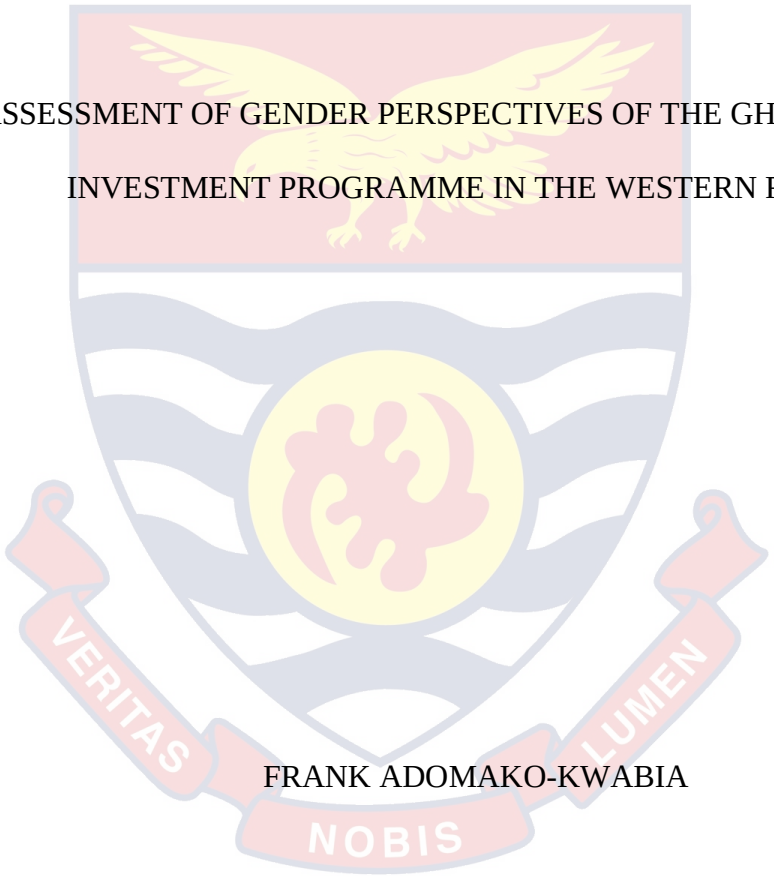
CSIR COLLEGE OF SCIENCE AND TECHNOLOGY

ASSESSMENT OF GENDER PERSPECTIVES OF THE GHANA FOREST INVESTMENT PROGRAMME IN THE WESTERN REGION



FRANK ADOMAKO-KWABIA

2021

CSIR COLLEGE OF SCIENCE AND TECHNOLOGY

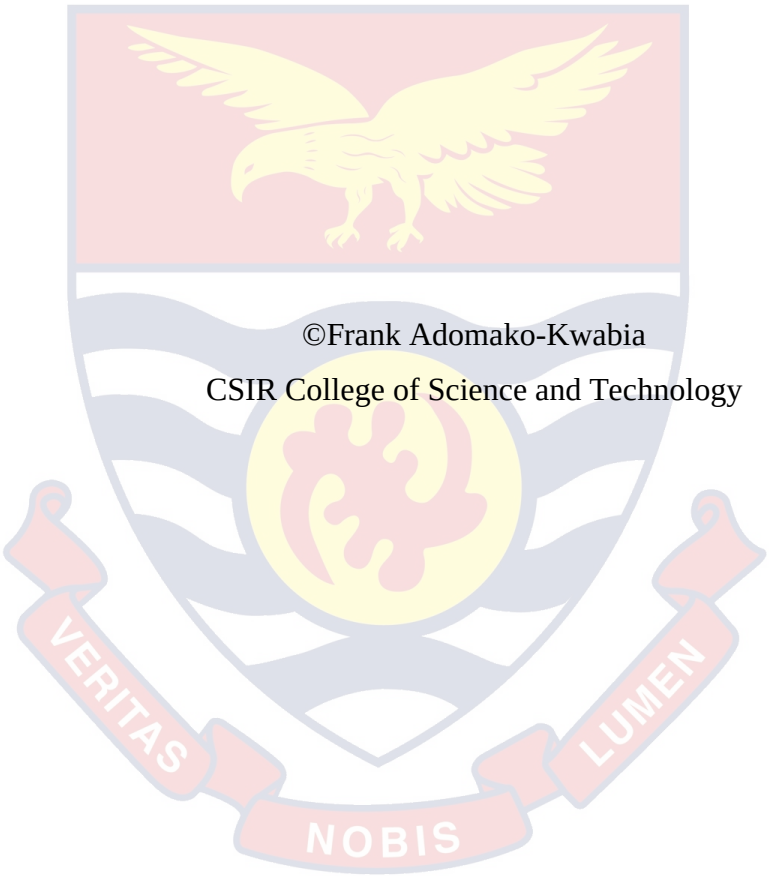
ASSESSMENT OF GENDER PERSPECTIVES OF THE GHANA FOREST INVESTMENT PROGRAMME IN THE WESTERN REGION

BY

FRANK ADOMAKO-KWABIA

Thesis submitted to the Department of Natural Resources Management of the CSIR College of Science and Technology, in partial fulfilment of the requirements for the award of Master of Philosophy degree in Climate Change and Integrated Natural Resources Management

APRIL 2021



©Frank Adomako-Kwabia
CSIR College of Science and Technology

DECLARATION

Candidate's Declaration

I hereby declare that this thesis is the results of my original research and that no part has been presented for another degree in this College or elsewhere.

Candidate's Signature:…….Date: ……...

Frank Adomako-Kwabia

Supervisors' Declaration

We hereby declare that the preparation and presentation of the thesis were supervised in accordance with the guidelines on supervision of the thesis laid down by the CSIR College of Science and Technology.

Principal Supervisor's Signature:…….Date:……

Dr. (Mrs.) Beatrice Darko Obiri

Co-Supervisor's Signature:…….Date:……

Dr Kwame Antwi Oduro

ABSTRACT

Gender inequality is perceived to exist in forest management and initiatives such as GFIP. This study assessed men and women's participation in GFIP activities, effects on environment and livelihood, and challenges thereof and means of their livelihood alleviation in the Asankragwa Forest District. The study employed cross-sectional, descriptive and explanatory designs and a structured and semi-structured questionnaire for data collection. Data was collected from 130 respondents selected from eight communities within Wassa Amenfi Central District, Wassa Amenfi West District, and Upper Denkyira West District in the Asankragwa Forest District. Frequencies, percentages and the chi-square statistical tools were used to analyse the data obtained for the study. The results obtained indicate that both men and women play an active role in implementing GFIP modules except in sacred groove management and enrichment planting modules in which only males are involved. Also, five factors influenced respondents participation in GFIP but only "complementing farming" was significant ($p = 0.04$). GFIP aids environmental benefits such as, restoring degraded forest reserves, regulating water regimes, regulating climate, and sequestration of carbon emissions. On the livelihood benefits, GFIP provides job opportunities and financial assistance. Nevertheless, it was ascertained that some challenges such as limited working equipment and delay in payment of workers allowances affect both men and women participating in GFIP in the district. The study concludes that the Forestry Commission consciously engages more women in GFIP and addresses the challenges of delayed workers' allowances, delays in payment of seedlings supplied and low motivation.

KEY WORDS

Alternative livelihood

Climate change

Deforestation

Forest

Gender

Participation

ACKNOWLEDGEMENTS

My sincere thanks go to my Supervisors - Dr. (Mrs) Beatrice Darko Obiri and Dr Kwame Antwi Oduro, to see me through each stage of this research work and ensure successful completion. I also appreciate Dr. (Mrs.) Mercy Derkyi, Eric Gyamfi and Mrs Valerie Fumey Nassah for their valuable contribution to this research process's execution. Many thanks go to the CSIR College of Science and Technology staff and the Forestry Research Institute of Ghana, who assisted in completing this thesis. I am also grateful to the Western Regional Branch of the Forestry Services Division staff for their support in collating data from the various sites where this study was undertaken and their encouragement throughout the study.

Now to my benefactors, Lt Cdr. Atta Kwabia Adomako and Mrs Judith Afra Adomako, this is the upshot of your commitment to my academic and general upbringing. Throughout this study, I acknowledge your support and sacrifices -Margaret, my wife, my sons and Judith, my daughter. To my siblings, Adoma, Abrafi, Yaw Kwabia, Kwame Adomako, Anima, Frempomaa and Afra, and my uncle Akwesi Amoako Amoantwi; many thanks for the concern shown throughout my studies.

Great acknowledgements to anyone who knowingly or unknowingly helped!

DEDICATION

To my parents and the Adomako-Kwabia family for their support

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ACRONYMS

CIFs	Climate Investment Funds
FIP	Forest investment progrmme
GFIP	Ghana Forest Investment programme
HFZ	High Forest Zone
REDD+	Reduce Emissions from Deforestation and Forest Degradation
ENFAL	Enhance Natural Forest and Agroforest landscape
MDGs	Millennium Development Goals
SCF	Strategic Climate Fund

LIST OF APPENDICES

CHAPTER ONE

INTRODUCTION

Background of the Study

Forests provide numerous goods and services for the state and livelihood for over a billion people globally, including many living in developing countries (Morrison-Métois & Lundgren, 2016). However, in most cases, forests are burnt down, causing significant emissions of CO_2 and increasing climate change problems (IPCC, 2007). A considerable portion of about 13 million hectares of global forest is deforested annually, mostly within the tropical and sub-tropical regions (FAO, 2006). In Ghana, the deforestation rate stands at 2% per annum, around 135,000 ha. (MLNR, 2012, 2014), degradation is incremental; the country's forest estate has drastically declined from 8.2 million hectares at the beginning of the 20th century to an estimated 1.6 million hectares (MLNR, 2011). These are driven by agricultural expansion, unsustainable wood harvesting, mining and mineral exploitation, and urban sprawl and infrastructure development (MLNR, 2014; ITTO, 2005). In line with Sustainable Development Goal (SDG15) (i.e., restoring and promoting sustainable use of terrestrial ecosystems, managing forests, combat desertification, halt and reverse land degradation, and halt biodiversity loss), combating deforestation and forest degradation has become a global phenomenon. The World Bank implemented the Forest Investment Programme (FIP) to tackle deforestation and forest degradation as part of the global REDD+ strategy to deal with climate change under the new climate-related finance initiatives of the Climate Investment Funds (CIFs) (Climate Investment Fund, 2014; World Bank, 2009; MLNR, 2014, 2018).

The Forest Investment Programme (FIP) is implemented in eight piloting countries, including Ghana. Thus Ghana termed it FIP as 'Ghana Forest Investment Programme (GFIP), which focuses on results-based interventions on the High Forest Zone (HFZ) in the Western and the then Brong Ahafo regions (now Bono, Bono East, and Ahafo) where deforestation rates and carbon stocks are high. The GFIP activities sought to Reduce Emissions from Deforestation and forest Degradation (REDD+) while reducing poverty and conserving biodiversity (MLNR, 2014). It also targets the Enhance Natural Forest and Agroforest Landscape (ENFAL), Engaging local communities and private sectors in REDD+, and enhancing carbon stock (MLNR, 2014, 2018).

Gender integration was found relevant in the FIP implementation (World Bank, 2017). The gender aspect is crucial throughout the FIP project as an intervention on several policies and regulatory aspects of women's access and rights (MLNR, 2012). Thus, FIP sought to integrate gender action plans to ensure women and indigenous groups' participation and benefit from the programs (World Bank, 2017). Studies on FIP grant mechanisms for local communities emphasize gender equality and ensuring women's involvement in the project activities (Climate Investment Fund, 2011) cited in Larson *et al.* (2015). Thus, in Ghana, FIP seeks to ensure gender equality in the target project, involving most females (World Bank, 2017).

Nevertheless, much less is known about women and men's involvement in the GFIP implementation in the High Forest Zone. The Asankragwa Forest District is one of the GFIP-implemented districts in the Western Region (Forestry Commission, 2020). Against this background, this

study assessed women and men's involvement in GFIP since implementation in the Asankragwa Forest District. The findings are relevant for enhancing gender equality in GFIP implementation and the prescription of relevant policy interventions.

Statement of the Problem

Ideally, the Forest Investment Programme is being implemented to enhance Reducing Emissions from Deforestation and forest Degradation (REDD+), promoting sustainable forest management, and enhance forest carbon stock (Climate Investment Fund, 2014; World Bank, 2009). The GFIP aims to address the underlying drivers of deforestation, catalyse transformational change through implementing the REDD+ strategy, and generate information and experience for policy and regulatory changes (MLNR, 2012).

Gender mainstreaming was adopted as an essential strategy for promoting gender equality at the Fourth World Conference of Women in 1995 (United Nations, 1995). With the inclusion of gender equality and women's empowerment in the Millennium Development Goals (MDGs), the United Nations re-established the commitment voiced in Beijing. United Nations' MDG, especially MDG3 on gender equality and women's empowerment, offers an invaluable opportunity to reinvigorate efforts to achieve positive development outcomes (United Nations, 2005). Also, SDG goal 5 gives recognition to achieve gender equality and empower all women and girls (United Nations, 2016).

Gender issues were considered concerning the FIP project implementation plan. The FIP document on the grant mechanism for local

communities seeks to enhance gender equality, recognising women's participation in the Forest Investment Programme (Climate Investment Fund, 2011). In the 2009 FIP document design, the World Bank sought to ensure women engagement in the Forest Investment Programme (Climate Investment Fund, 2009, P. 4). The FIP sought to address the tree tenure regime and carbon rights issue, securing tenure rights to benefits from trees on farms and giving women greater access to forest resources and associated economic benefits. Women were involved in the FIP project decision-making and forest management to enhance gender equalities (Climate Investment Fund, 2011). As a result, Ghana's Enhancing Forest Landscapes Project under the Forest Investment Programme anticipated that 450,000 females would benefit from the project interventions (World Bank, 2017).

However, in most forest management programmes, there are gender inequalities regarding men and women participation, access, and uses (Pratiwi, Nurhaeni, & Kartono, 2018). The World Bank (2017) analysis revealed that forestry is considered men's work despite increasing forestry work in the late 20th century. In many countries, women and other disempowered groups are mostly excluded from decision-making bodies. There are gender inequalities in the Forest Investment Program; primarily, women are disadvantaged. Social and gender relations can impact natural resources management (FIP, 2012). Also, men are mostly given a more respected voice than women regarding decision-making in forest fringe communities (Agarwal, 2001; Gupte, 2004; Sunam & McCarthy, 2010).

Some studies have been conducted on men's and women's forest management activities (Samndong & Kjosavik, 2017). Varghese and Reed

(2012) reported that some forestry activities are more suitable for males or females due to the gendered division of labour and physical labour needs. Some gender and REDD+ studies emphasize women's participation in forest and agricultural products and their associated value chains (Westholma & Arora-Jonsson, 2014). It is noted that information regarding men's and women's participation in GFIP activities at the implementation sites in Ghana is scanty, although studies conducted by Pratiwi *et al.* (2018), Mwangi and Mai, 2011; Samndong and Kjosavik (2017) and Larson *et al.* (2015), analysed men and women participation in forest management in a specific geographical context, hardly has any study been conducted on the participation, benefits, and challenges associated with the implementation of GFIP in the Asankragwa Forest District. Hence, this research mainly assessed men and women's participation in GFIP activities and their environment and livelihoods. Challenges associated with gender participation were analysed, and measures for addressing them are recommended.

Purpose of the Study

The purpose of the study is to contribute to knowledge by assessing men's and women's participation in GFIP activities, its effects on the environment and livelihood, challenges and means of overcoming in the Asankragwa Forest District.

Research Objectives

The overall objective of this study is to assess men and women participation in GFIP activities, effects on environment and livelihood, and

challenges and means of overcoming the Asankragwa Forest District's challenges. Specifically:

1. (a). To assess men and women participation in GFIP activities (projects) in the Asankragwa Forest District
   (b). To assess factors that influence men and women participation in GFIP activities (projects) in the Asankragwa Forest District
2. (a). To examine the effects of GFIP on participants' livelihoods
   (b). To examine the effects of GFIP on the environment
3. (a). To analyze the challenges encountered in the execution of GFIP
   (b). To analyze means of enhancing gender participation.
4. To assess forestry officials' insights into GFIP modules, benefits, challenges, and opportunities thereof

Research Questions

1. How are men and women participating in GFIP activities, and what factors influence their participation in GFIP activities?
2. How do GFIP activities affect participants' livelihoods and the environment?
3. What challenges are encountered by men and women participating in GFIP, and how should these be addressed to enhance participation in GFIP?
4. How do forestry officials view GFIP modules, benefits, challenges, and opportunities for gender participation in the study area?

Significance of the Study

One reason for undertaking this study is to bring the concerns of both women and men in the forest district for informed policy decisions of the

Ghana Forest Investment Programme (GFIP) and how it will impact forest districts in Ghana.

The findings from this study will furnish the leading implementing agency, the Forestry Commission and its parent ministry with data and recommendations to enable them to revise the GFIP soon because the study reveals vital information on the challenges encountered in the execution of GFIP and means of enhancing gender participation

The study also provides baseline information on gender perspective in the GFIP to the forest sector, NGOs and other advocacy groups in the forestry sector on GFIP. Lastly, the findings from this study will add to the available literature on GFIP.

Delimitation

The scope of the study was on the gender perspective of the Ghana Forest Investment Programme. The study was conducted in eight selected communities in the Asankragwa Forest District, namely, Ananekrom, Gonukrom, Kamaso, Koduakrom, Kwabeng, Nyamennae, Supanso, and Sureso. The variable of interest included; (i) demographic characteristics and local communities' knowledge of GFIP Project, (ii) men and women participation and factors that influence their participation in the various components of the GFIP activities, (iii) effect of GFIP on livelihoods and the environment and (iv) challenges that affect men and women participation and means of enhancing local people participation in the GFIP. The study includes both sexes (men and women) who participated in the District's GFIP modules. It also sought out the insight of four forestry officials in the district to

triangulate the local people's findings concerning gender participation in the GFIP.

Limitations

The fundamental limitation was the skewed selection of more respondents from some communities than others. This was due to the high number of people engaged in the project activities in some communities than others.

Definition of Terms

Alternative livelihood: It is defined as livelihood activities that supplement people's primary livelihood sources, including; income, job opportunities etc. (Chambers & Conway, 1992).

Climate change: According to IPCC (2014), climate change refers to the change in climate over an extended period, resulted from natural internal processes or external forces and anthropogenic activities.

Deforestation: is removing the existing natural vegetation cover, especially where the native cover is essentially forest (Foley et al., 2005).

Enrichment planting refers to a set of techniques used to increase densities of native tree species when natural regeneration does not meet land management goals (Schulze, 2003). Enrichment planting includes stocking of stands that have an uneven distribution of natural regeneration (partial planting) and restoring a site with poor natural regeneration overall (ibid).

Forest: is an area of land with a minimum threshold for the height of trees (5 m), at least 10 per cent crown cover (canopy density determined by estimating the area of ground shaded by the crown of the trees) and a minimum forest area size (0.5 hectares) (FAO, 2000).

Gender: Gender is a socially constructed role and responsibility for men and women (FAO, 2016).

Participation: It is the process through which stakeholders influence and share control over priority setting, policy-making, resource allocations and access to public goods and services (World Bank, 2006).

Sacred grove management means managing relic forest segments preserved for religious and cultural purposes (Singh, Youssouf, Malik, & Bussmann, 2017).

Watershed Management: The conservation of soil and water aims to reduce floods and sediment control whiles increasing agricultural food production (Karcher, VanBriesen, & Nietch, 2013).

Organisation of the Study

The study is organized into five chapters. The first chapter covers; the introduction, statement of the problem, research objectives and questionnaires, scope of the study, study limitations, definitions of terms and thesis organization. Chapter two covers the literature review, chapter three looks at the research methodology, chapter four entails research results, and discusses research findings. The key findings, conclusion and recommendation are presented in chapter five.

CHAPTER TWO

LITERATURE REVIEW

This chapter reviews the literature on the subject. It gives a highlight on the background to the Forest Investment Programme and Ghana Forest Investment Programme. It then covers gender and forest management activities and the extent of men's and women's communities' participation in forestry activities, and the factors that influence their participation in such activities. Effects of Forest management initiatives on local people's livelihoods and environment, challenges in GFIP, and means of overcoming them are also presented in subsequent sections.

Concepts of Forest Investment Programme (FIP) and Ghana Forest Investment Programme (GFIP)

Concept of forest investment programme (FIP)

The Forest Investment Programme forms part of the World Bank's new climate-related finance initiatives of the Climate Investment Funds (CIFs). It is part of the targeted climate programmes involving multi-donor trust funds funded under the Strategic Climate Fund (SCF) (World Bank, 2009). Climate Investment Fund (2014) reported Forest Investment Program (FIP) as a Strategic Climate Fund (SCF), initiated under the Climate Investment Funds (CIF), supporting developing countries' implementation programmes towards the promotion of REDD+ objectives. FIP aims to provide financial support to developing countries to implement national strategies to enhance Reducing Emissions from Deforestation and forest Degradation (REDD+) and promote sustainable forest management and enhancement of forest carbon stock

(Climate Investment Fund, 2014; World Bank, 2009; MLNR, 2012, 2014, 2018). FIP is implemented in eight selected piloting countries: Brazil, Burkina Faso, Democratic Republic of the Congo, Ghana, Indonesia, Mexico, Peru, and Lao PDR (Climate Investment Fund, 2014). FIP funding agencies include; Governments, European Commission, Agence Francaise de Development, Moore Foundation, Multi-lateral Development Banks (MDBs) such as African Development Bank (AfDB), Asian Development Bank (ADB), European Bank for Reconstruction and Development (EBRD), Inter-American Development Bank (IADB), and World Bank Group.

FIP seeks to provide several objectives including but not limited to; i) ensuring implementation of national and local strategies for REDD, ii) improving forest law enforcement and governance, iii) addressing leading and underlying causes of deforestation, iv) providing support for conservation of forest, enhancement of carbon stocks and v) enhancing private investment in alternative livelihoods for forest fringe communities and vi) promoting payment for environmental services (PES) schemes (Climate Investment Fund, 2014; World Bank, 2009). Others are to enable investments outside the forest sector to reduce 'pressure' on forests, including 'agricultural investments' and 'agricultural intensification, including agroforestry and provide financial support to pilot projects and programmes to 'generate understanding' about the links between 'forest investments', policies and measures and the 'conservation, enhancement and retention of forest cover and carbon stocks in developing countries (ibid).

Ghana forest investment programme (GFIP)

Ghana was among the eight countries selected for piloting FIP. Ghana's FIP programme was designed in 2012 to address the underlying drivers of deforestation and catalyze transformational change by providing upfront investment to support the implementation of the REDD+ strategy and generate information and experience for policy and regulatory changes (MLNR, 2012). GFIP activities sought to reduce Emissions from Deforestation and forest Degradation (REDD+) while reducing poverty and conserving biodiversity (MLNR, 2014, 2018). The GFIP targeted projects include; Enhancing Natural Forest and Agroforest Landscape (ENFAL), engaging local communities in REDD+/Enhancing carbon Stock, and engaging the private sector in REDD+.

The underlying objectives of GFIP include support reforms in forest policy and improve institutional practices, procedures, and capacities, strengthen community-based natural resource management institutions with improved practices and incentives for managing landscapes sustainably; enhance reforms and practices and reinforce these through improved communication methods and materials and reduce emissions of carbon dioxide from reduced deforestation and forest degradation. The GFIP project has four main components: Policy Reforms and Institutional Strengthening, Pilot Investments for Improved Forest and Landscape Management, Innovation, Capacity Building, Communications and Project Management, Monitoring and Coordination (MLNR, 2014).

There are many modules and interventions associated with the GFIP implementation project, namely; policy and reforms, tree plantation on reserve

and off reserve, seed orchards in districts on reserve, model forest nurseries for native species, cold room seeds storage facilities, manage sacred groves to a community dedicated forest reserves, shade tree planting in cocoa farms, shade trees in agricultural farming systems, capacity building extension and communications, landscape planning for corridors, cocoa marketing incentives and sustainability production, plantation field trials or models or innovations on reserve, timber, and non-timber innovation, community-based nurseries' community-based enterprise, community-based enterprises trials, promotion of improved charcoal production and non-timber forest industry promotion (MLNR, 2012, 2014, P. 36).

GFIP sought to enhance the supply of important native tree species, provide incentives, employment opportunities, and markets for native seed stock for communities and engage them in resource use decision-making and planting and preserving native species. The communication outreach and dissemination of information to local institutions and stakeholder groups on the GFIP project could be done through practical and efficient dissemination technologies such as mobile phones, radio, televisions (MLNR, 2014).

GFIP project implementation is led by the Ministry of Lands and Natural Resources (MLNR) and the Forestry Commission (FC), supporting other stakeholders in the cocoa landscape supply chain. These include COCOBOD, licensed buying companies, private and extension agents, service providers (e.g., Solidaridad, NCRC, IUCN), and research institutions (FORIG and CRIG). The GFIP obtains its funding sources from three Multilateral Development Banks (MDBs), including; World Bank (WB), African

Development Bank (AfDB), and International Finance Cooperation (IFC) (MLNR, 2012, 2014).

Gender and Forest Management Activities

Concept of gender and related terminologies

Gender is considered one of the relevant and influential aspects of shaping a person's identity (Miller, 2016). It examines the roles, relations, and power between males and females (Colfer, 2013). The concept of gender was significantly recognized among many social scientists and other interested groups in the mid-1990s (Ifegbesan, Annegarn, Pendlebury, & Rampedi, 2016). Studies of Khamati-Njenga and Clancy (2003) revealed substantial inequality globally between women and men due to gender roles, giving men more power and opportunities than women. In developing countries, gender inequality established a way of life within all cultural and socio-economic structures (Ifegbesan *et al.*). There are gender disparities regarding resource use, access, and control in many sub-Saharan Africa communities (Shackleton & Shackleton, 2004; Mukoni, 2015).

According to FAO (2016), gender is the set of social attributes associated with being male or female learned through socialization rather than the biological differences between men and women. It is more than biological difference and characterizes either a man or woman, boy or girl in a given society (Marin & Kuriakose, 2017). Khamati-Njenga and Clancy (2003) define gender as a system of socially defined roles, privileges, attributes, and relationships between men and women learned and not biologically determined. Many scholars have established different gender concepts (Reeves

& Baden, 2000; Khamati-Njenga & Clancy; Gherardi & Poggio, 2001; FAO, 2016). Gender equity is the process of being fair to men and women, boys and girls (Guzura, 2017). FAO (2016) noted gender equity as being fair to males and females. Gender relation is defined as hierarchical power relations between women and men that disadvantage women (Reeves & Baden). It is termed how society defines rights, responsibilities, and men and women's identities (FAO, 2016). Gender division of labour is socially determined ideas and practices which define what roles and activities are deemed appropriate for women and men (Reeves & Baden).

Gender analysis is the process of obtaining information on male and female social-cultural roles, activities in households/communities and the impact of an intervention on males and females (Khamati-Njenga & Clancy, 2003). According to FAO (2016), gender analysis establishes the different priorities, needs, activities, and responsibilities of men and women, boys and girls at multiple levels, across different life stages. Gender equality refers to equal enjoyment by women and men of socially valued goods, opportunities, resources, rewards, and equal participation in decision-making (Khamati-Njenga & Clancy). It is a means by which both men and women obtain the same opportunities, such as participating in the public sphere (Reeves & Baden, 2000). FAO denotes gender equality as the equal enjoyment by women, girls, boys, and men of rights, opportunities, resources, and rewards.

Marin & Kuriakose (2017) asserted that gender mainstreaming is the process of ensuring that women and men have equal access to and control over resources, development benefits, and decision-making at all stages at all levels From the United Nations perspective, gender mainstreaming assesses the

implications for women and men of any planned action in all areas and at all levels (FAO, 2016).

Gender roles and responsibilities

Gender roles identify how males and females perceive, think, and act as women and men. They are not an inborn trait but determined by the environment in which a person is being raised. They are not static but vary from one community to another and change with time and circumstances (Khamati-Njenga & Clancy, 2003). Different social and cultural contexts shape gender roles for men and women. They exist and can be influenced by their living environment, ethnic group, age, economic class, and religion (FAO, 2016). Gender roles are the roles that men and women are expected to occupy based on their sex. Gender roles are based on the different expectations that individuals, groups, and societies have of individuals based on their sex and each society's values and beliefs about gender (Blackstone, 2003). Men and women perform different household roles due to the gender division of labour. In rural communities, women's roles vary across regions but, globally, often constraints by gender-specific, diminishing their potential roles and contributions to society (Ping, 2011).

The gendered, masculine ideal mandates the male role as family head, protector, and provider for the family (Moore, 2009). Men are responsible for hunting, producing honey, and collecting forest products (Timko *et al.*, 2010 cited by (Marin & Kuriakose, 2017, P. 3). Aguilar, Quesada-Aguilar and Shaw (2011) observed that, in Comarapa and Bolivia, women are responsible for household tasks whiles men perform agricultural activities. According to Khamati-Njenga & Clancy (2003), women perform household activities,

agricultural production and reproduction activities. They are into small-scale farming, producing, distributing, and retailing charcoal and firewood. They work with enough hours per day regarding their production and reproduction activity than men (Khamati-Njenga & Clancy).

Marin and Kuriakose (2017, p. 3) mentioned that men perform high-value tasks to contributes to primary household income, whereas women take care of family members, especially children, and engage in household activities including; food preparation, fuel, and fodder collection. Colfer and MinarcheK (2013) observed many women's primary roles as domestic providers and family members caretakers (Colfer & MinarcheK, 2013). Samndong and Kjosavik (2017) affirmed that this assertion cited women mainly as child care and household care, including; cleaning, cooking, water fetching, and firewood collection. They provide household needs and food for the family while men engaged in outdoor activities. Gender roles influence how forests are managed (Mwangi & Mai 2011). Men control valuable forest resources such as timber that can be retail (Aguilar *et al.*, 2011; Agarwal, 2009). They often engage in timber extraction, production activities, and decision making (Pandolfelli, Meinzen-Dick, & Dohrn, 2007). Like Mwangi and Mai (2011) asserted, men are into forest management and timber extraction for commercial sales, while women are mainly into resources management and the collection of NTFPs.

Samndong and Kjosavik (2017) noted that men are involved in marketing -valued food or cash crops and NTFPs, while women are engaged in food crops and NTFPs collection for domestic use and household support. In rural communities, women often collect NTFPs and foods to support family

livelihood, whereas men harvest wood and engaged in hunting (Shackleton, S., Paumgarten, & Kassa, 2011; MLF, 2017). Agrawal, Yadama, Andrade and Bhattacharya (2006) posited that women in fringe communities could collect non-wood forest products (NWFPs). Women can organize, create links, occupy leadership positions, and influence positive change (Mwangi & Mai, 2011). Women could be represented as leaders in different associations when men are unwilling to represent (Samndong & Kjosavik, 2017) and can positively change the organization (Westholma & Arora-Jonsson, 2015; Tyagi & Das, 2017).

Gender and forest management activities or initiatives

Gender is considered a critical variable for analyzing and influencing access, use, and forest management (Colfer, 2013). Gender is systematically integrated into forest activities, gender analysis, actions, and monitored indicators (World Bank, 2017). The difference in women's and men's roles shape their needs, conservation, access to resources, and the benefits they receive (Marin & Kuriakose, 2017, p. 3; Ifegbesan *et al.*, 2016). These roles can be dynamic, resulting in women performing male activities (Mwangi & Mai, 2011). Both men and women have different knowledge about the forest due to men's mobility and access and use of forest resources (Samndong & Kjosavik, 2017). Elias (2016) argued that gender division of labour gives women and men expertise in different parts of tree and forestry depending on how the activities are distributed between them. Gender-responsive forest management policy required that both men and women manage and utilize forest products fairly and equally (Pratiwi *et al.*, 2018). Also, gender

mainstreaming ensured men and women's involvement in the forest management process (Aguilar *et al.*, 2011).

Studies reviewed that forest activities are highly gendered; there are widespread gender gaps in how men and women access forest-related information, technologies, credit, and secure land of tree tenure. Instances can be drawn from Canadian forestry documents with a masculine gender order that separates men and women roles and generally favours men workers (Reed, 2008; World Bank, 2017). Doss and Morris (2001) assert that gender-biased information on how information has been disseminated to rural communities. According to Halvorsen (2001), Davidson and Black (2001), and Brandth, Follo and Haugen (2004), forest management activities are highly gendered and have been documented as male-biased resulting in gender inequality. Larson *et al.* (2015) observed inequalities regarding gender role in forest-related decisions. Within the forest management decision-making committees, masculine norms were taken for granted. Sometimes, women within the decision-making committees exhibit behaviours typically attributed to men (Richardson, 2011).

The World Bank (2017) analysis revealed that forestry is considered men's work despite increasing forestry work in the late 20th century. In many countries, women and other disempowered groups are mostly excluded from decision-making bodies. There are gender inequalities in the Forest Investment Program; primarily, women are disadvantaged. Social and gender relations can impact natural resources management (FIP, 2012) cited by Westholma & Arora-Jonsson (2015). Women's potential contributions to sustainable forest management are ignored (Reed, 2008, p. 78). Guarascio *et al.* (2013) affirmed

that women's knowledge in the forest is less acknowledge in forest management decisions than men's. Poor women and their access to forest-related information are overlooked (World Bank, 2017). Mwangi *et al.* (2008) argued that males are less likely to adopt forest improving technologies than females dominated by forest user groups. Neglecting women's role in forest decision-making can endanger forest projects like women's specific livelihood needs and preferences have been acknowledged (UN-REDD, 2011).

Colfer and Minarche (2013) opined that gender needs to be considered in terms of how males and females make decisions, labour, power, access forest resources, control and benefit from forest management, and effectively manage forest resources. REDD+ policies and implementation strategies need a gender perspective to recognize women's barriers, achieve sustainable outcomes, and effectively improve forest protection and development (UN-REDD, 2011; Setyowati, 2011; Westholma & Arora-Jonson, 2015). As a result, many countries that have gone through the REDD+ preparedness process integrated gender actions plan to provide a good source of information and address gender gaps in forest landscapes. Forest Investment Program (FIP) integrated gender action plans to ensure that women and indigenous groups participate and benefit from their programs (World Bank, 2017). Studies on FIP grant mechanisms for local communities emphasize gender equality, thus ensuring women's involvement in the FIP activities (Climate Investment Fund, 2011) as cited in (Larson *et al.*, 2015).

Ghana's Enhancing Forest Landscapes Project under the Forest Investment Programme (FIP) anticipated 450,000 females would benefit from the project interventions (World Bank, 2017). Under the Forest Investment

Program (FIP), World Bank sought to ensure women engagement in the FIP design document. This ensures that both men and women achieve equal forest rights within the local communities (Climate Investment Funds, 2009, p. 4). For instance, in Burkina Faso, to enhance gender inequalities by involving women in the FIP project decision making and forest management, gender issues were considered regarding the project implementation plan. The FIP plan revealed that FIP activities would positively impact gender equity, improving women's social and economic status (FIP, 2012, p. 23).

Men and Women Participation and Factors that Influence their Participation in the various Components of the GFIP Activities

Communities participation and benefits in forest management activities

According to World Bank (2006), *"participation is the process through which stakeholders influence and share control over priority setting, policy-making, resource allocations and access to public goods and services"*. Participation is crucial in any change process if it enhances the stakeholders' equity, effectiveness, and long-term management capacity. It is an element that strives to ensure that all partners are informed, involved, and supportive of the management or conservation goals. Arnstein (1969) viewed participation as the power of the degree to which actors control decision-making. Literature reveals different participation forms (Agarwal, 2001; Himberg, Omoro, Pellikka and Luukkanen 2009; Pratiwi *et al.*, 2018). Himberg *et al*. cited different participation levels, ranging from low participation to high participation. Agarwal (2001) identified many participation types, ranging from the least effective to the most effective. Similarly, Wellstead, Stedman and Parkins (2003) mentioned two types of participation: nominal

participation and effective participation. There are three components of participation: contribution to, benefiting from, and involvement in decision making and evaluation (Phiri, 2009).

Men and women's involvement in forest management has a significant influence (Pratiwi *et al.*, 2018). The authors observed that community participation significantly influences forest management, gender inequality (between men and women) regarding their access to forests resource, their uses, and participation (Pratiwi *et al.*, 2018). The REDD+ advocates gender mainstreaming, ensuring the effective participation of men and women in the project activities (Samndong & Kjosavik, 2017). Some forestry activities are not more suitable for males or females due to the gendered division of labour and the physical nature of labour, such as tree planting, weeding, and protection whiles women engage in nursery activities, forest patrol and monitoring, beekeeping (Varghese & Reed 2012; Setyowati, 2012; Mwangi *et al.*, 2008). In a study by Mulyoutami, Roshetko, Martini, Awalina and Janudianto (2015), men and women agreed that women are better at maintaining seedlings and producing a better-quality seedling.

The MLF (2017) analysis affirmed that women are prominent actors in forest resource management throughout the developing world. Studies from India and Nepal show that women are the main actors in managing forest resources (Agarwal, 2001; 2007). Similarly, Aguilar *et al*. (2011) mentioned that most women are involved in forestry, taking increasingly active roles, accessing forestry-related knowledge, and engaging in more forestry community activities. The authors further cited that women in forest operations are more diverse than men. These assertions correspond with

Butardo-Toribio and Balicao (2011) suggested that women are primarily involved in forest management decision-making in many countries. For instants, in the Philippines, women held forest stewardship contracts and were thus, given forest land conservation rights (Butardo-Toribio & Balicao, 2011). A similar observation by Mulyoutami *et al*. (2015) revealed that women better maintain seedlings and produce better-quality seedlings than men. They can participate mainly in environmentally friendly activities, including forest certification programs.

Similarly, Acharya and Gentle (2006) posited that women participate in education in agricultural activities and illegal forest activities. Agrawal *et al.* (2006) revealed that women are involved in forest monitoring; however, mixed groups monitor more than males. Women tend to be better at day-to-day monitoring and even subtle sanctioning (Pandolfelli *et al.*, 2007). However, females' higher education levels within the forestry sector are overrepresented in clerical and administrative positions and underrepresented in management operations (Fullerton, 2006). Participation of women in REDD+ implementation decision-making was limited. Men were given a more respected voice than women in forest fringe communities (Agarwal, 2001; Gupte, 2004). A study conducted by Larson *et al.* (2015) in Brazil, Peru, Cameroon, Tanzania, and Indonesia discovered that women's participation in forest decisions was lower than their perceived participation in community decision making in general. FAO (2013) analysis shows that women mostly participated in NTFPs activities in Mexico, only a few engaged in forestry decision-making. Mwangi (2011) attested that they are often reported fewer

incidences of undertaking regeneration activities such as tree planting and weeding than male and mixed groups.

According to FAO (2013), integrating women in community forest management empowers them in the forestry sector. Torri (2010) asserted that women in resource management offer their empowerment in private and public sectors. Similarly, Setyowati (2011) asserted that engaging women in forest decision-making bodies are an opportunity to access their views, perception and integrate their knowledge into forest management policies. Females' participation in the forest executive committee improves women's general knowledge and information about forest policies and activities (Agrawal, 2007). Women cooking for forestry operational teams in many parts of the world offers the opportunity to collect firewood (Sarin, 2000; Agarwal, 2001; Gupte, 2004). Women engage in nursery activities for the home garden and other household activities and farm activities. Women's nursery work helps them develop seedling production and selection (Mulyoutami *et al.*, 2015).

Roles in forest management activities or initiatives (e.g., FIP, VPA, REDD)

Men and women's role significantly contributes to sustainable forest management, reducing poverty (Marin & Kuriakose, 2017, P.3). Agarwal (2009) reports that involving women in the forestry sector administration helps control forest degradation. In Rwanda, both men and women perform significant roles contributing to the forestry sector's development (MLF,2017). Women play a significant role in forest management; their involvement in forest policy-making processes improves forest sustainability. For instance,

engaging them in the REDD+ programmes ensures that equitable and sustainable results in REDD+ are achieved (Setyowati, 2011).

Studies conducted by Agarwal (2009) in India revealed that participating women in forest decision-making leads to better forest conservation and regeneration outcomes. Including women in the forest fringe community's decision-making helps regulate forest crimes and conflicts, thus, ensuring effective forest management (Agarwal, 2010). Both men's and women's involvement in the decision-making process could improve VPA and REDD+ negotiation and implementation (Guido & wit, 2014). Women participating in forest patrolling and decision-making help restrain illegal harvesting of forest products and improve forest regeneration (Agrawal *et al.*, 2006). Agarwal (2007, 2009) attested that women in the forestry sector could help regenerate degraded forest lands and control illegal forest activities. Women as forest and tree resources security can conserve forest resources and also can influence the entire household or community to support forest projects (MLF, 2017; Meinzen-Dick *et al.*, 1997)

Factors that Influence (Both Negative and Positive) Men And Women Participation In Forest Management Activities

Negative factors that influence men and women participation in forest management activities

According to Samndong and Kjosavik (2017), household and farm activities constrain women's participation in meetings and other group activities. Their activities conflict with their meeting time and hinder their involvement. Participation can burden people who often perform household activities, specifically women, together with other duties (Bolanos & Schmink,

2005). Varghese and Reed (2012) revealed that women's participation tends to be constrained by their family responsibilities (household activities), mainly when married or employed full-time workers. Like Khadka, Karki, Karky, Kotru and Darjee (2014) asserted, many men were unwilling to prioritize women's engagement in early REDD+ initiatives due to household chores in Nepal. Their education level and household responsibility determine women's participation (Varghese & Reed, 2012). Larson *et al.* (2015) cited that women's failure or desire to participate is associated with fewer forest resources or interest in forest ecosystems.

Samndong and Kjosavik findings revealed a lack of access and control over forestland due to women's limitation in forest negotiations. Lack of land ownership titles and formal tenure limit women's decision-making power over trees planted and the use of forest resources (Marin & Kuriakose, 2017, P. 2). These findings resonate with the studies that women are at a disadvantage regarding forest management because they have limited access and rights to secure forest resources due to statutory and customary regimes (Setyowati, 2011; Larson *et al.*, 2015). Studies revealed that, in Nepal, women's participation in REDD+ processes within the community forest is determined by men (Khadka *et al.*, 2014).

According to Larson *et al.* (2015), women's and men's participation depends on their level of knowledge and awareness. Restraining women's knowledge affects their sense of inclusion in forest management decision-making. For instance, their limited access to information about REDD+ limits their ability to involve in REDD+ (Samndong & Kjosavik, 2017). In a study in Kenya, Beth (2015) observed that awareness significantly influences

community participation in forestry activities. Similar findings in India and Nepal revealed that women were not primarily included in forest conservation meetings because they perceive their limited knowledge, constraining their participation (Agarwal, 2001; Kristjanson, Siegmann, Afif, Manchester, Gurung, 2018).

Women are often excluded from forest management decisions because of sociocultural norms and legal impediments. Sociocultural factors constrain women from participating in REDD+ decision-making (Setyowati, 2011). Sociocultural norms mainly affect women's participation in local forest management (UN-REDD+, 2011). Marin and Kuriakose (2017, p.2) observed laws and sociocultural norms restricting women's participation in forest decision-making. Studies show that most women were not involved in forest management due to social and logistical barriers, forestry rules, male bias, and gender roles (Sun *et al.*, 2011; Agarwal (2001). Varghese and Reed (2012) attested social norms and practice and organizational cultures as factors that could lessen effective participation. According to Bolanos and Schmink (2005), women's participation in forest management is low because it is perceived as a place, not for women. In Samndong and Kjosavik (2017) study, women were excluded from participating in the different REDD+ demonstration activities because most of the activities involved were perceived as men's roles because they required physical strength. Larson *et al.* (2015) revealed that women's participation in the local REDD+ initiative was less because they considered it a male's role.

In Bolivia, women do not participate in forest activities because they cannot do heavy work (Aguilar *et al.*, 2011). Community governance

structures and decision-making bodies have also been predominantly male, limiting women from participating in forest management (Kristjanson *et al*., 2018). Women's participation in monitoring illegal forest activities and regeneration was limited for fear of being intimidated by those breaking rules (Agrawal *et al.,* 2006). Watkins (2009) opined that most females do not patrol the forest because of long distances and are afraid of forestry staff's harassment. A recent analysis in Mexico on gender revealed that the barriers to women's participation in natural resource management programs include complex sign-up procedures, lack of aspirations, low self-efficacy and confidence, and lack of commitment to follow through with intentions (Kristjanson *et al.*, 2018).

Women's potential in providing protective services in forest management has gone fundamentally untapped due to fear for their safety and marital and ethnocentric reasons. Due to that, very few women are found in the forestry sectors and institutions (MLNR, 2012).

Positive factors that influence men and women participation in forest management activities

Studies revealed that women have more concern about the environment than men; thus, they express more generous support for forest resources protection (Varghese & Reed, 2012). Men and women use forest resources differently and are often poorly understood or acknowledged (Besten, 2011). Most men extract high-value forest resources and retail for cash, whereas women harvest NTFPs for subsistence use. Thus, men tend to

participate in traditional markets and informal women (Madi, Peltier, Balarabe, Ntoupka, & Sibelet, 2010).

Mwangi *et al.* (2008) attested that women tend to conserve forest resources due to women's higher dependence on forest resources. Women participate in forest resources conservation because they nourish the family with forest resources and be burdened by deteriorating forest conditions (Agarwal, 1997) cited by Mwangi (2011). Pandolfelli *et al.* (2007) argued that women are often involved in forest management because they mostly collected NTFPs, thus monitoring. They added that women's willingness to conserve forest resources and reduce deteriorating forest conditions often depended on the forest resources to feed their families. MLF (2017) affirmed these assertions that women play a significant role in forest management because they are predominant NTFPs collectors for domestic use or sale. Women's participation in forest resources conservation was determined by their security property rights and access to forest and tree resources (Meinzen-Dick, Brown, Feldstein, & Quisumbing, 1997). Involving women in natural resources management is fascinating because such participation empowers them in their communities (Agrawal *et al.*, 2006).

Means of Enhancing Local People Participation in Forest Management Activities or Initiatives

According to Butardo-Toribio and Balicao (2011), women participate effectively in resource management decision making, livelihood support projects, and community training if their tenure rights are recognized. For women to participate effectively in forestry and its management interventions,

intervening agencies need to engage them in decision-making and recognise their substantive and procedural rights (Himberg *et al.*, 2009; Samndong and Kjosavik, 2017; Pandolfelli *et al*. 2007; Setyowati, 2011). Providing local communities with financial and learning resources through FIP Dedicated Grant Mechanism (DGM) will support local people's participation (REDD+ final report, 2016). GFIP could be improved by providing incentives, knowledge, and farm equipment to local communities' members and involving them in benefits sharing from managing trees and forest mosaics within the broader landscape whiles enhancing co-benefits associated with increased tree cover and carbon sequestration.

Effects of Forest Management Initiatives on Local Peoples' Livelihoods and Environment

Impacts of GFIP, VPA, and FLEGT on local peoples' livelihoods

FAO (2007) defined livelihood as a means of making a living. It comprises activities and resources that support people living. Livelihood consists of activities, capabilities, and assets, including; social and material resources required to make a living (Chambers & Conway,1992). Livelihoods assets comprise what people have, including; human (e.g., land, water, wildlife, biodiversity, environmental resources), physical capital (sanitation, energy, transport, communications), human capital (health, knowledge, skills, information, ability to labour), social capital (relationships of trust, membership of groups, networks, access to broader institutions) and financial capital (including pensions, savings, supplies of credit) (FAO, 2007). Ramcilovic-Suominen, Gritten and Saastamoinen (2010) noted that people

live better livelihood when they have enough livelihood assets (natural, human, physical, social, and financial assets).

FIP project fosters gender mainstreaming by creating jobs, providing social benefits and skills transfer to local communities. FIP has created some jobs, including full-time and seasonal jobs (FIP report, 2016). Some activities enhance food production through agroforestry, provide a wide range of incentives, including; premiums from organic, planting materials, and farm inputs to support cocoa production. The activities of CREMAs, generate income for the support of local communities livelihood. The GFIP sought to provide seeds and equipment and financial incentives for more than 12,000 people, including 50 per cent of women across the country, to develop forestry, agroforestry, and alternative livelihoods activities whiles building their capacity. The GFIP interventions provide increased access to benefits from climate mitigation and carbon finance projects, including additional income and market access through participation in REDD+. This can also diversify plantation development and landscape restoration (MLNR, 2012, P. 39).

Studies revealed that REDD+ provides various livelihoods opportunities to forest-dependent communities' including financial asset (income) through the payment of carbon credit and alleviating poverty, physical assets (local infrastructure), natural assets (land tenure, food security, forest tenure carbon rights), human assets, social assets and job creation (Bayrak & Marafa, 2010; Chhatre *et al.*, 2012). According to Tropenbos International (2010), the FLEGT-VPA implementation process improves forest conditions by increasing local communities' natural livelihoods assets

and better enforcement of local people's forest-related rights. Similarly, Wiersum and Oijen (2010) opined that the FLEGT-VPA process would likely affect Ghana's local livelihoods. They added that timber legality implementation regimes could positively and negatively affect local communities' livelihoods (Wiersum & Oijen). Tropenbos International (2010) affirmed that the FLEGT or VPA implementation process might negatively lead to less employment affecting the income generated from illegal logging and enforced the ban on small-scale practices as chainsaw logging legal denial of customary rights of forest use.

Ghana Forest investment programme (GFIP) impacts on the environment

The GFIP subprojects sought to impact significantly on the environment by reforesting degraded forest reserves and ecosystem services, including; (i) conservation of biodiversity, (ii) regulation of water regimes, (iii) maintenance of soil quality and limitation of erosion, (iv) fire protection and climate regulation (v) sustaining water supplies through watershed management. GFIP helps increase the ecosystem's resilience and improve biodiversity conservation by reducing forest fragmentation and landscape connectivity and sequestration of carbon (reduce tons of CO2) emissions from deforestation and forest degradation and enhance environmental services (MLNR, 2018).

Conceptual Framework

The conceptual framework illustrates the relationship between the main study variables. Figure 1 outlines the various components of men and women participation in the Asankragwa district under the GFIP. It is deduced from the framework that men and women may have the same or different roles to play under GFIP six modules, such as seed production, enrichment planting and alternative livelihoods. However, men and women participation is influenced by five factors, namely i) source of livelihood; ii) source of employment; iii) mitigate climate change; iv) complement farming and v) introduced by someone. Local peoples' (both men and women) participation has positively affected livelihood and the environment, as shown in figure 1. Nevertheless, some challenges that need policy consideration exist in GFIP at the Asankrangwa Forest District (see Figure 1).

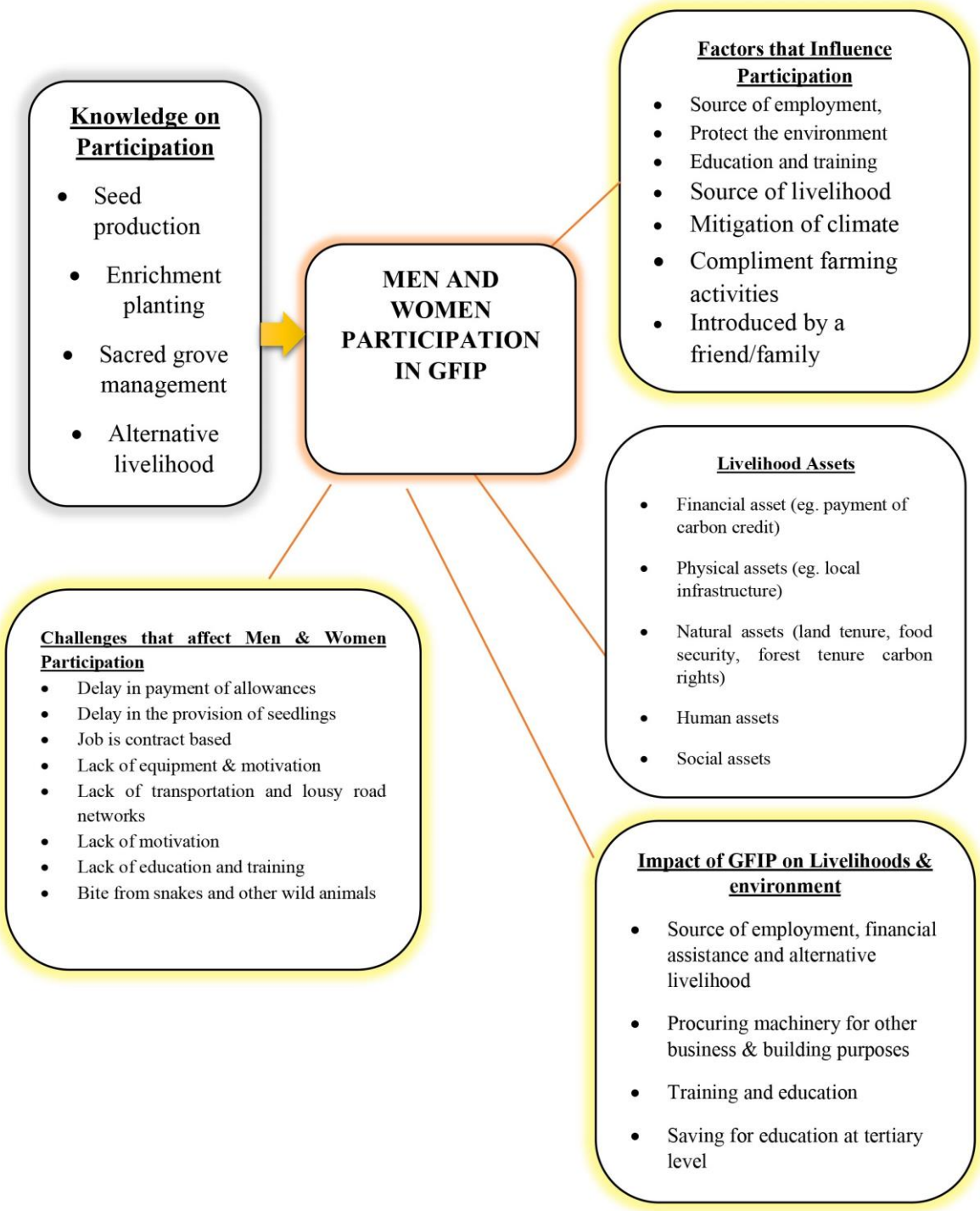


Figure 1: Conceptual framework on men and women participation in GFIP at the Asankragwa Forest District. (Author's Construct, 2020)

CHAPTER THREE

RESEARCH METHODS

This chapter considers the various techniques and methods that were used to collect and analyse the data. The major areas of particular concern to ensure proper execution of the study include; study area, research design, population, sample and sampling procedure, instruments for data collection, validity and reliability of instruments, data collection procedure, data processing and analysis procedures and ethical consideration.

Study Area

The study was carried out in the Asankragwa Forest District in the Western Region of Ghana, located within latitudes 5°10'0" N and 6°10'00" N and longitudes 2° 40' 0" W and 2° 05' 0" W (Figure 2). The forest district lies in the Amenfi West District and falls within the country's wettest part, with average annual rainfall ranging from 1730mm at the south to 1400mm at the north. The Amenfi West District covers a total land area of 1,448.56 square kilometres with a total population of 470,926, comprising 51.4% male and 48.6% females. It is bounded to the west by Sefwi-Akontombra and Aowin districts, to the south by Jomoro, Ellembelle, and Nzema East districts, the East by Prestea Huni Valley, and Wassa Amenfi Central District.

The Political districts fall within the semideciduous forest and the tropical rainforest vegetation types. The soils are mainly forest ochrosol-oxysterols and oxysterols. The forest district covers five local assemblies: Wassa Amenfi West Municipal, Wassa Amenfi Central District, Wassa Amenfi East Districts, Prestea Huni Valley District and Upper Denkyira West

District, all in the high forest zone of Ghana. The forest district office manages seven forest reserves- Bura, Mamire, Fure River, Fure Headwaters, Angoben, Tonton and Totua, covering 720.29 Km^2.

Agriculture is the main economic activity in the District with the staple crops such as cassava, maize, rice, garden eggs, and tomatoes, while cocoa, oil palm, and rubber are among the main cash crops produced in the District (Ghana Statistical Service, 2010).

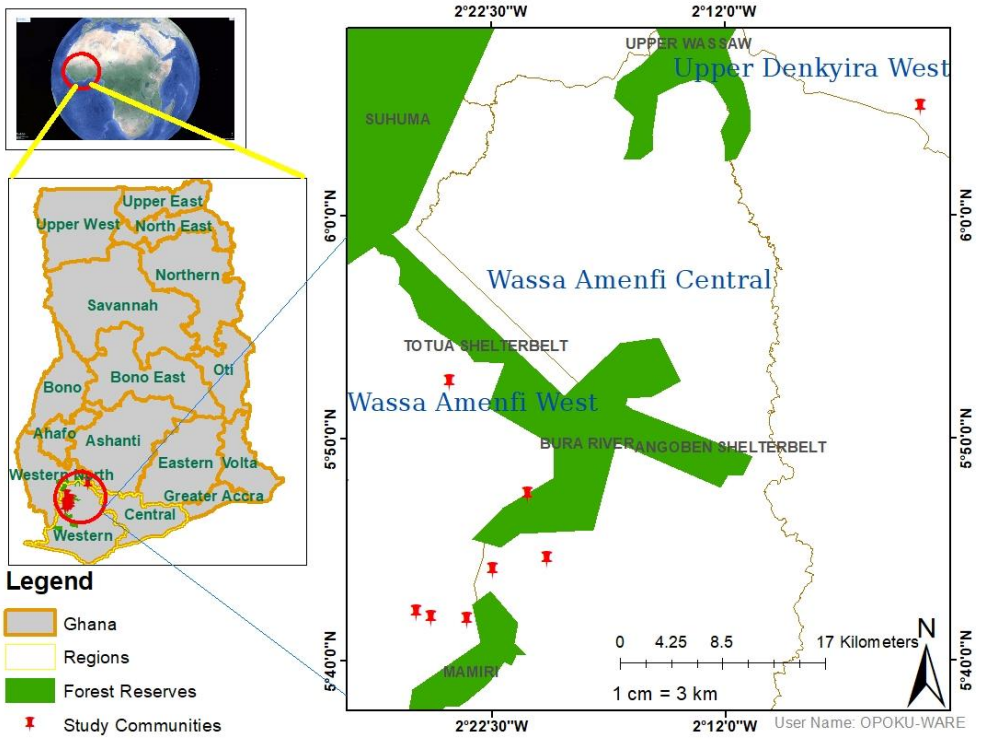


Figure 2: Map of the study area (Author's Construct)

Research Design and Strategy

According to McMillan and Schumacher (2001), the research design selects subjects, research sites, and data collection procedures to answer the research questions. The study employed a cross-sectional design where observations were done during a period; however, inferences can be made

about a process that occurs over time (Babbie, 2011). This was complemented with a descriptive and explanatory design that sought out the situations and reasons of men and women participation in GFIP. The study employed a structured and semi-structured questionnaire to collect in-depth information from the selected male and female participants of GFIP and the forestry officials based on the study's specific objectives.

Population

The target population sampled for the study comprised community members 18 years and above of both sexes (male and female) in Wassa Amenfi Central, Wassa Amenfi West, and Upper Denkyira West district in the Asankragwa Forest District. These districts are part of the Ghana Forest Investment Programme in the Asankragwa Forest District.

Sampling Procedures

According to Muhammad and Kabir (2016), sampling selects part of the population to represent the entire population. A purposive sampling technique was used to select Asankragwa Forest District because GFIP is being implemented. The forest district falls under Western Region and covers five local Assemblies including; Wassa Amenfi Central District, Wassa Amenfi West District, and Upper Denkyira West District.

A simple random sampling technique was used to select eight communities from three local assemblies within the Asankragwa Forest District based on their involvement in the GFIP (Table 1). The communities' involvement in the GFIP names was written on paper pieces and put in a box, well-shuffled, and

eight pieces of paper were randomly selected from the box without replacement. The communities selected were used for the study. A convenience sampling technique was used to select the respondents involved in the GFIP because of their availability and willingness to participate in the study at the time of data collection. A sample size of 130 respondents was selected from the eight communities within Wassa Amenfi Central District, Wassa Amenfi West district, and Upper Denkyira West district in the Asankragwa Forest District study (Table 1).

The sample size was determined from the Yamane (1967) formula for calculating sample size at 95% confidence level and 0.05 margin of error. The sample size was calculated using 18 years and above community members from the eight selected communities (Ananekrom, Gonukrom, Kamaso, Koduakrom, Kwabeng, Nyamennae, Supanso) Sureso), which formed the sample frame. Thus; $n = \frac{N}{1+N\,(e)^2}$ Where; n = sample size, N = sample frame (population size), e = margin of error (0.05), and 1 = constant.

Table 1 - *Number of Respondents and their Respective Communities in the Asankragwa Forest District*

Name of Community	Respondents selected per District			Total (n =130)	Total (%)
	Wassa Amenfi Central	Wassa Amenfi West	Upper Denkyira West		
Ananekrom	-	-	15	15	12
Gonukrom	-	12	-	12	9
Kamaso	-	8	-	8	6
Koduakrom	-	7	-	7	5
Kwabeng	-	2	-	2	1.5
Nyamennae	-	10	-	10	8
Supanso	20	2	-	22	17
Sureso	54		-	54	41.5
Total	74	41	15	130	100

Source : Field data (2020)

Population data was sourced from the Wassa Amenfi Central district, Wassa Amenfi West district, and Upper Denkyira West district Electoral Commission info-sheet data (2020). Questionnaire-based on the subject matter was given to five forestry officials involve in the GFIP project in the District. However, four responded to the questions and submitted their feedback.

Data Collection Instruments

Data were gathered from the community members using structured and semi-structured questionnaires (Appendix 1). In the structured questions, possible answers were provided in the questionnaires, and the respondents were to tick the categories that most describe their answers. Regarding the open-ended questions, spaces were provided for respondents to provide their

answers. The questionnaires were developed based on the study objectives and covered; i) demographic characteristics and respondent's knowledge of Ghana Forest Investment Project, ii) men and women participation dynamics in GFIP, iii) effect of GFIP on livelihoods and the environment, and iv) challenges that affect men and women participation and means of enhancing local people participation in the GFIP. In enhancing the credibility and validity of the results, the researcher further included four forest officials in the study to ascertain information regarding the GFIP project.

Data Collection Procedures

The study adopted both primary and secondary sources of data. The primary data was obtained from the eight communities and four forest officials in the Asankragwa Forest District. The primary data helped the researcher to obtain information from respondents on the specific study objectives. On the other hand, the secondary sources were collected from journals, books, published and unpublished thesis, internet, libraries, newspapers, periodicals, and textbooks on FIP, GFIP, Gender and forest management, and other topics related to the study objectives.

The questionnaire administration was personally distributed by the researcher to the study participants with the aid of a research assistant from each of the eight (8) selected communities, giving assurances for the confidentiality and anonymity of the study participants. The researcher sought permission from the authorities of the various selected communities through an introductory letter from the college indicating the purpose of the research and the voluntary nature of participation. Data were collected in three months

due to the scattered nature of the communities. `This duration enabled the researcher to avoid putting pressure on the respondents due to their busy schedules and ensuring that the researcher had adequate and proper information from the respondents.

During the data collection, the researcher visited the respective communities personally with the research assistants to gather the data through the questionnaire. Thus, the researcher administered the questionnaires to the study participants in their communities and allowed those who could read and understand to fill them independently. The study participants who were busy and could not respond to the questionnaires on the spot were given copies to be filled at their convenience and two weeks to complete the questionnaires and make them available for collection. Follow-up calls and chats as reminders were made to ensure that all the participants completed the questionnaire within the stipulated time.

Data Processing and Analysis

The data gathered were analyzed using the Statistical Package for Social Sciences (SPSS) version 22.0 and Excel software with Microsoft Windows 10. Using SPSS, the questionnaires data were coded, and respondents' gender and demographic characteristics were cross-tabulated. Frequency, percentages and chi-square analysis were done for presentation. Specifically, the respondents' knowledge of Ghana Forest Investment Project, participation and factors that influence their participation in the various components of the GFIP, the impact of GFIP on livelihoods and the environment, challenges and means of enhancing local people participation in

the GFIP were descriptively analyzed by cross tabulating with gender and presented in frequency and percentage tables and graphs. Also, a Chi-square analysis was done on respondents participation in GFIP and factors that influence their participation.

The forest officials' views were content analyzed based on the themes. Kawulich (2004) explains data content analysis as reading and re-reading transcripts and identifying differences and similarities.

Ethical Considerations

Ethics are the norms or standards for conduct that bring the distinction between good and wrong. Ethical standards help avoid falsifying data and advance the pursuit of knowledge as the research's main objective (Sallah, 2018). The University fully approved the study. Ethical approval was obtained from the forest officials, leaders, and authorities of the eight (8) selected communities. The leaders and authorities of the communities selected were further contacted for authorization and to select potential participants. The study aims and objects were further explained to the respondents' understanding; their informed consent was obtained for participation, their anonymity and confidentiality were assured. Finally, all secondary data were duly cited.

Chapter Summary

The data for the study was obtained from both primary and secondary sources. A cross-sectional and descriptive design was chosen to collect primary data for the study. A structured and semi-structured questionnaire was

used to collect qualitative and quantitative data from community members in the study communities. A semi-structured interview guide was also used to obtain data from the forest officials in the Asankragwa Forest District. A sample size of 134 respondents made of 130 community members and four forest officials in the Asankragwa Forest District was employed for the study. Data were analyzed using the Statistical Package for Social Sciences (SPSS) version 22.0 program and Excel software with Microsoft Windows 10 version and presented in pie charts, figures, frequency, percentage tables, and cross-tabulated. The study was limited to a skewed selection of more respondents from some communities than others. This was due to the high number of people engaged in the project activities in some communities than others.

CHAPTER FOUR

RESULTS AND DISCUSSION

The chapter presents the study results and discussion relating the findings to relevant literature.

Respondents Profiles and Knowledge of Ghana Forest Investment Project (GFIP)

Profiles of respondents

The respondents' demographic and socio-economic characteristics are summarized in Table 2. The study found that out of the 130 community members engaged in the studies, the majority, 73 percent were males. This may be attributed to the nature of forestry activities considered male-dominated occupations at the technical and even managerial levels (World Bank, 2017).

The age distribution indicates that 42 percent were 18-30, and two percent were 60 years and above. The majority of females were equally found in 31-45 and 46-59. The mean age was 36 years and a standard deviation of 10.729. The results imply that all the respondents were mature to respond appropriately to the questions.

Fifty-two percent of the respondents were indigenes and 48 percent migrants. According to the Ghana Statistical Service (2010), most of the district's people are natives. The higher proportion of indigenes than migrants indicates the familiarity and knowledge of the forests and the respondents' environs in which GFIP operates. Besides GFIP activities, the majority, 72 percent of respondents, were found to engage in farming as a primary

occupation, and 15 percent engaged in artisanry (e.g., sewing, mason, drivers, steel benders, plumbers) as a secondary occupation. This implies that respondents have diverse working experiences. Agriculture forms the main economic activity in the district (Ghana Statistical Service, 2010), and the fact that GFIP project sought to enhance local communities' participation (MLNR, 2014).

The results indicate that 75 percent of the respondents were J.H.S/Middle school graduates, 11 percent had attained primary education, whereas seven percent had no formal education. The findings mean that majority of the respondents were educated. The data indicated that 62 percent of the respondents have a household size of 4-8, and two percent had 18 and above household size, with 93 percent being headed by men. The majority of the respondents (74%) were married, 24 percent single, whiles two percent were also widowed.

The findings mean that most of the respondents were married, which confirmed the earlier submission that most of the respondents were matured. Although the study's focus was not to determine respondents' marital status, knowing the population participating in the study will enable readers to understand better and appreciate the issues.

Table 2 - *Demographic and Socioeconomic Characteristics of Respondents*

Variables	Response	Gender Distribution		Frequency	Percentage
		Males	Females		
Age Range	18-30	44	10	54	42.0
	31-45	34	12	46	35.0
	46-59	14	13	27	21.0
	60 +	3	0	3	2.0
	Total	95	35	130	100.0
Education	No Formal Education	5	4	9	7.0
	Primary	11	3	14	11.0
	JHS/Middle School	73	25	98	75.0
	Secondary	6	3	9	7.0
	Total	95	35	130	100.0
Marital Status	Married	69	27	96	74.0
	Single	26	5	29	24.0
	Widowed	0	3	3	2.0
	Total	95	35	130	100.0
Religion	Christianity	90	29	119	92.0
	Islam	2	6	8	6.0
	No response	3	0	3	2.0
	Total	95	35	130	100.0
Ethnicity	Indigene	56	12	68	52.0
	Migrant	39	23	62	48.0
	Total	95	35	130	100.0
Household Size	1-3	22	12	34	26.0
	4-8	60	20	80	62.0
	9-17	12	1	13	10.0
	18 +	1	2	3	2.0
	Total	95	35	130	100.0

Source: Field data (2020)

Table 2 - *Continued*

Variables	Response	Gender Distribution		Frequency	Percentage
		Males	Females		
Household	Man	93	28	121	93
Head	Woman	2	6	8	6
	Both	0	1	1	1
	Total	95	35	130	100
Primary	Farming	70	23	93	72
Occupation	Trading	0	6	6	5
	Artisanry (sewing, mason, drivers)	3	5	8	6
	No primary occupation	22	1	23	17
	Total	95	35	130	100
Secondary	GFIP	38	28	66	51
occupation	Artisanry (sewing, mason, drivers, steel benders, plumbers etc.)	20	0	20	15
	Trading	3	3	6	5
	Forest and farm-based	10	0	10	8
	None	24	4	28	21
	Total	95	35	130	100

Source: Field data (2020)

Forest-based activities of respondents per gender

Figures 3 and 4 present the different forest-based activities that men and women are involved. The study found that respondents engage in different forest-based activities; however, the majority of males, 48 percent, were in for tree planting on farms, whiles the majority of females, 16 percent, were involved in seedling production as a forest-based activity. The differences could be that gender roles do not permit women to engage in some forestry activities. As Elias (2016) affirmed, gender division of labour gives women and men expertise in different areas of trees and forestry depending on how the activities are distributed.

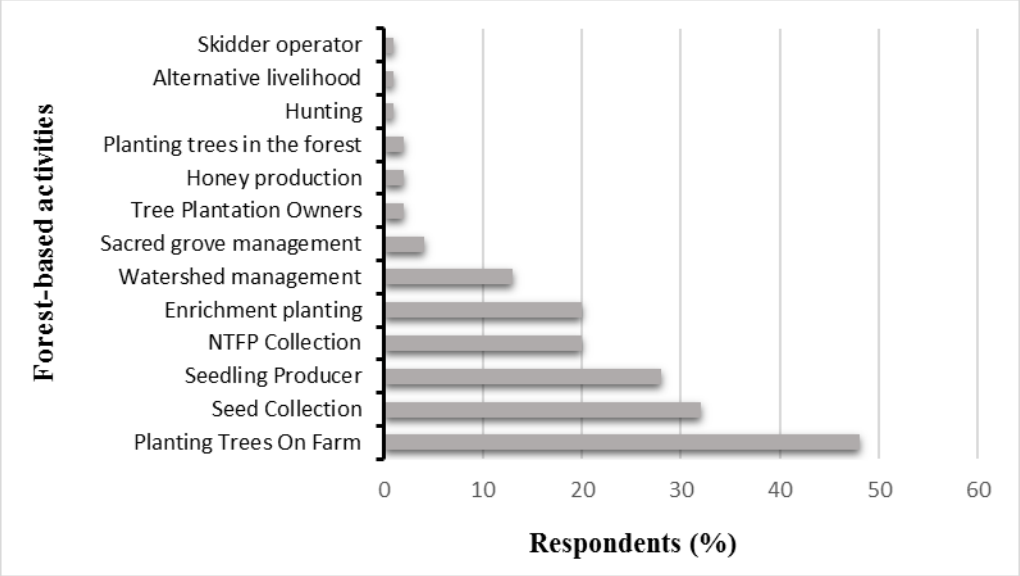


Figure 3: Forest-based activities of male respondents

Source: Field data (2020)

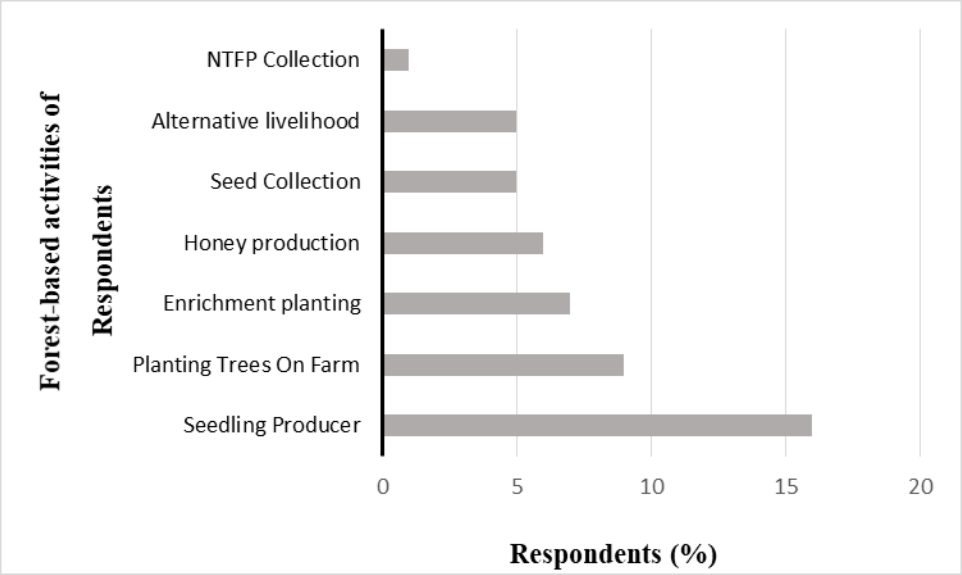


Figure 4: Forest-based activities of female respondents

Source: Field data (2020)

Respondents knowledge of the Ghana Forest Investment Programme, components and activities

The findings indicate that all the respondents have heard of GFIP, with 71 percent (n=93) indicating that they heard the GFIP from Public Address Systems (Information Centre/Forestry), and the remaining 29 percent (n=37) heard it from either a family member or a friend. The findings confirm MLNR (2014) studies assertion that the communication outreach and dissemination of information to local institutions and stakeholder groups on the GFIP project could be done through practical and efficient dissemination technologies such as mobile phones, radio and televisions. Fifty-five per cent of the respondents heard about the GFIP after three (3) years of the project implementation, and 45 percent claimed they heard it during the initial stage (1-2 years) of implementation. However, all the respondents were able to share some

knowledge of what constitutes GFIP. The distribution of respondents' perceptions per gender is presented in Table 3.

For 25 percent of the respondents, GFIP constitutes reforestation to promote climate change and conserve forests, and five percent see GFIP as nursing seedlings planted in farms and forests (Table 3). The GFIP components mentioned by the respondents are also confirmed by Climate Investment Fund (2014) and MLNR (2014) as seed collection, seedling production, enrichment planting, watershed management, sacred groove management, tree growing or planting, alternative livelihoods. This knowledge aligns with the GFIP objective to reduce carbon dioxide emissions by reducing deforestation and forest degradation (MLNR, 2014).

Table 3 – *Respondents' Knowledge of What Constitutes GFIP*

What constitutes GFIP	Gender		
	Male	Female	Total
Practice reforestation, reduce climate change and protect our forest reserves.	26(20%)	6(5%)	32(25%)
Government initiative to plant different species of trees to enrich the forest.	25(19%)	4(3%)	29(22%)
Planting trees along river banks (catchment areas of Suree river).	17(13%)	6(5%)	23(18%)
Source of training and employment to support the individual, family, and community at large.	13(10%)	3(2%)	16(12%)
Planting trees in cocoa farms as a form of shade for cocoa trees.	9(7%)	4(3%)	13(10%)
Train people in honey production and beekeeping.	3(2%)	8(6%)	11(8%)
Nursing seedlings to be planted in farms and forests.	2(1%)	4(4%)	6(5%)
Total	94(72%)	36(28%)	130(100%)

Source: Field data (2020)

The results show that respondents were knowledgeable about the GFIP components. Still, they were also conversant with the different activities under the components and roles of men and women. Twenty-nine percent made up of 18 percent males, 11 percent of females mentioned seedling production as a GFIP component. The least mentioned component was Sacred Groove Management, with males constituting seven percent (Table 4). The findings support the assertion that gender roles for men and women are shaped by different social and cultural contexts and often constrained by gender-specific jobs, thus, diminishing their potential roles and contributions to society (Ping, 2011; FAO, 2016).

Table 4 - *Respondents' Knowledge of GFIP Components*

Variable	Responses	Respondents Gender Distribution		Total (%)
		Male (%)	Female (%)	
GFIP Components	Seedling Production	23(18%)	14(11%)	37(29%)
	Enrichment Planting	18(14%)	9(7%)	27(21%)
	Sacred Grove Management	9(7%)	2(1%)	11(8%)
	Alternative Livelihood	11(8%)	9(7%)	20(15%)
	Watershed Management	9(7%)	4(3%)	13(10%)
	Tree on-farm (Agroforestry)	14(11%)	8(6%)	22(17%)
Total		84(65%)	46(35%)	130(100%)

Source: Field data (2020)

Respondents knew of the activities under each component, as shown in Table 5. For seedling production, activities cited by respondents were; i) poly pot filling and seedling transplanting (43%), ii) sowing of seeds (16%), and iii)

watering of seedlings and transplanting of seedlings (21%). Also, for the trees on-farm (Agroforestry) component, most of the respondents (42%) cited planting and nurturing trees on farms, 31 percent cited transplanting, 13 percent stated pegging and transporting seedlings, whiles six (6) percent mentioned pruning and weeding. For Sacred Groove Management, the findings revealed that none of the community women mentioned any activity involved in this component. However, men were able to give the activities such as demarcation and enumeration (12%), cuttings of strip lines and planting (30%), and peg cutting and pegging (28%). The findings in terms of knowledge of different activities such as transplanting, poly pot filling are consistent with MLNR (2012, 2014) that many activities and interventions associated with GFIP implementation include but are not limited to policy and reforms, tree plantation on reserve and off reserve, seed orchards in on reserve, model forest nurseries for native species, migrate sacred groves to dedicated community forest reserves and shade tree planting in cocoa farms.

The forestry officials interviewed also confirmed the local people's knowledge of GFIP and brought the different institutions that finance the GFIP. According to MLNR (2012, 2014), GFIP obtains its funding sources from three Multilateral Development Banks (MDBs), including; World Bank (WB), African Development Bank (AfDB), and International Finance Cooperation (IFC).

Table 5 - *Respondents' Views on Activities Involved under the Components of GFIP*

GFIP Components	Activities	Gender Distribution		Total (%)
		Males	Females	
Seedling Production	Poly pot filling and seedlings transplanting	39(30%)	17(13%)	56(43%)
	Sowing of seeds	16(12%)	5(4%)	21(16%)
	Watering and transplanting of seedlings	14(11%)	13(10%)	27(21%)
	Total	69(53%)	35(27%)	104(80%)
Enrichment Planting	Cutting of strip lines or baselines	44(34%)	12(9%)	56(43%)
	Demarcation and enumeration	17(13%)	4(3%)	21(16%)
	Planting	17(13%)	10(8%)	27(21%)
	Total	78(60%)	26(20%)	104(80%)
Sacred Groove Management	Demarcation and enumeration	9(7%)	7(5%)	16(12%)
	Cuttings of strip lines and planting	31(24%)	8(6%)	39(30%)
	Peg cutting and pegging	25(19%)	12(9%)	37(28%)
	Total	65(50%)	27(20%)	92(70%)
Alternative Livelihood	Beekeeping	25(19%)	14(11%)	39(30%)
	Production of seedlings for sale (e.g. cocoa seedlings)	5(4%)	17(13%)	22(17%)
	Total	30(23%)	31(24%)	61(47%)
Tree On-farm (Agroforestry)	Planting and nurturing of trees on farms	40(31%)	14(11%)	54(42%)
	Transplanting	35(27%)	18(14%)	53(41%)
	Pegging and transporting of seedlings	10(8%)	7(5%)	17(13%)
	Pruning and weeding	5(4%)	3(2%)	8(6%)
	Total	90(70%)	42(30%)	132(100%)
Watershed Management	Planting along with water bodies	51(39%)	4(3%)	55(42%)
	Cutting baselines/strip lines	36(28%)	4(3%)	40(31%)
	Peg Cutting and pegging	18(14%)	7(5%)	25(19%)
	Total	105(81%)	15(11%)	120(92%)

Source: Field data (2020). There were multiple responses

Men and Women Participation and Factors That Influence Their Participation in GFIP Modules.

Men and women participation in GFIP components

The findings show that 99 percent (n= 129) of the respondents participated in the GFIP components throughout; only one percent (n=1) of the respondents was not participating because she became a nursing mother before data collection. This indicates the higher inclusiveness of participants in GFIP components in the district. These could be attributed to the diverse range of modules and their associated benefits and awareness before implementation. The findings further resonate with Himberg *et al*. (2009) that people participate in forest conservation during planning and decision-making. Women and men participation in forestry or community-based activities depend on their level of knowledge and awareness (Beth, 2015; Larson *et al*., 2015).

Although no significant difference (p = *0.09*) was observed between male and female participation in the GFIP project, about 64 percent (n= 82) of the 99 percent respondents who participated in the GFIP project were males, and the remaining 36 percent were females.

The findings show that men who participated in the district's GFIP project were higher than women because forestry activities are considered male jobs. Women are not permitted to engage in some activities due to the physical strength required and socio-cultural norms. Also, women's participation in forest management is low because the forest is perceived as a place, not for women, who are also often not involved in decisions making and management activities and have limited access to forest information or land

and forest resources, fear for their safety, marital and family responsibilities and sociocultural factors (Bolanos & Schmink, 2005; Setyowati, 2011; Kristjanson *et al*., 2018). These findings also resonate with MLNR (2012) assessment that women's potential in providing protective services in forest reserves has gone fundamentally untapped due to perceptions of fear for their safety, marital, family and ethnocentric reasons.

Concerning the gendered perspective on the specific components of the GFIP project, the study revealed variations in male and female participation in different aspects of the project with a significant difference ($p < 0.05$) in male and female participation in all components of the program, i.e. seed collection, seedling production, tree growing, enrichment planting, watershed management, sacred groove management and alternative livelihood programs. At the same time, the males dominated in components such as seed collection, tree growing, enrichment planting, watershed management, and sacred groove management. The females dominated in the seedling production and alternative livelihood modules.

About 70 percent (n=14) males and 30 percent (n= 6) females participate in enrichment planting, 17 percent (n= 22) respondents comprising 68 percent (n=15) males and 32 percent (n= 7) females participate in seed collection. Generally, it was ascertained that participants were involved in multiple GFIP components and activities. Both men and women were involved in multiple activities under the GFIP, such as seed collection, seedling production and tree growing. This finding corroborates with Mwangi *et al.* (2008) that women engage in many forest activities, including; seedlings planting and beekeeping.

In all the components, males dominate except in alternative livelihoods where females were high, constituting 71 percent as shown in Figure 5.

The study found that men's participation was higher than women in all the components except alternative livelihood, where 71 percent of women participate than men. This could be because women are primarily responsible for household activities and engaging in activities that could contribute to livelihood support, hence their inability to make time for activities that are not close to their communities. Women cooking for forestry operational teams in many parts of the world offers them the opportunity to collect firewood (Agarwal, 2001; Gupte, 2004). The findings also align with Pandolfelli *et al.* (2007) and Besten (2011) assertion that women are often involved in forest management because they are mostly found collecting NTFPs for subsistence use.

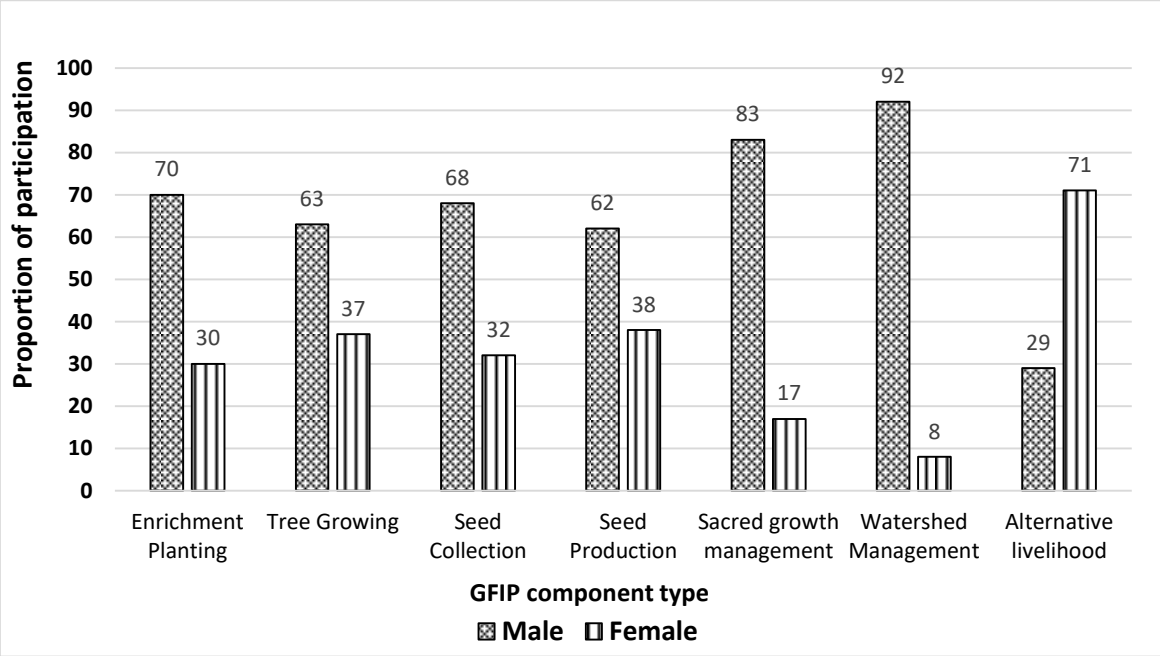


Figure 5 - GFIP components respondents are participating per gender
Source: Field data (2020)

The results show that a higher proportion of respondents (80%) asserted that men are more available and active in the GFIP project than females. Thus, it confirms Bolanos and Schmink (2005) statement that participation could be a burden for people, specifically women, who often perform household activities together with other duties.

Fifty-two percent (n=68) of the respondents made of 43 percent (n= 56) males and nine (9) percent (n= 12) females indicates that they have participated in the GFIP activities for over four years, 21 percent have participated for 2-3years, 15 percent for 1-2 years and only five (5) percent of respondents claimed that they had been involved in the GFIP for less than six (6) months. This implies that most community members have obtained enough knowledge about the district's GFIP activities due to the project's more extended period.

Respondents perception of gender group suitable for GFIP components and reasons

It was observed that the gender group suitable for participation in the various GFIP components differs from the gender division of labour and the module's nature. However, the study revealed gender dynamics regarding men and women engaged in the GFIP modules' activities. For seed collection, 67 percent (n=32) of respondents indicated that men perform this activity by climbing trees to collect seeds. Such a task is difficult for women. Nonetheless, 14 percent said women are also suitable for the task, while 19 percent said both genders could equally participate; while males climb trees to collect seeds, females also collect the seeds on the ground. The findings also

indicate that 80 percent (n=43) of the respondents stated that seedling production involves men and women. For these respondents, in this task, labour division is based on strength. Men do the most challenging tasks, such as land preparation, and the women fill poly sacks, transplanting, and other silvicultural practices. Also, 13 percent (n=7) stated that males are suited for this module because it is difficult for females to participate, and 7 percent (n=4) stated that only females are to participate because it is easy.

The studies established that 68 percent (n=39) of the respondents stated that both genders could effectively plant and maintain under the tree growing module. Whiles 32 percent (n=20) stated that it was a job for men stating that the task is challenging for women because it needs time and dedication and that men often own lands to engage in tree planting. Concerning the enrichment planting module, findings indicate that 49 percent (n=33) of the respondents indicated it to be a man's activity because it involves tedious tasks; 44 percent (n=30) of respondents believed that both men and women could participate in the activity. Only seven (7) percent (n=5) mentioned it was a female job for no apparent reason.

The majority of the respondents, constituting 53 percent, attributed watershed management module for men and women because both genders could participate actively if tasks are shared according to strength. For 47 percent, it is men's task because watershed activities such as weeding and crossing of rivers are challenging for women to perform; thus, men are suitable to perform this module.

A high proportion of the respondents (71%; n=45) stated Sacred Groove Management as a men's job because it is complicated for women, and

women are not permitted to enter sacred grooves. Twenty-eight percent of the respondents believed that both gender groups could undertake this task, and only one percent said it was a woman's task.

Under the Alternative livelihood component, only 26 respondents answered this question. The study shows that none of the respondents mentioned that it is only a men's job. However, a more significant number of 96 percent (n=25) of respondents asserted that alternative livelihood is for both genders; only one respondent indicated it was a women's task. With the 96 percent of respondents who were of the view that alternative livelihood is for both genders, the reasons were a) accessible for both genders to participate and could be done everywhere; b) helps to improve living conditions and a source of employment for both genders and c) source of additional income for both men and women.

Regarding which gender group mainly engaged in the overall GFIP project, 80 percent (n= 97) of respondents mentioned men, 17 percent (n= 21) said women, three (3) percent (n= 4) of the respondents were uncertain of the gender group primarily involved in GFIP project. The reasons for those who indicated men were i) men are available and can actively engage after receiving training; ii) men own most lands; iii) men in the leadership role often select the men; iv) women are not motivated to participate and v) women are not allowed to enter sacred groves. Nevertheless, the few respondents indicated that most women's participation also gave reasons that women are business-minded, primarily involved in honey and seedling production.

The study's findings revealed gender dynamics regarding men and women engaged in the GFIP modules' activities except for sacred grove

management, where no woman was seen to be involved. However, there was both men and women participation in the GFIP. Varghese and Reed (2012) study found that some forestry activities are gender-specific and may be male or female-dominated or suitable for both. According to Mwangi and Mai (2011), gender roles could be dynamic, and women can perform male activities. The forestry officials made similar observations of labour-intensive enrichment and tree planting, hence not suitable for women. Men participate in forest activities that require physical strength, such as tree planting, weeding, and protection (Oloruntoba & Adetokunbo, 2006). Men are often owners of lands and can therefore engage in tree planting. Marin and Kuriakose (2017, p. 2) revealed that lack of land ownership titles and formal tenure limit women's decision-making power over trees planted and the use of forest resources.

Factors that Influence Men and Women Participation in the Various Components of the GFIP Activities

The study revealed variations in the responses of males and females on the factors influencing their participation in the GFIP project. Apart from responses on the project complementing farming activities where a significant difference ($p=0.04$) was observed between the males and females, there was generally no significant difference ($p> 0.05$) between both genders concerning the factors influencing their participation in the GFIP project. The findings revealed that majority 80 percent (n=98) of respondents, constituting 59 percent (n=72) males and 21 percent (n=26) females, attested that livelihood benefits such as employment, financial assistance and alternative livelihood

influence men and women participation in the various components of the GFIP activities in the District. Nine (9) percent (n=11) males and three (3) percent (n=4) female respondents mentioned availability as the driving factor for them to engage in GFIP, whiles eight (8) percent were motivated to join because of environmental protection and the rest (3%) due to education and training (Table 6).

The findings that respondent ability to gain alternative livelihood constituted the lead factor for respondents (both men and women) to participate in GFIP and the fact that respondents mentioned conserving the environment as one of the reasons for participating in GFIP is in line with the assertion that both men and women engage in forest activities because of environmental concerns, livelihoods and NTFPs for the family (Reed & Varghese, 2007; Uliczka, Angelstam, Jansson, & Bro 2004; Mwangi *et al.*, 2008).

Table 6 - *Factors Influencing Male and Female Participation in the GFIP Project*

Factors	Gender	Yes	No	Total	P-value
Source of employment	Male	54	41	95	
		56.8%	43.2%	100.0%	0.582
	Female	18	17	35	
		51.4%	48.6%	100.0%	
Source of livelihood	Male	64	31	95	
		67.4%	32.6%	100.0%	0.448
	Female	26	9	35	
		74.3%	25.7%	100.0%	

Table 6 - *Continued*

Factors	Gender	Yes	No	Total	P-value
Complement farming activities	Male	31	64	95	0.038
		32.6%	67.4%	100.0%	
	Female	5	30	35	
		14.3%	85.7%	100.0%	
Introduced by a friend/family	Male	15	80	95	0.852
		15.8%	84.2%	100.0%	
	Female	6	29	35	
		17.1%	82.9%	100.0%	
Mitigation of climate change	Male	36	59	95	0.108
		37.9%	62.1%	100.0%	
	Female	8	27	35	
		22.9%	77.1%	100.0%	

Source: Field data (2020)

Effect of GFIP Activities on the Environment and Livelihoods

GFIP impacts on the environment

The findings indicate that communities are aware of GFIP impacts on the environment. The results show that 14 percent (n=16) of the respondents made of 12 percent (n= 13) males and two (2) percent (n= 3) females indicated that GFIP aids in the conservation of catchment areas of rivers, 20% mentioned climate change mitigation, whilst three (3) percent (n=4) males said controlling of erosion. Other environmental benefits mentioned included controlling the wind speed, rainfall formation, and restoration of forest cover (thus forest regaining its original status, increasing numbers of trees on farms, serving as shade and shelter) (Table 7), according to MLNR (2012, p. 39).

The study's findings revealed that GFIP impacts the environment by conserving catchment areas of rivers, restoring the forest quality, controlling

erosion and speed of the wind, and enhancing rainfall formation. MLNR (2012, p. 39) assertion that GFIP sub-projects sought to impact the environment by reforesting degraded forest reserves significantly and providing ecosystem services such as; conservation of biodiversity, regulation of water regimes and maintenance of erosion.

Table 7– *Respondents' Views on the Impact of GFIP on the Environment*

Impact of GFIP activities on the environment	Frequency and Percentage of Respondents		
	Male n(%)	Female n(%)	Total n(%)
Conservation of catchment areas of rivers due to watershed management.	13(12%)	3(2%)	16(14%)
Enhancement of climate change mitigation	21(19%)	1(1%)	22 (20%)
Erosion control.	4 (3%)	0(0%)	4 (3%)
Control speed of the wind due to tree planting.	9 (8%)	4 (3%)	13 (11%)
Increase in rainfall.	20(18%)	12(11%)	32(29%)
Forest regaining its original status thus increases trees in farms, serving as shade and shelter.	22(20%)	4(3%)	26 (23%)
Total	89(79%)	24(21%)	113 (100%)

Source: Field data (2020)

GFIP impacts on the respondents' livelihood

Livelihood benefits respondents have derived from participating in GFIP

The studies revealed that 39 percent, the majority, of the respondents, perceive the GFIP as an opportunity to train people to attain employment for the benefit of their families and the community at large, with the least being

one respondent indicating that the GFIP recently has been slow in its activities. Nonetheless, the majority of the males commended Forestry Commission and Government for this initiative. However, when respondents were questioned on the benefits they have derived from participating in GFIP, the findings indicate that 35 percent (n=45) respondents comprising 29 percent males and six (6) percent females attested that they had obtained source of employment, financial assistance and alternative livelihood, 15 percent (n=20) respondents made of 12 percent males and three (3) percent females assert that they have procured machinery (Tri-cycle "Aboboya", refrigerator) for the support of their other business and putting up their building. It was observed that 10 percent (n=14) respondents, including seven (7) percent males and seven (7) percent females, mentioned they have acquired training and have been educated through the GFIP, 26 percent (n=33) respondents with the majority 19 percent (n=22) being males stated of acquiring environmental benefits, 13 percent (n=16) respondents comprising nine (9) percent males and four (4) percent females mentioned that the GFIP help in the upkeep of their families. Only one male stated that through the GFIP, he has been able to save to further his tertiary education (Table 8). The implementation assessment findings align with the GFIP policy document that asserts that the GFIP project fosters gender mainstreaming by providing social benefits and skills transfer to local communities and providing full-time and seasonal jobs (MLNR, 2012, p. 39).

Table 8 - *Benefits Respondents Derived from Participating in GFIP*

Respondents Benefits	Gender		Total
	Male	Female	
Source of employment, financial assistance and alternative livelihood.	37 (29%)	8 (6%)	45 (35%)
Procured machinery for other business (Tri-cycle "Aboboya", refrigerator) and building purposes.	16 (12%)	4 (3%)	20 (15%)
Training and education.	7 (5%)	7 (5%)	14 (10%)
Environmental benefits.	22 (17%)	11 (9%)	33 (26%)
Saving to further education at the tertiary level.	1(1%)	0 (0%)	1 (1%)
Family upkeep	11 (9%)	5 (4%)	16 (13%)
Total	94 (73%)	35 (27%)	129(100%)

Source: Field data (2020)

Respondents earnings in a month for engaging in GFIP

The results revealed that respondents had benefited financially from participating in the GFIP activities. Out of the 130 respondents engaged in the study, the majority, 65% (n=85) respondents mentioned amounts ranging from GHC 100 – 499, 22% (n=28) respondents indicated GHC 500 – 1000, and 9% (n=12) respondents stated that they have not yet benefited financially in terms of physical cash (see Table 9). The results show that the primary reason for allowances payment not being consistent is because workers who participate in the GFIP activities are recruited on a contract basis. The findings that most respondents reported earnings in a month for engaging in GFIP that contribute to their livelihoods align with Bayrak & Marafa (2010) and Chhatre *et al.* (2012) studies REDD+ provides various livelihoods opportunities to forest-dependents communities, including financial assets.

Table 9 - *Range of Cash Earned by Respondents in a Month for Engaging in GFIP*

Amount Earned in a Month	Gender		Total
	Male	Female	
No cash yet	8 (6%)	4 (3%)	12 (9%)
GHC 50-99	1 (1%)	1(1%)	2 (2%)
GHC 100 – 499	63 (48%)	22 (17%)	85 (65%)
GHC 500 – 1000	20 (16%)	8 (6%)	28 (22%)
>GHC 1000	3 (2%)	0 (0%)	3(2%)
Total	95 (73%)	35 (27%)	130 (100%)

Source: Field data (2020)

Gender group with most financial benefit from engaging in GFIP and reasons

The findings indicated that when respondents were questioned on whether both gender benefit equally from engaging in GFIP, 78 percent (n=100) of respondents comprising 61 percent (n=78) males and 17 percent (n=22) females did not answer affirmatory (answered NO), only 22 percent (n=29) respondents comprising 12 percent (n=16) males and 10 percent (n=13) females answered affirmatory (answered Yes).

The majority of the respondents (85%) mentioned that males are financially rewarded for being actively involved and hardworking in the GFIP modules and dominating during training. For respondents who mentioned females, the majority (57%) indicated that females benefit most from seedling and honey production (see Table 10).

The findings that males are financially rewarded for reasons such as being actively involved and hardworking in the GFIP modules and dominate during training correspond with Marin and Kuriakose (2017, p. 3) assertion

that men perform high-value tasks to contribute to primary household income. Females benefit most in seedling, and honey production conforms to Mulyoutami *et al.* (2015) study that women are better at maintaining seedlings and producing better-quality seedlings than men.

Table 10 - *Respondents Views on Gender Group more Financially Rewarded by the GFIP and Reasons*

Gender Groups	Reasons	Respondents		
		Male	Female	Total %
Males	Actively involved and hardworking	88(68%)	29(17%)	117(85%)
	Male-dominated during training and in the farm	10(8%)	2(1%)	12(9%)
	Own majority of farms	3(2%)	3(2%)	6(4%)
	Females work effectively in seedling and honey production	2(1%)	0(0%)	2(1%)
	The amount for sales is the same, therefore shared equally	0(0%)	2(1%)	2(1%)
	Total	103(79%)	36(21%	139(100%)
Females	Actively involved and hardworking	0(0%)	3(2%)	3(26%)
	Females work effectively in seedling and honey production	2(1%)	0(0%)	2(18%)
	Female dominated in seedling and honey production	2(1%)	4(3%)	6(56%)
	Total	4(2%)	7(5%)	11(100%)

Source: Field data (2020)

Table 10 - *Continued*

Gender Groups	Reasons	Respondents		
		Male	Female	Total %
Both	The amount for sales is the same, therefore shared equally	3(2%)	4(3%)	7(71%)
	Depends on the amount of time and dedication placed in it	0(0%)	3(2%)	3(29%)
	Total	3(2%)	7(5%)	10(100%)

Source: Field data (2020)

Challenges that Affect Men and Women Participation and Means of Enhancing Local People Participation in the GFIP

Challenges facing women and men participation in GFIP and means of minimizing the challenges

The findings revealed that there are challenges affecting women and men who participate in the GFIP. From Figure 6, some challenges affecting men's participation in the GFIP project include but are not limited to i) lack of equipment (PPEs, boxes for honey and logistics) (16%), ii) low motivation (i.e., encouragement, incentives, startup capital and feeding allowances) and iii) bite from snakes and other wild animals (3%) (Figure 6). However, for challenges affecting women participation in the GFIP, the findings revealed a delay in payment of allowances forms the higher number (25%), iv) delay in the provision of seedlings (3%), v) Job is contract-based (6%), and vi) Some owners of farms along riversides, do not allow us to plant trees along the river bank (2%) (Figure 6). The forestry officials also observed similar findings,

reporting that the challenges affect both men and women participation in the various GFIP modules. These prevailing challenges show that MLNR (2014) findings that GFIP seeks to achieve, *'enhance the supply of important native tree species, providing incentives, employment opportunities and markets for native seed stock for communities and engage them in resource use decisions making and planting and preservation of native species* has not been fully met. This implies that the Forestry Commission and related institutions are not fully meeting the critical focus of GFIP.

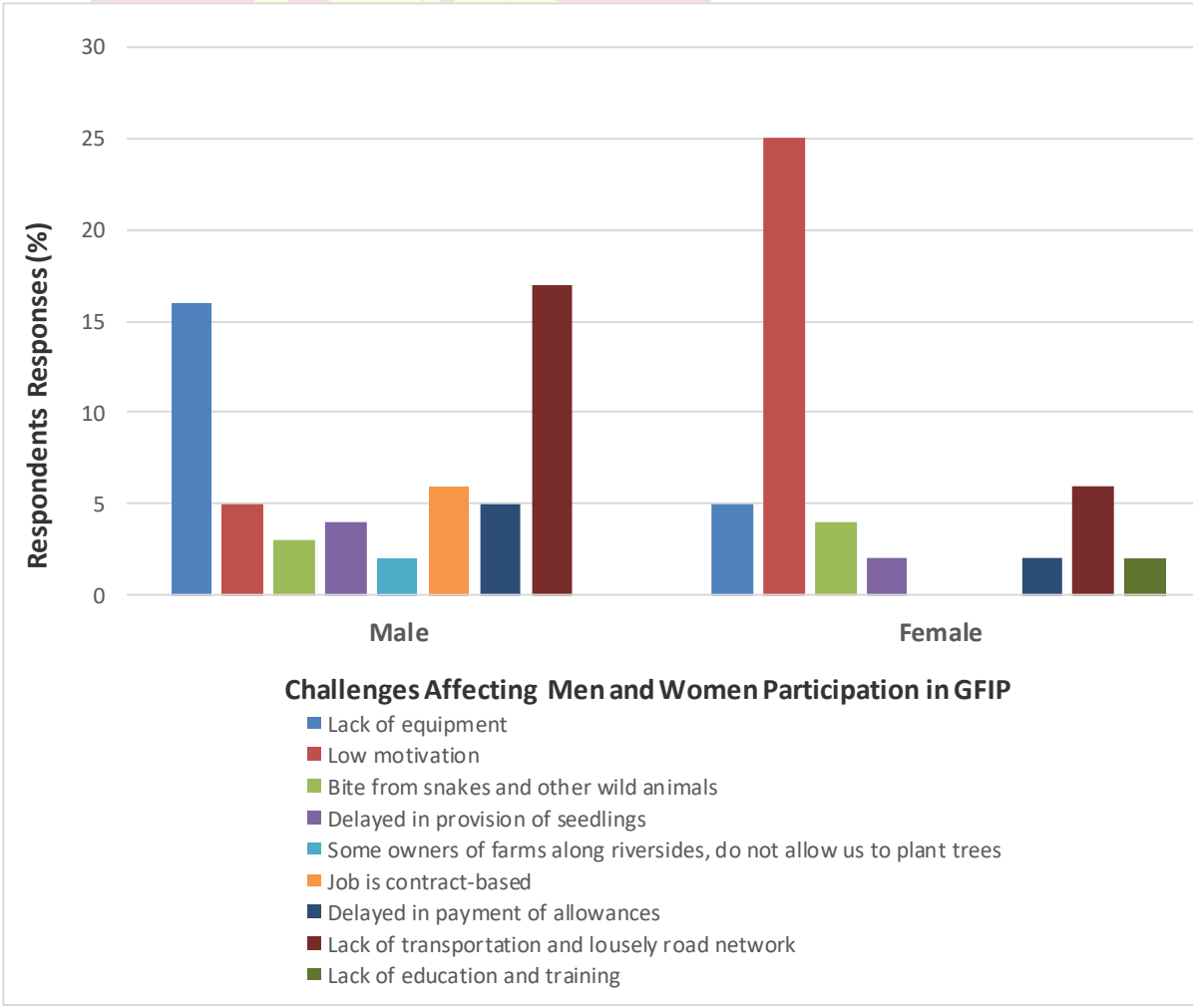


Figure 6 - Challenges affecting men and women participation in the GFIP
Source: Field data (2020)

Means of minimizing the challenges facing men and women participation in GFIP

The findings as indicated by respondents shows that GFIP challenges could be lessened by providing workers with working equipment (P.P.Es, boxes for honey and logistics) (16%), motivation (encouragement, incentives, startup capital and feeding allowances) (41%), paying workers allowances on time (25%), recruiting workers permanently and providing training and education on the GFIP activities to workers. Moreover, the Forestry Commission should provide seedlings on time to meet the required planting season and provide transportation and proper road networks access. The World Bank (2017) analysis shows that GFIP sought to provide seeds, equipment and financial incentives for most people, including women across the country, to develop forestry, agroforestry and alternative livelihoods activities. Thus, most of the challenges stated above by officials and project beneficiaries will be minimized when fully implemented. The finding is also in line with the FIP REDD+ final report (2016), which revealed that providing local communities with financial and learning resources through FIP Dedicated Grant Mechanism (DGM) will help support their FIP participation.

Forestry Officials Views on GFIP Activities in the District

The findings support MLNR (2014) assertion that GFIP activities sought to Reduce Emissions from Deforestation and Forest Degradation (REDD+) while reducing poverty and conserving biodiversity. The findings attested by the forestry officials in the Asankragwa district indicated that GIFP was implemented to improve forest management activities, restore degraded

forest land, improve and maintain REDD+ activities, enhances communities' members' participation in forest management and support poverty alleviation. The findings that GFIP enhances community members' participation in forest management in the District because GFIP targeted projects have contributed immensely towards community members' participation in forest management. Like MLNR (2014) revealed in the FIP project document, the GFIP targeted projects enhance local communities' engagement in REDD+.

From the Forestry officials, GFIP contributes to forest improvement in the District. Their reasons for making this assertion was that GFIP aids in protecting and planting trees in the District, supporting communities' members to acquire different skills, and serving as a form of poverty alleviation program. GFIP seeks to 'enhance the supply of crucial native tree species, providing incentives, employment opportunities and markets for a native seedling stock for communities, and engaging them in resource use decision-making, planting and preserving native species (MLNR, 2014).

However, the officials mentioned that GFIP obtains funding sources from donors like the World Bank and Ghana's government. The assertion is in line with MLNR (2012, 2014) assessment that GFIP obtains its funding sources from three Multilateral Development Banks (MDBs), including; World Bank (WB) and African Development Bank (AfDB).

When the forestry officials have questioned whether the GFIP project was sustainable, the results show that the officials answered affirmatory. Their reasons for making this assertion was that; (i) there has been a regular audit on GFIP the activities, (ii) funds are provided for the support of the project, (iii) community members' participation in the GFIP was high, and (iv) mostly

training for skills acquisition are provided. Thus, the project itself is sustainable. The findings resonate with GFIP project components, including; Policy Reforms and Institutional Strengthening, Pilot Investments for Improved Forest and Landscape Management, Innovation, Capacity Building, and Communications and Project Management, Monitoring and Coordination (MLNR, 2014).

The results revealed that all the forestry officials engaged in the studies stated no advertisement for a specific gender group to participate in the District's project. The findings that there is limited gender balance regarding the GFIP program in the District align with Forestry Commission (2016) observation that there are gender inequalities in the Ghana Forest Investment Program (GFIP). However, there is limited gender balance in the GFIP program because of women's overburdened household chores (lack of time) and low confidence. FIP document on the grant mechanism for local communities seeks to enhance gender equality (Climate Investment Fund, 2011). The REDD+ advocates gender mainstreaming, ensuring the effective participation of men and women in the project activities (Samndong & Kjosavik, 2017).

The officials suggested the following measures to ensure gender balance in the GFIP; (i) barriers that hinder women involvement in the GFIP should be removed by traditional authorities, (ii) Forestry Commission through Forest Services Division should make conscious efforts to recruit women in any forestry activities; (iii) education and training on GFIP activities should be provided to females to encourage females in the project communities; (iii) formation of women's (gender) clubs or groups within the

communities, (iv) women should be assigned activities that are not time-consuming and less tedious and (v) there should be access to nursery market, and quick and reliable payments of both men and women. The FIP policy document asserts that the FIP project fosters gender mainstreaming by providing social benefits and skills transfer to local communities, full-time and seasonal jobs (MLNR, 2012, p. 39).

According to the officials, both genders can equally perform some GFIP modules activities. However, some activities are not suitable for women and are male-dominated or considered men's jobs, such as enrichment planting, tree planting, and watershed management. Some rationale supporting the assertion includes the tasks being considered labour intensive, thus not suitable for women. Again, the nature of work, walking distances to be covered, the forest floor's thickness, shrubs removals and line cutting and canopy opening are challenging for women, thus discouraging women's participation. Sacred groove management mentions that females are less involved because of fear of cultural barriers and taboos. The results confirm some studies (Varghese & Reed 2012; Mwangi, 2011; Setyowati, 2012; Mwangi *et al.*, 2008) that forestry activities are not more suitable for males or females gendered division of labour and the physical nature of labour such as tree planting, weeding and protection whiles women engage in nursery activities, forest patrol and monitoring, beekeeping.

The forestry officials mentioned challenges affecting both men and women participation in the various GFIP modules as delays in payment of workers on time, limited access to quality seeds, delay in the supply of seedlings to meet desirable planting season, and limited financial support,

transport logistics and working tools and equipment. Besides the challenges affecting both genders, women's specific challenges included lack of adequate knowledge, cultural barriers, long walking distances, time constraints, and low remuneration, which constrain women's involvement in the GFIP project. According to Larson *et al.* (2015), women's and men's participation depends on their level of knowledge and awareness. Restraining women's knowledge affects their sense of inclusion in forest management decision-making. Varghese and Reed (2012) attested that social norms and rules of practice, and organizational cultures could reduce practical forestry activities.

From the officials, the following measures could minimize the challenges confronting men and women participation in the GFIP; (i) payment of workers promptly, (ii) creating communities awareness on the GFIP and intensified sensitization and education, (iii) seedlings must be accessible and should be delivered at the right time to meet the required raining season, (iv) provision of funds for the support of the project, (v) logistics, tools and equipment should be provided, (vi) women should be assigned activities that are not time-consuming and tedious, (vii) provision of small capital, free nursery tools and assurance of market, (viii) women should be involved in livelihood selection, (ix) The traditional authorities must abolish some of the cultural barriers such as taboos to ensure gender balance and improve on productivity, (x) seedlings production should be started early to meet the targeted end time or deadline.

Providing local communities with financial and learning resources through FIP Dedicated Grant Mechanism (DGM) will support local people's participation (REDD+ final report, 2016). GFIP could be improved by

providing incentives, knowledge, and farm equipment to local communities' members and involving them in benefits sharing from managing trees and forest mosaics within the broader landscape whiles enhancing co-benefits associated with increased tree cover and carbon sequestration (MLNR, 2014).

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This chapter covers the summary, conclusion, and recommendations of the study.

Summary

Both men and women play an active role in the implementation of GFIP modules in the study district. The Public Address Systems (Information Centre/Forestry) used by the District Forest Services Division is one key communication source that resulted in local people's in-depth knowledge of the GFIP. The study participants demonstrated diverse knowledge on what constitutes GFIP includes but is not limited to:

i. protection and reforestation to promote climate change and conserve forests,
ii. planting trees along river banks (catchment areas of Suree river)
iii. planting trees in cocoa farms as a form of shade for cocoa trees,
iv. training people in honey production and beekeeping
v. raising of seedlings to be planted in farms and forests.

The various GFIP components communities' members cited includes;

i. Seedling production,
ii. Trees on-farm (Agroforestry),
iii. Enrichment Planting,
iv. Watershed Management,
v. Sacred Groove Management and

vi. Alternative livelihoods

Concerning men and women participation and factors that influence their participation in the various components of the GFIP activities, the study found that many community members participate in the GFIP components. However, men participation was higher than in women. Both men and women were involved in multiple activities, with most respondents participating in GFIP activities for over four years. The study also established that communities' members participated in the GFIP project due to the five reasons below;

i. wanted to obtain a source of livelihood benefit,
ii. needed a job,
iii. wanted to engage in climate change and environmentally-friendly activities,
iv. complement farming activities and
v. because other people influenced them (friends, family members.

It was observed that seedlings production, watershed management, alternative livelihood, seed collection, tree growing and enrichment planting could be suitably performed by both gender groups, whiles sacred groove management is a male activity.

On the effect of GFIP on the environment and livelihoods, some environmental effects identified include;

i. conservation of catchment areas of rivers,
ii. controlling of climate change,
iii. controlling of erosion,

iv. controlling the speed of the wind,

v. promotion of rainfall formation and

vi. restoration of the forest.

The effects of GFIP on local people's livelihood include provision of; (i) financial assets (job opportunities, financial assistance), (ii) human assets (education and training), (iii) physical assets (machinery, e.g., Tri-cycle "Aboboya," refrigerator) to support other businesses and (iv) social assets (upkeep of families). This implies, GFIP is contributing to sustaining the livelihoods of forest fringe communities while addressing problems associated with deforestation and forest degradation in the Asankragwa Forest District.

The findings also revealed that similar challenges affect men and women participation in GFIP, including but not limited to: (i) inadequate equipment (PPEs, boxes for honey and logistics), (ii) delay in payment of workers allowances, (iii) low motivation (encouragement, incentives, start-up capital and feeding allowances) for workers, (iv) lack of transportation and lousy road networks and (v) limited education and training. For both the officials and community respondents, GFIP challenges could be minimized through the following means: (i) provision of workers with working equipment (PPEs, boxes for honey and logistics, safety boot) (ii) provision of motivation (encouragement, incentives, startup capital and feeding allowances), (iii) payment of workers allowances on time, (iv) recruiting workers permanently and (v) provision of training and education to workers on the GFIP activities.

Conclusions

The study sought to assess men and women's participation in GFIP activities, effects on environment and livelihood, and challenges thereof and means of overcoming them in the Asankragwa Forest District. The study found that both men and women are engaged in GFIP, thus disputing the gender inequality in forest management. Although efforts were made to ensure effective participation of both men and women in the GFIP, the study found that women participation in the Asankragwa Forest District was low compared to men. The study established that GFIP has a significant effect on the environment and local people livelihood, which includes; provision of job opportunities, provision of financial assistance, provision of alternative source of livelihood, restoration of degraded forest reserves, regulation of water regimes, maintenance of soil quality and limitation of erosion, regulation of climate and sequestration of carbon emission. Nevertheless, it was ascertained that there are challenges affecting men and women participation in GFIP in the district, which include limited working equipment, delay in payment of workers allowances, low motivation for workers, GFIP job on contract-based, inadequate transportation and lousy road networks, delay in the provision of seedlings for planting and limited education and training.

Recommendations

Based on the findings of the study, the following recommendations are presented:

1. In enhancing effective participation of women in GFIP in the Asankragwa Forest District, the study recommends that the Forestry

Commission in the District should; (i) involve women in decision making with regards to GFIP implementation, (ii) benefits sharing with regards to GFIP should equally be distributed to both men and women, (iv) assign supervision roles to women and give them activities or task according to their strength, and (iv) design public education and community sensitization programs to enlighten women on the essence of participating in the GFIP and benefits thereof for women.

2. In reducing the various challenges affecting men and women participation in GFIP in the district, the study recommends that the Forestry Commission in Ghana should ensure prompt payment of workers allowances, supply working equipment to workers, supply planting seedlings on time, motivate workers, provide transport vehicles to convey workers to work.
3. The study recommends that similar studies be conducted in the various GFIP forest districts to assess the gender status for informed policy decisions to implement the country's recommendations.
4. Traning of the Forestry Commission staff and other institutions in mainstreaming gender in forestry-related activities, especially collection of gender disaggregated data for all programmes, is recommended.

REFERENCES

Agarwal, B. (2001). Participatory exclusions, community forestry, and gender: An analysis for South Asia and a conceptual framework. *World Development, 29*, 1623-1648.

Agrawal, B., Yadama, G., Andrade, R., & Bhattacharya, A. (2006). Decentralization, community, and environmental conservation: joint forest management and effects of gender equity in participation. *Collective Action and Property Rights (CAPRi) Working Paper*, *63* 671- 691. Washington, D.C., USA: International Food Policy Research Institute.

Agarwal, B. (2007). *Gender inequality, cooperation, and environmental sustainability. Inequality, cooperation, and environmental sustainability*. New York, New York, and Princeton, New Jersey, USA: Russell Sage Foundation and Princeton University Press.

Agarwal, B. (2009). Gender and forest conservation: The impact of women's participation in community forest governance. *Journal of Ecological Economics*, *68*(11), 2785–2799.

Agarwal, B. (2010). *Gender and green governance: the political economy of women's presence within and beyond community forestry*. New York, USA: Oxford University Press.

Aguilar, L., Quesada-Aguilar, A., & Shaw, D. M. P. (2011). *Forests and gender*. Gland, Switzerland: IUCN.

Arnstein, S. (1969). A ladder of citizen participation. *Journal of the American Planning Association, 35(4),* 216–24.

Asiedu, S. (2018). *Gender relations in cocoa and oil palm value chain collaboration in the Ahafo-Ano North and Kwaebibirem Districts of Ghana*. Unpublished masters' thesis submitted to University of Energy and Natural Resources.

Acharya, K. P., Gentle, P. (2006). Improving the effectiveness of collective action: sharing experiences from community forestry in Nepal. Collective Action and Property Rights (CAPRi) Working Paper No. 54. *International Food Policy Research Institute, Washington, D.C., USA*

Bayrak M. M., & Marafa, L. M. (2010). Review of ten years of REDD+: A critical review of the impact of REDD+ on Forest-Dependent Communities. *Journal of Environmental and Sustainability, 2*(10), 111- 231

Beaujon, A. M., & Kuriakose A. T. (2017). Gender and sustainable forest management: entry points for design and implementation. *Climate Investment Funds, 7*, 1-20.

Besten, J. W. (2011). Women in REDD+. In Loreta Aquilar, Forests and Gender New york IUCN, 32-33.

Beth, M. W. (2015). *Factors influencing community participation in forestry conservation projects: A case of Kithoka-Twajai forest community-based organization, Meru county Kenya.* Unpublished masters' thesis submitted to University of Nairobi.

Blackstone, A. (2003). Gender Roles and Society. *in Human Ecology: An Encyclopedia of Children, Families, Communities, and Environments*, Pp 335-338

Bolanos, O., & Schmink, M. (2005). *Women's place is not in the forest. The equitable forest: Diversity, community and resource management*. Bogor, Indonesia: CIFOR.

Brandth, B., Follo, G., & Haugen, M. S. (2004). Women in forestry: dilemmas of a separate women's organization. *Scandinavian Journal of Forest Research*, *19*(5), 466–472.

Butardo-Toribio, M., & Balicao, E. (2011). *Gender and tenure in the Philippines.* Philippines: Ultimate Press.

Chambers, R., & Conway, G. (1992). Sustainable rural livelihoods: Practical concepts for the 21st century. *IDS discussion paper*, 296.

Chhatre, A., Lakhanpal, S., Larson, A. M., Nelson, F., Ojha, H., & Rao, J. (2012). Social safeguards and co–benefits in REDD+. *A review of the adjacent possible, 4*, 654–66.

Climate Investment Funds (2009). *Forest investment programme design document for the forest investment program: A targeted program under the SCF Trust Fund*. Accra Ghana: Climate Investment Funds.

Climate Investment Funds (2011). *Design for the dedicated grant mechanism for indigenous peoples and local communities to be established under the Forest Investment Program*. Accra Ghana: Climate Investment Funds.

Climate Investment Funds (2014). *The experience of the forest investment program in channelling multilateral funding.* Durban, South Africa: Climate Investment Funds.

Colfer, C. J. P., & Minarche, K. R. D. (2013). Introducing 'the gender box': A framework for analyzing gender roles in forest management. *International Forestry Review, 15*(4), 411-425.

Colfer, C. J. P. (2013). *The gender box: A framework for analyzing gender roles in forest management.* Bogor, Indonesia: Center for International Forestry Research.

Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches* (3rd ed.). Thousand Oaks, CA: Sage Publications.

Daly, Y. (2017). Generating best evidence from qualitative research: the role of data analysis. *Scientific Research Journal, 6*(17), 14-26.

Davidson, P., & Black, R. (2001). Women in natural resources management: finding a more balanced perspective, *Society and Natural Resources, 14*(8), 645–656.

De Vaus, D. A. (2014). *Surveys in social research* (6th ed.). Australia: UCL Press.

Doss, C. R., & Morris, M. L. (2001). How does gender affect the adoption of agricultural innovations? The case of improved maize technology in Ghana. *Journal of Agricultural Economics, 25*(1), 27–39.

Elias, M. (2016). Gendered Knowledge Sharing and Management of Shea: Vitellaria Paradoxa in Central-West Burkina Faso. *Journal of Ecological Economics, 20*(9), 42-172

Etzel, M. (2010). *Advanced research methodology*. New Jersey, USA: Prentice-Hall Publications.

FAO. (2000). On definitions of forest and forest change, *Working Paper 33, Forest Resources Assessment Programme, Rome, Italy*.

FAO. (2004). Global forest resources assessment update 2005, terms and definitions. *Working Paper 83, Forest Resources Assessment Programme, Rome, Italy.*

FAO. (2007). Mainstreaming gender in forestry in Africa. *Regional Report, 22*(3), 122-312. Rome, Italy.

FAO. (2007). Livelihoods assessment and analysis: introduction to livelihoods. *Learner's Notes*. United Nations.

FAO. (2013). Forests, food security and gender: Linkages, disparities and priorities for action. *Background paper for the International Conference on Forests for Food Security and Nutrition*. Rome: FAO.

FAO. (2006). Global forest resource assessment 2005-Progress towards Sustainable forest management. *Journal of Forest Policy and Enviromironmental Studies, 2*(6), 98-101.

FAO (2010). Global forest resources assessment 2010, *Main report, FAO Forestry Paper* 163. Rome.

FAO. (2016). How to mainstream gender in forestry? A practical field guide, gender, and forestry, United Nations. *Journal of Ecological Economics, 24*(3), 63–98.

Foley J. A., DeFries R., & Asner G. P. (2005). Global consequences of land use. *Science, 30*(9), 570-574.

Forest Investment Programme. (2012). Investment plan for Burkina Faso; Istanbul: Climate Investment Funds. Ministry of Environment and Sustainable Development. *Journal of Forest Policy and Economics, 2*(12), 32 – 78.

Forest Investment Plan Project Appraisal Report (2013). Gazetted forests participatory management project for REDD+ (PGFC/REDD+) Burkina Faso. *Journal of Forest Policy and Economics*, *32*(12), 233-245.

Forest Investment Program Ghana (2016). *Public-private partnership for the restoration of degraded forest reserve through VCs and FSC certified plantations*. Accra, Ghana: African Development Fund. pp 1-22.

Forestry Commission (2016). Ghana REDD+ Strategy report. *Environmental and Social Management Framework*, *5*, 5- 34.

Forestry Commission Info-sheet. (2020). The Asankragwa Forest Service Division (unpublished). *District Official Report*, 1- 4.

Fullerton, M. (2006). Gender structures in forestry organizations: Canada, in Time for Action: Changing the Gender Situation in Forestry, UNECE/FAO Team of Specialists on Gender and Forestry (Ed.). *Food and Agriculture Organization of the United Nations, Rome, Italy*.

Ghana Statistical Service (2010). 2010 Population and Housing Census. *National Analytical Report, 2014*.

Gherardi, S., & Poggio, B. (2001). Creating and recreating gender order in organizations. *Journal of World Business*, *36*(3), 245–259.

Guido, B., & Wit, M. (2014). *Linking FLEGT and REDD+ to improve forest governance*. Wageningen, The Netherlands: Tropenbos International.

Gupte, M. (2004). Participation in a gendered environment: The case of community forestry in India. *Journal of Human Ecology, 32*(3), 365–382.

Gurung, J., Giri, K., Setyowati, A. B., & Lebow, E. (2012). *Getting REDD+ right for women: an analysis of the barriers and opportunities for women's participation in the REDD+ sector in Asia*. Washington, DC, USA: United States Agency for International Development.

Guzura, T. (2017). An overview of issues and concepts in gender mainstreaming. *Afro Asian Journal of Social Sciences, 8*(1), 2229-5313.

Halvorsen, K. E. (2001). Relationships between national forest system employee diversity and beliefs regarding external interest groups. *Journal* of *Forest Science*, *47*(2), 258–269.

Haralambos, M., & Holborn, M. (2004). Sociology: Themes and perspectives. *Ecology and Sociology Journal, 2*(4), 31-43.

Himberg, N., Omoro, L., Pellikka, P., & Luukkanen, O. (2009). The benefits and constraints of participation in forest management. The case of Taita Hills, Kenya. *Fennia, 187*(1), 61–76.

Ifegbesan, A., P., Annegarn, H. J., Pendlebury, S., & Rampedi, I. T. (2016). Gender relationships in forest resource utilization and conservation in Nigeria: Implications for environmental sustainability. *Gender and Behaviour*, *14*(1), 6996-7010.

International Labour Organization (2012). Rapid assessment of alternative or additional livelihood for cocoa farmers in the western region of Ghana. *Final report, 1*, 19 - 25.

International Tropical Timber Organisation (2005). Revised ITTO criteria and indicators for the sustainable management of tropical forests reporting

format. *ITTO, Policy Development Series, 15*, 18-27. Yokohama, Japan.

IPCC (2007). *Climate change mitigation: Contribution of working group III to the fourth assessment report of the intergovernmental panel on climate change*. Cambridge: Cambridge University Press.

IPCC (2014). Summary for policymakers. In: *Climate change: Impacts, adaptation, and vulnerability*. Cambridge, United Kingdom and New York, NY, USA: Cambridge University Press.

Johnson, B., & Christensen, L. (2012). *Educational research, qualitative, quantitative and mixed approach* (4th ed.). California: SAGE Publication.

Karcher, S. C., VanBriesen J. M., & Nietch. C.T. (2013). Alternative land-use method for spatially informed watershed management decision making using SWAT. *Journal of Environmental Energy, 139(12),* 1413-1423.

Kawulich, B. B. (2004). Data Analysis Techniques in Qualitative Research. In Darla Twale (Ed.). *Journal of Research in Education, 14(1),* 96-113.

Khadka, M., Karki, S., Karky, B. S., Kotru, R., & Darjee, K. B. (2014). Gender equality challenges to the REDD+ initiative in Nepal. *Mountain Research and Development*, *34*(3), 197–207.

Khamati-Njenga, B., & Clancy, J. (2003). *Concepts and issues in gender and energy*. Retrieved on 13th October 2020 from https://www.researchgate.net/publication.

Kristjanson, P., Siegmann, K., Afif, Z., Manchester, K., & Gurung, J. (2018). Enhancing effectiveness of forest landscape programs through gender-responsive actions. Lessons for gender-responsive landscape

restoration. *Brief paper, Human Ecology and Conservation, 12*(2), 17–39.

Larson, A. M. T., Dokken, A., Duchelle, E., Atmadja, S., Resosudarmo, I. A. P., Cronkleton, P. Cromberg, M. Sunderlin,W. Awono, A., & Selaya, G. (2015). The role of women in early REDD+ implementation: lessons for future engagement. *International Forestry Review*, *17*(1), 3-44.

Leedy, P., & Ormrod, J. E. (2014). *Practical research planning and design.* (10th ed.). Edinburgh: Pearson Educational International.

Macharia, B. W. (2015). Factors influencing community participation in forestry conservation projects: a case of Kithoka - Twajai forest community-based organization, Meru county Kenya. Master's thesis. University of Edinburgh.

Madi, O. P., Peltier, R., Balarabe, O., Ntoupka, M., & Sibelet, N. (2010). Should North Cameroon's acacia plantations be abandoned or extended. It all depends on development of the Arabic gum market chain. *Bois et forest des tropiques, 306*, 57–70.

McMillan, J. H., & Schumacher, S. (2001). Research in Education. A Conceptual Introduction (5th ed.). New York: Longman.

Meinzen-Dick, R., Brown, L. R., Feldstein, H. S., & Quisumbing A. R. (1997). Gender, property rights, and natural resources. Food Consumption and Nutrition Division International Food Policy. Research Institute, N.W. Washington, D.C.

Ministry of Lands and Forestry. (2017). Forest investment program for Rwanda. *Environmental Management, Science and Engineering for Industry*, *34*(11), 13 -68.

Ministry of Lands and Natural Resources. (2011). *Revised forest and wildlife policy of Ghana*. Accra: Ministry of Lands and Natural Resources.

Ministry of Lands and Natural Resources. (2012). *Ghana Investment Plan for the Forest Investment Program (FIP).* Accra, Ghana: Climate Investment Funds Forest Investment Program.

Ministry of Lands and Natural Resources (2014). Forest Investment Programme (FIP) - Enhancing carbon stocks in natural forests and agroforest landscapes, environmental and social management framework. *Draft Final Report*, 9-122. Ghana.

Ministry of Lands and Natural Resources. (2018). Forest Investment Programme (FIP) - Enhancing natural forests and agroforest landscapes. *Updated Environmental and Social Management Framework*, 223-342.

Miller, C. M. (2016). Gender Development, Theories of. Arizona State University. *2*(16), 162-181.

Moore, L. J. (2009). *Killer sperm: masculinity and the essence of male hierarchies, reconceiving the second Sex: Men, masculinity, and reproduction*. New York: Berghahn.

Morse, J. M., & Niehaus, L. (2009). *Mixed method design: Principles and procedures*. Walnut Creek, CA: Left Coast Press.

Morrison-Métois, S., & Lundgren, H. (2016). *Forests and sustainable forest management: Evaluation of evidence on addressing deforestation to*

Reduce CO_2 Emissions. London: OECD DAC Network on Development Evaluation Secretariat.

Muhammad, S., & Kabir S. (2016). Sample and sampling designs, Example of cognitive pretesting the Exercise Referral Quality of Life Scale (ER-QLS). *International Journal of Social Research Methodology*, *2*(16), 168-181.

Mukadasi, B., & Nabalegwa, M. (2007). Gender mainstreaming and community participation in plant resource conservation in Buzaya county, Kamuli district, Uganda. *African Journal of Ecology, 45*(7), 7-12.

Mukoni, M. (2015). Traditional gender roles of men and women in natural resource conservation among the Vhavenda people in Zimbabwe: Implications for sustainable development. *International Journal of Humanities and Social Science, 4*(1), 76-84.

Mulyoutami, E., Roshetko, J. M., Martini, E., Awalina, D., & Janudianto (2015). Gender roles and knowledge in plant species selection and domestication: A case study in South and Southeast Sulawesi. *International Forestry Review*, 17(4), 99-111.

Mwangi, E., & Mai, Y. H. (2011). Introduction to the special issue on forests and gender. *International Forestry Review*, *13*(2), 11-97.

Mwangi, E., Meinzen-Dick, R., Sun, Y., Banana, A., Leon, R., Merino, L., & Ongugo, P. (2008). Does Gender Influence Forest Management: Exploring Cases from East Africa and Latin America. *Paper Presented at the 12th Biennial Conference of the International Association for the Study of Commons, Cheltenham, England.*

Pandolfelli, L., Meinzen-Dick, R., & Dohrn, S. (2007). Gender and collective action: a conceptual framework for analysis. *Collective Action and Property Rights (CAPRi) Working Paper, 64*, 32–96. Washington, D.C., USA: International Food Policy Research Institute.

Phiri, M. (2009). Evaluation of the performance of Joint Forest Management (JFM) Programme: Case of Dambwa forest reserve in Livingstone district, Zambia. *Forest Ecology and Management, 12*(5), 3-18.

Ping, L. (2011). Women's tenure rights in China. *Tropical Forest Update 20*(4), 15–16.

Pratiwi, R. D., Nurhaeni, I. D. A., & Kartono, D. T. (2018). Gender responsiveness in forest management towards sustainable development. *E3S Web of Conferences, 74*, 343- 411.

Ramcilovic-Suominen, S., Gritten, D., & Saastamoinen, O. (2010). Concept of livelihood in the FLEGT voluntary partnership agreement and the expected impacts on the livelihood of forest communities in Ghana. *International Forestry Review*, *12*(4), 361- 422.

REDD+ Final Report. (2016). Participatory self-assessment and synthesis of Ghana's REDD+ readiness process (R-package). *Conservation and Sustainability Journal, 12* (3), 318–491.

Reeves, H., & Baden, S. (2000). Gender and development: Concepts and definitions. *Prepared for the Department for International Development (DFID) Report, 55*, 14–32.

Reed, M. G. (2008). Reproducing the gender order in Canadian forestry: The role of statistical representation. *Scandinavian Journal of Forest Research, 23*(8), 78–91.

Richardson, K. (2011). Constraints to participation in Canadian forestry advisory committees: A gendered perspective. *Canadian Journal of Forest Research*, *41*(3), 524–532.

Sallah, F. D. (2018). The influence of human resource planning on organizational performance: Case study of Ministry of Food and Agriculture, Ghana. *Conservation and Sustainability Journal*, *24*(3), 283–310.

Samndong, R. A., & Kjosavik, D. J. (2017). Gendered forests: exploring gender dimensions in forest governance and REDD+ in Équateur Province, Democratic Republic of Congo (D.RC). *Ecology and Society Journal*, *22*(4), 34.

Sarin, M. (2000). *Should I use my hands as fuel? Institutions, relations, and outcomes: A framework and case studies for gender-aware planning*. London: Zed Books.

Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research methods for business students* (6th ed.). London: Pearson Education Limited.

Schulze, M. (2003). *Ecology and behavior of nine timber tree species in Pará, Brazil: Links between species life history, forest management and conservation*. Unpublished doctoral dissertation submitted to Pennsylvania State University, Pennsylvania, USA.

Setyowati, A. (2012). Ensuring that women benefit from REDD+, Unasylva. *International Journal of Forestry Research*, *63*(1), 239-345.

Shackleton, C. M., & Shackleton, S. E. (2004). The importance of non-timber forest products in rural livelihood security and as safety nets: Evidence from South Africa. *South African Journal of Science*, *100*(4), 658-664.

Shackleton, S., Paumgarten, F., & Kassa, H. (2011). Opportunities for enhancing poor women's socioeconomic empowerment in the value chains of three African non-timber forest products (NTFPs). *International Forestry Review*, *13*(2), 136–151.

Singh, S., Youssouf, M., Malik, Z. A., & Bussmann, R. W. (2017). Sacred Groves, Myths, Beliefs, and Biodiversity Conservation: A Case Study from Western Himalaya, India. *International Journal of Ecology*, 6(17), 1-12.

Sunam, R. & McCarthy, J. F. (2010). Advancing Equity in Community Forestry: Recognition of the Poor Matters. *International Forestry Review*, *12*, 370-382.

Tindall, D. B. (2003). Social values and the contingent nature of public opinion and attitudes about forests. *Forestry Chronicle, 79(3)*, 692–705.

Torri, M. C. (2010). Power, structure, gender relations and community-based conservation: the case study of the Sariska Region, Rajasthan, India. *Journal of International Women's Studies, 11(4)*, 1-18.

Tropenbos International (2010). Timber legality, local livelihoods, and social safeguards: implications of FLEGT/VPA in Ghana. *Proceedings of an international workshop held in Accra*, 453-445.

Tyagi, N., & Das, S. (2017). Gender mainstreaming in forest governance: Analyzing 25 years of research and policy in South Asia. *International Forestry Review*, *19*(17), 234-244.

United Nations (1995). *Adopted by the fourth World Conference on Women: The Beijing Declaration and platform for action*. New York, NY: United Nations.

United Nations (2005). Millennium development goals report. *International Journal of Human Ecology and Development*, *1*(2), 1-25.

Uliczka, H., Angelstam, P., Jansson, G., & Bro, A. (2004). Nonindustrial private forest owners' knowledge of and attitudes towards nature conservation, Scandinavian. *Journal of Forest Research*, *19(3)*, 274-288.

United Nations (2016). Economic and Social Council. Mainstreaming of the three dimensions of sustainable development throughout the United Nations system. United Nations.

Varghese, J., & Reed, M. G. (2012). Theorizing the implications of gender order for sustainable forest management. *International Journal of Forestry Research*, *2*(1), 1-11.

Watkins, C. A. (2009). Natural resource use strategies in a forest-adjacent Ugandan village. *Journal of Human Ecology*, *37*(6), 723-731.

Wellstead, A. M., Stedman, R. C., & Parkins, J. R. (2003). Understanding the concept of representation within the context of local forest management decision making. *Forest Policy and Economics*, *5*(1), 1-11.

Westholma, L., & Arora-Jonsson, S. (2014). Defining solutions, finding problems: Deforestation, gender, and REDD+ in Burkina Faso. *Conservation and Society*, *13*(2), 189-199.

Wiersum, F., & van Oijen, D. (2010). *Implementing FLEGT: Impacts on local people.* Wageningen, the Netherlands: Wageningen University and Research Centre.

World Bank (2006). Approaches to private participation in water services. *International Journal Social Science*, *6*(2), 141- 241.

World Bank (2009). Rights forests and climate briefing series. The World Bank's Forest Investment Programme (FIP): Core elements and critical issues. *Forest people programme,* 13- 21. Fosseway Business Centre, Moreton.

World Bank (2015). *Ghana - Forest Investment Program: Enhancing natural forest and agroforest landscapes project*. Accra, Ghana: World Bank.

World Bank (2017). Gender-focused portfolio review of forest projects for the environment and natural resources program on forests. *PROFOR of the World Bank,* 1-35.

APPENDICES

Appendix 1 - *Questionnaire For Farmers/Community Members*

CSIR COLLEGE OF SCIENCE AND TECHNOLOGY

GENDER PERSPECTIVE OF THE GHANA FOREST INVESTMENT PROGRAMME

IN THE ASANKRAGWA FOREST DISTRICT

QUESTIONNAIRE FOR FARMERS/COMMUNITY MEMBERS

Dear Respondent,

This questionnaire is toward research being conducted as part of the requirements for awarding an MPhil in Climate Change and Integrated Natural Resource Management

This research aims to assess the gender perspective of the impact of the Ghana Forest Investment Programme in the Asankragwa Forest District.

I would be glad if you could respond to the questions outlined below. Your answers to the questions would be kept confidential. Please be as frank and accurate as possible. Thank you.

PARTICIPANT CONSENT

(For Participants Who Read Themselves)

I…….. has agreed to participate in this study by answering the enquiries in this questionnaire. I have understood clearly the nature of the study and hence agree to participate.

…… ……

Signature of Participant Date

(For Participants to whom the Study was explained)

I …….. has explained the questionnaire to ……...…….in the ……. Ghanaian language. The participant has agreed to participate in this study willingly.

……. …….

Signature OR Thumb Print of Participant Date

……. …….

Signature of Person who interpreted to Respondent Date

Principal Investigator: Frank Adomako-Kwabia (Contact: 0246355220)

District……..**Name of Community**……..

A. PERSONAL DETAILS

1. Name of respondent……

Phone contact……...

2. Gender 1. Male [ ] 2. Female [ ]

3. What is your age ( )? Less than 20 [ ] 20-24 [ ] 25 – 29 [ ]

30 – 34 [35-39 [ ] 40 - 44 [ ] 45 – 49 [ ] 50 – 60 [ ]

Above 60 [ ]

4. What is your level of education? 1. No Education [ ] 2. Primary [ ]

3. JHS/Middle Sch [ ] 4. Secondary [ ] Tertiary [ ]

5. What is your full-time or main occupation (Specify)?

Forest-based [ ]

Non-forest and Agricultural based [ ]

Agricultural based [ ]

6. Which kind of forest-based occupation are you involved in?

Seed collection [ ] Seedling Producer [ ] Tree Plantation owner [ ]

Plant trees on farms [ ] NTFP Collection [ ] Hunting [ ] Others ……

7. Origin Migrant [ ] Indigene [ ]

B. GENERAL KNOWLEDGE ABOUT THE GHANA FOREST INVESTMENT PROJECT (GFIP)

8. Have you heard about the GFIP project[1]? (This is to be explained to them in their most convenient language or terminology.

   1) Yes 2) No

9. If 'Yes, where did you hear it?

   1) Media (Radio, TV, Print) 2) Public Address Systems (Information Centre/Forestry Commission) 3) From a family member/Family 4) Other……

   D) Others (please specify) ……

10. When did you hear about this project?

    1) 0 to 6 months 2) 7 to 12 months 3) 1 to 2 years 4) 2 to 3 years 5) >3 yrs

11. What did you hear about the GFIP?.....

……

[1]

C. PARTICIPATION IN THE GFIP

12. Why did you join the GFIP, or what motivated you to join the GFIP?

(1) Because I needed a job [ ]

(2) source of livelihood [ ]

(3) I am already involved in Farming Activities [ ]

(4) A friend/family is involved, and so he/she encouraged me to do the same []

(5) I wanted to help in Climate Change and Environmentally-friendly activities [ ]

(6) Others……

13. How did you get involved or recruited to join GFIP?

……

……

……

14. Which GFIP Modules are you participating?

(1) Seed Collection

(2) Seedling Production

(3) Tree Growing

(4) Enrichment Planting

(5) Watershed Management

(6) Sacred Groove Management

(7) Alternative Livelihoods

15. What specific roles or activities are you engaged in the GFIP module you undertake?

GFIP Module	**Specific activities you undertake within the GFIP module**
Seed Collection	
Seedling production	
Tree growing	
Enrichment planting	
Watershed Management	
Sacred groove management	
Alternative livelihoods	

16. Which gender is most suited for the following GFIP modules? And why?

1) Males 2) Females 3) Both Gender

GFIP Module	**Gender**	**Why**
Seed Collection		
Seedling production		
Tree growing		
Enrichment planting		
Watershed Management		
Sacred groove management		
Alternative livelihoods		

17. How long have you been involved in the GFIP?

1) < 6 months 2) 7 to 12 months 3) 1 to 2 years 4) 2 to 3 years 5) >4 yrs

18. Having been involved in the GFIP programme, which gender is more involved in the project?

1) Females 2) Males 3) Not sure

19. Reason for your choice……

……

20. From your estimation, what is the relative proportion or percentage of men and women involved in the GFIP in your community?

1) Females…….. 2) Males…… 3) Not sure……

21. From your view, what influences the participation of men and women in GFIP modules or activities?

……

……

……

D. IMPACT OF GFIP ON LIVELIHOODS

22. What benefits have you derived from participating in GFIP?

……

……

……

23. Has your involvement in the GFIP been financially rewarding for you & your family? 1) Yes 2) No 3) Not really

24. Please give reasons for your choice of response, i.e. yes or no, to question 23……

……

25. About how much do you earn in a month from your involvement in GFIP?

1) < GHC 50 2) GHC 50-99 3) GHC 100 – 499 4) GHC 500-1000 5) > GHC 1,000

26. Do men and women benefit equally from engagement in GFIP?

1) Yes [ ] 2) No [ ]

27. Which GFIP more financially rewards gender groups and why?

1) Males [ ] 2) Females [ ] 3) Both [ ] 4) I cannot tell [ ]

Why?……

……

……..

E. CHALLENGES/CONSTRAINTS TO MEN AND WOMEN PARTICIPATION IN GFIP

28. What challenges do **MEN** face with their involvement in the GFIP? What can be done to minimize challenges?

Challenges	**Recommendation for reducing challenges**

29. What challenges do **WOMEN** face with their involvement in the GFIP?

Challenges	**Recommendation for reducing challenges**

F. RECOMMENDATIONS & MEASURES FOR EFFECTIVE INVOLVEMENT OF both men and women GFIP

30. What do you think must be done to ensure both genders participate fully in the GFIP?

……

……

……

31. If we want more **women** to be involved in the GFIP, what measures should be implemented?

……

……

……

……

Enumerator's Contact ……

Appendix 2 - *Questionnaire for GFIP Managers and other Workers*

CSIR COLLEGE OF SCIENCE AND TECHNOLOGY SURVEY ON GENDER PERSPECTIVE OF THE GHANA FOREST INVESTMENT PROGRAMME IN THE ASANKRAGWA FOREST DISTRICT

QUESTIONNAIRE FOR GFIP MANAGERS AND OTHER WORKERS

INTRODUCTION

This research aims to assess the gender perspective of the impact of the Ghana Forest Investment Programme in the Asankragwa Forest District as a case study. This will lead to forest improvement and sustainability. This data is purposely for academics. I would be glad if you could respond to the questions outlined below. Your answers to the questions would be kept confidential. Thank you.

Name of district/Municipality.....

A. PERSONAL INFORMATION

1. Gender Male [ ] Female [ ]
2. Age i) 15-25 [ ] ii) 26-35 [ ] iii) 36-45 [ ] iv) 45^{+} [ ]
3. Educational Background:
   a. Primary [ ]
   b. JHS [ ]
   c. SHS [ ]
   d. Tertiary [ ]-Certificate [ ] Diploma [ ] BA/BSc [ ] MA/MHIL/MSc [ ] PhD [ ]

4. Rank:

a. District Manager [ ]

b. Assistant District Manager [ ]

c. Range supervisor [ ]

d. Forest guard [ ]

e. Other (Specify) [ ]

B. STAFF WORK EXPERIENCE

5. The number of years in position? .....

6. The total number of years in service? ……

7. What role do you perform on the GFIP? ……

C. GENERAL KNOWLEDGE ABOUT GFIP AND MANAGEMENT

1 What is the purpose of GFIP in Ghana? [multiple responses]

a. To improve forest management [ ]

b. To plant trees in deforested areas [ ]

c. To improve and maintain REDD+ activities [ ]

d. To involve community members in the management of the forest. [ ]

e. Others (specify)…….

2. In your view, is GFIP the solution to forest management and improvement in the Asankragwa forest district? 1) Yes [ ] 2) No [ ]

3. Please provide a reason (s) for your choice of answer to yes/no in question 2 above……

……

4. Where does GFIP get its funding?

a. World Bank [ ]

b. International monetary fund [ ]

c. Others.....

5. Is there a constant check-up by the fund donors on the project?

a, Yes [ ] b. No [ ]

a. If yes, is the project sustainable? a. Yes [ ] b. No [ ]

Provide reasons for your answer ……

b. If no, how do you report to the donors at the Forest District Level?

I Report writing [ ]

ii Committee/board meetings [ ]

iii Others .....

6. Apart from forest management and improvement, what other purpose does GFIP intend to achieve?

a. Climate change mitigation [ ]

b. Climate change adaptation [ ]

c. introduction of best forest practices [ ]

d. Economic benefit to participants [ ]

D. GENDER PARTICIPATION IN GFIP

7. Do you advertise for specific gender group participation in GFIP activities?

a. Yes [ ] b. No [ ]

8. If no, is there a gender balance in GFIP in all the program areas? Yes [ ] No [ ]

9. If "Yes" to question (8) on gender balance above, how do you ensure gender balance in participation in GFIP activities?.....

10. If "No" to question (8) on gender balance above, what is the cause of this imbalance in gender participation?

a. Lack of expertise in planting [ ]

b. Cultural norms [ ]

c. Organisational culture [ ]

d. Other (specify)……..

11. In which ways can imbalanced gender participation be solved in GFIP Implementation?

Causes Of Gender In Balance	**Solution To Gender In Balance In Gfip Areas.**
Cultural barriers	
Gender stereotype	
Overburden of housework (lack of time)	
Low confidence	
Other	

E. GENDER STEREOTYPING IN GFIP

1. Do you still believe that there are some activities women cannot do?

a. Yes [ ] b. No [ ]

2. If yes, what are some of the activities in GFIP the women cannot do?

a) Seed collection [ ]

b) Seedling production [ ]

c) Tree growers [ ]

d) Enrichment planting [ ]

e) Watershed management [ ]

f) Sacred grove management [ ]

g) Sacred grove mqanagement [ ]

3. The extent of participation of men and women in GFIP by Percentage

Modules of GFIP	**% participation by women**	**% participation by men**
Seedling production		
Enrichment planting		
Tree planting		
Watershed management		
Sacred grove management		
Alternative livelihood		

4. What are the causes of the variance in percentage for participation among men and women?

a. Seedling production.....

b. Enrichment planting.....

c. Tree growers.....

d. Watershed management.....

e. Sacred grove.....

f. Alternative livelihood.....

Opportunities

F. CHALLENGES IN MANAGEMENT OF GENDER IN GFIP AND RECOMMENDATIONS FOR ALLEVIATION

1. What **challenges** do you face in the management of men participating in GFIP modules? How can these be addressed?

Modules of GFIP	**Challenges from male participation/involvement**	**Recommended solutions**
Seedling production		
Enrichment planting		
Tree planting		
Watershed management		
Sacred grove management		
Alternative livelihood		

2. What **challenges** do you face in the management of women participating in GFIP modules? How can these be addressed?

Modules of GFIP	Challenges from women participation/involvement	Recommended solutions
Seedling producer		
Enrichment planting		
Tree growers		
Watershed management		
Sacred grove		
Alternative livelihood		

G. RECOMMENDATION FOR BALANCING GENDER PARTICIPATION IN GFIP

1. What measure can you put in place to ensure gender equality in all the modules?.....