Field Survey, 2019. * The mean difference is significant at the 0.05 level.
Levene's statistic F (2, 399) = 4.722; P = 0.009

8.2 Factors Affecting the Growth of Women Agro-Processors' Enterprises

Descriptive statistics of the variables used in the regression model is presented in Table 7.4. The variables include age with a mean age of 44.14 (SD = 10.22), education dummied as 1 if the respondent can read and/or write otherwise 0, household size (HHsize) with mean of 13.76 (SD = 6.09), residential location (Loc.) dummied as 1 if rural and otherwise 0, labour used (Lab.) with an average of 4.14 (SD = 1.17), credit dummied as 1 if respondent participated in microfinance activities, otherwise 0, number of loans taken (No.Loan) with average 2.06 (SD = 1.69), Training received (Train) dummied as 1 if respondent received training and 0

otherwise, income with an average of 67.54 GH¢ (SD = 837.31) and Type of agro-processing enterprise dummied as 1 if shea butter processing otherwise 0.

Table7. 4: Descriptive Statistics of Variables Used in the Regression Model

Variable	Mean	Std. Dev.	Min.	Max.
Growth	1056.219	1439.17	-1200	9980
Age	44.14815	10.21674	25	75
Education	.1741294	.3796932	0	1
HHsize	13.7606	6.098159	2	41
Loc.	.4029851	.491109	0	1
Lab.	4.136816	1.174835	3	9
Credit	.7313433	.4438133	0	1
No. Loan	2.062189	1.69894	0	9
Train	.2810945	.4500937	0	1
Income	678.5398	837.3092	10	5040
Type.Agro-pr	.5074627	.5005673	0	1

Source: Field Survey, 2019.

Table7.5: Coefficients of Probit Regression on Factors Affecting Growth

Variable	Coef	Std. Err	T	P>|t|
Age	14.76263**	6.583038	2.24	0.025
Education	436.6178**	189.3355	2.31	0.022
HH. Size	35.95622**	11.66152	3.08	0.002
Location	70.82156***	15.8573	4.47	0.001
Labour	104.8046*	62.17488	1.69	0.093
Credit	153.3613***	18.98642	8.07	0.000
No. Loan	52.22228***	4.539421	11.50	0.000
Train	402.6125**	167.7938	2.40	0.017
Income	.2331853***	.0876398	2.66	0.008
Type.Agro-pr	201.7361	147.7689	1.37	0.173
_cons	-785.6156	454.8342	-1.73	0.085

F (10, 390) = 4.66; Prob > F = 0.0000; R-squared = 0.7068; Adj R-squared = 0.6839 **Source:** Field Survey, 2019.

With LR chi2 (10) = 32.92: Prob > chi2 = 0.0084 and Pseudo R^2 = 0.581 the Probit regression was significant with 58% of the variation in growth being accounted for by the variation in the independent variables used in the model. Five variables namely education (significant at 1%), HHsize (significant at 10%), credit (significant at 1%), number of loans taken (significant at 1%) and training (significant at 5%) were found to have a significant effect on the growth of women agro-processing enterprises.

Participation in microfinance programmes measured as credit and the number of loans taken was found to have a positive effect on the growth of women agro-processors' enterprises. Respondents who participated in microfinance programmes were found more likely to have experienced growth in their respective agro-processing enterprises compared with those who have never participated in microfinance programmes.

As shown in Table 7.5, the marginal effect of the variable education is 0.0278687 which implies that a unit change in education will induce 0.0278687 changes in the probability of a respondent experiencing growth in her processing enterprise. Also, the marginal effect of access to credit is .0236451 which indicates that a unit change in access to credit will produce 0.0236451 changes in the probability of a respondent experiencing growth in her processing enterprise, all other variables being constant. This also means that there is 0.02 likelihood of a respondent experiencing growth in her agro-processing enterprise if she changes from being a non-participant to a participant of the microfinance programme keeping all other variables affecting enterprise growth constant.

Similarly, the marginal effect of the variable number of loans taken is .0308122 which indicates that a unit change in the number of loans a respondent had taken will

induce 0.0308122 changes in the probability that the respondent will experience growth of her enterprise. Thus, if a respondent takes one additional loan, there would be 0.0308122 probability that she would experience growth in her agro-processing enterprise.

This finding corroborates that of Mayo (2018) which indicated that access to credit, savings enhancement, provision of business and financial management training by microfinance institutions has a positive effect on the development and growth of small medium-sized enterprises.

8.3 Chapter Summary

The chapter presented results and discussion of the extent of influence of participation in microfinance programmes on the growth of women agro-processing enterprises which addressed objective four of the study. Indicators used in measuring the growth of women agro-processing enterprises were income, number of people employed (labour), investment and accumulation of savings. ANOVA test conducted revealed a significant difference in income/returns, savings and investment made between full, partial, and non-participants of women agro-processing enterprises. However, there was no significant difference between full, partial, and non-participants in terms of investment made by women agro-processors. Additionally, results of the probit regression conducted found that the model was significant with 58% of the variation in growth being accounted for by the variation in the independent variables used in the model. The following chapter presents results and discussions of the influence of the level of participation in microfinance programmes on livelihoods outcomes of women agro-processors.

CHAPTER EIGHT

INFLUENCE OF ACCESS TO MICROFINANCE PROGRAMMES ON LIVELIHOODS OUTCOMES OF WOMEN AGRO-PROCESSORS

8.0 Introduction

This chapter presents results and discussion to address specific objective five of this study. The said objective sought to 'Investigate how access to microfinance programmes influence livelihoods outcomes of women agro processors.

8.1 Livelihood outcomes of Agro-processors'

Livelihood outcomes in the study were measured and operationalized based on the DFID (1999) livelihood framework. Livelihood outcome was measured as expenditure on food, clothing and shelter, health care, education and training, social activities, and savings. The mean-comparison t-test was adopted to test the following hypotheses:

H_0 : There is no significant difference in mean household savings and expenditures on food, clothing, education, health and social events between microfinance participants and non-participants (H_0: D = 0).

H_1 : Mean household savings and expenditures on food, clothing, education, health, and social events are significantly higher among microfinance participants compared to non-participants (H_0: D < 0).

The *a priori* expectation that livelihood outcomes will be higher among microfinance participants compared to non-participants is based on the theoretical argument that microfinance services/programmes increase the financial capacity and management

competency of small enterprises, which leads to high enterprise performance and its concomitant impacts on household savings, income, and welfare.

8.2 Level of participation in microfinance and livelihood outcomes

The result of the mean-comparison *t-test* is shown in Table 8.1. As shown in the table, there is a significant difference (at 1% level of significance) in average savings (with a mean difference of GH¢ 419.16) between microfinance participants and non-participant with t = 12.88. While the average savings of women agro-processors who participated in microfinance programmes were GH¢ 713.08 (SD = 226.94) that of non-participants was GH¢ 293.93.

Similarly, with a mean difference of GH¢ 178.52; t = 8.78; P = 0.000 the analysis found significant difference at 1% level of significance in household food expenditure between participants and non-participants of microfinance programmes among the 402 women agro-processors interviewed. On average participants of microfinance programmes spent GH¢ 389.31 per month on household food expenditure compared with GH¢ 210.78of non-participants of microfinance programmes.

The results also show that there is a significant difference at 1% level of significance in household expenditure on clothing as shown in Table 8.1 with mean-difference of GH¢137.08 between participants and non-participants of the microfinance programme. While the participants of microfinance were spending an average of GH¢ 262.81 (SD =1-5.78) per month that of non-participants were spending an average of GH¢ 156.36 per month.

With a mean difference of GH¢ 270.09; t = 11.41; P = 0.000, there is a significant difference in average monthly household spending on education between participants

and non-participants of microfinance programmes. Microfinance participants' monthly expenditure on education nearly doubled that of their non-participant counterparts. While microfinance participants were spending an average of GH¢ 509.10 per month on education their non-participant counterparts were spending an average of GH¢ 239.01 per month.

Also, with a mean difference of GH¢ 227.15 (t = 15.04; P = 0.000) on monthly health expenditure, the study found that the average monthly health expenditure among women agro-processors who participated in microfinance programmes significantly differs (at 1% level of significance) from that of non-participants' of microfinance health spending. As shown in Table 8.1, the average monthly expenditure on health among women agro-processors who were participants of microfinance programmes (M = 376.88; SD = 132.97) nearly doubled that of non-participants who were spending an average of GH¢ 149.73 monthly on health.

Analysis of the results also indicates that there is a significant difference between the monthly social spending of participants and non-participants of microfinance programmes with a mean difference of GH¢ 121.90; t = 8.64; P = 0.000. The average monthly spending of participants was GH¢ 286.05 compared with 164.15 of that of non-participants.

Findings of the study show that participation of women agro-processors in microfinance programmes has enabled them to meet their livelihoods outcomes by improving their monthly expenditure on food, health, clothing, education, and social activities which initially was a challenge to them. This was expressed by one agro processor during a focus group discussion that,

> *"Before I joined the Bonzali Rural Bank microfinance programme, there were times I could not provide chop money for my wards to go to school let alone pay their school fees, buy uniforms for them or even attend to their health needs because I could not earn enough income as a result of low production due to the small amount of capital I had; now those days have gone; with my participation in the Bonzali microfinance programmes where am provided with credit anytime I request for, and training on an improved method of processing, I have expanded my agro-processing enterprise, I process quality parboil rice which has enabled me to have better prices for my processed rice and that has improved my income; As a result, I now meet most of my needs and that of my children especially as I do not face many problems in the provision of food, clothing, expenditure on health and the education of my children"* (Verbatim Comment by Rahinatu Abu on the 28th February 2019).

These findings support that of Attah (2015) and Habte (2016) whose study findings revealed that participation in the savings and microcredit programmes (SMCP) had a significantly higher average treatment effect on the treated households as profits generated from off-farm and small microenterprises, the values of household and livestock assets, food and non-food consumption expenditures and nutrition quality, were found to be on average higher for the treated households than for the controlled households. Table 8.1 provides detailed information on the influence of agro processor's participation in microfinance programmes on their livelihood's outcomes.

Table 8.1: Mean-Comparison t-test of Livelihoods Outcomes and Microfinance Participation among Women in Agro-Processing Activities

Livelihood outcomes	Microfinance non-Beneficiary (0)		Microfinance Beneficiary (1)		Mean Difference (D) = (1 – 0)	t	P<0.05
	Mean	SD	Mean	SD			
Savings	293.9239	315.2059	713.0796	226.9458	419.1558	12.8858	0.000
Expenditure on food	210.7855	188.2389	389.3097	169.6397	178.5243	8.7820	0.0000
Expenditure on clothing	156.3633	151.7651	262.8142	105.7797	137.0778	6.8330	0.0000
Expenditure on education	239.0138	228.0621	509.1062	169.6981	270.0924	11.4110	0.0000
Expenditure on health	149.7266	137.2433	376.885	132.9771	227.1583	15.0476	0.0000
Expenditure on social events	164.1488	139.1539	286.0531	88.67425	121.9043	8.6476	0.0000

Source: Field Survey, 2019.

8.3 Chapter Summary

This chapter addressed specific objective five of the study which investigated how access to microfinance programmes influenced livelihoods outcomes of women agro-processors. Livelihood outcomes of women agro-processors were measured as expenditure on food, clothing and shelter, health care, education and training, social activities and savings based on DFID (1999) livelihood framework. Mean-comparison *t-test* confirmed a significant difference in average monthly savings, monthly expenditure on food, household education, health, clothing, and social activities between full, partial, and non-participants of microfinance programmes. The next chapter presents results and discussions on the influence of access to microfinance programmes on the livelihood diversification of women agro-processors.

CHAPTER NINE

INFLUENCE OF ACCESS TO MICROFINANCE PROGRAMMES ON LIVELIHOODS DIVERSIFICATION OF WOMEN AGRO-PROCESSORS

9.0 Introduction

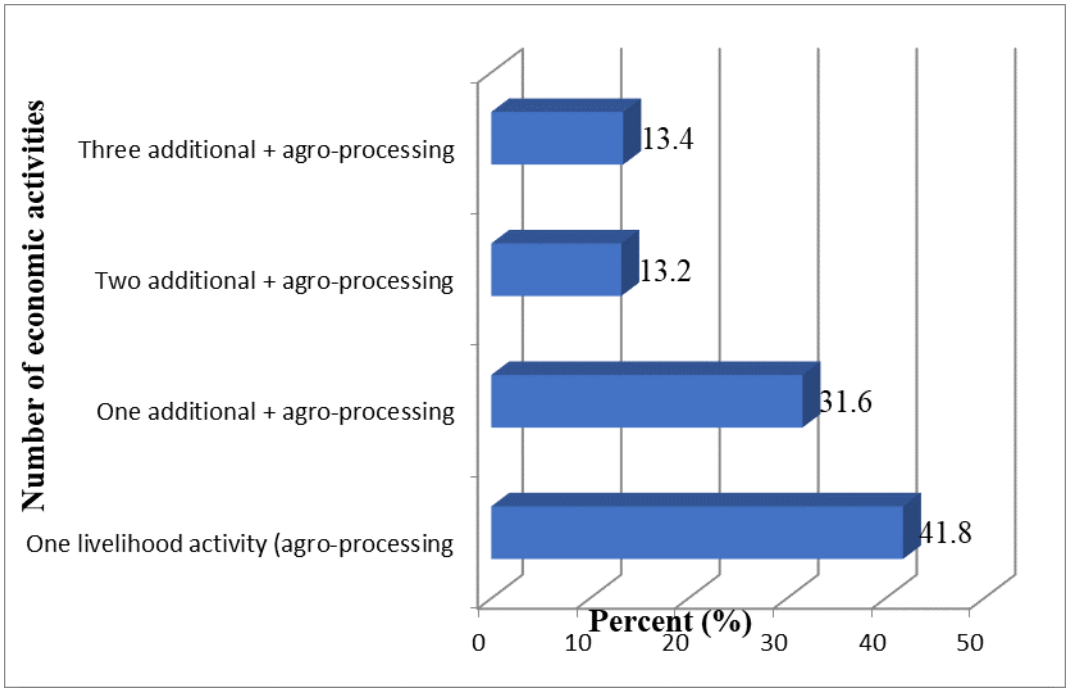
This chapter presents results and discussions on the effects of access to microfinance programmes on livelihood diversification of women agro-processors. The chapter, therefore, addresses specific objective six of this study which sought to investigate the extent of influence of access to microfinance products on the diversification of women agro-processing enterprises in the study areas.

9.1 Livelihood diversification among women agro-processors

Livelihoods' diversification is used in this study to refer to attempts by agro-processors to find new ways to raise incomes and or expand their existing livelihoods' activities to reduce vulnerability and withstand shocks. It includes both on-farm and off-farm activities which are undertaken to generate income additional to that of the main household agro-processing activities.

The majority (31.6%) of women agro-processors surveyed had a second livelihood or economic activity with only 41.8% of them engaged solely in agro-processing for a living. About one third (31.6%) of women agro-processors had an additional livelihood to agro-processing while 13.2% and 13.4% respectively had additional two and three livelihoods' activities as presented in Figure 9.1.

Figure 9.1: Bar Charts Showing Number of Economic Activities Women Diversify into.



Source: Field Survey, 2019.

9.2 Level of Participation in Microfinance and Livelihood Diversification

As presented in Table 9.1, with Pearson Chi-Square ($\chi 2$) = 8.439; df = 2; P-value = 0. 015 the analysis found a significant relationship at a 5% level of significance between the levels of participation in microfinance programmes by women agro-processors and their livelihood diversification.

While 58.4% and 64.6% respectively of women agro-processors who participated fully and partially in microfinance programmes operate diversified livelihood, only 47.2% of non-participants in microfinance programmes operate diversified livelihoods. Thus, participants of microfinance programmes were found more likely

to engage in diversified livelihoods activities compared with non-participants of microfinance programmes.

Similarly, more than half (52.8%) of non-participants of microfinance programmes operate sole livelihood activities compared with 35.4% and 41.6% respectively of partial and full participants of microfinance programmes who operate sole livelihood activities. This implies that non-participants of microfinance are more likely to engage in only one livelihood activity.

These findings support that of Dadi's, (2016) study results which revealed that households' involvement in various diversification activities are affected by credit services, education, households' size, and farm holding size. Lack of access to credit is found to be the major institutional constraints of households to involve in various diversification activities.

Some of the diversified livelihood's activities of the women agro-processors surveyed include soap making, petty trading, sale of cooked foods, farming, small animal production, the keeping of poultry, tailoring, charcoal burning, etc. Several reasons have been given by women agro-processors for diversifying their livelihoods' activities. These include the following: Some women agro-processors interviewed indicated that they had the skills in the additional livelihoods' activities they diversified into and that serve as motivation for them to diversify into those activities, others indicated that, their motivation to diversify is to earn additional income to their agro-processing businesses whilst others indicated that diversification helps to prevent risk from running a sole livelihood business. Besides, some shea butter processors mentioned seasonality of their business because of the seasonality of inputs (shea nut) used in processing as a factor that motivates

them to diversify their livelihoods. Thus, operating diversified livelihoods activities enable them to earn income all year round which helps to reduce the risk of depending on one livelihood.

The findings also corroborate that of Sallawu, Tanko, Nmadu, and Ndanitsa, (2016) who indicated that diversification provides individuals choices for coping with the crisis through the combination of two or more jobs (multiple job holdings) to enhance consumption smoothing and acquire other basic needs. Table 9.1 provides more information on the level of participation in microfinance programmes by women agro-processors and livelihoods diversification.

Table 9.1: Livelihoods Diversification and Level of Participation in Microfinance

Livelihood Diversification	**Level of Participation in Microfinance**						**Total**	
	Full participation		**Partial Participation**		**No Participation**			
	Freq.	**%**	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**
Sole livelihood	47	41.6	64	35.4	57	52.8	168	41.8
Diversified livelihood	66	58.4	117	64.6	51	47.2	234	58.2
Total	113	100	181	100	108	100	402	100

Source: Field Survey. Pearson Chi-Square ($\chi 2$) = 8.439; df = 2; P – value = 0.015 (Significant).

9.3 Factors Affecting Livelihoods Diversification

Variables ranging from socio-economic to microfinance access were assessed in a probit regression to ascertain if they exert significant influence on livelihood diversification. The results of the probit regression are presented in Table 9.2. As shown in the table with LR chi^2 (10) = 20.68: Prob > chi^2 = 0.0142; Pseudo R^2 = 0.7228, the probit regression was found to be significant with 72% of the variation in livelihood diversification being jointly explained by the variation in the selected independent variables.

Eight (8) out of the ten (10) independent variables were found to be significant predictors of livelihood diversification. Access to credit as well as the number of loans taken was significant at 1% in predicting whether women agro-processors would diversify their livelihoods' activities or not. With a positive sign of the co-efficient of access to credit and the number of loans taken, it implies a positive relationship between access to credit and livelihood diversification.

Women agro-processors who participated in microfinance programmes were more likely to have diversified livelihood than non-participants of microfinance programmes. Also, women agro-processors who have taken many loans were more likely to operate diversified livelihood.

With the marginal effect of the variable 'credit' (which denotes access to credit) as 0.1029318, implies that a unit change in access to credit will induce 0.1029318 change in the probability of a respondent operating a diversified livelihood keeping all other variables constant at their mean values. Similarly, with the marginal effect of the variable number of loans taken as 0.0039068, it indicates that a unit change in the number of loans taken would lead to 0.0039068 changes in the probability of an agro-processor engaging in livelihood diversification holding other variables constant at their mean values.

Also, household size, location, labour, and type of agro-processing enterprise were significant and positively related to livelihood diversification. Thus, large households were more likely to operate diversified livelihood. Respondents from the rural area were also more likely to engage in more than one livelihood activity and shea butter

processors were more likely to have one or more additional livelihood enterprise compared with rice processors.

The marginal effect of the variable age, as shown in Table 9.2 is 0.0053589 indicating that a unit change in the age of respondent will induce 0.0053589 changes in the probability of a respondent engaging in livelihood diversification keeping all other variables constant at their mean values. Similarly, with .0887924 as the marginal effect of education, it implies that a unit change in education will lead to .0887924 changes in the probability of a respondent engaging in diversified livelihood all other variables held constant.

These findings are in line with that of Mentamo and Geda (2016) whose study results revealed that the majority (65%) of households engage in 2–3 livelihood sources with a regression analysis that indicated that, the educational level of the head of the household, access to credit, participation in food for work programme and the land size owned by households were the key predictors of livelihood diversification. The finding is also in line with that of Dadi, (2016); and Ahmed et al., (2018) whose study found that household's involvement in various diversification activities is affected by credit services, education, household's size, amount of credit taken and farm holding size.

Table 9.2: Coefficient of Probit Model on Factors Affecting Livelihood Diversification

Variable	dF/dx	Coef.	Std. Err.	Z
Age	.0053589	-.0199311*	.011495	-1.73
Education	.0887924	-.7256929*	.3730562	-1.95
HH. Size	.0080926	.0444075*	.0232882	1.91
Location	.052706	.4156525*	.2487657	1.67
Labour	-.0169107	.189242*	.1036653	1.83
Credit	.1029318	1.5522931***	.3453137	4.49
No. Loan	.4039068	1.0229205***	.0758374	13.49

Train	.0330618	.1417957	.2708612	0.52
Income	-.0000189	-.9176529	.2987952	-3.07
Type.Agro-pr	.0787934	1.6418759***	.4708912	3.49
_cons		.593844	.771582	0.77
LR chi2(10) = 20.68: Prob > chi2 = 0.0142; Pseudo R2 = 0.7228				

Source: Field Survey, 2019

9.4 Chapter summary

The chapter addressed specific objective six of the study which investigated the extent of influence of access to microfinance products on livelihoods diversification of women agro-processing enterprises in the study area. Majority of women agro-processors surveyed had a second livelihood or economic activity with only a few of them engaging solely in agro-processing for a living. Results of probit regression conducted were found to be significant with 72% of the variation in livelihood diversification between full, partial, and non-participants of microfinance programmes being jointly explained by the variation in the selected independent variables. The upcoming chapter presents discussions on the challenges faced by women agro-processors in accessing microfinance products.

CHAPTER TEN

CHALLENGES FACED BY AGRO-PROCESSORS IN ACCESSING MICROFINANCE PRODUCTS

10.0 Introduction

This chapter presents information from the analysis of the survey data on challenges facing women agro-processors in accessing microfinance services. It, therefore, addresses objective seven of this study which sought to 'Examine the challenges faced by women agro-processors in accessing microfinance products.

10.1 Challenges Faced by Agro-Processors in Accessing Microfinance Products

Women agro-processors indicated that they encounter several challenges when accessing microfinance products, particularly microcredit from microfinance institutions**.** These include collateral lending, savings demand, high-interest rate, small loan sizes, and unfavourable payment terms. Though microfinance institutions lending to women agro-processors in the study area do not often require physical collateral from women borrowers, before lending to them, they often use what is referred to as collateral lending groups otherwise known as joint liability groups lending. This method of lending demands that borrowers form a group with fellow borrowers where each borrower's loan is guaranteed by fellow group members and where no future loan can be granted to any group member until all members in the group settle their outstanding loans. With this approach to lending, group members take part in screening, selection, and enforcement of loan repayment by other members of the group to an extent that even if one member defaults in payment, other group members must help in the resettlement of the loan. This method of

lending, respondents indicated, does not help members at all. For example, one respondent during a focus group discussion that lamented that

> *''This method of lending does not help us at all especially in situations where some members of the group complete payments of their loans and are in dire need of loans to run their businesses but to wait because other members of the group have delayed in the resettlement of their loans or defaulted, this is not fair"*

(Verbatim Comment by Amina Imoro Alhassan on the 20th of May 2019 at Darigohini).

However, this method of lending, as indicated by a key informant of a microfinance institution helps the institutions to increase their repayment rates and reduce cost since group members help staff in loan recovery in the absence of which the microfinance institution would have had to engage more staff to help recover loans from borrowers. This finding supports that of Sarma and Borbora (2014).

Also, microfinance institutions demand that potential participants of microfinance programmes do mandatory savings with their institutions after joining a group before one can qualify to access their microcredit and even their training. This requirement of mandatory savings prevents very poor women agro-processors from participating in microfinance since some of them do not earn enough to save. Also, women agro-processors mentioned high-interest charges as one of the challenges they face in accessing microcredit. Microfinance institutions charge as much as 45% with the lowest being 39% interest on loans given to women agro-processors in the study area. For instance, it was revealed by a key informant of one of the microfinance institutions that agro-processors patronize that,

‘’ in 2016 and 2017, our institution charged as high as 45% of interest on credit disbursed to women agro-processors in a loan cycle of three (3) months with the minimum being 39% in 2018”

(Verbatim statement by a key informant).

With these high-interest rates, agro-processors complained that it puts a lot of pressure on their resources and calls for a reduction in the interest charges. Even though participants feel the interest rate is too high, they have no option as they need funds to operate and to expand their businesses.

With regards to unfavourable terms of repayment of loans which were mentioned as a challenge, respondents indicated that, it has been their biggest challenge as microfinance institutions require that repayment of loans should be done either on weekly or on monthly bases. This term of repayment respondents say, puts a lot of stress on them as they are expected to always fulfil that mandate without fail.

This implies that whether business is good or not they must make their weekly or monthly repayment. It was revealed during the focus group discussions that, some borrowers sometimes sell their personal belongings such as clothing to make their weekly or monthly repayment in situations where they are not able to make money to cater for their loan repayment to avoid default.

Small loan size has also been stated by respondents as a challenge when accessing microcredit from microfinance institutions. Agro-processors who are participants of microfinance programmes indicated that they are given a minimum of GH¢500.00 and a maximum of GH¢ 2000.00 within each loan cycle which they feel is very small. Respondents, therefore, indicated that their agro-processing activities require large amounts of money so that they can practice improved methods of processing,

purchase improved equipment, and even buy inputs and store to be in business all year round since some of their basic inputs are seasonal in nature.

10.2 Summary

The chapter presented challenges faced by women agro-processors in accessing microfinance products which addressed objective seven of the study. Results of focus group discussions and key informant interviews revealed that women agro-processors encounter several challenges when accessing microfinance products, particularly microcredit from microfinance institutions**.** These include collateral lending, savings demand, high-interest rate, small loan sizes, and unfavourable payment terms. The next chapter summarizes the findings of the study and draws conclusions and policy recommendations.

CHAPTER ELEVEN

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

11.0 Introduction

The study investigated the impact of microfinance on livelihoods diversification of women agro-processors in the Northern Region of Ghana. This chapter seeks to present a summary of the major findings, conclusions on the findings and recommendations for policy and future research.

11.1 Summary of the Study

The study specifically set out to achieve seven (7) objectives. First and foremost, the study assessed how socio-cultural factors influenced women agro-processors' participation in microfinance programmes. Secondly, the study examined how socio-cultural factors influenced women agro-processors' utilization of microfinance resources from microfinance institutions. Thirdly, the study analysed the extent of influence of access to microfinance products on the output of women agro-processing enterprises. The study also examined, as the fourth (4) objective, the extent of influence of access to microfinance programmes on the growth of agro-processing enterprises. Also, the study investigated how access to microfinance programmes influenced livelihoods' outcomes of women agro-processors, the extent of influence of access to microfinance products on livelihoods diversification of women agro-processing enterprises and finally examined the challenges faced by women agro-processors in accessing microfinance products as the fifth, sixth and seventh objectives respectively. The study achieved its objectives using both quantitative and qualitative methods in a cross-sectional survey design. The study adopted a participatory method of collecting data. This involved techniques such as interviews, focus group discussions and observation. All agro-processors in the

Tamale Metropolis and the Kumbungu District made up the population of the study. However, data was collected from three (3) categories of agro-processors based on their levels of participation in microfinance programmes. These were full-participants (FP), partial participants (PP) and non-participants (NP) of microfinance programmes. Communities that were specifically visited were Kasalgu, Jisonaa-yili, Darigohini, Nyohini, Sagnarigu-Dungu, Bilpela, Dabogshe, Kalariga, Vitin, Kukuo, Gumo, Kumbuyili, Cheshegu, Kpalga and Bongnaayili. These communities were drawn from both the Tamale Metropolis and the Kumbungu District.

The majority (69.4%) of the women agro-processors interviewed were within the middle age range of 36 – 60 years with about one – quarters (23.9%) of them being in their youthful age of 18 – 35 years and only 6.7% older than 60 years. An overwhelming majority (90.3%) of the respondents were married with only 27.1% being able to read and/or write. As characteristics of the study area, the majority (94.8%) of the women agro-processors surveyed were followers of the Islamic religion. Many (44%) of the respondents were from rural areas with only 29.9% and 26.1% respectively coming from urban and peri-urban communities.

Also, the women agro-processors interviewed were from relatively large households with the majority (65.7%) coming from households with more than 10 members while only 3.2% of them coming from households with less than six (6) persons. The results further show that the majority (84.8%) of the women agro-processors belong to one association or the other with only 15.2% of the respondents not belonging to any association or group. Also, the majority (83.3%) of the women agro-processors surveyed either engaged in shea butter processing (45.6%) or rice processing

(37.7%) as their main livelihood activity while only 10.2% and 6.5% respectively indicated petty trading and farming as their main livelihood activities.

A significant proportion (45%) of the women agro-processors surveyed were partial participants of microfinance programmes, while 28.1% were full participants and 26.9% were non-participants of microfinance programmes. Chi-square test of association conducted confirmed a significant relationship between microfinance participation and age category of women agro-processors at 5% level of significance. As such, the age of women agro-processors was found to influence their level of participation in microfinance programmes. However, the results of the study established no significant relationship between religion and marital status of respondents and their participation in microfinance.

Findings of the study also suggest a high level of illiteracy for both beneficiaries and non-beneficiaries alike and as such recorded no significant relationship between literacy and participation in microfinance. The study further found that an agro – processor's residential location is a significant predictor of her participation in microfinance.

Besides, agro-processors' group membership was found by the study to be a significant predictor of their participation in microfinance programmes which implies that, women agro-processors who had participated in microfinance programmes stood a better chance of belonging to associations compared to non-microfinance participants. Hence, women who were group members were more likely to be full or partial participants of microfinance programmes compared with those who were not members of any group. The study, however, found no significant relationship between household size and participation in microfinance programmes.

For the relationship between choice of agro-processing enterprise and level of participation in microfinance programmes, the study confirmed a significant relationship (at 5% level of significance) between them. Thus, the majority (78.5%) of shea butter processors were either full participants (26.5%) or partial participants (51%) compared with 29.8% and 38.9% of rice processors who were respectively full and partial participants of microfinance programmes. The majority (81%) of respondents often sourced their loans from MFIs and friends/relatives (72%). Some of them also often take a loan from Susu or Village Loans and Saving groups (36%), money lenders (45%), banks (12%) and other sources (2%). Though women agro-processors often contract loans with the core aim of investing them into their businesses, some of them often end up spending some of the resources in meeting very pressing needs of their households such as payments of wards school fees or even on consumption.

In assessing the extent of influence of socio-cultural factors on agro-processors' utilization of micro-financial resources, the study found no statistically significant relationship between age, marital status, and use of borrowed financial resources and as such, the null hypothesis could not be rejected.

However, Chi-Square (χ^2) = 6.723; df = 3; P-value = 0.041 test result confirmed significance (at 5% level of significance) between gender household headship status and use of borrowed financial resources.

The study further found a significant difference between literate women agro-processors and illiterate women agro-processors in terms of the use of their borrowed microfinance resources. Thus, only 11.5% of literate respondents use their borrowed monies for household consumption while 18.6% of those respondents who could not read and/or write also spent their borrowed monies on household expenditure. Also,

the study confirmed a significant relationship at 10% level of significance between residential location and use of borrowed financial resources. Hence, agro-processors from rural areas were found more likely to have been investing their borrowed financial resources in their agro-processing enterprises compared with their counterparts from the peri-urban and urban communities.

Also, (64.6%) followers of Islamic religion invested their borrowed monies on their agro-processing compared with 50% of their Christian counterparts; as a result, the study confirmed a significant relationship between religious background of respondents and their use of borrowed monies. With regards to membership of associations and use of borrowed money, results of the analysis recorded a significant relationship between membership of associations and use of borrowed money at 1% level of significance. Respondents who belonged to associations were found more likely to invest their borrowed monies in their agro-processing enterprises compared with those who did not belong to any association.

With regards to the relationship between the use of borrowed money and household size, analysis of the result shows a significant relationship between them as respondents with large households' sizes were found more likely to spend their borrowed monies for household consumption. Thus, 23.5% and 15.3% of respondents respectively from households with 6 – 10 persons and more than 10 persons spent their borrowed monies on their household consumption expenditure compared with 9.1% of respondents from households with less than six (6) persons.

Also, separate multiple linear regressions conducted to assess the effect of access to microfinance services on shea butter and rice output of women agro-processors confirmed that the regression models were significant predictors of factors affecting the output of women agro-processors. With adjusted R – square of 0.71 and 0.57.7,

about 71% and 57% respectively of the variation in shea butter output and rice output were jointly explained by the variation in the selected independent variables. On the other hand, education, household size, labour, credit, number of loans taken, and training were positively related to the output of shea butter processors while the location of agro-processors was negatively related to output. Thus, women agro-processors who participated in microfinance programmes were more likely to have high output compared with those who did not participate.

Similarly, six variables namely education, location, labour, credit, number of loans taken, and training were found to have a significant effect on the output of rice processors. This implies that rice processors who participated in microfinance activities were processing more than those who did not participate.

The majority (69.4%) of women agro-processors' enterprises have experienced some level of growth in their businesses with only 30.6% of the enterprises that have not been growing. Also, analysis of variance (ANOVA) with F = 123.418 and P = 0.000, confirmed a significant difference in the income/returns between agro-processors' who participated fully or partially and those that did not participate in microfinance programmes. Thus, Agro processors' who participated fully in microfinance programmes made more income compared with those who participated partially and those who never participated in microfinance programmes. Additionally, post hoc test conducted confirmed significant difference in average incomes between full participants and partial participants (P =0.000), full participants and non-participants (P = 0.000) and partial participants and non-participants (P = 0.001) at 1% level of significance. However, the study found no significant difference in the number of persons employed by agro processors who participated fully, partially, or never participated in microfinance services. This non-significance could be associated with

the fact that most agro-processors mainly engage family labour in their processing activities.

Results of ANOVA and post hoc analysis confirmed a significant difference in the savings of full participants, partial participants, and non-participants of microfinance programmes at 1% level of significance. Thus, full participants of microfinance programmes made significantly higher savings compared with partial and non – participants of microfinance programmes.

Also, probit regression conducted to assess the factors affecting the growth of women agro-processing enterprises was found to be significant with 58% of the variation in growth being accounted for by the variation in the independent variables (education, household size, credit, number of loans taken and training) used in the model. It was further found that participation in microfinance programmes measured as credit and the number of loans taken were found to have a positive effect on the growth of women agro-processors' enterprises. Thus, respondents who participated in microfinance programmes were found more likely to have experienced growth in their agro-processing enterprises compared with those who have never participated in microfinance programmes.

Mean-comparison t-test conducted to assess the influence of access to microfinance on livelihoods outcomes of women agro-processors found a significant difference (at 1% level of significance) in average savings between microfinance participants and non-participants. While the average savings of women agro-processors who participated in microfinance programmes were GH¢ 713.08 (SD = 226.94), that of non-participants was GH¢ 293.93. The analysis also found significant differences at 1% level of significance in household food expenditure between participants and non-participants of microfinance programmes among the 402 women agro-

processors surveyed. On average, participants of microfinance programmes spent GH¢ 389.31 per month on household food expenditure compared with GH¢ 210.78 of non-participants of microfinance programmes. The analysis also found a significant difference at 1% level of significance in household expenditure on clothing with mean-difference of GH¢137.08 between participants and non-participants of microfinance programmes. While participants of microfinance programmes were spending an average of GH¢ 262.81 (SD =1-5.78) on clothing per month, non-participants were spending an average of GH¢ 156.36 on clothing per month. For expenditure on education, the study found a significant difference in average monthly household spending on education between participants and non-participants of microfinance programmes. While microfinance programme participants were spending an average of GH¢ 509.10 per month on education their non-participants' counterparts were spending an average of GH¢ 239.01 per month.

The study also found that the average monthly health expenditure among women agro-processors who participated in microfinance programmes significantly differs (at 1% level of significance) from that of non-participants' health spending. Average monthly expenditure on health among women agro-processors who were participants of microfinance programmes (M = 376.88; SD = 132.97) nearly doubled that of non-participants who were spending an average of GH¢ 149.73 monthly on health.

There is also a significant difference between the monthly social spending between participants and non-participants of microfinance programmes with a mean difference of GH¢ 121.90; t = 8.64; P = 0.000. The average monthly spending of participants was GH¢ 286.05 compared with GH¢ 164.15 of that of non-participants.

In addition, the majority (58.2%) of women agro-processors surveyed had diversified their livelihoods or economic activities with only 41.8% of them engaged solely in

agro-processing for a living. Thus, whiles some respondents had diversified their livelihoods activities by having one additional livelihood activity to their agro-processing businesses, others had diversified into two and three additional economic activities in addition to their agro-processing businesses.

A Chi-Square test analysis found a significant relationship at 5% level of significance between the level of participation in microfinance programmes and livelihood diversification. While 58.4% and 64.6% respectively of women agro-processors who participated fully and partially in microfinance programmes operate diversified livelihood only 47.2% of non-participants in microfinance programmes operate diversified livelihoods. Thus, participants of microfinance programmes were found more likely to engage in diversified livelihoods compared with non-participants of microfinance programmes.

Besides, results of variables assessed in a probit regression to ascertain if they exert significant influence on livelihood diversification were found to be significant with 72% of the variation in livelihood diversification being jointly explained by the variation in the selected independent variables. Women agro-processors who have ever participated in microfinance programmes were more likely to have diversified livelihoods than non-participants of microfinance programmes. Also, women agro-processors who have taken many loans were more likely to operate diversified livelihoods. Household size, location, labour, and type of agro-processing enterprise were significant and positively related to livelihood diversification. Thus, large households were more likely to operate diversified livelihoods than smaller households. Respondents from rural areas were also more likely to engage in more than one livelihood activity.

Women agro-processors surveyed encounter several challenges when accessing microfinance products particularly microcredit from microfinance institutions**.** These include collateral lending, savings demand, high-interest rate, small loan sizes, and unfavourable payment terms. Some microfinance institutions provide agro-processing women with training on financial literacy, business management and health management skills. This is intended to help women carry out their businesses profitably to enable them to become financially independent and to enable them to take control of their lives. Dadi, (2016) found that household's involvement in various diversification activities is affected by credit services, education, households' size and farm holding size. The study revealed that lack of access to credit is found to be the major institutional constraints of households' involvement in various diversification activities. The findings also support that of Ahmed et al., (2018) whose study reported that other socio-economic factors that influence livelihoods diversification are the gender of the household head, household size, and households' participation in development programmes and amount of credit taken.

11.2 Conclusions

The study concludes that participation of women agro-processors in microfinance programmes has significant effects on their livelihoods and livelihood diversification, though some socio-cultural background of processors affects their participation and utilization of microfinance resources. Due to the strong level of patriarchy among members of the study communities, most men use their positions as heads and leaders of families to control women in all aspects of their lives even including their economic and financial matters. Also, non-participation of some agro-processing households in microfinance programmes was because of their religious beliefs which frowns at credit with interest charges. The study also found that credit

is fungible as microfinance clients households use their borrowed resources in numerous ways that suit their needs and seal their financing gaps efficiently. Borrowed microfinance funds are used by agro-processors for financing their capital requirements and at the same time for consumption smoothing, health and education of their households. Based on access to credit and training given to agro-processors, most microfinance programme participants 'agro-processing households have been able to increase their output due to their ability to expand production because of the increase in the value of their capital.

It is also concluded that most microfinance programme participants' agro-processors have been able to grow their processing enterprises through improvement in their incomes, savings, and investments. These have led to the achievement of their livelihoods outcomes as revealed by the increase in their monthly expenditure on food, health, clothing, social activities, and education. Given the fact that the livelihoods of the sampled households are mainly agro-processing (rice and shea butter), their engagement into other livelihoods activities is an attempt to diversify their income sources to ensure livelihoods' stability and to be able to withstand financial shocks. Microfinance participant households were, therefore, able to establish and or expand their agro-processing enterprises using traditional, Morden or a combination of traditional and improved technologies. Microfinance programme participants' households have also been found to increase their assets base through their investments in the acquisition of processing equipment, inputs for processing, food banking, livestock, and clothing and in few cases land. It was also revealed that these resources remain the only option for microfinance programme clients' households in situations where there is a low market for their processed goods to cater for their educational and consumption needs. Furthermore, findings of the study

indicate that provision of microfinance products enabled agro-processing households to smooth consumption, meet the educational needs of their households, diversify their income sources, effectively manage their risks and reduced vulnerability. However, the study found that, women agro-processors face several challenges when accessing microfinance products and these include high-interest charges on credit allocated to women agro-processors, use of collateral lending approach by MFIs and inability of microfinance institutions to cover a lot of areas due to requirements for microfinance operations in the country. These challenges when eradicated can help participants enjoy the full benefit of microfinance programmes in their respective communities.

Urban bias-socio-economic policies such as the financial exclusion of women especially those in rural communities make poverty a rural phenomenon. And this excessively affects women, the disadvantaged groups, and the youth. Findings of this study, therefore, suggest that financial inclusion of rural communities in the form of microfinance could have the possibility of creating livelihoods' opportunities and can empower rural community members to make the best use of their available resources such as labour, land, and some commercial trees such as the shea tree that grows mostly in the wild. This, as a result, could inspire rural community members to create micro-enterprises which could enhance entrepreneurship and make them economically self-reliant and avoid dependence on donor interventions. The study, therefore, concludes that inclusive finance through the sustainable provision of microfinance services to women agro-processors could promote inclusive socio-economic development of women agro-processors through livelihoods' diversification leading to poverty reduction in the study area and Ghana as a whole.

11.3 Policy Recommendations

In the developing world, improving the livelihoods of the poor has become a priority for most governments in their struggles to raise the level of human development (Owusu, 2012). Microfinance programmes are constantly geared towards the delivery of both financial and non-financial services to the poor particularly those who run small and medium scale enterprises with the emphasis on poverty reduction and economic improvement of the poorest of the poor (Owusu, 2012). It is based on this, that the researcher assessed the impact of microfinance programmes on livelihoods' diversification of women agro-processors in the Northern Region of Ghana. Based on the findings of the research and observations gathered during the study, the following recommendations are made for possible interventions to improve the benefit gained from the provision of microfinance services.

Change of Cultural Beliefs towards MFP

Intensive education and advocacy should be done on the need to reduce or even eliminate the sense of patriarchy among members of the study communities which make most men use their positions as heads and leaders of families to control women in all aspects of their lives even including their economic and financial matters. This would improve upon the attitudes of men towards participation and utilization of microfinance products by their female counterparts. Education should also be done on the need for men to encourage the empowerment of women through support provided by microfinance institutions by stakeholders in the financial sector including governmental and non-governmental organization.

Establishment of Religious Compliant Microfinance Institutions

One of the reasons for non-participation of some women agro-processors in microfinance programmes identified by the study is that some of the conditions for

extending microfinance products to clients do not conform to their religious beliefs particularly that of Islam and that prevent them from participating in microfinance programmes available in the study communities. Hence establishment of sharia compliant microfinance programmes by relevant stake holders in the microfinance sector which uses models different from the conventional one is encouraged so that all agro-processors can benefit from those programmes to improve the performance of their enterprises.

Establishment of Special/ Educational Credit

Due to the fungibility of credit which makes women agro processors use their borrowed funds for other activities either than agro processing, there is the need for microfinance institutions to establish special or educational credit facilities which women agro processors could use to cater for the educational needs of their wards or for expenses outside agro processing activities.

Increase Loan Amounts and Improve upon Coverage

To further increase the growth of women agro-processing enterprises through participation in microfinance programmes, microfinance institutions should increase amounts of credit given to women agro-processors to enable them increase production by adopting and using improved methods and equipment for their processing activities for improved income, savings, and investments. The amounts of credit disbursed to women agro-processing entrepreneurs are regarded to be low due to continuous increase in the prices of inputs. As was indicated by a key informant in one of the microfinance institutions surveyed, the sources of funding for the microfinance institutions agro-processors benefit from are through the Government/ District Assembly Common Fund, donor funding, savings mobilization, ploughing

back profits made and, in some cases, borrowing from the central or the apex banks to cater for the credit demands of their clients. The central government can help in this regard by increasing amounts it lends to microfinance institutions to enable them to meet the demands of their clients. When this is done, microfinance institutions could improve upon their coverage to include all agro-processors especially those in the hinterlands to enable them to expand their agro-processing enterprises and to be able to diversify their income sources.

Reduction in Interest Rates

One of the major challenges faced by women agro-processors who are participants of microfinance programmes, as revealed by the study is high-interest charges on credit allocated to them which puts a lot of pressure on their resources and calls for a reduction in the interest charges. The government and for that matter, the central bank should reduce the interest charged on loans to microfinance institutions to enable them to subsidise credit given to women agro-processing borrowers as advocated by the welfarist approach which emphasizes subsidizing microfinance programmes to reduce the cost for MFIs to enable them to offer low-interest rates on their loans.

Review Collateral Lending Approach

Collateral lending demands that borrowers form a group with fellow borrowers where each borrower's loan is guaranteed by fellow group members and where no future loan can be granted to any group member until all members in the group settle their outstanding loans. This method of lending affects borrowers' abilities to diversify their livelihoods. Hence, microfinance institutions should review this lending approach to enable borrowers who repay their loans on time to be able to

borrow without waiting for all members to settle their loans before they can be given loans.

Review Requirements for Microfinance Operations

The Government of Ghana should review the minimum requirements for microfinance operations to enable the establishment of more microfinance institutions in the study areas. This would help meet the ever-growing credit demands of the rural populations and as result enhance microenterprise development and poverty reduction in the studied communities and Ghana as a whole.

11.4 Areas for Further Research

The design of this study is mainly cross-sectional in that it collected and analysed data on access to microfinance programmes, output and growth of agro-processing enterprises, and the livelihood outcomes and diversification of women for a particular time. Therefore, the results will only reflect the women's one-time access to microfinance services and its impact on agro-processing performance and livelihood diversification for a given year without taking into consideration sustained access to microfinance and performance over time. Therefore, the results on agro-processing performance and women's access to microfinance programmes, and their livelihood activities may be affected by accidental year effects, thereby reducing the predictive value and the representativeness of the findings. The research was conducted in the Northern Region of Ghana and information gathered on women agro-Processors with different socio-economic backgrounds. Hence results of the study might not be generalized as a true reflection of the whole country. Notwithstanding the limitations outlined, the findings provide some useful insights for further research. For instance, the use of time-series data could make it possible

to examine the long-term effect of microfinance products on the livelihoods and livelihoods diversification of women agro-processors. This implies that further research on how microfinance programmes affect women agro-processors livelihoods and livelihoods diversification using time series data and longitudinal research design is necessary. Additionally, the study established that microfinance has a constructive impact on the livelihoods of agro-processors. Nonetheless, to evaluate its effect on poverty reduction, further empirical exploration involving a sample of poor households only becomes critical. Also, further research should be done by taking into consideration agro-processors in many of the regions in the country to make the findings generalizable for the whole population of agro-processors in the country. Finally, detailed qualitative work can be done to dig out more of the socio-cultural factors that influence the participation of women agro-processors in microfinance programmes in the country.

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APPENDIX A- Survey Instrument

IMPACT OF MICROFINANCE ON LIVELIHOOD DIVERSIFICATION OF WOMEN AGRO -PROCESSORS IN THE NORTHERN REGION OF GHANA

Introduction

Good day, dear respondent:

The information to be obtained through this questionnaire is for research purpose only. The research aims to determine the impact of microfinance on livelihoods diversification of women agro-processors in these areas for academic purposes. Thus, the information you provide would be accorded the highest degree of confidentiality. Therefore, your cooperation and frank responses are welcomed. Participation is voluntary and it is wished that you fully participate, but you may at any point decline taking part.

Questionnaire number.....

District.....

Location.....

Enumerator's name.....

Microfinance Service Beneficiary Status of the respondent.

Beneficiary [ ]

Non-beneficiary [ ]

Name of respondent.....Group name.....

Section 1: Socio-cultural and other factors influencing women agro - processor's participation in microfinance programmes.			
No	**QUESTIONS AND FILTERS**	**CODING CATEGORIES**	**SKIP**
1.1	Name of enterprise owner ……		
1.2	Are you the head or member or your household?	Head of household ……[1] Member of household…….[2]	
1.3	What is the size of your household? (In numbers) Males---------- Females…….		
1.4	How old are you? (Record in years) …….		
1.5	What is your marital status	Married…… [1] Single……..[2] Widowed……..[3] Separated…… [4] 4 Divorced……..[5]	
1.6	How many years of formal schooling have you completed? (Record in years) ……		
1.7	What level of formal schooling have you completed?	No formal education .....[1] Primary ……..…….....… [2] Middle School/JHS .... ……..[3] SHS …… [4] Tertiary Level ……..… [5]	
1.8	Can your father/male guardian read and/or write	Yes ……... [1] No …… [2]	
1.9	What level of formal schooling has your mother/female guardian completed?	No formal education .....[1] Basic Level ……..… [2]	

		Secondary level ……..…[3] Tertiary Level ……..… [4]	
1.20	Can your mother/female guardian read and/or write	Yes ……..……[1] No ……..…… [2]	
1.21	What is your religion?	Islam…….[1] Christianity……... [2] Traditional religion…… [3] None …… [4] Others (specify) ……[5]	
1.22	Does your religion permit you to participate in microfinance/loan?	Yes ……..……[1] No ……..…… [2]	If yes, skip to 1.24
1.23	If no to question 1.22, why? (Give reasons) …… ……..		
1.24	Which ethnic group do you belong to?	Dagomba……..[1] Gonja…… [2] Mampurusi…… [3] Moshe…… [4] Others (specify)…… [5]	
1.25	Do you belong to any association/ cooperative?	Yes ……..……[1] No ……..…… [2]	If no, skip to 1.27
1.26	If yes to question 1.25 which of these associations, do you belong to?	Women agro-processors group. [1] Religious groups…… [2] Microfinance beneficiaries' group……[3] others (specify)……[4].	
1.27	If no, why are you not a member of any group?..... …….		
1.28	In your culture, are women allowed to benefit from microcredit facilities from microfinance institutions?	Yes ……..……[1] No ……..…… [2]	If yes, skip to 1.30
1.29	If no to question 1.28 why (give reasons) …… ……..		
1.30	Are women allowed to own land in your locality	Yes ……..……[1] No ……..…… [2]	If yes, skip to the

			next section
1.31	If no to 1.30, why (give reasons) …… ……		
Section B: Socio-cultural and other factors influencing women agro processor's utilization of micro-financial resources			
2.1	Are you given the freedom to engage in economic activities in your locality?	Yes ……..[1] No ……..… [2]	If yes, skip to 2.3
2.2	If no to question 2.1, why? (Give reasons) …… …….		
2.3	Are you allowed to acquire assets in your locality?	Yes ……..[1] No ……..… [2]	If yes, skip to 2.5
2.4	If no to question 2.3, why? (Give reasons) …… …….		
2.5	Do you have access to productive resources (land, labour, and capital)?	Yes ……..[1] No ……..… [2]	If yes, skip to 2.7
2.6	If no to question 2.5, what difficulties do you usually face in accessing these productive resources …… ……..		
2.7	Which of the following assets do you own? (Multiple responses allow)	Land……[1] House……[2] Motorbike……[3] Bicycle……[4] Agro-processing machine…….[5] Others (specify)……[6]	
2.8	Have you ever taken credit/loan for your processing enterprise?	Yes ……..……[1] No ……..…… [2]	If no, skip to 2.13
2.9	If yes to question 2.8, what was the source of your credit/loan	Friends/relatives …… [1] Susu group……[2] Money leader……... [3] MIFIs……..……[4] Bank……...[5] Others (specify)……... [6]	

2.10	If yes to question 2.8, how did you use your borrowed money?	Invest in my agro-processing business…… [1] Capital to start a new business.[2] Pay ward school fees……. [3] Pay medical care……[4] Buy/Repair assets……[5] Expand agro-processing business…… [6] Borrow for husband/relatives… [7] Others (specify)……[8]	
2.11	If you do not invest your entire borrowed fund on your agro processing business, what did you use the rest for?	Consumption……. ….[1] Buy cloths…..……[2] Pay children school fees…… [4] Surrender to husband/family relatives……[5] Others (specify)……[6]	
2.12	If micro-savings what for?	To get access to loans…….[1] To raise capital to start new business……... [2] To gain access to finance training……[3] Others (specify)…… [4]	
2.13	If no to question 2.8, why (give reasons) ……		
2.14	Do you have access to microfinance services?	Yes ……..……[1] No ……..…… [2]	If yes, skip to 2.16
2.15	If no question 2.14, why? (Give reasons) ……... ……		
2.16	Have you benefited from microfinance services before?	Yes ……[1] No ……..… [2]	If no, skip to 2.19
2.17	If yes to question 2.16, which microfinance institutions have /are you benefiting from?……		
2.18	If yes to question 2.16, what services did you benefit from? (Multiple responses allowed)	Loan/credit……[1] Savings……..…… [2] Insurance ……[3] Others (specify)……[4]	
2.19	If no to question 2.16, why and give reasons) …….		

2.30	Where did you get information about the microfinance services you are enjoying from?	Relatives…….[1] NGO …… [2] Friends…….[3] Business partner…… [4] Radio/TV…….[5] Others (specify)…… [6]	
2.31	How frequent do you save?	Weekly…….[1] Every two weeks…….[2] Every other week…….[3] Monthly…… [4] Others (specify)…… [5]	
2.32	How many times have you benefitted from microfinance loans?.....		
Section 3: Influence of microfinance services on performance of agro-processing enterprises			
3.1	What is your main economic activity?	Rice processing…….[1] Shea butter extraction…… [2] Petty trading…….[3] Farming…….[4] Others (specify)…… [5]	
3.2	How much capital did you use to start your agro-processing business?.....		
3.3	What was the source of your capital?	Personal savings……..…….[1] Borrowed from friend/relative... [2] Inherited……..…..[3] A loan from MFI/bank…..…… [4] NGOs sponsored…….[5] Others (specify)…… [6]	
3.4	What type of processing equipment/tools are you using for your processing?[1]	Traditional equipment…….[1] Modern equipment…… [2] Local artisans designed…… [3] Others (specify)…… [4]	
3.5	What methods of processing are you using in your agro-processing?	Traditional method……[1] Modern method…… [2] Blend of modern & traditional methods…… [3]	

[1] Complement with observation and inspection

		Others (specify)…… [5]	
3.6	How did you learn how to undertake agro processing?	From parents/relatives…….[1] Attended training workshop/course…….[2] Others (specify)…….[3]	
3.7	Have you ever attended training/capacity-building regarding agro-processing?	Yes ……..[1] No ……..… [2]	If no, skip to 3.9
3.8	If yes to question 3.7, name the organization which organized the training?.....		
3.9	If yes to question 3.7, what did you learn from the training?..... ……		
3.10	If yes to question 3.5, how useful was the training to your agro-processing business?	Very useful…….[1] Somewhat useful……[2] Less useful ……[3] Not useful at all…….[4]	
3.11	How much is your agro-processing enterprise worth now?..... …….		
3.12	Have you registered your agro-processing business?	Yes ……..[1] No ……..…[2]	If no, skip to 3.12
3.13	If yes to question 3.12, where did you register it?	NBSSI…….[1] Registrar General's Department.[2] Cooperative societies……[3] Agro- processors association….[4] Other(specify)……..[5]	
3.14	How many bags of rice or shea nuts were you able to process in a week before you started benefiting from microfinance?.....		
3.15	How many bags of rice/shea nuts are you able to process in a week now?.....		
3.16	How many people did you employ in your agro-processing enterprise before benefiting from microfinance services? FULLTIME EMPLOYEES ……..TEMPORARY EMPLOYEES……		
3.17	How many people are employed in your agro-processing enterprise now? FULL-TIME EMPLOYEES ……..TEMPORARY EMPLOYEES……..		
3.18	How much income/net return did you usually make from your agro-processing in a week before participating in microfinance programmes?.....		
3.19	How much income/net return do you make now from your agro-processing in a week?.....		

3.20	How much savings were you able to make from proceeds of your agro-processing in a year before participating in microfinance services?.....		
3.21	How much savings do you make from proceeds of your agro-processing in a year now?		
3.22	What investment (or assets accumulation) did you make from proceeds of your agro-processing before participating in MF services?.....		
3.33	What investment (or assets accumulation) are you able to make now from proceeds of your agro-processing?.....		
3.34	Has there been an increase in the number of people employed in your agro-processing enterprise within the last five years?	Yes ……[1] No ……..…[2]	If no, skip to 3.36
3.35	If yes to question 3.34, indicate the number of additional employees? FULL-TIME EMPLOYEES ……..TEMPORARY EMPLOYEES		
3.36	If no to question 3.34, explain why (give reasons)…… …….		
3.37	Has there been an increase in the income/return from your agro-processing enterprise within the last five years?	Yes ……[1] No ……..…[2]	
3.38	If yes to question 3.25, describe the increase……. ……		
3.39	If no to question 3.20, explain why (give reasons)…… …….		
3.40	Have you been able to increase savings you made from proceeds of your agro-processing enterprise within the last five years?	Yes ……[1] No ……..…[2]	If no, skip to 3.42
3.41	If yes to question 3.40, describe the increase……. ……		
342	If no to question 3.40 explain why (give reasons)…… …….		
4.43	Have you been able to increase your investment (or assets accumulation) from proceeds of your agro-processing within the last five years?	Yes ……[1] No ……..…[2]	If no, skip to 3.45
4.44	If yes to question 3.43, describe the increase……. ……		
4.45	If no to question 3.43 explain why (give reasons)…… …….		

Section D: Impact of microfinance services on livelihoods outcomes of women agro-processing enterprises

4.1	Do you ever receive training or equipment/tools from the credit providers?	Yes …….[1] No ……..…[2]	

4.2 If yes to question 4.1, fill in the table below:

Kind of training	Equipment/tools	Organization offering the training	Usefulness of the training

4.3	Has the credit help to improve on your livelihood?	Yes …….[1] No ……..…[2]	
4.4	If yes indicate the extent at which the credit helped to improve on your livelihood? To a maximum extent [1] To an average extent [2] to a minimum extent [3]		
4.5	Explain your answer to question4.4……		
4.6	What has been the trend of your income/profit accruing from your agro-processing over the years?	Increasing……[1] Decreasing……..[2] remained stagnant……[3]	
4.7	Explain your choice……. ……..		

4.8 Please rank the items on which you spend your income on according to the amount spent /month

EXPENDITURE	**RANK**
1. Food/ Ingredients	
2. Clothing	
3. Education	
4. Health	
5. Social Activities	
6. Input for agro-processing	
7. Others	

Section E: Influence of microfinance services on livelihoods diversification of women agro-processing enterprises

5.1	Do you do any business in addition to your agro-processing business?	Yes ……[1] No ……..…[2]	
5.2	If yes to question 5.1, what business is it……... ……		
5.3	Do you have access to microfinance services?	Yes ……[1] No ……..…[2]	If no, skip to 5.9
5.4	If yes to question 5.3, which of the following products do you patronize?	Savings……..[1] Credit and loans…… [2] Micro insurance……[3]	
5.5	If you have received loans from microfinance institutions, how many times?	Once……[1] Twice……..[2] More than twice……..[3]	
5.6	If you ever received a loan from microfinance institutions indicate the cumulative amount (Gh¢)		
5.7	How will you describe the timing of the loan?	Timely……[1] Not timely……[2]	
5.8	Give reason(s) for your description in question 5.7……		
5.9	How many times do you process your rice/ shea butter in a week?		
5.10	Do you have people who help you in the processing?	Yes ……[1] No ……..…[2]	
5.11	What is the main source of labour for your business?	Hired……..[1] Family……[2] Volunteers……..[3]	

<table>
<tr><td></td><td></td><td>Apprentices……..[4]</td><td></td></tr>
<tr><td>5.12</td><td colspan="2">Indicate the total number of employees in your business by type (fill in the table)
<table>
<tr><th>Type</th><th>Number</th><th>Daily wage (GH¢)</th></tr>
<tr><td>Hired</td><td></td><td></td></tr>
<tr><td>Family</td><td></td><td></td></tr>
<tr><td>Volunteers</td><td></td><td></td></tr>
<tr><td>Apprentices</td><td></td><td></td></tr>
<tr><td>Total (Include yourself)</td><td></td><td></td></tr>
</table></td><td></td></tr>
<tr><td>5.13</td><td colspan="2">Indicate the total number of employees in your business by sex.
<table>
<tr><th>Type</th><th>Male</th><th>Female</th></tr>
<tr><td>Hired</td><td></td><td></td></tr>
<tr><td>Family</td><td></td><td></td></tr>
<tr><td>Volunteers</td><td></td><td></td></tr>
<tr><td>Apprentices</td><td></td><td></td></tr>
<tr><td>Total (Include yourself)</td><td></td><td></td></tr>
</table></td><td></td></tr>
<tr><td>5.14</td><td colspan="2">How much income do you make in a week? ----------</td><td></td></tr>
<tr><td>5.15</td><td colspan="2">How much income is saved each time you process agro produce? ----------</td><td></td></tr>
<tr><td>5.16</td><td>How do you spend your income?</td><td>Ploughing back to business……[1]
Buying equipment…….……[2]
Buying inputs……..…[3]
Payment of school fees……...[4]
Payment of medical bills…..……[5]
Any other expenditure…….[6]</td><td></td></tr>
<tr><td>5.17</td><td>During the last year did you operate any other business apart from your agro-processing business?</td><td>Yes …….[1]
No ……..…[2]</td><td></td></tr>
</table>

5.18	If yes to question 5.17 what type of business did you engage in?	Farming……..……..[1] Petty trading…….[2] Sale of cooked food ……[3] Small ruminant production……..[4] Poultry …….[5] Others (specify)……..[6]	
5.19	If yes to question 5.17, how did you finance the establishment of the enterprise(s)? (**Multiple responses is possible)**	Own saving…….[1] Borrowed from friends & relatives.[2] Borrowed from microfinance institution……..[3] Borrowed from a bank……..[4] Borrowed from moneylenders …..[5] Profit/income from agro-processing business……..[6] Other (specify)……..[7]	
5.20	If yes to question 5.17, did your net income from the enterprise(s) during the past 12 months	Increased remarkably …….[1] increased ……[2] remained the same …….[3] decreased ……..[4] Don't know …….[5]	
5.21	If yes to question 5.17, in the last **two months**, which of your enterprises earned the highest income? **(List)** Enterprise 1:_____ Enterprise 2:_____ Enterprise 3:_____		
5.22	If yes to question 5.17, why did you decide to open/operate this additional business or enterprise? (**Multiple responses possible**)	To get more profit ……[1] Because I have the skill and experience related to the enterprise ……..[2] Because I want to diversify my livelihood ……..[3] Because I inherited it from my families	

		……[4] Because income from my agro-processing business is not enough to cater to my needs and that of my dependants ……[5]	
5.23	If yes to question 5.17, how many workers have been employed in the enterprise(s) in the past 12 months if any? ----------		
5.24	Who are your main customers? 1 neighbours [ ] 2. Retail shops [ ] 3. Residents 4 [ ] others; specify	neighbours ……[1] Retail shops ……..[2] Residents ……..……..[3] others; specify……..[4]	

5.25 What was your estimated sales volume (cash)?

Activity	Average sales per month	Total cost in 12 months

Section F: Challenges faced by women agro-processors in accessing microfinance services

6.1	Do you face any challenges in accessing microfinance services?	Yes ……[1] No ……..…[2]	

6.2 Indicate the forms of challenges you do face and rank them according to severity/seriousness

s/n	Challenges	Rank
1		
2		
3		
4		
5		
6		
7		

6.3 What do you think accounts for the challenges you face?----------

6.4	What are some of the things that can be done to solve the challenges?---------- ---------- ----------	

Thank you!!!

APPENDIX B: Questionnaire for Managers of Microfinance Programmes

IMPACT OF MICROFINANCE ON LIVELIHOOD DIVERSIFICATION OF WOMEN AGRO-PROCESSORS IN THE NORTHERN REGION OF GHANA

1. Name of institution ……

2. Type of institution; NGO [1], Rural Bank [1], Loan and Saving Company [3], Susu

Collection Company [4], District Assembly [5] Others (specify) ----------

3. When was the institution established? ----------

-

4. When did the institution start giving loans to women? ----------

-

5. What are/is your coverage area(s)?

……

……

……

……

……

……

……

……

6. Who are the beneficiaries of your credit scheme? 1. Women agro-processors [ ], 2. Male agro-processors [ ], 3. Both male and female farmers [ ], 4 Traders [ ], 5. Others (specify)……

7. What criteria do you use in selecting beneficiaries?

……

……

……

……

8. Has your organization observed any socio-cultural factors that affect women's participation in microfinance programmes? 1. Yes [ ] 2. No [ ]

9 .If no, why?.....

.....

..

10. If yes, to question 8 what are some of the socio-cultural factors that affect women's participation in microfinance programmes?.....

.....

.....

.....

.....

11. Has your organization observed any socio-cultural factors that affect women's utilization of financial resources from microfinance? 1. Yes [ ] 2. No [ ]

12. If yes, to the above question, what are the socio-cultural factors and how do they affect the utilization of financial resources from microfinance by women beneficiaries?.....

.....

.....

.....

.....

.....

13.If No, why?.....

.....

.....

14. What are/is the sources of funding for your credit scheme? 1. Government/District Assembly

Common Fund [ ], 2. Donor funding [ ], 3. Saving mobilization [ ], 4. Others

(Specify)……

……

15. How many loan officers operate the credit scheme?.....

16. What is the mode of disbursement of your credit scheme? 1. Individual [ ], 2. Group

[ ], 3. Others (specify)……

……..

……..

17. Do you collaborate with other organizations in disbursing your credit? 1. Yes [ ]

2. No [ ]

1. 11a. if yes, name the institution/organization….

NAME OF COLLABORATING ORGANIZATION	NATURE OF COLLABORATION
1.	
2.	
3.	
4.	
5.	

18. What categories of people do you consider for your loans? 1. Only women [ ], 2. Women and men [ ], 3. Farmers [ ], 4. Others

(Specify) ----------

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19. How many clients did you give credit to in...?

YEAR	**FEMALE**	**MALE**	**TOTAL**
2**016**			

2017			
2018			

20. What was the volume of credit you gave to your clients-

YEAR	Amount (GH¢) MALE	FEMALE	TOTAL	INTEREST RATE	REPAYMENT RATE	LEVEL OF SATISFACTION WITH REPAYMENT RATE
2016						
2017						
2018						

21. Level of satisfaction with repayment rate: 1. Satisfied [ ] 2. Unsatisfied [ ]

22. If unsatisfied with repayment rate, what are you doing to encourage repayment?

……

……

23. Will your organization continue to provide credit for women? 1. Yes [ ] 2. No [ ]

If no, why?.....

……

..

……

24. Does your organization provide Business Development service (BDS) to your clients? 1. Yes [ ] 2. No [ ]

25. If yes, what kind of BDS do you provide and who bear the cost of providing the Service?

Type of BDS	**Institution providing the service**	**Who bears the cost of the Service** **1. (Beneficiaries [ ]** **2. Organization [ ]**
1.		
2.		
3.		
4.		
5.		

26.If no, why?.....

……

27. What other forms of interventions does your organization undertake in your operational area apart from credit? ----------

-

……

……

28. What problem(s) do you face in providing credit to women?

……

……

……

29. What do you think can be done by the stakeholders in solving the above mentioned

Problems?

Your institution…….

Central government……..

District

Assembly……

Donor organizations……

Bank of Ghana……..

Beneficiary

women……..

Others ……

Any comments about running and sustainability of the credit scheme----------

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Thank you!!!

APPENDIX C: Checklist for a Focus Group Discussion for Women agro-processors

IMPACT OF MICROFINANCE ON LIVELIHOOD DIVERSIFICATION OF WOMEN AGRO PROCESSORS IN THE NORTHERN REGION OF GHANA

1. What are the socio-cultural and religious factors that influence women agro processor's participation in microfinance services?
2. What are the socio-cultural and religious factors that influence women agro processor's utilization of micro-financial resources?
3. How does access to microfinance services influence the performance of women agro-processing enterprises**? (Probe: output and growth)**
4. Explain how access to microfinance products **(credit/loans, savings, training)** impact on livelihoods outcomes of women agro-processors in the study areas. **(Probe: Improved income, Food security, improved health, Improvement in children's education, increase in savings, reduced vulnerability, involvement in decision making**)
5. Explain how access to microfinance products **(credit/loans, savings, training)** impact on livelihoods' diversification of women agro-processors in the study areas**. (Probe: Expansion of current livelihoods activity, Establishment of new businesses)**
6. What have been the outcomes of your diversified livelihoods?
7. What are the general problems inhibiting your livelihood?