



The Ghana Food Security Research with a Focus on the Upper West Region

Submitted to Mennonite Economic Development Associates (MEDA).

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Table of Content

Executive Summary	9
1.0 Introduction.....	15
1.1 Objectives of the Food Security Research	16
1.2 Methodology	17
1.3 Scope of Work.....	20
2.0 Food Security and Gender Relations within the Global and African Context.....	21
2.1 Challenges to Food Security in Africa	22
2.2 Food Security in Ghana.....	24
2.3 Food Security in the Upper West Region.....	27
2.4 Stakeholder views of the food security situation in the Upper West	27
2.5 Agencies Working on Food Security Issues in the Upper West	28
2.6 Capacity Building and Training in the Region.....	29
2.7 Constraints and Challenges to Supporting Female Agricultural Activities	31
2.8 Strategies and Solutions for Food Security	32
Chapter 3: The Situational Analysis of Food Security in the Upper West:	35
3.0 The Community Profiles	35
3.1 Key Community Demographic Indicators	36
3.3 Group Formation, Activities and Savings across the Communities.....	37
3.4 Types of Savings/ Credit Schemes in the Community.....	38
3.5 Social, educational and health context of the communities visited.....	39
3.6 Changes in food crop production and animals rearing over the last three years.....	40
3.7 Changes in Nutritional Patterns and Dietary Practices	41
3.8 Main Constraints Families Face in Achieving Food Security.....	42
3.8.1 Main Constraints Women Face in Food Production and Household Food Security.....	42
3.8.2 Main Constraints Women Face in Making Decisions.....	43

3.9	Length of the “Hunger season”	44
3.10	Coping Strategies	45
3.11	Marketing Accessibility and Satisfaction.....	46
3.12	Community Seasonal Calendars.....	46
3.13	Solutions and Interventions to Improve Food Insecurity Situation in the Upper West ...	49
Chapter 4: Household Food Security and Gender Relations in the Upper West.....		51
4.1	Women’s Group Affiliation	53
4.2	Farm labor make up at the family level; and other sources of labor	53
4.3	Farm Production, Marketing and Decision Making.....	53
4.4	Male and Female Controlled Crops	54
4.5	Important Crops and How Households Sustain Family Food Security	55
4.6	Roles and Responsibilities Related to Farming.....	57
4.7	What Men and Women Do During the Non-farming Season	58
4.8	Changes to Cropping Yields over the Last Three Years	60
4.9	Access to Land by Women and Ownership	60
4.10	Size of land cultivated.....	62
4.11	Decision making and control	62
4.12	Dietary and Nutritional patterns at household level.....	64
4.13	Coping Mechanisms.....	65
4.14	Sources of Food in the Lean Season	65
4.15	Value Additions to Farm Produce.....	66
4.16	Extension and Crop Selection Support	67
4.17	Financial Support Provided to Farmers in the Upper West	68
4.18	Sale and Marketing of Farm Produce.....	68
4.19	Constraints and Challenges	69
4.20:	Women’s Views of the Constraints to HH Food Security in Sissala West District.....	72
4.21	Proposed Interventions/ Solutions.....	73

5.1	Food Security	77
5.2	Experiences in Managing Household Responsibilities and Food Production.....	78
5.3	Gender Relations and Decision making within the Household.....	79
5.4	Key Constraints of Successful Women.....	81
5.5	Income/Economic Activities and Coping Mechanisms	82
5.6	Solutions Cited During Interviews with Successful Women.....	83
6.3	Conclusions Based on the Findings	87
6.3.1	Erratic Weather Conditions and Soil Infertility	87
6.3.2	Food Security (access, availability and nutrition).....	87
6.3.4	Strengthening the Value Chain in Key Agricultural Products	90

List of Tables

Table 1: List of Organisations/Institutions Working in the Upper West and their Mandate	28
Table 2: List of Organisations and Services Provided in the Region	30
Table 3: Key Constraints in Farming in the Upper West Region	32
Table 4: Key Solutions/Strategies Identified by Stakeholders in the Region	33
Table 5: Male and Female Population across the Eight Communities.	35
Table 6: Number of Male and Female Farming Groups in the Two Districts	31
Table 7: Distance to Water Sources from Communities	39
Table 8: Changes in Production over the Last Three Years	40
Table 9 : Main Constraints Families Face in Producing for Buyers.....	44
Table 10: Length of Hunger Season	45
Table 11: Roles and Labor Patterns among Men and Women in Relation to Farming	47
Table 12: Background Characteristics of Household Survey Respondents.....	51
Table 13: Types of Food and Cash Crops Cultivated across the Eight Communities.....	54
Table 14: Most Important Crops in Sustaining the Food Needs of the Family	55
Table 15: Roles and Responsibilities According to Women across the Two Study Districts	57
Table 16: Non- Farming Activities of Men and Women.....	59
Table 17: Use of Cash Income.....	59
Table 18: Reasons for the Change in Production Yields	60
Table 19: Why Women Do Not Own Land across the Two Districts	61
Table 20: Ownership of Land	61
Table 21: Decision Making and Control in Relation to Farming and Household Consumption.	63
Table 22 : Number of Times Household Members Eat in the Harvest and Lean Seasons	64
Table 23: Main Sources of Food during the Hunger Season	65
Table 24: Farm Inputs Used in the Last Cropping Season	66

Table 25: Percentage of Food Sold.....	69
Table 26: Main Constraints and Challenges in Sustaining Food Security in the Household	71
Table 27: Alternative Activities to Improve Household Food Security	73
Table 28: Success Stories: Farming Activities and Family Support.....	77
Table 29: Meeting Labor Needs: Success Stories Perspective	78
Table 30: Secrets of Success: Success Stories Perspective	79
Table 31: Key Constraints for Ensuring Food Security.....	82
Table 32: Coping Mechanisms	82
Table 33: Key Interventions Needed to Support Women.....	83

List of Figures

Figure 1: Proportion of Food Insecure in Africa	21
Figure 2: Percentage of Income Spent on Food in Low Income Countries.....	23
Figure 3: Focus of Women’s Farming Groups	37
Figure 4: Types of Savings Engaged in Across the Two Districts	39
Figure 5: Coping Strategies by Community Members during Hunger Season	65
Figure 6 : Locations of Markets across the Two Districts	69

Acronyms

ACDEP	Association for Church Development Projects
ADVANCE	Agricultural Development and Value Addition Chain Enhancement Program
AfC	Associates for Change
CFSVA	Comprehensive Food Security and Vulnerability Analysis
CIDA	Canadian International Development Agency
CSO	Civil Society Organization
FAO	Food and Agriculture Organisation (United Nations)
FASDEPII	Food and Agriculture Sector Development Policy (Ghana)
FBO	Farmer Based Organisation
FGD	Focal Group Discussions
FPI	Food Price Index
GDHS	Ghana Demographic and Health Survey
GLSS5	Ghana Living Standards Survey
GSFP	Ghana School Feeding Program
GSFR	Global Food Security Response
HH	Households
HHS	Household Survey
IFPRI	International Food Policy Research Institute
MDG	Millennium Development Goals
MEDA	Mennonite Economic Development Associates
MICS	Multiple Indicator Cluster Survey
MOFA	Ministry of Food and Agriculture
NGO	Non Governmental Organization

NBSSI	National Board for Small Scale Industry
PPVA	Participatory Poverty and Vulnerability Assessment
SARI	Savanna Agricultural Research Institute
SILC	Savings and Internal Lending Committee
SS	Success Stories
UE	Upper East (Region)
USAID	United State Agency for International Development
UW	Upper West (Region)
VAM	Vulnerability Assessment and Mapping
VEV	Village Extension Volunteers
WB	World Bank
WFP	World Food Program

Executive Summary

The focus of the Ghana Food Security Research for the Mennonite Economic Development Associates (MEDA) was to investigate the current food security situation for families in the Upper West region of Ghana. The study explored issues around food security, cropping and labor patterns from a gender perspective, and approaches taken by families in making nutritional decisions. The research also investigated the constraints families particularly women face in attaining food security and the solutions that women and family members suggested towards improving the food security situation in their households. The study is expected to build upon the research MEDA and CIDA have conducted over the last 20 years and inform the design of the MEDA food security programme in Ghana's Upper West region. The MEDA Food Security project is designed to assist women increase the availability, access and utilization of a variety of appropriate and nutritious foods through strengthening production and market linkages, increasing the diversification in production and creating nutritional awareness.

The main research objectives of the Food Security Study in the UW region of Northern Ghana included:

1. To confirm previous research on food security and update the situational analysis including the current state of food security in the areas targeted by the project;
2. To depict the current dietary practices and their impact on family nutrition;
3. To identify constraints (economic, social, technical) that limit family nutrition;
4. To identify preliminary solutions and interventions that can be developed to reduce these constraints;
5. To identify potential risks with mitigation strategies; and
6. To use the data collected as part of this research as a component of the project baseline data, to be integrated with other MEDA baseline data collection systems.

Associates for Change (AfC), used a mixed method approach employing both qualitative and quantitative data collection methods in conducting the food security research for MEDA. AfC sampled eight communities across two districts in the UW region (i.e. Sissala West and Jirapa districts). The methods included a preliminary desk review and situational analysis of key project documents related to the level of food insecurity, dietary practices, as well as economic, and agricultural practices that impact on the family's ability to provide food throughout the year. Other international and national studies on food security were reviewed in order to provide a context analysis of the food security situation in the target districts and communities. The research study included three weeks of field work in two districts (Sissala West and Jirapa Districts) in the Upper West and involved a household survey, case studies of 24 female farmers and in-depth and focal group interviews with key informants at the community, district and regional levels.

Sixteen focal group discussions were held with women across the 8 communities and 8 focal group discussions were held with male farmers. In total a total of 24 in-depth case studies of women who were identified by community members as "female success stories" were explored. A total of 50 household surveys were also conducted. Community and district profiling was also carried out across the study areas.

Key Findings: Food Security Context

Studies suggest that high temperatures, insufficient rainfall, extreme poverty and poor soil fertility place the Upper West Region at very high risk in terms of food security status. Farmers across the country have complained that erratic rainfalls and shifting weather patterns negatively affects the planning and challenges the predictive local knowledge of the planting season. There have also been substantive changes in dietary practices with a reduction of the number of meals during the hunger season according to the latest poverty studies (PPVA, 2010). The 2009 VAM report suggests that about 1.2 million Ghanaians are food insecure of which a very large proportion live in the Upper West and two other northern regions. The Upper West region has approximately 34% of its population being food insecure (WFP/VAM, 2009). Women and children are among the highest risk population of being affected by food insecurity due to their vulnerability.

Main Cropping Patterns

Seasonal calendars were used to explore the cropping and labor patterns of men and women. Findings from the seasonal calendars revealed that the most important food crops cultivated, based on community views included: maize, groundnuts, yam, rice, and beans (cowpea/white beans). Other crops such as bambara beans and soybeans were also cultivated, but seen as secondary food crops. Traditionally, men were responsible for cultivating the bulk of the major food crops whereas women tended to cultivate groundnuts, cowpea, rice and bambara beans. The field work findings suggest that an increasing burden for ensuring food security at the family level is being placed on women in the Upper West; there is a shift towards women cultivating the main staple crops for the family. According to the research study findings, there are very specific labor roles for women and children on the “family farm,” which are often controlled by the male head of household. While men are engaged in the land preparation (i.e. clearing the land and weeding), women are responsible for planting and harvesting the crops. The field research shows growing evidence that women are being given their own land in order to support the food needs of the family and therefore increasing the work burden primarily on the family farm and then on their own “women’s” farm when they have time.

The Food Security study also revealed that the main farming activities for major food crops such as maize, millet, groundnuts and beans takes place between the months of May to September. The rest of the year is spent gathering wild vegetables and fruits, income generating activities by women (e.g. shea butter and dawa dawa processing), and building/ renovating homes by men. The youth mostly migrate to Brong Ahafo region to engage their services as hired laborers.

Changes in Nutrition /Agricultural Practices

Findings from the research in relation to **farming practices** suggest that there have been shifts from the cultivation of some traditional crops due to the erratic rainfall patterns and soil infertility (e.g. millet and guinea corn). A few farmers still cultivate these crops although the yield has been consistently low. The research revealed that increasingly poor yields especially for major staple crops such as maize, millet and groundnut require the application of fertilizers, weedicides, and insecticides, as well as early maturing varieties in order to increase crop yields.

Another key finding from the study suggests that: the increasing needs of the family have necessitated the use of tractors by farmers in order to increase the size of their farm plots (only in one of the study districts: Sissala West). The usage of tractors is still a male dominated activity. Another change experienced across most of the communities was that farm sizes are decreasing as a result of increasing family sizes, which exerts pressure on the limited land availability. The rate of migration among the youth has increased over the last five years and has affected access to labor, particularly for women and their families. This pattern of youth migration was much more pronounced in the Jirapa District due to the lack of alternative livelihoods in the off farm season, poor soil fertility and the prolonged nature of the hunger period.

With regard to **changing nutritional practices**, the research revealed that the amount of food available to families has reduced greatly over the last ten years as a result of low yields. This has affected traditional nutritional practices. For instance T.Z, and porridge, the major staple food for the households in the Upper West, which used to be made from millet, is now made from maize due to poor yields of millet. The study also revealed that women generally have a fair knowledge of nutrition and the use of food combinations; examples include the use green vegetables, fish, beans and soya beans in most meals. Women interviewed reported having challenges in eating balanced diets particularly in the “hunger season” due to limited food choices available to them. Patterns of cooking within polygamous households are changing with most women deciding to cook on their own for their own children in order to ensure better food quality. This meant that in polygamous families, the practice of wives cooking in rotation for the whole family is gradually being phased out.

Value Additions in Farming

Findings from the research suggests that traditional value additions are mainly carried out by women on staple crops such as maize, groundnuts, rice and beans using methods such as threshing and drying. Findings from the field work also indicate that there was some usage of modern farm methods and implements such as tractors, fertilizer application, insecticide, weedicides and improved seed varieties. More added value to farming processes was found in Sissala West where they used combine harvesters and threshers for harvesting maize. Other methods used by women include adding “ash” to preserve beans and cowpea in storage; and boiling and drying rice before sale. A few women processed groundnut into peanut butter and cooking oil; other value additions included processing dawadawa for protein supplementation in the soup and shea nut into cooking oil.

Constraints of Women

Findings from the field work, in particular the focal group discussions and in-depth case studies, revealed that the major constraints affecting women in ensuring food security at the household level were:

- Lack of participation in decision making in sale of farm outputs, limited land access, lack of tractors /inputs for farming.
- Serious climactic and soil fertility constraints in the households farming activities. Women were also aware that the rainfall pattern was very erratic and was affecting their ability to obtain adequate yields from farming; they also complained that they needed more information on how to cope with the climactic change situation.

- Inability of women to cope with household and farming labor demands in order to ensure food security (triple burden).
- Lack of access to farm inputs to ensure adequate yields from farming activities,
- Lack of alternative sources of income particularly in the non farming season;
- large family sizes on average 6 per household which resulted in food shortages placing increased burden on women;
- Polygamous relationships also brought complexity in consultative and decision making processes between men and women with the majority of power vested in the first wife.

Coping Strategies

According to the field research, the following key coping strategies for families facing food shortages were identified by men and women:

- Families reported reducing food portions per household member and taking fewer meals each day as the most common coping mechanisms.
- Other households relied on the sale of stored food stuffs, productive household assets, and possessions such as animals and livestock.
- Male migration to engage in hired labor was a common practice among men. This was done to generate income to feed the family and invest in the farm for the next season.
- Women would mostly rely on wild fruits and vegetables, dawadawa powder and sheanuts to feed the family during the lean season.
- Some women were also engaged in petty trading....this was common among the female “success stories” since it required a small amount of capital which not every woman could afford.
- In extreme cases a few women and men would obtain food by hiring out their labour for payment and barter their farm produce for other food items or seed.

Solutions for Women/Suggested Interventions

Interviews with 16 women’s groups across the two study districts revealed that being a member of a women’s farming group enabled them to receive support in terms of labor and helped to improve the food security at household level. Women’s groups often did not demand immediate payment for their labor in assisting members until after the harvest season was over therefore providing a “safety net” to female farmers in need of extra labor on credit. Interviews with women also suggest that their membership in a women’s groups provides a valuable psycho social support network particularly for female headed households.

Petty trading among women is becoming a major non-farm activity among women in the Upper West in order to increase the income available to support their families’ upkeep. Women interviewed said they need more training to equip them with skills on how to run and manage a business. This will enhance their agricultural activities and they will be in a better position to manage and generate more income to feed their families. Findings from the research also reveal

that, for women to improve food production, it is necessary that loans are available to pre-finance their farming activities.

Interviews with women's groups suggest that although the women's groups are helping to support their members, there is still the need for external support to build their capacity and enhance their work. Women's group leaders suggested the following solutions:

- Labour needs of women need to be addressed in order to cope with household and farming labor demands and ensure food security.
- Support to female farmers to improve access to labor saving approaches, the acquisition of modern farming inputs such as fertilizers, insecticides, weedicides and tractors to enable them to engage in large scale farming especially the cultivation of groundnuts.
- The provision of irrigation systems that could help women engage in dry season farming to feed their families especially during the hunger season.
- Encourage women's groups to engage in a grain banking system which is an important mechanism for leveraging women's produce during the dry season.
- Minimize the sale of household food crops which would involve more consultation with their husbands and educating men to better estimate the amount of food required per person per year.
- Women also mentioned that they should engage in rearing small ruminants as a coping strategy in the hunger season.

On the issue of what could be done to improve women's access to land, interviews with men and women revealed that there is the need for community elders, and men in the community to be directly involved in the project, and made aware of the potential outcomes for families in general if women having more direct access to farm land. Women also suggested that men should be sensitized to the fact that they are not competing with women but that the produce from the women's farm is supplementary to that from the household farm. Other women interviewed suggested that they should be empowered financially to be able to rent land from men for farming purposes. Some men interviewed believed that the main constraint for female farmers was not their limited access to land but the limited access to technology, extension services and other farm inputs. On probing for solutions with women's group leaders, they suggested that women's groups have much more negotiating power to acquire land for the women compared to individual women who request for land access; increasing access of women's groups to land would allow for the expansion of farms women particularly if it is linked to block farming.

Final Recommendations from the Food Security Research in the UW

The field research revealed some of the following recommendations for the design of the MEDA Food Security project:

- MEDA should build on the "block farming" initiative by MOFA and leverage its support in districts where block farming is being targeted at women. Explore the Gender Responsive Budgeting (GRB) initiatives within the MOFA to bring this forward in the selected districts of the Upper West.

- Women should be supported to farm crops that they consider “comfortable”, within the sphere of control by women, and less labor intensive (e.g. groundnuts, cowpea) since these crops can be easily used for household consumption and cash income.
- Support women’s groups in terms of micro credit, inventory credit schemes and diversify rural sources of livelihoods which will help reduce the unsustainable use of the natural resources.
- Begin any proposed programming in districts where there are already high production yields and adequate soil fertility to ensure that the first few years of startup are successful before a ripple effect is made in the more deprived and challenging districts (based on poor soil fertility).
- Encourage animal husbandry and agro-forestry as an alternative source of income for households especially in the dry season.
- Support dry season gardening as an off-farm activity.

Probably the most important findings was that due to the tenuous position of women in the family, especially in relation to access to farm resources and very limited decision making power within the household, programmes which are designed in the Upper West should engage both men and women equally in order to lay the foundation for a harmonious project outcome. Further, these consultative processes should be embedded throughout the project and engage the community leadership in order to ensure the full participation and support of both men and women.

1.0 Introduction

Women are responsible for half of the world's food production and in most developing countries they produce between 70-80% of household food (FAO, 2011). Yet women continue to be regarded as “home producers or assistants on the farm” and not as farmers or economic agents on their own merit. Women's substantial contribution to agriculture continues to be systematically marginalized and undervalued in conventional economic analyses and policies, while men's contribution remains the central, often the sole, focus of attention by Governments (FAO 2011). Women in Africa receive less than 10% of small farm credit, and 1% of total credit to the agric sector (FAO, 2011).¹

As the composition and structure of rural households change, gender responsibilities are undergoing rapid change, typically with rural women becoming more responsible for household food security and children's welfare. Two important indicators of these changes are the incidence of female-headed rural households and the increasing responsibility of women to provide for families in contexts of severe stress. According Ghana's Population and Housing Census (2008), one out of three households in Ghana is female headed. Female headed households, according to the FAO, are among the poorest households, and demonstrate the lowest level of food security². However in some cases where women have had access to agricultural resources and services in their own right, women farming alone or with only sporadic assistance from migrant husbands, have proved themselves more capable of increasing farm productivity, efficiency, and profit. Current research on gender responsive budgeting in Africa also suggests that investments in female farmers yield significant increases in agricultural productivity and national income (Casely-Hayford, 2011).

The Mennonite Economic Development Associates (MEDA) is launching a multi-year CIDA – funded project designed to improve food security for thousands of families in Northern Ghana. The MEDA Food Security project is designed to assist women increase the availability, access and utilization of a variety of appropriate and nutritious foods. This will be accomplished through strengthening production and market linkages, increasing the diversification in production and creating nutritional awareness. Using market –driven approaches, MEDA's activities will focus on improving food security by assisting women farmers to increase production of soybeans and forge market links that will increase incomes. Recognizing that multiple factors contribute to food security, the project will provide training and technical assistance to help women make sound nutritional choices for their families. The project will be implemented in partnership with local organizations with a focus on building local capacity and experience in delivering market-driven programming.

¹ Recent study on Women in Ghana's Agriculture sector confirmed that women in Ghana receive less than 1% of the Ghana Government Agriculture budget (Action Aid, 2011).

² Food security according to USAID (2011) occurs when “all people at all times have physical and economic access to sufficient food to meet their dietary needs for a productive and healthy life.” This definition of food security is founded on three fundamental elements: 1) Adequate food availability; 2) Adequate access to food by all people (i.e., the ability of a household to acquire sufficient quality and quantity of food to meet all household members' nutritional requirements for productive lives); and 3) Appropriate food utilization/consumption.

As a first step in launching this project, MEDA has requested that Associates for Change (AfC) conduct food security research to provide a foundation upon which the project's in-country team and local implementing partners can finalize the design of the project and implement activities that will result in improved food security for 20,000 beneficiaries and their families in northern Ghana. The focus of this research is on investigating the current food security situation for families in the targeted areas; the typical approach a family takes in making nutritional decisions; and the constraints families face that keep them food insecure.³ The food security research team built upon the research MEDA and CIDA have conducted over the last 10-20 years particularly in northern Ghana.

1.1 Objectives of the Food Security Research

The main research objectives of the Food Security research in northern Ghana include:

- To confirm previous research on food security and update the situational analysis, including the current state of food security in the areas targeted by the project;
- To depict the current dietary practices and their impact on family nutrition;
- To identify constraints (economic, social, technical) that limit family nutrition;
- To identify preliminary solutions and interventions that can be developed to reduce these constraints;
- To identify potential risks with mitigation strategies; and
- To use the data collected as part of this research as a component of the project baseline data, to be integrated with other MEDA baseline data collection systems.

The specific components of the research involved the following areas of inquiry:

- A situational analysis describing the level of food insecurity and current dietary, economic, and agricultural practices that impact the family's ability to provide food throughout the year.
- Constraints women face in making sound nutritional choices for the family.
- Identification of solutions to these constraints and interventions that will help women to provide nutritious food throughout the year.
- Exploring women's current engagement in cultivating crops for sale to learn what control women have over crop selection, decisions about how much area to plant, and whether women have access to the family farm land under the male direction.
- The current latitude women have to decide what and how to cultivate, and current sources of agricultural information regarding production, new techniques and technologies, market opportunities, the links to market, and the factors that influence when women sell their crops.
- The constraints women face in accessing land, accessing extension services, inputs, technologies, market information and other services.

³ Two pieces of research are to assist in the final design phase of the CIDA supported project in the North. The second component of the research is focused on market analysis of the soybean value chain and constraints that limit the integration of women farmers into this market sector.

- The full range of barriers to women growing more crops for sale.
- Identified solutions to these constraints from the producer perspective and interventions that could help women expand cultivation of crops for sale.

1.2 Methodology

Associates for Change (AfC), in conducting the MEDA Food Security Research, used a mixed method approach employing both qualitative and quantitative data collection methods, and sampling techniques. The methods included a preliminary desk review and situational analysis of key project documentation, particularly related to the level of food insecurity and current dietary, economic, and agricultural practices that impact on the family's ability to provide food throughout the year. Other international and national studies on food security have also been reviewed in order to provide a context analysis of the food security situation of the target districts and communities.

The research study included three weeks of field work in the Upper West involved household survey work, in-depth and focal group interviews with key informants at the community, district and regional levels, as well as CSO's engaged in food security work in the region. Focused group discussions (FGD) with women having three children and above and women having less than two children were held during the field work. Focal group discussions with men were also held separately. In-depth interviews with female farmers considered by the community as being "successful" in farming and food security as well as observations in relation to their nutritional application and coping mechanisms were conducted at the community and household level across eight communities. Two selected districts of the Upper West Region, namely Sissala West District and Jirapa District were selected for study due to their diverse agricultural output characteristics and their linkages with NGO's.

The FGD's and in-depth interviews provided information on how much control women exert over cultivation decisions – what crop to plant on how much land, how much to spend on inputs, when to sell and how much to sell at the harvest season. In order to engage communities, particularly women, in thinking about solutions to improving their food security, PLA/PRA tools were used in all communities. Key PLA tools that were used during the community field work activities and included:

- Community mapping exercise identifying the women farmers in the community who were actively engaged in small to large scale farming and marketing activities; the types of crops the communities are growing; and the identification of female farmer success stories;
- Cropping/seasonal calendars to depict and identify cropping selection, labor strategies/arrangement and income profiles for selected women in the focal group who have varied experiences in farming and food security issues;
- Seasonal farm and nutritional calendars to identify the lean seasons, menu (meals) and coping mechanisms used in the family to sustain the food security of the household; and
- Household observations to identify typical meal combinations; meal groups, variations, and nutritional patterns.

The research team also engaged with women and men separately in focus group discussions at the community level to explore current dietary patterns, periods of scarcity, coping mechanisms, and the various constraints facing women in relation to their families' food security. The research team investigated issues related to the current farming practices by the target communities, the level of animal husbandry, and the combination of foods prepared by women for home consumption, as well as factors that influence women's choices of foods for their families.

In-depth interviews and case studies with selected "successful" women across different age cohorts assisted the teams probe deeper, exploring the family relationships, the roles and responsibilities of men and women in making decisions on food security. They also looked at the level of knowledge women have about nutrition, and ways they can improve the diet of their families⁴. Case studies of successful female farmers in diverse crop farming and marketing were conducted across the eight focal communities (e.g. successful entrepreneurs). Selection of the success stories were based on the community's perceptions and other key informant's perceptions of successful female farmers. Participatory and community driven approaches to fieldwork were used to enable the team gather adequate information at the community, and district levels.

Associates for Change built on existing research conducted by MEDA and other agencies in northern Ghana. Focus was placed on providing additional information to fully develop the existing project framework and design. This research builds on the previous research and updates the situational analysis including the state of food security in target areas. The study included the following main components.

Component One: Review of project documentation

All pertinent documentation related to the MEDA Project was reviewed. This included, but was not limited to, background material used in project preparation, approved project documents, project monitoring documents, action plans, and all other information available from MEDA and its partners. Other relevant documentation related to food security in Ghana, especially northern Ghana, was also reviewed together with a large body of gender sensitive research in the agriculture sector carried out by CIDA and Ministry of Food and Agriculture (MOFA), Ghana.

Component Two: Development of Field Guide and participatory inputs from MEDA

AfC carried out preliminary meetings with MEDA to discuss the proposed methodology and to reach agreement on the sample size, selection of communities and districts before the research began. The research was implemented in close consultation with MEDA and its implementing partners, however objectivity was maintained. Training was provided to the field researchers during the preparatory phase of the study.

Component Three: Sampling and Field work phase

AfC's research team conducted interviews with key informants at the district and regional levels including government agencies, civil society organizations, and other key stakeholders regarding the current food security status of the targeted areas⁵; as well as participatory focal group discussions with target community members related to their current dietary patterns, periods of scarcity, coping mechanisms and constraints women face in providing nutritious food for their families. In addition, the team assessed the level of knowledge women have concerning nutritional practices, and ways they can improve the diet of their families related to farming. Focus group discussions were made up of 8-10 people to ensure active participation. Research teams used PLA/PRA tools to determine the nutritional practices, patterns of decision making, constraints and seasonality. In all **eight communities**: 24 focused group discussions (3 for each community), 50 household surveys, and 24 women farmer case studies (3 cases per community) were conducted.

The targeted communities were sampled using MOFA and PRONET's knowledge on the diverse characteristics represented at the district levels e.g. soil fertility, access to markets and location in the district were all considered in community site selection. Linkages to the NGO informants was also taken into consideration in order to ensure that some of the communities had existing women's groups and interventions by NGO's in the district (e.g. TUDERIDEP and PRONET). Finally some sites were selected based on their experience in producing soya beans.

AfC fielded two teams of researchers to cover the eight communities across the two districts comprising of one- team leader, two- intermediate researchers, and four-locally engaged research assistants from the selected districts. Field work was conducted over a three week period across the eight communities. The team used primarily a qualitative approach to identify the critical constraints that prevent women from providing nutritious food to their families and explored sustainable solutions to address these constraints.

Success Story Selection

Three success stories were selected from each community to explore how women manage their household food security, as well as household responsibilities. "Successful" women were selected from focal group interviews held with both the men's and women's groups. Each in-depth case study took between two and half to three hours to complete. The following are some of the criteria community members used to select the success stories across the eight communities;

- she is able to store enough food to feed her children...her children never go hungry
- she engages in a wide range of activities....farm and non-farm (petty trading etc)
- she works like a donkey
- she's been able to buy a donkey cart
- she ventures into the production of male controlled crops such as maize, cotton and yam
- she gets high yields from often infertile lands

⁵ A full list of people interviewed at the regional and district levels are contained in Annex 3.

- one whose family never goes hungry
- she is able to afford tractor services
- she's able to take a loan ...pay back and able to make some profit
- despite working on her husband's farm, she is able to make a large farm for herself

The “successful” women selected by community women and men often demonstrated some level of entrepreneurial ability aside from their farming activities. In some communities, especially in the Jirapa District, the ability of a woman to withstand the challenges of life, such as “widowhood or a migrant husband,” and not just being able to produce enough food for the family, was considered an important indicator of success in several communities (e.g. Vingving, Tampala and Mwankuri). The ‘success’ story women were creative, hardworking, innovative and adventurous.

1.3 Scope of Work

Two districts were selected for the food security research based on a variety of criteria in order to reach a more representative sample across the Upper West Region. **District Selection** was purposeful in order to attain a fair representation of the agriculture and food insecurity patterns across the Upper West. The district selection was based on the following criteria:

- The level of food insecurity of the particular district using WFP's Vulnerability Assessment and Monitoring (VAM) criteria;
- Agricultural output varied widely across the two districts selected in relation to major staple crops such as maize, ground nut, millet and soya;
- Proximity of the districts to a regional center/ district or main market;
- District selection reflected the general living conditions of the region with variations on road to market access;
- Districts were selected based on the availability of women's groups engaged in block or individual farm activities (supported by Government and NGO programming); and
- The religious diversity of the region (predominantly Muslim or predominantly Christian) was considered.

District selection was also based on whether community entry could be facilitated easily by PRONET or other NGOs in the region in order to minimize community entry needs for the research team. For instance, PRONET is already working in the Upper West Region in the **Jirapa** and **Sissala West** districts. Both districts reveal a fair representation in terms of religious, ethnic, and general living conditions of the Upper West Region.

The research was designed to ensure in depth investigation using qualitative methods and focusing on a smaller number of communities with a larger team in order to ensure a depth of understanding related to the research questions. Two days were spent in each community

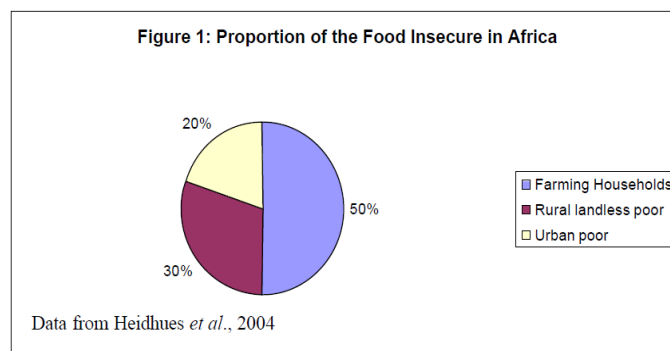
collecting the data sets and writing up field notes. A detailed roll out of the field research is contained in Annex 1.

2.0 Food Security and Gender Relations within the Global and African Context

The right to food is one of the most consistently mentioned pillars in international human rights documents, but it is also one of the most frequently violated. Targets set by the World Food Summit and the Millennium Development Goals (MDG1) on the reduction of hunger has largely failed, despite increased food production. Reports by the FAO indicate that about 840 million people worldwide are malnourished, the highest percentage of these people are in Africa.

Availability, access, and affordability are all elements of food security, yet complex and interrelated economic, social and political factors, continue to challenge Africa's ability to address food security (Clover, J., 2003). Over seventy percent of the food insecure populations⁶ in Africa live in the rural areas. Ironically, smallholder farmers, the producers of over 90% of the continent's food supply, make up the majority (50%) of food insecure populations. The rest of this population consists of the landless poor in rural areas (30%) and the urban poor, the majority of whom are women (FAO, 2011). Figure 1 shows proportion of food insecure areas of Africa .

Figure 1: Proportion of Food Insecure in Africa



Critical contributions in agriculture and rural enterprises are made by women across all developing countries. Their roles may vary across continents, but they face similar gender-specific constraints that reduce their productivity and limit their contribution to agricultural production, food security, economic growth and the well-being of their families, and

⁶ Food security occurs when “all people at all times have physical and economic access to sufficient food to meet their dietary needs for a productive and healthy life.” This definition of food security is founded on three fundamental elements: 1) Adequate food availability; 2) Adequate access to food by all people (i.e., the ability of a household to acquire sufficient quality and quantity of food to meet all household members’ nutritional requirements for productive lives); and 3) Appropriate food utilization/consumption. (USAID, 2011) Already stated in opening paragraph of chapter 1

communities (FAO, 2010). According to the Food and Agriculture Organization, women produce 50% of the world's food with estimates as high as 70 to 80% in developing countries including Ghana. FAO estimates that with over 925 million people currently undernourished--closing the gender gap in agricultural yields is critical to bringing the undernourished population down by as much as 100–150 million people (FAO 2010).

The latest Africa Human Development report (2012) suggests that food security is intrinsically linked to human development. The report argues that focusing national policies on agricultural productivity, nutrition, resilience, and empowerment among women can unleash a 'dynamic virtuous cycle of food security and human development across sub Saharan Africa'. The report states that the greatest declines in average monthly rainfall have been experienced in sub Saharan Africa between 1951 and the 2000s, and that the demographic transition coupled with high population growth continues to characterize the continent's challenges. The report states that efforts to break the intergenerational cycle of poverty will require the empowerment of women. Thus, ensuring that women have a say in decision making at the household level in order to improve nutrition and access to adequate food. "When women have more influence on household choices nutrition often prospers." The cyclic implications to household health, productivity and learning relate to women's ability to improve their food security (UNDP, 2012).

Closing the gender gap in agriculture is probably the most important development issue which promises transforming human development outcomes for the next generation of children. This transformation and empowerment process will require that more resources for agricultural production and food security are in the hands of women. Strengthening their voice within the household, has proven to be one of the most effective strategies for enhancing the food security, nutrition, education, and health of children (FAO, 2011). Research by the World Bank reveals that "Men more than women are likely to abandon agricultural work at home and migrate first to seek income in other sectors. Women are being left to carry the full burden of agricultural production, but often with no legal protection or rights to property ownership" (World Bank 2009). This vicious cycle of male migration in the face of extreme poverty and food insecurity was at the heart of the deepening poverty dilemma found in the Upper West Region of Ghana.

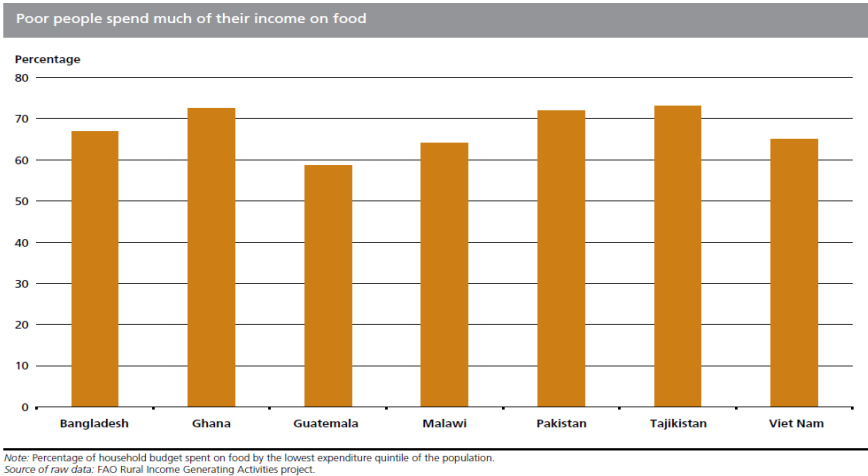
2.1 Challenges to Food Security in Africa

About 95% of farmers in Sub-Saharan Africa, mostly small holder farmers, depend largely on rain fed agriculture. As a result food production is vulnerable to adverse weather conditions. There is generally an overall decline in farm input investment including fertilizers, seeds, and technology adoption. An underdeveloped agricultural sector has been a major threat to food security in Africa. The agricultural sector is characterized by over-reliance on primary agriculture, low fertility soils, minimal use of external farm inputs, environmental degradation, significant food crop loss both pre- and post- harvest, minimal value addition, and inadequate food storage and preservation that result in significant commodity price fluctuations.

High and volatile food prices have also been identified as one major cause of food insecurity all around the world. In March 2011, FAO's Food Price Index (FPI), which tracks the price of 55

food commodities for export, rose for the ninth consecutive month. The index has now reached its highest level, in both nominal and real terms, since the inception of the index in 1990 (FAO, 2011). While higher food prices have benefited food producers, they have contributed to a stark increase in poverty in developing countries. A recent World Bank (WB) report revealed that an additional 44 million people have been forced into poverty due to the drastic rise in food prices since June 2010 (WB, 2011). Having already surpassed the levels witnessed during the 2008 food crisis, the recent upsurge in food prices suggests that another food crisis is likely upon us (WB, 2011). The World Bank’s Food Price Watch Report (2011) also suggests that the poor in Ghana are spending a very high proportion of over 70% of their income on basic food, higher than countries such as Bangladesh, Malawi and even Pakistan. Figure 2 shows the percentage of income spent on food in low income countries.

Figure 2: Percentage of Income Spent on Food in Low Income Countries



The Nutrition Challenge: Having access to food of sufficient quality does not automatically translate into good nutritional status for individuals. The role of women in food utilization for food security is perhaps the most critical factor and can often outweigh the importance of their role in food production and how they spend the income they earn. Women are typically responsible for food preparation and, thus, are crucial to the dietary diversity of their households. Women are generally responsible for selecting food purchased to complement staple foods and to balance the household’s diet. Even in the Sahel where men control the granaries, women are responsible for supplying the “relishes” that go with the grains, and it is these that provide the bulk of the micronutrients.

Several other complementary factors are required to attain food nutrition security. These include hygienic environments, access to health services, and access to family planning. Hunger, poverty and diseases are interlinked, with each contributing to the occurrence of the other. Hunger reduces natural defenses against most diseases. People living in poverty often cannot produce or buy enough food to eat and so are more susceptible to disease. Sick people are less

able to work or produce food. Additionally, access to safe and effective contraception and other family planning services are essential components of food security. Whether or not a woman can control the number and timing of her children is crucial in determining both her level of nutrition and the amount of free time that she can devote to food production and preparation.

2.2 Food Security in Ghana

Climate change and the changes in rainfall patterns

A recent Ministry of Food and Agricultural study (2012) has projected that high temperatures in Ghana will lead to low cereal yields throughout the country, especially maize and millet, which is a key staple crop, particularly in the north. Some farmers say erratic rainfalls and shifting weather patterns make the planning of the planting season increasingly difficult. This, coupled with soil fertility loss to floods and expanding deserts, plus depletion of ground water reserves due to prolonged droughts and wide proliferation on crops and livestock pests, can easily lead to drops in food crop yields, thereby putting food security and income generated from food crops, livestock and fisheries in jeopardy (MOFA, 2012). The MOFA (2012) report predicts that this fall in crop yield will mainly be due to a reduction in the growing period, and an increase in evaporation rates. The north⁷ will be the sector most severely affected since it is the most vulnerable, due to its high level of dependence on agriculture for livelihood and its adverse climate conditions. Recurring drought has already had an adverse impact on food and livestock production in the north, consequently leading to loss of food security, widespread hunger, deepening poverty and migration (MOFA, 2012).

According to Ghana's Participatory Poverty and Vulnerability Assessment Report (2010), the savannah's rains have become more unpredictable as communities experience the devastation of climate change. Soils are losing their fertility and the food security situation is becoming more challenging as the area's youth leave to find work in the southern regions of Ghana. While whole households are affected by food deficits, women and children bear the brunt when food rationing becomes necessary at the household level. Compared to 20 years ago, the PPVA study found that food shortages are no longer restricted to the traditional "hunger" period; "hunger has become more insidious and extended as the climate turns increasingly discordant". Poor people interviewed see no hope of this precarious condition passing any time soon (PPVA, 2010). The recent PPVA study also suggests that the number of meals eaten per day have declined from three to two, with only one meal in the hunger season.

WFP's VAM study (2009) reveals that about 1.2 million Ghanaians are food insecure. Out of this population, 34% are in the Upper West Region, 15% in the Upper East, and 10% in the Northern Region (WFP, 2009). Throughout the country, about 2 million people are vulnerable to becoming food insecure each year and their food consumption patterns were barely acceptable at the time of the survey and they stand a possibility of deteriorating following a natural or man-made shock (MOFA 2009)⁸.

⁷ When the report refers to the "north" we mean the three northern regions; Upper East, Upper West and Northern Region.

⁸ Transitory food insecurity.

According to WFP's Northern Ghana Food Security and Nutrition Monitoring System Report (June 2011), about 26% of households in its beneficiary communities in the Upper West Region are highly food insecure, while 40.7% are moderately food insecure⁹. It is reported that the increased prices of major food staples such as maize and yam has persisted since the beginning of 2011. The report indicated that household income sources have also dwindled and reliance on the sale of agricultural crops as a source of income has declined over the last few years. The impact of high cereal grain prices coupled with low capacity to generate income is reducing food access for very poor households as they are compelled to reduce the quantity of food consumed each day. The range of coping strategies used by households including the gathering and sale of wood and daily labor wages may not be sufficient for these households' food requirements and high food insecurity will likely persist among poor households (WFP, 2011).

According to the Ghana Living Standards Survey (GLSS5) report, the incidence of poverty is significantly higher in the Upper West (88%; extreme poverty 79%) than in Upper East (70%; extreme poverty 60%) since extreme poverty is significantly higher. However, the Multiple Indicator Cluster Survey (MICS) 2007/2008 shows that stunting (defined as height-for-age malnutrition) among Under-Fives (U5s) is worse in the Upper East (23.4%) than in the Upper West (18.9%). The 2008 Ghana Demographic and Health Survey (GDHS) likewise reflects a higher incidence of food poverty in the Upper East, with a much higher stunting rate of 36% compared to 25% in the Upper West. Wasting (weight-for-age malnutrition) by comparison is 27% in the Upper East and 13% in the Upper West.

The three Northern regions--Northern, Upper East, and Upper West have low proportions of households in the highest wealth quintile and relatively high proportions of their households within the lowest quintile. The Upper West Region in particular has the lowest proportion of its households (3.1%) in the highest wealth quintile and 76.7 % in the lowest quintile indicating that poverty is very high in the northern regions particularly the Upper West (GLSS5 Report).

The Vulnerability Assessment Measurement (VAM) which is a key instrument for food security suggests that the Upper West is one of the most food insecure regions of Ghana. The latest VAM (2009) by WFP identified five out of fifteen distinct livelihood groups to be at high risk of food insecurity and therefore vulnerable households in specific areas of the country. One of the most common characteristic to all five is the importance of agriculture as a source of household income. Together, households engaged in these five livelihoods (food crop farmers, cash crop farmers, agro pastoralists, food processors, and unskilled laborers) make up 55% of all the food insecure populations in Ghana. They include the following:

- ***Food crop farmers:*** representing 48% of the population in the Northern Savannah zone with the largest share living in the Upper East Region (56%). 22% of food crop farmer households were found to be female headed.

⁹ About 507,000 (40%) people are vulnerable of becoming food insecure in the rural areas of Upper West, Upper East and Northern regions. Up to 1.5 million people are vulnerable to food insecurity live in the rural and urban areas of the remaining seven regions, with the largest share of them in Brong-Ahafo (11%), in Ashanti (10%), followed by Eastern (8%) and the Volta region (7%) (NRADU, 2009).

- **Cash crop farmers:** the most vulnerable cash crop farmers live in the Upper West Region (Northern Savannah zone) representing 17% of the region's population. About 51% were identified to be in the poorest wealth quintile. Eighteen percent (18%) of them are female headed households.
- **Agro-pastoralists:** Fifty-nine percent (59%) of agro-pastoralists live in the Northern Region and 21% in Upper East Region. Four out of five of agro-pastoralist households (88%) were identified as poor and 9% are female headed.
- **Food processors:** Food processors include millers, brewers, and shea nut producers who are engaged in the manufacturing of agricultural products. Their second most important income source is food crop production. They have one of the highest rates of poor households (56%) with high numbers of female headed households (41%).
- **Unskilled laborers:** About half of the unskilled laborers live in the rural areas across the country with the largest proportions in the Ashanti and Upper East Regions. Households engaged in unskilled labor have one of the highest incidents of single headed households (33%).

The constraints to food security in Ghana are managed by both men and women in various ways. These mechanisms can be referred to as coping strategies or mechanisms. During food insecure periods, households use a wide range of mechanisms and communal support networks to cope with the situation. A study by Quaye in Ghana (2008) showed that the most important way of obtaining food when stocks run out were to buy the same food staples consumed from the market if the household could afford it. The survey results also reveal that one other alternative was to buy less preferred food from the market when the preferred one is not available. The frequency of food in-take was reduced from three to two times per day while the amount of food was also reduced in the period of food unavailability. This sometimes includes limiting adults and children food intake at meals and sometimes skipping a whole day's meals (Quaye, 2008).

Studies in Ghana also indicate that women held land in only 10% of Ghanaian households, while men held land in over 16–23% of households in Ghana (Deere and Doss, 2006). On average, men's land holdings were almost three times the women's land holdings. According to the study, the unequal access land access leads women to make suboptimal decisions with regard to crop choices and to obtain lower yields than would otherwise be possible if household resources were allocated efficiently. Insecurity of tenure for women results in lower investment and potential environmental degradation. It compromises future production potential and increases food insecurity.

2.3 Food Security in the Upper West Region

Extracts from the Food Monitoring Report by WFP (June 2011) provides a picture of the challenges faced by households attempting to remain food security over the coming years as climactic change and erratic rainfall patterns continue to plague the northern regions.

“Many parts of the UW Region are moderately food insecure due to continuing access to stocks available from the previous season combined with inflow of grains from surplus producing areas in the eastern districts of the region. A recent survey of selected communities in the region suggests that 26% of households are highly food insecure while 40.7% are moderately food insecure. As the lean season is already underway and food availability is gradually declining, particularly in the western part of the region, very high food prices will constrain poor households’ access to food. In eighty percent (80%) of reporting sentinel sites, the majority of households have access to food from their own production, representing a 20 percentage point decrease from May 2011. Households’ income sources have also dwindled and reliance on the sale of agricultural crops as a source of income has declined to 60% from 69% in May, 2011.

The month long delay in the start of normal season planting in most areas is likely to contribute to further upward adjustment in price as depleted household grains are complemented by erratic market supplies due to poor road conditions. The combined effects of these factors could potentially cause supply shortages in some places. While 32% of sentinel sites are concerned about the poor progress of the season, 39% are equally concerned about rains having been generally poor this year. The terms of trade for goat-maize grain in June remained comparable to May 2011. This is likely the result of an adjustment in the price of small livestock and a similarly increase in the price of maize grain.

The prices of maize in the Upper West are 74% and 80% above the five-year average in Tumu and Wa markets respectively. The current prices are also 68% above their level for June 2010 in both Tumu and Wa markets. The high price of maize grain which is uncharacteristic of market trends in Tumu (Upper West) has persisted since the beginning of the year, bringing the year-to-date increase in the price to 67% (WFP Food Monitoring Report, 2011).”

2.4 Stakeholder views of the food security situation in the Upper West

Interviews were conducted with 10 key stakeholders working on food security issues in the Upper West from the government, private, university and NGO sectors. According to MOFA, (2012), the Jirapa District in the Upper West Region, where the study was conducted, has relatively low agriculture production in relation to others in the Upper West. The Sissala West District is one of the districts producing high yields of staple crops in relation to others in the region. (MOFA, 2012). According to Mr. Osman, the Upper West Regional Planning Officer, food insecurity has become part of life for the people of the Upper West Region. The situation

has become a major cause of concern for stakeholders in the region as the low production output resulting from low soil fertility and very little rainfall has attributed to the food shortages in the region. He added that this situation worsens in the lean season, when most households (usually smallholder farmers) run out of stock, and this period of food shortage usually lasts four months (May to August).

When interviewed by the research team the Regional Director of the National Board for Small Scale Industry (NBSSI) stated that his organization does not directly engage in food security activities, but rather helps promote and support small scale enterprises in the region. Speaking on the status of food security in the region, he indicated that the food insecurity situation in the Upper West Region is very worrying, especially between the months of June to August. He added that the magnitude of the situation depends on the success or otherwise of the previous year’s harvest. Unfortunately, in the last five to ten years production has generally been low and this has greatly affected food security in the region. As one of the poorest regions in Ghana, the majority of whose population depend largely on agriculture, the Upper West Region bears the brunt of the low production and output. Additionally, a field officer present at the interview stated that the high rate of unemployment in the region serves as the main setback to achieving food security.

According to the Savanna Agriculture Research Institute (SARI), a leading government agency engaged in food security research, the key food security issues in the Upper West Region relate to inadequate training on new and innovative farming practices especially the use of modern farm inputs such as insecticides and weedicides, and on nutrition. He argued that most women do not understand the nutritional needs of their families and, hence, tend to cook just what is available without paying attention to the nutritional value of the food being prepared. He added that due to inadequate training and education small holder farmers have to contend with pest and diseases without adequate support from MOFA. When there is an outbreak of disease or some sort of plague, agriculture officers do not take quick measures to combat it, and this tremendously affects farmers’ output.

2.5 Agencies Working on Food Security Issues in the Upper West

There are a few agencies working on food security issues in the Upper West including the regional government agencies such as the Regional Coordinating Council and the Ministry of Food and Agriculture. A number of civil society organisations have also been mobilising women’s groups and have demonstrated experience in supporting integrated agricultural development efforts in addressing food security challenges in the region (e.g. PRONET, SILDEP, SUNTAA NUNTAA etc).

Table 1: List of Organisations/Institutions Working in the Upper West and their Mandate

Organisation	Mandate
Regional Coordinating Council	Regional Coordinating Council’s mandate is the monitoring of Government activities, supervision of projects, and provision of technical assistance to MDA’s.
Ministry of Food and Agriculture (MOFA)	MOFA is a Government Institution that researches and implements government laws on food security in the Upper West Region (at National, Regional and District levels).

Organisation	Mandate
SUNTAA-NUNTAA (NGO)	A Non-Governmental Organization promoting Agro forestry in Wa and the Jirapa district. It promotes tree planting and supporting women in agric.
PRONET	PRONET – North is a NGO working in several districts in the Upper West Region and providing support to women’s groups in the agric sector <ul style="list-style-type: none"> • Micro-credit • HIV/Reproductive health • Loans Revolving Funds.
SARI (Government organization)	Supports agricultural production and research. Its main activities in the region are training women on how to grow vegetables in the dry season and providing financial support to women.
YARO (CBO) Wa Yussif Kanton	Its main activities include training of farmers on good agronomic practices such as composting, food fortification (particularly soya beans), proper storage of farm produce (construction and rehabilitation of warehouses) and creating market linkages. YARO’s key programs being implemented include: <ul style="list-style-type: none"> • Sustainable livelihood programme for food security • Food Production • Monitoring Programme • Banking Inventory Credit • Community Management of Micro financing
National Board of Small Scale Industries (NBSSI)	NBSSI promotes small medium enterprises across several sectors including agriculture; the organisation conducts training and capacity building for SME’s as part of the government support programme. NBSSI also provides business and advisory services through their business advisory centers.
Association of Church Development Projects (ACDEP)	ACDEP is an association of church development agencies and projects providing services to farmers based organizations engaged in agricultural development projects and value chain issues. ACDEP is involved in the ADVANCE project a four year implementation program by ACDI/VOCA to facilitate the transformation of Ghana Agricultural Sector through increased competitiveness in domestic and agricultural markets.
ADVANCE project	The Agriculture Development and Value Chain Enhancement (ADVANCE) project targets sustained growth of competitive commodity value chains by strengthening the channels in which smallholders are linked to agriculture support services such as banks, equipment, sales, and information technology. The programme facilitates service provision to encourage private sector growth and investment.

See annex 7 for a more detailed listing of agencies visited and identified in the region working on food security and gender equality issues.

2.6 Capacity Building and Training in the Region

MOFA provides ongoing extension services to farmers in the region and has trained a number of young women from the various communities to become Village Extension Volunteers (VEV) to replace the women extension workers for MOFA. MOFA also trains farmers in the application

of fertilizers; the program supplies logistics such as farm inputs to reach out to the farmers. MOFA also trains women on block farming, rearing of animals, and provides supervision, monitoring and evaluation. According to Mr. Adams, the Regional Director of MOFA, ACDEP has linked local farmers to the Savanna Marketing Company based in Tamale, to enable them to sell their farm produce.

Another long standing organisation in the region is **Suntaa Nuntaa**, a local NGO. According to its Director Dr. Naa Bob Logah, they provide training to (especially women) groups on agro-forestry, moringa/mango and other tree plantations, and training on savings and loans schemes in 3 districts in the region. Other services provided by Suntaa Nuntaa include promoting and supporting women in income generating businesses such as bee-keeping. Table 2 below outlines the training activities of the organizations working in the region that provide services to small holders and farmers groups:

Table 2: List of Organisations and Services Provided in the Region

Organisation	Services provided	Details of service areas of support
NBSSI	Group formation and dynamics Technical Training: New technologies and agro-processing Rural Enterprise Projects Micro-Credit (NBSSI): Loans Revolving loans fund	Leadership skills Record keeping and management Conflict management Sowing culture and micro-credit support Business management and development support Shea butter processing Groundnuts processing Bore holes, pumping machines
PETOZ	West Africa Sorghum Value and Chain Development Projects.	<ul style="list-style-type: none"> • Training on savings • Group dynamics • Sorghum program • Soya beans program • Agric Cashless program

According to PRONET, one of their successful projects in their programme has been “Women in the Upper West, Ending Poverty Upholding Rights”. This is a 5 year project with funding from the Big Lottery and Concern Universal, and has had a great deal of impact on women’s economic and social lives. For example, the training that was given to the women has improved their financial literacy. Prior to this program, most of the participants could not differentiate between the various denominations of the cedi. The training has helped to build the confidence of the women.

2.7 Constraints and Challenges to Supporting Female Agricultural Activities

Some of the **main constraints** affecting food security in the region outlined by key stakeholders included the erratic rainfall, unstable land ownership, and growing burden among women in relation to food provision for the family. The Upper West Regional Planning Officer explained in an interview, that rainfall has been very erratic over the last few years. Dug outs and dams for dry season farming and animal rearing have all dried up. He mentioned that the rainy season has been shortened prolonging the period of dry season to seven-months a year. According to the UW Regional Director of MOFA, infertile lands, lack of rains/inadequate rains, poverty/financial constraints, illiteracy and lack of storage facilities in the whole region have been the major constraints to farmers in the region. The key constraint for women in the Upper West Region is inaccessibility of land based on the belief that women culturally do not own land as they are considered “strangers in the husband’s family”. Other constraints outlined by the MOFA Regional Director included:

- Inadequate funds for farmers to cultivate on a large scale therefore limiting the amount of food produced.
- Women are over burdened with household chores, limiting the amount of time available to them for actual food production.

Dr. Agnes Apusiga, a senior lecturer and gender expert at the University for Development Studies (UDS)¹⁰ concurred that the main constraints for women in agriculture in the Upper West, are that women are “so over burdened with household activities as well as work for the family farm, and social expectations of the woman are so high, that their ability to produce more crops to supplement family nutrition is greatly affected”. She said that women grow crops such as groundnuts and beans which are sold to enable her to buy soup ingredients. Major staple crops produced by men like maize, rice, millet, yam and guinea corn, which should sustain the family’s food needs, is often sold by the men for cash rather than preserving it for family consumption. Other constraints outlined by Dr. Apusiga include the following;

- Taboos are quite minimal but still play an important role in family nutrition. Dr. Apusiga said some women are not supposed to eat certain foods, like chicken, and often the best food goes to the man.
- In polygamous families, women have a more difficult situation feeding the family. In most cases, the man decides what amount of food that should be given to each woman and her children. Decisions are not based on the number of people that are being fed. Some households end up with too little, whilst others have more than enough.
- Women lack decision making power regarding the choice of crop to produce, the amount of labour to be used on the farm and distribution of family food.

Table 3 below outlines the key constraints identified by other key stakeholders interviewed in the Upper West.

¹⁰ Dr. Agnes Apusiga is the cultural and gender Lecturer at U.D.S.

Table 3: Key Constraints in Farming in the Upper West Region

Agencies	Key constraints
CEO PETOZ (Soya Beans)	<ul style="list-style-type: none"> • Lack of large storage facilities. People are scared to produce a lot because the cost of storage is high. • Lack of a ready market. • Inadequate logistics for commercial farmers. • Lack of quality seeds. • The labour provided by women is divided between her husband’s farm and her own. She spends so much time on her husband’s farm that she has no time to work on her own farm. She plants late and this affects her output.
YARO	<ul style="list-style-type: none"> • Low income levels – they don’t have access to producing resources • Land access issues for women. • Men usually discourage women from joining women’s support groups and hence get more access to interventions. • In terms of production, most of the women do not have the capacity to store the produce nor market linkages.
Suntaa-Nuntaa	<ul style="list-style-type: none"> • When women are given loans to help increase their farming, most of them will end up in retailing. This is because they are not given adequate training to enable them to use these loans to improve their farms.
PRONET	<ul style="list-style-type: none"> • Pressure and work load of women. • Migration of men. • Inadequate land for farming. • Limited access to land. • Lack of storage facilities to support farmers. • Lack of ready markets. • Limited support for logistics/transport and tractor services for women’s groups. • Inadequate access to quality seeds.
NBSSI	<ul style="list-style-type: none"> • Inaccessibility to land. • Lack of finances to cultivate more food. • Lack of information and technologies. • Women’s labour is used mostly in farming: weeding, sowing, maintenance of plants, harvesting, post-harvest activities, storage and marketing of food crops but the income mostly goes to the man. • Women own their farms, suffer the triple burden, and have limited hours of labour on their own farm leading to subsistence low yield farming.
SARI	<ul style="list-style-type: none"> • Farmers lack financial support • The social power of men hinders women’s abilities.

2.8 Strategies and Solutions for Food Security

The main strategies identified by stakeholders across the region included the need to address the issue of erratic and unpredictable rainfall/environmental degradation, support income generating activities, and select crops which do not increase the risk or burden on women. The Regional MOFA Planner identified many organizations and projects working towards eliminating food insecurity in the region such as: Catholic Relief/Service, WFP, USAID and several NGOs like Techno serve, PRONET and LEAP to mention but a few. Table 4 below outlines some of the solutions proposed by key stakeholders and experts in the region.

Table 4: Key Solutions/Strategies Identified by Stakeholders in the Region

Agency	Key Strategy/Solutions
<p>UDS Gender and Agric Expert (Dr. Agnes Apusiga)</p>	<ul style="list-style-type: none"> • To improve food security, interventions must support women with key food crops which are used for household consumption; crops should be selected which are at low risk for communities, especially women to produce. • Dry season vegetable gardening is one key step to improving family food and nutrition security. This requires the provision of water resources to facilitate the process. • Extra off farm activities such as petty trading and other forms of income generation would support the family raise food during the lean season • More consultation with men to discuss the issues of food security in the household.
<p>MOFA Regional Director (Mr. Adams)</p>	<ul style="list-style-type: none"> • Women should be encouraged to farm crops that women are “comfortable” with such as rice, groundnuts, and soya beans. • Other investments like education/training on soap making, groundnut processing, basket weaving and pottery should be encouraged. • Farmers (both women and men) should be given education on the need to help each other at the farm and in the house.
<p>CEO, PETOZ (Peter Zaato)</p>	<ul style="list-style-type: none"> • Train farmers on the use of quality seeds. • Build more warehouses for storage. This should be done on a need basis. • Empower women by increasing their production of more food crops and cash crops. • Train more women on good nutritive practices. • Help promote inter-cropping, that is maize with beans or cash crops with food crops. • Do not encourage the production of crops like cotton and other crops that is not consumed directly or if they are grown they should be inter-cropped with food crops like maize.
<p>SARI</p>	<ul style="list-style-type: none"> • Give farmers improved seeds • Train farmers and household ‘managers’ on good storage practices • Help women have access to capital by encouraging them to form groups. • Train women on food production and handling. • Train women on how to process the various produce into local and nutritive dishes.
<p>Suntaa-Nuntaa</p>	<ul style="list-style-type: none"> • Women should be supported to produce more groundnuts because it’s much easier to handle during harvest season. • Groundnut is considered to be a “Women’s Crop”. It can be easily stored compared to soya beans; which readily goes mouldy.

Agency	Key Strategy/Solutions
	<ul style="list-style-type: none"> • Cowpea is another crop that women can farm easily for cash and/or consumption. • Special crops for women to grow which support their families include chilli pepper and okra.
YARO	<ul style="list-style-type: none"> • To help access more training and create awareness • Help increase the income of women by empowering them economically and socially • Produce more food crops for both cash and consumption

Inventory credit schemes were one “best practice” being adopted by several NGO’s and private sector firms across the region such as SILDEP, and Techno serve. PETOZ Ltd is another private sector firm which has been operating inventory credit schemes in the Upper West Region. They provide a warehouse to store food during bumper season and sell in the lean season as a way of helping to solve food insecurity problems. They cover Wa West, Wa East, and Wa Central, however they do not have programs specifically targeted at women. See the chapter 5 for more details on key strategies and solutions recommended by the women’s groups themselves.

Chapter 3: The Situational Analysis of Food Security in the Upper West: Context of Farming in the Upper West: Community Perspectives

This section of the report will present the main findings from interviews and focal group discussions with chief's, elders, women's leaders, and key informants in the eight communities. It will also present data collected during transect walks across the communities and community profiles developed in order to explore the contextual factors inhibiting food security according to community members and leaders.

3.0 The Community Profiles

Two districts and eight communities across the Upper West Region were visited by the field teams over the three week period. Communities were largely dependent on farming, although there was growing evidence of male adult/youth migration during the off farm season in order to find work in southern Ghana. In communities with access to dams during the dry season, there was dry season gardening activities by both men and women to supplement family income (mainly found in the Sissala West District). There were wide variations in soil fertility between the two districts. This factor had a direct impact on crop yields and family income. Potentially fueling the out migration of men in the community. For instance, where there were very poor soil fertility and poor crop yields (i.e. Jirapa), a much higher proportion of men were found migrating to the Brong Ahafo Region in search of "by-day-labor". They would often return to the communities at the beginning of the farming season in order to assist their wives in preparing the land for cultivation.

Community sizes ranged from approximately 800 people to over 3,000. There were also large variations related to the number of men and women present in the communities at the time of the survey. Table 5 below reveals that Tampala has the highest male and female population of 1,200 and 1,800 respectively. The number of female adults in the Jirapa District was significantly higher (almost double) compared to men in the district. This was explained in interviews with the women who reported that large numbers of men migrate out of the community on a seasonal basis. The number of women in the Sissala West District was also higher than men.

Table 5: Male and Female Population across the Eight Communities.

Name of community	District	Total number of males ¹¹	Total number of females	Total number of children	Total number of households	Total number of community members
Tampala	Jirapa	1200	1800	569	300	3569
Mwankuri	Jirapa	937	1404	392	425	2733
Vinving	Jirapa	250	370	153	99	773
Nimbare	Jirapa	253	362	263	100	878
Bullu	Sissala West	*	*	*	*	1614
Kupulima	Sissala	167	299	348	*	814

¹¹ Males and Females refer to adults 18 years and above.

	West					
Jitong	Sissala West	158	200	500	*	858
Gbal	Sissala West	261	346	340	110	950

Note: * means data is not available

Source: Key informants at Community Level, MEDA Field Work 2012

A detailed description of the eight communities is contained in annex 9. Please find below an example of one community profile: **Mwankuri Community Profile, Jirapa District**

Mwankuri is a typical Dagaare community¹², situated 21km east of the Jirapa District capital. It has a population of about 2,733 people: 937 men, 1404 women and 392 children. The people are predominantly Christian and farm for family food consumption. The main crops grown are maize, cowpea, rice, groundnuts and bambara beans. Of these, the women controlled crops are rice and groundnuts which they produce from their own farms. Men in the community keep cattle, goats and sheep while women basically keep pigs.

There are three women's groups and one men's group in the community and the main purpose is for socio-economic benefit. Members of the group work on a common farm, and the produce grown is sold and the profits shared. The group members also work on other people's farms for a fee (mostly on credit until after harvest). The groups also provide moral and social support to its members. For instance, they help each other out on the farm when members are in need at no fee. Women especially support each other with food, water, etc. in difficult times, e.g. bereavement.

The main source of water for household consumption, and for watering animals in the community is a borehole. There are two boreholes but one has a low yield. The community largely depends on Sabuli (to the north) and Bussie (to the south) markets to provide their needs. A few other households purchase agricultural supplies (e.g. fertilizer and insecticides) by travelling to the district or regional capitals. Interviews with community members indicate consistently poor harvests over the last five to ten years. In the communities own assessment poor rain patterns, poor soil, and inaccessibility to modern farm inputs (tractor, fertilizer and insecticides) account for the poor harvest. As a result, most families are food insecure. Produce from the farm only last four months (December to March) and households then have to buy food and manage until the next harvest. It was clear that some amount of the harvest is sold to settle debts incurred during the farming season. In times of food shortage, women carry the burden of feeding the family. As a result of poor harvest, there is a high migration of men to villages in the Brong Ahafo Region to take advantage of the second farming season there. From their own assessment, the attendant problems of migration (transmission of diseases and chronic poverty) are inherent in the community (Food Security Field Notes, 2012).

3.1 Key Community Demographic Indicators

Religion plays an important role in consolidating attitudes and beliefs among men and women in relation to their roles, responsibilities, and family make up. For instance, in the Sissala West

¹² This is one of the main ethnic groups in the Upper West.

District, Islam is the main religion, and a high incidence of polygamous households was found. (see table 12 in Chapter 4 for details on polygamous and non polygamous households)

According to the community and household survey data, the predominant religion across the two districts was Islam. Islam dominates across four communities in the Sissala West District and Christianity was found as the main religion in three of the four communities in the Jirapa District. Only one community was found to be practicing “traditional” religion. Findings from the community survey also suggest that the predominant ethnic group in the Jirapa District was Dagaare while the predominant ethnic group in the Sissala West District was Sissala (see table 12 below).

3.3 Group Formation, Activities and Savings across the Communities

Women and men in the eight communities formed associations called Farming Groups. Thirty nine farming groups were identified across the eight communities with women’s groups (59%) outnumbering male groups (see table 6 below). This finding was confirmed in focal group interviews with chiefs and elders who reported that their communities had fewer men’s farming groups compared to female farming groups. Interviews with women showed the level of dependency that they had on their farming groups to assist them with their labor needs on the farm as well as providing a social/psychological support group in times of trouble. (See chapter 4 for details of breakdown of community groupings).

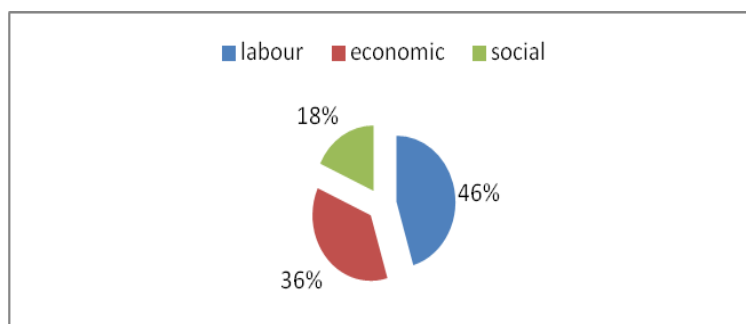
Table 6: Number of Male and Female Farming Groups in the Two Districts

Groups	Number of groups	Percentage %
Men’s Group	16	41
Women’s Group	23	59
Total	39	100

Source: AfC Field survey, 2012

Interviews with community key informants across the two districts suggest that the main focus of farming groups was often related to providing labor on people’s farms and economic /income generating activities (See figure 3 below). Interviews with women suggest that most women’s groups “hired” out their collective labor during the farming season to their members and/or other men (on a payment basis) which would be paid after the harvest/farming season. There were only a few examples of women’s groups farming collectively on each other’s farms in a rotational/voluntary basis. Income generation activities included saving and credit activities. For instance, most of the women’s groups were involved in raising funds for small loans through a local savings group approach called “susu” where each woman is responsible for making a weekly contribution and is able to borrow from the group savings after a set period of time.

Figure 3: Focus of Women’s Farming Groups



The eight communities visited each had two or three Women's Self Help/Farmer Groups that were engaged in activities geared towards improving the living standards of their families. The group's membership ranged between 18 to 30 women. The group activities included women groups focused on the production and processing of soya beans, groundnuts and shea-nuts picking and processing groups. The Vingving community had a total of 6 groups, while Kupulmah community had a total of 4 women groups. There were 2 women groups in Bullu community.

The women group leaders reported that they were engaged in various activities that are geared towards the production of food crops to feed their families and to generate income from the sale of crops. Some of the activities included engaging in:

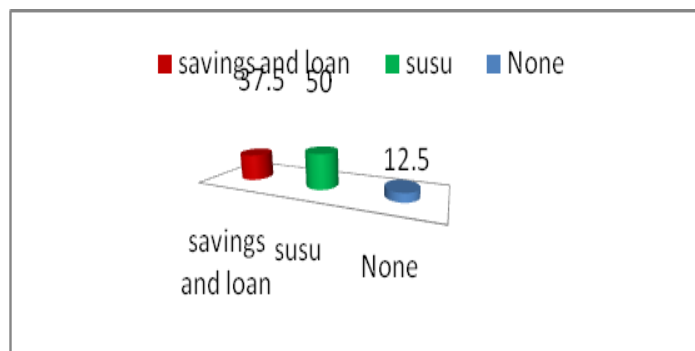
- Group farming activities.
- rotational farming
- Shea-nut picking and shea-butter processing.

Women find time to form these groups because they recognize the constraints they face in relation to labor on their own farms and family owned farm. In order to address this major constraint women interviewed reported that the formation of women's groups and the usage of these groups on their farms was a means of supporting each other. Groups interviewed reported that sometimes they do not take fees to assist one another on their farms and in other cases they charge the fee on a credit basis after the harvest has been completed making it easier on the women for repayment. There were also interviews with extremely poor women who did not have the seed to plant for the farming season and were forced to hire out their labor in order to purchase seed for planting.

3.4 Types of Savings/ Credit Schemes in the Community

There were several saving and loans schemes operating across the various communities including those which were implemented and introduced by NGO's such as PLAN Ghana. Some of these schemes have developed elaborate approaches to assisting community members insure that the savings collected by groups was secured and managed appropriately. For instance the Community Savings and Loan Scheme is one of the largest scale savings programs identified across the district. It operates by ensuring that three members of the community have keys to access the savings boxes, and that a separate member of the group are responsible for storing the group savings. This savings method was mainly due to the limited access of groups to rural banks and financial institutions that would normally store the funds of these groups. The most popular savings and loans schemes were the traditional "susu" method. with over 50% of the communities interviewed having susu groups operating in their community farming groups. See figure 4 below for details.

Figure 4: Types of Savings Engaged in across the Two Districts



Source: Household survey, MEDA Food security research, 2012

3.5 Social, educational and health context of the communities visited

Focal Group interviews with men and women indicated high rates of illiteracy across the eight communities studied. This is consistent with findings from the Ghana Living Studies Survey 5, which indicates an over 80% illiteracy rates among female adults in the rural Upper West Region and other northern regions. There were higher rates of literacy in the Sissala West communities where more youth had returned after attending both junior and senior high school to engage in farming activities. Many of the women’s farming groups reported not having access to even one literate person to be secretary to the group. Many of the successful women interviewed were illiterate. In the Jirapa District, in-depth interviews with Households suggests that a high proportion of children in the community were also unable to attend school due to their families’ economic situation and also the long distances to school and responsibilities on the farm.

Out of the eight communities visited four reported having female literacy classes and five communities had male literacy classes in operation. Two communities conducted literacy classes on a weekly basis and two conducted the classes on a monthly basis. Most of these classes were operating in the local language and being run by NGO’s like SILDEP, World Vision/PLAN or the Government Non formal Education program.

Most communities were fully dependant on rain fed agriculture with only four communities having access to a dam/dug out to fetch water for their families. Some of the dams/ dug outs were dry up during the time of the field research and had not been used for dry season gardening (particularly in Jirapa District). Approximately 12.5 % of communities had to walk between 1-3 kms to obtain water for their household consumption. These communities were mainly located in the Jirapa District. Table 7 below shows the Distance to Water Sources from Communities.

Table 7 : Distance to Water Sources from Communities

Distance	Percentage of communities
Within 500meters	25
Below 1 km	50
Between 1-3km	12.5

Findings from the focal group interviews also suggest that there was a very high level of awareness concerning the approaches to improving family nutrition and implementing sound dietary practices at the household level (e.g. knowledge of the usage of beans with rice, integrating green leaves in the diet). There were a few health clinics operating close to three of the eight communities visited and other communities reported visits by health workers on a monthly basis. Four communities reported having access to a community health worker, who was the main source of information on nutrition in the community. Examples were also given of MOFA extension officers providing demonstrations on food preparation such as soya beans. Other projects such as the Northern Rural Growth Project provided training on rice production and child nutrition, and on how to combine different foods.

3.6 Changes in food crop production and animals rearing over the last three years

Researchers asked the community key informants such as the chief, elders and assemblymen “what are the main changes you have seen in your community regarding farming practices, production size, types of crops and quantity and types of crops sold over the last few years? A sample of the responses to these questions across the two districts are listed below:

Table 8: Changes in Production over the Last Three Years

Jirapa	Sissala West
<ul style="list-style-type: none"> • “There has not been any change in the control. It is still the same traditional male dominated controlled farming practices”; • “Women have sheep and goats more than men because of the intervention of NGOs, UNDP also gave some animals to both males and females” • “Men are in control of the basic food cash crops except groundnuts which are largely controlled by women. Just a few women keep animals”. • Women used to cultivate maize, but because of less yield they now produce rice and also rear animals;” 	<ul style="list-style-type: none"> • “Cattle are not possessed by women, the family head controls them”. • “There have been decreases in production because the soil has lost its fertility and the rains are also failing us. No farm inputs”. • “Bad yield due to late farming of cotton, no farm inputs like tractors” • “Men mostly cultivate maize but are not well equipped, women also cultivate maize and have stopped cultivating millet and guinea corn because of erratic rainfall.”

Interviews with the chiefs and elders revealed that the main changes in relation to farming practices and production size is that they are now experiencing a shift away from millet and guinea corn due to the erratic rainfall which has an impact on their household nutrition. There is less variety in staple crops available for consumption at the household level. The main change in all the four communities in Jirapa District was the decrease in crop yields particularly maize, millet and groundnut (key staple crops) as a result of infertile land, erratic rainfall patterns and

the inability to purchase farm inputs (e.g. fertilizer and insecticide). Elders interviewed in both districts explained that most of their people now resort to the application of fertilizers, weedicides, and insecticides in order to increase crop yields (esp. maize and cowpea/beans).

Chiefs and opinion leaders interviewed explained that there are very limited yields if insecticides are not used for bean and cowpea production. Most farmers now plant in rows and on ridges to maximize production per acre. Some farmers use tractors and/ or bullocks for ploughing the large fields instead of using the hoe but this is still a male controlled activity, with female farmers having to request for access to tractors “through their husbands”. Another change experienced across all eight communities is that farm sizes are decreasing as a result of increasing family sizes which exerts pressure on the limited lands available. There is also continuous farming on a particular plot of land in the Jirapa District which leads to the land becoming infertile. In the Sissala West District men give women the land which has been farmed for two to three years without a fallow period. The farmers now resort to early yielding crops supplied to them by MOFA (e.g. three month maize seeds).

All eight chiefs and elders interviewed made mention of the infertile nature of their land, the erratic rainfall pattern coupled with the absence of dams, wells and other sources of water supply in the areas which were the main causes for changes they are experiencing in the poor agricultural output. There is also migration of the adults and youth to southern Ghana during the “lean season” to engage in daily labor leaving their wives and children with the older people. This pattern of youth migration was much more pronounced in the Jirapa District due to the lack of alternative livelihoods in the off farm season and the prolonged nature of the hunger period. Some women’s FGD’s also reported that their husbands delayed in coming back to the communities and did not arrive early to help with the land preparation during the farming season which could delay the ploughing of their fields. There is also an increase in the family size of the people making it difficult for most of them to feed their families.

3.7 Changes in Nutritional Patterns and Dietary Practices

Interviews with the chiefs and elders across the eight communities reported that the type of food eaten in the household depended largely on what was produced on the family’s farm and “women’s farm”. In the 1990’s the families had enough to eat due to the availability of food. The staple food year round is ‘tuo zaffi or T.Z’ made from maize or millet which is either eaten with ground nut soup and green leaves; often a protein supplement is placed in the soup called dawa dawa. Millet dishes such as morning porridge and T.Z are now being prepared with yellow corn as producing millet is not seen as feasible any longer due to the erratic weather conditions. In most communities soya beans are eaten in small quantities which are made into the dawa dawa.

Focal group discussions with women’s groups suggests that women have a very extensive knowledge of nutrition and the use of food combination; they often use green vegetables, dry powered fish, beans and soya beans in most meals. Women reported having challenges in eating a balanced diet or other nutritional food in the lean season. Men are expected to provide the main staple grains and cereals while women are expected to prepare all other ingredients and vegetables for the soups they prepare. They mix rice with their beans and have several difference

bean and green leaf combinations in their “soups” on a daily basis. Women also described how they are now adding the moringa leaf to their soups on a regular basis. They use very little meat protein in their diets except for festive occasions.

The groups indicated that the patterns of cooking in polygamous households was changing. Most women have decided to cook on their own for their own children because they could not control value of the food being prepared by the rival wives; the cost of the feeding several other families was increasing (i.e. if a wife had fewer children than the other wife she was reluctant to spend extra funds on the “soup” ingredients). This means that in polygamous families, the practice of wives cooking in rotation for the whole family is gradually being phased out, with each woman now preferring to cook for her own children. More than half of polygamous households visited in Sissala West suggest that the women are not cooking from the “same pot” meaning that the females inside the household are becoming more independent. The splitting up of cooking responsibilities among separate wives in polygamous relationships was seen as a major cause of food shortage in the family based on the male FGD interviews. Observation at the household level does suggest that this practice could be wasteful due to the fact that more than one woman will cook for the husband every day.

3.8 Main Constraints Families Face in Achieving Food Security

The interviews with the chiefs and elders across the eight communities revealed that they were very aware of the constraints faced by families which made it very difficult for them to produce enough food to feed their families. The main constraint mentioned by the community key stakeholders was the erratic rainfall pattern of the area, in which the rains come very late and ends very early. The rains for the last few years have been mainly concentrated in June and August. July is often characterized by drought and most crops wither away.

Almost all the community leaders spoke of the infertile nature of their land as a result of over farming on a particular piece of family land. Inaccessibility, non availability and high cost of farming inputs and machinery(i.e. tractor service for ploughing, fertilizer and insecticides) were among the other constraints identified. Elders also made mention of lack of start-up capital for the next farming season to buy farming inputs in order to increase yields. The chiefs and elders in almost all the communities made mention of inaccessibility of improved seeds, which if used, would help improve yields. Another key constraint and challenge mentioned by the elders was the increasing migration of the “able body” youth /adults to the southern part of Ghana to work as manual laborers often leaving the older people and children who are not strong enough to farm.

3.8.1 Main Constraints Women Face in Food Production and Household Food Security

In the opinion of the chiefs and elders of the communities, women are more burdened than men to ensure adequate food for the family year round. Women are especially constrained by the rainfall pattern because they cultivate rice which needs a lot of rain to mature. The elders were also aware that the women have limited access to tractor services and farm inputs which makes it

difficult for them to produce enough food to feed the family. Other constraints mentioned by the chiefs and elders were:

- Women tend to work most of the time on the men/ “family” farms at the expense of their own farms. They are expected to finish their husbands’ farm activities before they can have time for their own farms.
- “Men only give women food stuffs at the end of each harvest and it is now becoming the main responsibility of the women to do whatever is possible to feed the family throughout the year”.
- Women are more constrained when it comes to the use of infertile land for crop production. The men tend to release over used land to women for crop production as they feel the women wouldn’t be able to clear virgin lands for cultivation. Women are often not allowed to cultivate more than 2 acres of land (Jirapa District) due to the land labor, time and resource constraints.

3.8.2 Main Constraints Women Face in Making Decisions Concerning the Choices, Types and Amount of Food Available to the Household.

Interviews with the chiefs and elders revealed that they believe that decision making related to what crop to produce is taken by both men and women. But the men make the final decision as to whether they produce a particular crop or another. The FGD with elders revealed that men decide the land area to farm, the type of crops to be farmed, and after harvesting they decide what percentage of the farm produce is to be consumed or sold. “The decision as to what to cook is the woman’s responsibility.... But that is dependent on what food is available or what is produced. (FGD elders’ discussion, Sissala West District).

The outcomes of these constraints on women were reported by the elders as follows:

- “The poor agricultural output discourages the people especially women from farming activities and this leads to more food shortages”.
- “This results in malnourishment of children as they do not have enough food with the right nutritional values”.
- “The poverty situation of the people continues to worsen as they are not producing enough food to feed themselves not to even talk of selling the surplus food produced.”
- The constraints have also resulted in massive migration of the youth/adults to southern Ghana to seek greener pastures”.

The Community survey with key informants indicated that all eight communities had limited access to buyers for their produce. A few communities reported having buyers from the major market centers in Techiman and Wa but the vast majority relied on sending their own produce to the local market. When asked ‘what are the main constraints facing family members/women in producing enough food for feeding the family and for the market on a monthly and yearly basis’: Some of their responses are listed in Table 9 below:

Table 9: Main Constraints Families Face in Producing for Sale

Jirapa	Sissala West
<ul style="list-style-type: none"> • Community members have to sell their animals through agents at the market who cheat village folks. This is worse for women. • Lack of access to adequate land, infertile soil and erratic rain falls. Limited or no farm inputs, and advice from extension officers, • Market is far and it is difficult to transport farm produce to the nearest market... • Most women walk to the market to sell food stuffs. • Most crops cultivated by women are usually consumed in the house except groundnut. • Lack of decision making and farming by women. 	<ul style="list-style-type: none"> • Inaccessibility of improved seeds, farm inputs, education, storage facilities and technology • Lack of technology for processing adequate food and products for sale/production • Lack of technology to process shea nuts and cultivate rice, lack of training, infertile soil. • Maize is difficult to winnow, rice difficult to process, soya beans difficult to farm • Lack of dams/irrigation • Lack of credit to invest into farming.

When asked to report on the differences between what men and women do during the non farming season (Jan to March), community members provided the following responses: women mainly engage in charcoal burning and firewood collection (Gbal, Bullu and Kupulma); the majority of men in the Sissala West District were involved in dry season gardening while men in the Jirapa District were mainly migrating to the Brong Ahafo Region to engage in agriculture activities. Women across the two districts reported engaging in charcoal burning and the collection of firewood for sale, harvesting dawa dawa and shea nut processing. Both men and women were engaged in animal rearing and sale for cash income. According to the community survey at least 3 out of the 8 communities were receiving some type of food aid.

3.9 Length of the “Hunger season”

Key community informants were asked "what are the main months of food shortage during the year". Their responses indicated that Jirapa District has a much longer hunger season when food is not adequate or available at the household level. Communities in the Jirapa District reports having a six month hunger season stretching often from February to early September while in Sissala West the hunger season was about three months--- usually from June to August. Findings from the focal interviews suggest that this was mainly due to the lower agricultural yields experienced by the Jirapa District communities and their inability to store enough food for the entire year to sustain the family (see table 10 below).

Table 10: Length of Hunger Season

Community	District level	Months Of Food Shortage
Tampala	Jirapa	April-September
Mwankuri	Jirapa	February-June
Ving Ving	Jirapa	Late April- Early September
Nimbare	Jirapa	May-August,
Bullu	Sissala West	July- August
Kupulima	Sissala West	June-August
Jithong	Sissala West	June -August
Gbal	Sissala West	Late June-Early August

When community leaders were asked whether it was difficult for households to eat their preferred meal or food over the yearly period, five out of eight communities (all four in Jirapa) indicated that this was sometimes difficult. On probing community leaders/ key informants to explain “why households find it difficult to eat preferred meals,” the following responses were given:

- “Because they (HH) do not have enough yield to sustain the family throughout the year and most of them have to rely on wild vegetables”
- “Families are largely unable to produce enough /adequate food for the family.”
- “Families do not have sufficient food to eat all year round, therefore eat anything, mostly wild vegetables;”
- “Lack of financial assistance, high interest rate and lack of dams/irrigation for off season activities;”
- “Lack of funds to eat preferred meals or food...they purchase food from markets at very high cost”
- “Sometimes difficult because we buy most of the food we eat”
- “This depends on the level of harvest”

3.10 Coping Strategies

During the community interviews with key informants, they reported reducing food portions per head and taking less meals each day as the most common coping mechanisms. Seven out of the eight communities reported that other forms of coping mechanisms included the sale of stored food stuffs, the sale of productive household assets, and sale of possessions such as animals and livestock. Half of the communities (4) mentioned male migration as a key measure to cope with food insecurity. Community key informants also mentioned that particularly “poor women” would obtain food by hiring out their labour for payment and barter their farm produce for other food items.

Some women were involved in petty trading but they often complained that the community members did not have the funds to purchase the items they had for sale such as pito, shea butter and small household items etc. Several women, particularly those considered “female success stories”, were yielding more income by purchasing grains during the harvest season when the prices were low and then selling these grains off during the “lean season” when prices were high (e.g maize, groundnut and beans). This coping strategy requires a small amount of capital which

most women do not have (GHc100-200). Approximately 3 communities in the Sissala West District engaged in dry season gardening and animal rearing and trade across the border which was the main activity for sustaining the family in the non farming season.

3.11 Marketing Accessibility and Satisfaction

Data from the community surveys indicated that the majority of communities had to travel up to 7 km from their community to access the nearest bank. At least 4 out of 8 communities reported having to travel over 9 to 32 kms or more to access a banking facilities. Distances to the nearest market were also far with the majority of communities (5 out of 8 communities) reporting that they had to travel over 8 kms to the nearest local market. District capitals were also over 8 kms away for the majority of the communities.

When asked who are the community buyers of the farm produce, FGD with chiefs and elders suggests that private individuals mainly from the district, regional capitals and a few communities had access to buyers from major market centers such as Techiman and Kumasi. The communities which obtained the best market access to buyers from the “big market centers in Ghana” were known for their high level of crop production... (e.g. Bullu, Gbal, Jitong, Kupulma mainly in Sissala West District). The majority of Jirapa District communities had relatively small markets and used these as the main sale center for produce. Many community members complained that these markets were not serving their purpose (4 communities) and there were high costs in transporting farm produce.

3.12 Community Seasonal Calendars

The seasonal calendars enabled the teams to explore the labor patterns of men and women in relation to the crops they are growing. Four communities were investigated for their seasonal variations (two from each district). The major food crops cultivated in all the communities by men are millet, groundnuts, maize, yam, rice, guinea corn, beans, cowpeas, Bambara beans and soybeans. These crops are mainly grown on the family/husband’s farm and are used as staple crops for feeding the household. The cash crops are mainly maize, millet, groundnuts and soybeans which are men controlled crops. The women also select and grow crops such as rice, beans, cowpeas, bambara beans, soybeans and groundnuts to supplement household feeding. Women with big size farms are able to sell some for cash.

The seasonal calendars indicate the time available for women to work on their families’ farms and their own farms. The focal group discussions using the seasonal calendars revealed that men, women and children provide labor on family farms and women’s farm. The farming processes for major crops include pre-planting, planting, weeding, fertilizer application, harvesting, processing, storage and marketing. Men do the land preparation, weeding, application of fertilizer and insecticides, men do the second weeding by themselves, as women will be busy on their own farms. The men are supported by women to harvest crops. Most men in Jirapa and Sissala West districts engage in marketing of crops and animals. See annex 11 for specific seasonal calendars and then the table 11 below for key findings.

Table 11: Roles and Labor Patterns among Men and Women in Relation to Farming

	Mens' role	Women's role
Pre planting/Land preparation	The men do the land preparation by using hoes, cutlasses, bullocks or tractor services.	The women help to clear bushes and fetch firewood during land preparation.
Planting	After the land preparation by the men, both men and women and children help to sow crops such as maize, cowpeas, beans, and groundnuts on the family land. The man digs the holes and the woman puts the seeds into the hole and covers them. If the family cannot supply enough labor the husband engages hired labor or women's group to sow the crop.	The women sow the crops, first with the husband on his farm and then after, the woman goes to plant her own crops. Women's farms are often planted late by the women reducing the yield. Women often have constraints on obtaining enough labor to plant on their farms;
Weeding	The weeding of farms is done by men, women and children. The men mostly weed the farms and add fertilizer to maize after 21 days of planting. At the time of weeding the early crops, the labor is divided and women also go to sow their crops which are mainly beans, rice, cowpeas and groundnuts.	<p>She also helps to weed on the husband's farm as well as ensuring that she weeds her own farm too. The woman helps in the application of fertilizer on the man's farm and if she has to apply her own fertilizer, she might hire labor or get the husband to help her.</p> <p>The woman weeds the man's farm and later on weeds her own farm. These days women have formed women's groups that support each other on the farm to plant, sow, weed and harvest, thus making labor available to women to expand their farms.</p> <p>Women and children keep watch over the crops to ensure that weeds, birds and diseases do not destroy the crops, and harvest and process crops from husband's farm and their own farms.</p>
Harvesting	Harvesting is done by men women and children or hired labor.	Women harvest most of the food crops, but have the men slash down the mature crop and the woman and children pick the seeds, clean, dry and carry the produce to the home.
Processing	Mainly a female responsibility; men do not often engage in the processing stage but assist the women sometimes in milling and grinding the grains.	The women process the crops by removing the hull, husk or skins. They shell the grains and blow away the dirt before drying and bagging for storage.
Food preparation	Female responsibility. Men are never seen cooking for the	The women do the food preparations and processing like milling, grinding, pounding

	Mens' role	Women's role
	household.	and cooking of the household meals.
Sale	Men also sell crops which are from the "family farm".	The woman sell crops from her own farm; she also carries the food crop from the family farm to market on her head, using donkeys or vehicle to go to nearby and district markets to sell produce and to purchase needed food items for the house.

The division of labor based on the seasonal calendars from the UW reveals that women spend more labor and time on the farm compared to the men. Findings from the field work also suggest that if the male member is a migrant worker he may be delayed in coming back to the community and may not be able to support the women prepare the land at all. There were cases in which the women were solely responsible for working on the family farm at all stages of the agricultural cycle. Seasonal variations and workloads related to cropping can be observed particularly when comparing the two district seasonal calendars in Annex 12. Some of the key findings suggest the following:

- Women work far more hours on the family farm than the husband, and provide more labor for food production in order to feed the family.
- Women are becoming increasingly burdened with food production particularly where the husband is a migrant.
- Women are responsible for performing most of working tasks on the husband's farm before she can farm on her own farm, often delaying her ability to plant at the optimal times, or in fact to plant at all;
- The female farmer also can only plant a limited type of crops after working on her husband's farm; therefore there is lapse of time between planting of the man's crop and the woman's crop e.g. maize.
- Due to the division of labor the woman always plants late, weeds overtakes her farm, she is not able to apply fertilizer and improved seeds leading to very poor yield from a smaller plot. Thus she will only have little to harvest, sell, and when she sells, she must bring back the money to the husband before being given some, or none at all for her personal needs.
- women also harvests her crop late, thereby losing some of the yield for home and market.
- If the household is highly food insecure and stressed at that beginning of the planting season the family might be forced to eat the seeds which were stored for planting in the next season.

- Many crops are being harvested at the same time when soya is being harvested and women complained of not having the time to properly harvest soya due to other priority crops taking over (e.g. millet, beans and rice etc).

3.13 Solutions and Interventions to Improve Food Insecurity Situation in the Upper West

FGD with community leaders revealed that women now form self-help groups to support each other to improve the food security at household level and access labor when needed. Women's groups do not demand payment for their labor until after the harvest season is over therefore providing a "safety net" to female farmers in need of extra labor on credit. The support can also come in the form of labor, where women's groups work on each other's farm. The women are also increasingly getting into petty trading in order to raise income to support their families upkeep. Chiefs and elders reported that the NGO sector in the region has also come to their aid with various projects which are geared toward improving food security and livelihoods. NGOs mentioned included: PRONET, CARE International, Africa 2000 and Project 4 Network. Africa 2000 implemented a project on pig farming where piglets are given to families to rear. CARE International engaged in a food for work project that targeted the most vulnerable people in the areas. PLAN Ghana supported the Kupulmah community and two other communities visited in the Sissala West District with a dam which they use for the production of vegetables. TUDREDEP also supported the farmers with training on improved farming practices.

Chief and elder consultations also revealed that in order to improve food production some farmers acquired loans from financial institutions to pre-finance their farming activities. An example is the Northern Rural Growth Programme which supports farmers with loans to engage in farming. MOFA has also supported farmers through their expanded maize program by ploughing their lands and giving them farm inputs such as fertilizer, weedicides and insecticides. At the end of the farming season the farmers pay MOFA with their farm produce. For example a farmer is expected to pay 3 bags of maize for 1 acre of land cultivated when working under the MOFA block farming programme. The chiefs and elders of some of the communities visited spoke of being sensitized by the Forestry Commission to plant more trees.

Interviews with leaders of women's groups across four of the communities suggest that although the women's groups are doing all they can to support members; there is still the need for external support to build their capacity and enhance their work. Women's group leaders suggested the following solutions:

- Support to female farmers to acquire modern farming inputs such as fertilizers, insecticides, weedicides and tractors to enable them to engage in large scale farming especially the cultivation of groundnuts.
- The provision of irrigation systems that could help women to engage in dry season farming to feed their families especially during the hunger season.
- Encourage women's groups to engage in a grain banking system which is an important mechanism for leveraging women's produce especially during the dry season.

The leaders of the women's groups across the communities said they needed more education on the nutritional value of certain crops and vegetables in order to be able to use them in preparing food for their children. They also said women's groups should be given training to equip them with skills on how to run and manage a business. This will enhance their agricultural activities and they will be in a better position to manage and generate more income to feed their families.

Chapter 4: Household Food Security and Gender Relations in the Upper West

Exploring the pattern of food security, decision-making and gender relations at the household level was a major focus of the research. The main methods used to explore food security and gender relations at the household level were through the use of a household survey instrument, focal group discussions with women and men across the communities along with in-depth interviews with selected “success story cases” of women across all 8 communities. These methods were used to explore household approaches to nutritional decisions, constraints families’ face that keep them food insecure and the coping strategies they use to sustain the family particularly in the “hunger season”. Fifty households were surveyed across the 8 communities of which 24 were part of the female success story category and another 26 households were randomly selected across the 8 communities. This chapter presents the data related to the household and women themselves and explores the views of men and women in relation to their understanding of nutrition, decision making practices and control over resources.

Table 12: Background Characteristics of Household Survey Respondents

Background Characteristics		Frequency	Percentages
Sex	Male	6	12
	Female	44	88
Age Group (years)	18-25	2	4
	26-30	6	12
	31-35	11	22
	36-40	6	12
	41-45	7	14
	46-50	7	14
	51-55	2	4
	56+	9	18
Ethnicity	Sissala		48
	Dagaara		52
Marital Status	Single	1	2
	Married	37	74
	Divorced	1	2
	Widowed	11	22
Highest Educational Attainment	Primary	5	10
	JHS/Middle school	3	6
	SHS/GCE/O’ Level	4	8
	Non formal	4	8
	No schooling	33	66
	Others	1	2
Primary Occupation			

Background Characteristics	Frequency	Percentages
Farming	49	98
teaching	1	2
Secondary Occupation		
Petty trading	26	52
Salaried workers	7	14
Private business	1	2
Craft and artisans	2	4
Other non farming activities	2	4
Missing	12	24
Household Headship		
Man	34	68
Woman	14	28
Eldest son	1	2
Mother-in-law	1	2
Household Type		
<u>Jirapa</u>		
Polygamous	5	19.2
Non-polygamous	21	80.8
<u>Sissala West</u>		
Polygamous	22	91.7
Non-polygamous	2	8.3
Average Household Size¹³	50	6

Source: AFC field survey, 2012

Respondents for the household survey were members of the household who were considered either the head of household or a prominent member of the household who had information on all the other members. Of the 50 households interviewed, 44 were female respondents and 6 were male respondents representing 88% and 12% respectively. The religious affiliation of the respondents was representative of the study districts with the majority of respondents being Christian in the Jirapa District (24), and Muslim from the Sissala West district (24). Two HH respondents were traditionalists.

Marital status was also quite representative of the districts visited with 37 of the 50 household respondents (74%) being married with approximately 20% of respondents being widowed and female headed households; only a very small proportion of HH interviewed were single (2%) or divorced (2%). The marital structure across the two districts differed greatly between predominantly polygamous households in Sissala West compared to mainly non polygamous households in Jirapa (80.8%). This was attributed to the fact that Jirapa District contains mainly Christian communities compared to Sissala West which contains mainly Muslim communities with households being polygamous (about 91.7%) in nature.

¹³ A household was understood to mean a family who eats from the same cooking pot. This could mean in some cases of polygamous households more than one nuclear family eating together and therefore considered as one household or in other cases the wives and children may not be eating with the other wives of the husband and therefore considered as a separate household.

4.1 Women's Group Affiliation

About 67% of female HH respondents interviewed said that they belong to a women's group in the community. These women's groups offer various forms of support ranging from financial/credit support, social support, and support to each other in acquiring farm inputs such as tractors, seeds, insecticides and fertilizers. Members of these groups also engage in weekly or monthly savings activities usually called "susu or the small box". Monies from these savings are given out as loans to members who are in need. Group members also offer their labor to non members in return for payment. Female farmers also reported that the groups help each other by providing labor on their farms on a rotation basis. HH survey data indicated that the vast majority of women's groups have been operating for more than 3 years in their communities.

4.2 Farm labor make up at the family level; and other sources of labor

Eight out of 46 households (16%) responding to the question of "having other productive working members of the household" answered in the negative. 76% of households reported that they had.. A surprisingly large number of households had at least 1-3 children available as farm workers (32%) and 12% of HHs said they had between 4-12 child members available.

HHs reported having on average 2-4 adults per household available to work on the farm (34%). A much lower percentage of households (8% or less) had between 5-11 adult members to assist with the family farm. Approx 15% of households reported having at least one migrant worker. 26% of households reported having at least one female adult worker who was engaged in off farm activities such as trading, or formal government work.

The vast majority of households interviewed were engaged in farming staple crops and cash crops (over 50%) with only 8% of HH farming only staple crops and 26% farming a mixture of staple crops, cash crops and rearing livestock. Female HH respondents reported that the majority of the farming season is spent on farming on the husband's farm; some respondents reported that over 70% of their time is spent on the husband's farm.

4.3 Farm Production, Marketing and Decision Making

Most of the Household respondents reported that they have been farming for over 10 years. Only a few respondents had been farming for 2 years or less and some HH respondents were farming for over 40 years. The main crops cultivated and animals reared are presented in the Table 13 below:

Table 13: Types of Food and Cash Crops Cultivated across the Eight Communities

Food crops	Cash crop/Food crop	Animals reared
Yam Maize Millet Beans Soya beans Cowpea Guinea corn Bambara beans Rice Sorghum	Groundnut Maize Soya bean Cotton	Cattle Goats Sheep Donkeys Pigs Guinea fowls Fowl

It should be noted that the above crops are not strictly cash and food crops. Farmers sell some of the food crops when they are in need of money and in many cases cash crops were consumed.

4.4 Male and Female Controlled Crops

Traditionally, across the three northern regions including the Upper West, crops are differentiated between male and female controlled crops due to the importance of crops and responsibility of the family members in relation to the production of these crops for family consumption. Men are seen as the providers of the main staple crops and therefore control most of the decisions regarding the planting, size, acreage and quality of staple crops (e.g. maize, millet and yam). Traditionally women were seen as providing the complementary “soup ingredients” which supports the family’s diet (e.g. beans, groundnut, vegetables and spices, dawa dawa etc). This research reveals that there have been some shifts in the thinking among the population concerning male and female crops due to an increasing demand for some of these crops which are now grown for cash such as groundnut; making it more attractive for men to cultivate. According to the HHS and FGDs with women’s and men’s groups the following were identified as “male” or “female” controlled crops.

Table 13.1: Male and Female controlled crops

Male controlled crops	Female controlled crops
Yam Maize Millet Guinea corn	Groundnut Rice Beans Bambara beans Cowpea Soya beans

Yam and maize are considered strictly male controlled crops although an increasing number of women were found to be farming maize. Although groundnut in the past was considered a female controlled crop, currently more and more men are farming ground nut. Soya beans and

ground nuts were mentioned as both male and female controlled crops. Ground nut was considered the most important male and female controlled cash crop.

4.5 Important Crops and How Households Sustain Family Food Security

Household questionnaire respondents reported that the **most important crops** farmed for sustaining the food needs of the family year round were (in order of importance): maize, ground nut, beans and millet. Almost all the households surveyed across the two districts mentioned maize (54%) and ground nut (36%) as being the most important crops they farm for household consumption. This is likely due to the fact that the main family meal in the Upper West on a daily basis requires both these crops (e.g. T.Z.).

Table 14: Most Important Crops in Sustaining the Food Needs of the Family

Crop	Frequency	Percentages
Maize	27	54
Groundnut	18	36
Beans (including white beans/ cowpea)	15	30
Yam	7	14
Millet	8	16
Rice	5	10
Soya beans	2	4
Maize and groundnut	12	24
Maize and beans	12	24
Yam and groundnut	4	8

(HHS data results: MEDA Food Security research 2012)

According to the HHS the most important crops in terms of household food security were maize, ground nut and beans. According to the household survey in the Sissala West District the most important crops for sustaining household food needs were identified as: maize, beans, groundnuts and yam. Jirapa District had a slightly different priority with maize, millet and groundnut being the most important crops for household food consumption. Households mentioned crops such as rice, beans, bambara beans and soya beans as the most vital crops in fulfilling the nutritional needs of their family on a supplementary basis.

This was confirmed in focal group interviews with older women having over 3 children (3+) who indicated that the most important crops farmed to ensure that the family eats year round are maize, Bambara beans, and cowpeas. Women are very aware of the importance of using grains and beans in the family diet. Crops such as: beans, bambara beans, soybeans, dawa dawa, and leafy vegetables were seen as the most nutritious crops and they should be cropped and mixed into the diets of adults and children. Maize and groundnuts are the crops most likely to be sold, and in large quantities. The FGD with women also revealed their knowledge regarding the nutritional value of groundnuts and the need to keep enough for home consumption.

According to the households and 16 FGD's with women across the communities, soya beans were not considered as important a crop for sustaining the families food needs compared to ground nut or other types of beans; soya beans were recognized as being an important nutritional supplement and eaten in small quantities by the families in the dawa dawa mixture which is placed in soups to provide protein. Soya bean is also not considered a preferred crop since its cultivation is very labor intensive during the major harvest period--October and November when women have only limited time to harvest their most "preferred" crops such as rice, groundnut, guinea corn and maize. The following section provides some insight into women's groups across the Sissala District in relation to the "preferred" crops they grow.

- Bullu women (FGD 3+) said they grow rice and maize for food. The women are aware of the crops that provide nutrition such as beans, cowpeas, soybeans and vegetables. They try to grow different crops, thinking about family nutrition and what the men do not grow in order to select their own crops for their own farms. Both men and women decide on such crops but in the polygamous families, the first wife is consulted the most or the mother-in-law to the wives. Of late (in the last five years), all women try to have their own small farms, and choose crops based on nutritional needs of the family, yield, whether the crops are "comfortable" for the women (easy to farm) and their use for feeding and survival.
- In Jitong community (Sissala West), women grow mainly maize, beans, bambara beans, groundnuts and soybeans. FGD with women (3+) revealed that they know that such crops have nutritional value. They combine such crops to produce meals that provide a balanced diet. They cook without using meat or fish, except small herrings and "amani" (small dried fish) that are smoked, dried and pounded into soups and sauces. They mostly sell maize and some groundnuts and beans, leaving enough to feed the family, in addition to produce from the husband's farm.
- Bullu women considered what is not cultivated on the husband's farm when making decisions on what crop to farm. They often decide to grow what is not grown on the man's farm to supplement or to offer a balanced and diversified diet to the family and children all year round. After harvest, the women gather the excess and lesser quality grains/cereals for storage. They cook the low quality grains first, before eating the quality grains which are meant for sale at the market. The Bullu women's group explained that the low grade products are rejected and not easy to sell in the market, but made it clear that the crops they eat were edible and not harmful. The women reported that they were aware of the importance for nutritional foods, "we are aware and that is why we cook rice and beans, Bambara beans and make kose with moringa and Tubani, and use soybeans in our soups. We also mix dawa dawa in our stew and soups for nutritious diet".

In the Jirapa District, vegetables are bought from the markets by women because of limited irrigation or dams for dry season gardening. The women prepare soup from baobab leaves, beans leaves, okra and dried okra. The family eats limited meat and almost no eggs and milk, except at Christmas when they kill fowls and guinea fowls or purchase meat from the District capital. The main animal protein available to them is the dried herrings (known as "amani") for daily or

occasional use. The people are able to eat three times a day during the harvest period but the number and size of meals decreases according to the household food production or amount of stored food. During the hunger season they often eat one or two meals a day.

4.6 Roles and Responsibilities Related to Farming

Women across both the districts were engaged in a process of supplementing the food production of their family partly due to the shifting responsibility within the household and the increasing demands on their husbands to sell produce for his own benefit and that of the family. For instance, the majority of women interviewed across both districts reported that *“men sell too much of the stored produce in order to cater to their own needs and that of the family”*. Examples of the reasons for sale of food included: house repair, other marriages with second or third wives, education and health of the family members, funerals of members, reinvestment into farming, capital assets/ motorbikes and farm equipment, and other male and family needs which put pressure on the men to sell most of the produce with little or no consultation with their wives. Other examples were given in the FGD’s of 3+ women who also felt that some of their husbands are simply *“irresponsible and do what they want without collaboration with their wives.”*

Interviews with the FGD 3+ in the Sissala district also suggested that the men select the crops and farm size for the family and control most if not all the family’s produce. Men also decide on which and what activities to do on the farm. There was evidence across FGD’s that less consultation was taking place within polygamous households where the first wife is the one most consulted on behalf of the other wives; here the first wife often has more authority to take decisions for the other wives in relation to the crops to be produced in consultation with the husband.

According to FGD’s with women, when land is shared out among the wives within a polygamous household in the Upper West, each wife is apportioned a similar amount of land from the husbands’ family plot to cultivate. Where the wife has more capital she could acquire additional land through the family or chief. Variations occurred when the wives in the polygamous household are *“not cooking from the same pot”*. This occurred in households where they had decided to each cook their own food for themselves and their children separately and did not share the cooking and feeding responsibilities on a rotational basis which was the traditional household norm.

Table 15: Roles and Responsibilities According to Women across the 2 Study Districts

Sissala District Communities	FGD from Women 3+ (field notes)
Gbal	They said that food production on the family farm is done both by the husband and wife. At the end of harvest, both help to store the different produce for food and for cash. The husband gives out periodically the amount of grains to feed the family and the woman’s role is to mill the grains, look for different ingredients and to prepare meals for the family.
Bullu	The women in Bullu’s FGDs said that men do the ploughing and preparation of new and old farm plots. The women are responsible for sowing, helping to apply fertilizer

	and do harvesting, post harvest processing and storage of the food items. Women also go to the farms to chase birds to prevent them from eating the seeds, as well as other animals like cattle and goats that destroy the crops. At the end of the farming period the man decides on the amount of food to sell and what portions are given to wives to feed the household.
Kupulima	Kupulima women said the woman's role is to support the husband on his farm and also farm her own plot to supplement the household feeding with diverse dietary food items for healthy living. The nutritional crops grown are beans, bambara beans and soybeans, and these are used to supplement the main staples grown on the husband's farm and used often during the lean or food shortage period. The women also have the responsibility of purchasing ingredients from their pockets, or to undertake cropping of vegetables and fruits on the farm land or engage in wet and dry season gardening. Women mostly do the cooking and feeding of the household. They cook and send it to the farms for their husband, children and laborers working on the husband's farms.

(Field notes from Researchers, MEDA food Security study, 2012)

A more detailed account of the responses and views of men and women from separate focal group discussions are contained in annex 8. This annex helps us understand the limited role women play in most households regarding the decisions and space for assisting the family to ensure food security. Findings suggest that the vast majority of women across both districts said that they cannot get involved in decisions related to the “sale of important food stuffs’ at the market. Probably the most important findings from the research are that women are not able to negotiate and explain to their husbands the needs of the family before he decides to sell off the produce at the market. Interviews with over 24 women’s groups across the two districts concluded that at the “end of the day” the woman has to remain silent and suffer when the husband takes the bags of maize out of the store room to sell. “You have no say when the food gets to the house... you stand a chance of being beaten when you try to stop your husband from selling the food... (FGD women’s groups, Jirapa District).”

The household survey results also demonstrated that women spend all day on the family or husband’s farm. However the breakdown of the number of hours spent in a day could not be given. It was however obvious that most women work from morning to evening. On average women spent about 8 hours on the family farm. However the number of hours may increase at the peak of the farming season. Other HH reported that women spend 4 days on the family farm and 2 days on their own farms and a day in the market. Every woman interviewed in the HHS responded that they can work on their own farms only after they have finished working on their husband’s/ family farm¹⁴. For those women who are widowed or whose husbands are migrants who have not returned, the family farm is the only farm these women work on year round. See the seasonal calendars in annex 11 for more details.

4.7 What Men and Women Do During the Non-farming Season

When asked what men and women do during the non farming season, the vast majority responded that they engage in several income generating activities. Most men in Jirapa said they

¹⁴ Family farm or husbands farm are considered synonymous.

migrate and reconstruct their homes while in Sissala men were mainly engaged in dry season gardening and offering their labor for construction. Women in Jirapa District were engaged in pito brewing and charcoal burning and the same was true for women in Sissala district but they also had the advantage of dry season gardening.

Table 16: Non- Farming Activities of Men and Women

Jirapa District		Sissala West District	
Men	Women	Men	Women
<ul style="list-style-type: none"> • clear new lands • migrate • drink pito • build or reconstruct their homes • burning and sell charcoal 	<ul style="list-style-type: none"> • harvest and sell firewood • pick dawa dawa fruits and shea fruits • make dawa dawa and shea butter • brew pito • burning of wood into charcoal • petty trading 	<ul style="list-style-type: none"> • engage in dry season gardening • clearing of new lands • migrate • offer labor services at construction sites • build or reconstruct their homes • burning and sell charcoal 	<ul style="list-style-type: none"> • Dry season gardening • picking dawa dawa fruits and shea fruits • make dawa dawa and shea butter • selling fire wood and charcoal • petty trading • offers services at construction site

During the non farming season, men in Jirapa District migrate to the southern part of the country to help people on their farms for food and money. Since Jirapa District is predominately a Christian community, women largely engage in the brewing of pito in the non farming season. This is not a practice in the Sissala west district since they are predominately Muslims and do not drink alcohol. The Sissala West District is also endowed with a dam which is mostly used for dry season gardening.

Use of cash income

Household respondents indicated that the income generated from the sale of their crops is used for multiple purposes such as payment of school fees, medical bills, buying food, and reinvesting in their business etc. Survey results showed that most respondents reinvest their income in their farms. However purchasing of food during the lean season was also a major usage of household's income.

Table 17: Use of Cash Income

Purpose	Frequency	Percentage
Buy food in the lean season	21	42
Pay for health insurance (medical bills)	7	14
Pay school fees	16	32
Reinvest in the farm	25	50
Organize funerals	1	2
Buy clothes for children	6	12
Reinvest in business	5	10
Repay debt	2	4

total percentage is more than 100 because of multiple responses/purposes

4.8 Changes to Cropping Yields over the Last Three Years

Household survey results reveal that there have been substantial changes to the household agricultural yields over the last three years with most households reporting a decrease particularly in relation to groundnut and beans. Households attributed the decrease in harvest for the last three years to: erratic rainfall patterns, poor soil fertility, and lack/ high cost of inputs such as fertilizers, tractor services, insecticides and lack of access to insecticides and improved seeds.

Twenty six of the respondents whose output had decreased attributed this to poor rainfall patterns. The rains either came too late hence preventing them from sowing early or sometimes too much or too little rainfall which often destroyed their crops. Interviews with FGD of men and women confirmed that they would rarely have a high yield in beans unless they used insecticide. In Jirapa District where there was very poor soil fertility, men and women complained of having to use fertilizer in order to ensure any yield in maize from the farm. However for those whose output had increased in the last three years, many attributed it to their lands being fertile, and fertilizer accessibility and affordability. Others have also increased their farm size and some respondents simply thought “the gods have been good to them”.

Table 18: Reasons for the Change in Production Yields

Reasons for the change in harvest size	Frequency	Percentage
Erratic Rainfall	26	58
Poor soil fertility	6	18
Lack/ high cost of input	8	13
Insufficient labor	3	7
Access to land	2	4

(HHS data results: MEDA Food Security research 2012)

4.9 Access to Land by Women and Ownership

HH survey data suggests that respondents believe that women across the two districts had sufficient access to land to engage in farming activities, usually family lands, but are not allowed to own land. Over 92% of households (46 HH) reported that they have access to land but were not allowed to own land. These lands are family owned and a portion is given to them to farm. It is therefore important to differentiate between lands that are individually owned and those that are family owned. 88% of respondents reported that they farm on family lands (44 out of 50). HH respondents farm on family lands. Only 2 HH (4%) had lands which were individually owned.

The vast majority (92%) of households reported that women are not “*allowed to own land*” due to inheritance rights and other constraints. Household respondents looked at the **reasons why women do not own land in the community**. The vast majority viewed women as being

“visitors” in the community and not from the same community. Some of the female respondents said “My strength is in my husband”. This means that if her husband has land, there is no need for her to own land since she can get access to her husband’s land. Other women explained that, “we were married and brought from a different community and we are regarded as assets”, “we are assets and properties owned by men because of the bride price paid on us”. Women as assets cannot own land; HH respondents explained it this way: “property cannot own property”. “We are seen as strangers and visitors, one cannot eat from two pots at the same time...my father’s house and my husband’s house”. A male respondent said, “women are strangers and so they do not know the traditions of the land and how to cleanse the land”. “If we are taught these secrets we may reveal it to people of our father’s community or the enemies of the community if we get divorced.” Table 19 below outlines the main findings related to why women do not own land across the communities.

Table 19: Why Women Do Not Own Land across the Two Districts

Reason	Frequency	Percentage
Women are seen as assets	16	32.0
Women are not from the community	20	40.0
Women are not considered as landlords of the community	3	6.0
Inheritance is patrilineal	1	2.0
Women belong to two families- her father and her husband’s families	3	6.0
It is a long lived tradition	7	14.0

Of the 4 people who answered “yes” to whether women are allowed to own land in the community, they think women can own land through family land which means that her husband is able to allocate a portion of his land to farm. This was confirmed in FGDs with men and women across the eight communities. Even women’s groups reported having to pass their requests for a farm plots through the chief or one of the prominent males in the community.

Table 20: Ownership of land

Ownership Type	Frequency	Percentage
Individual	2	4
Family	44	88
Community	1	2
Rented	1	2
Others	2	4

Women’s access to land depends on the availability of land by the family over a period of time. A piece of land allocated to a female in the family can be taken away from her when another male adult needs it. This is also true in the case of women’s groups who rent land from land

owners... when the land owner needs the land it can also be taken away. Women's groups across the Jirapa District reported this occurrence.

4.10 Size of land cultivated

Land sizes for cultivation by families and women varied greatly across the two districts; for instance, in Jirapa the average family farm size ranged between 1-14 acres with women having access to 2-3 acres compared to Sissala West District where the family farm size was 10-40 acres with women accessing 1-10 acres of land (see annex 6 for details). 30% of HH respondents reported declines in their farm size for cultivation over the last five years while 44% reported not having any change and 22% experienced an increase. As to the reasons why these changes had occurred, HHs reported the following reasons: erratic rainfall, husband falling ill and the family is unable to cultivate the same amount of acreage, the cropping output of the farm is no longer able to sustain the family, labor constraints, technological constraints (lack of access to tractor services) and farm input constraints/lack of capital for investment were all mentioned as reasons for the decline in farm acreage cultivated.

Women also reported not having enough land to cultivate in order to sustain the family's food needs. The shift in household responsibility towards the female farm in providing the major and minor food crops has affected the type of crops women farm; HH survey respondents reported that women are moving to more "comfortable crops" since "*she alone cannot cultivate all the crops on my own.*" Many HH heads also reported no longer cultivating crops such as millet, guinea corn and sorghum due to poor crop yields. Some HH also avoided cultivating maize as it required fertilizer which was very expensive and yields were poor (e.g. Jirapa).

4.11 Decision making and control in relation to crop production, sale and feeding at household levels

There are varying degrees of control and decision making across most of the communities and households interviewed but there were some general patterns which were predominant in almost all the families according to men and women interviewed. For instance:

- Women are only sometimes consulted by husbands on crop selection on the family farm. There were only a small proportion of households consulting together on which crops they should farm. In polygamous relationships the first wife is mainly consulted or the mother-in-law if she is present in the household.
- Land ownership and cattle remains in the hands of the men whether he is absent from the household or deceased. If the brother or chief has allocated a widowed woman land when the man dies...she has more control over the usage of the land but must use the land herself and not lease it out to others.
- The men decide on what portion of their land they want to cultivate as "household farmland" and then decide on which portion might be given to their wife upon request.

- Men have control over women’s labor, and women are expected to work on their husband’s farm first, before working on their own (women’s) farms. Some men help by working on the women’s farms which were much more common in Sissala West District.
- In both districts the decisions related to the sale of “family” produce is mainly done by the men and in some rare cases he may consult his wife.

According to FGD’s in the Sissala West District communities “even when the men ask for women’s opinion on food issues, their ideas are not considered as important”. When the man is absent or migrated, the woman can take her own decisions on the family farm and/or her own farm. Where the mother-in-law lives in the household, she is a key decision maker and controls the farmland and the production process in the absence or presence of the son through consultation. The wives have to respect the control and decision making by husbands and/or mother-in-laws; in the case of widows, the brothers are in charge and often take responsibility for their deceased brothers’ farm. Unless the widow marries the brother she may not have access to this land. This principle is upheld in most communities in order to ensure that the male children remain the custodians of the family land and take up the responsibility of the father. This pattern of decision making was evident across the household survey (see table 21 below) and the in-depth interviews with women (see chapter 5 for details).

Table 21: Decision Making and Control in Relation to Farming and Household Consumption

Decision	Frequency	Percentage
Type of crop to cultivate		
Man	24	48
Woman	9	18
Woman (female HH head)	10	20
Household	2	4
Both (man and woman)	5	10
Amount of land available for farming		
Man	31	62
Woman	6	12
Woman(female HH head)	10	20
Household head	4	8
Community leader	1	2
Both (man and woman)	4	8
How much of the produce should be sold at the market		
Man	19	38
Woman	10	20
Woman HH	10	20
Household head	5	10
Both (man and woman)	5	10
Others	1	2
Which season to sell		

Decision	Frequency	Percentage
Man	16	32
Woman	13	26
Woman HH	10	20
Household head	4	8
Both (man and woman)	4	8
Others	3	6
Choice of food to cook		
Woman	34	68
Man	7	14
Household head	3	6
Children	1	2
Food Availability	4	8

The vast majority of households reported that the husband made the decision on which crops to cultivate on the farm although 20% of female household heads reported that they made this decision. Men were also responsible for deciding on the amount of land to cultivate per season (62%). Men were also responsible for deciding on what crops to sell at the market (38%) and which season to sell the crops (32%). Less than 10% of households interviewed made these decisions collectively in consultation with each other. The choice of food to prepare was left to the woman to decide across the majority of HH (68%).

4.12 Dietary and Nutritional patterns at household level

On the average household members eat three times a day in the harvest season. In Jirapa District, most households in the lean season have an average of one to two meals a day compared to Sissala West District where families eat on average three meals irrespective of the season. This can be attributed to the fact that food is more available in the Sissala West District as they have more fertile lands compared to Jirapa District.

Table 22 : Number of Times Household Members Eat in the Harvest and Lean Seasons

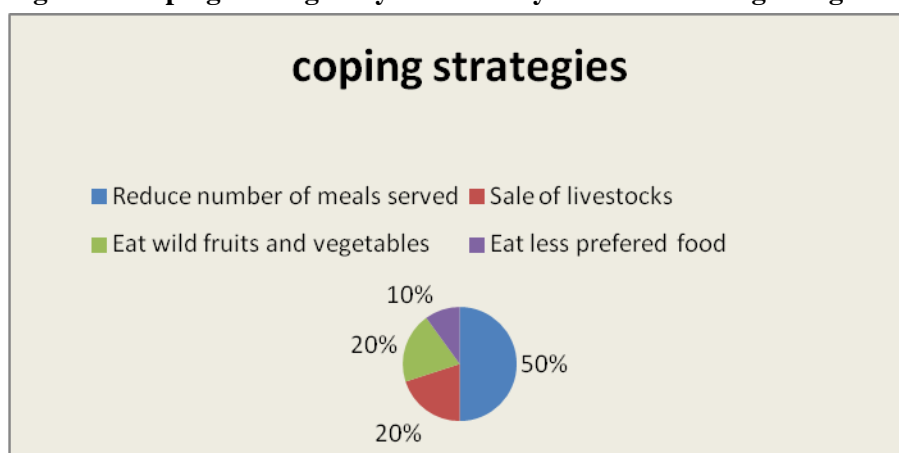
Jirapa District	Harvest season		Lean season	
No of times	Frequency	Percentage	Frequency	Percentage
Once	5	3.8	1	3.8
Two times	12	19.2	14	53.8
Three times	1	46.2	10	38.5
More than three times	7	26.9	1	3.8
Sissala West District	Harvest season		Lean season	
No of times	Frequency	Percentage	Frequency	Percentage
Once	-	-	-	-
Two times	1	4.2	8	33.3
Three times	22	91.7	16	66.7
More than three times	1	4.2	-	-

FGD’s with women across both districts suggest that women are finding it increasingly challenging to ensure a balanced diet during the lean season due to depleting stocks of food available at the household and the large quantity/early sale of crops by their husbands due to high demand for cash due to economic pressures (e.g. education and health needs of the family, funerals, motorbike purchases, personal needs). Women spoke of how they are only able to purchase clothing for their children once a year at the time of the harvest.

4.13 Coping Mechanisms

When households were asked to describe the type of ways they cope during the lean season the majority of HHs reported reducing the number of meals per day and then selling some of their livestock (20%), eating wild fruits and vegetables (20%), and eating less preferred meals (10%). A few FGD’s in both Jirapa and Sissala West Districts reported that women engage in petty trading (selling of grains in the high price season) to support their families income and food needs. Other coping strategies by households included: the purchase of food stuffs from the market and migration to Brong Ahafo Region to engage in hired labor.

Figure 5: Coping Strategies by Community Members during Hunger Season



(HHS data results: MEDA Food Security Research 2012)

More details of the coping mechanisms used by families across the districts are contained in annex 8.

4.14 Sources of Food in the Lean Season

34% of HHs reported that the major source of food during the lean season is from stored food (e.g. maize, ground nut etc) from the family farm and also from food stuffs purchased from the market.

Table 23: Main Sources of Food during the Hunger Season

Source	Frequency	Percentage
Farm	7	14
Stored food	14	28

Source	Frequency	Percentage
Market	8	16
Farm and stored food	8	16
Farm and market	2	4
Market and stored food	17	34

HHs also reported that the food items eaten in the lean season include: wild fruits like black berries, dawa dawa fruits, shea fruits, mangoes, ebony fruits, groundnut, and vegetables such as lettuce, cabbage, baobab leaves, bambara beans and wild yam. Observations at the household level revealed a high rate of dependence among families on groundnut, beans, dawa dawa fruit and shea fruit for the children's consumption during the day. Observations at the community level revealed that the dawa dawa fruit powder was mixed with water for children to consume.

4.15 Value Additions to Farm Produce

Traditional value additions are mainly carried out by women on staple crops such as maize, groundnuts, rice and beans using methods such as threshing and drying on a small scale. The findings from the household survey suggest that there was some usage of modern farm methods such as: fertilizer application, insecticide etc. Approximately 48% of households were using fertilizer, 15% are reported to be using tractor services while 16% used insecticides. The 66% of HH respondents in the survey reported not adding any value addition to their farm produce before marketing. Only 15 of the respondents added any value to their produce which included: cleaning, drying and removal of shells particularly in Jirapa District. More added value to farming processes was found in Sissala West where they were using combine harvesters to harvest the maize. Table 24 below for details on the level of farm inputs used in the last cropping season. A very low proportion of HHS reported usage of improved seedlings (3%) and cultivator or planter technology.

Table 24: Farm Inputs Used in the Last Cropping Season

Farm Input	Frequency	Percentage
Fertilizer	24	48
Tractor	15	15
Insecticides	8	16
weedicides	6	12
Improved seedlings	3	3
Cultivator	1	2
Planter	1	2

(HHS data results: MEDA Food Security research 2012)

Several HH reported adding “ash” to preserve beans and cowpea in storage as a traditional preservation method before it is bagged and stored for sale. A few households mentioned boiling and drying rice before sale. In general, very few households were using modern methods to store agricultural produce —some households reported using toxic chemicals which were fatal in the case of maize storage (chemicals which kills rats were being used in 2 communities).

Female FGDs in Sissala West District suggest the following: in production of crops, the women use tractor or bullock services to plough the land for sowing. Good agricultural practices are used to plant improved seeds in lines, and then apply fertilizers to the maize and other chemicals for spraying beans and groundnuts **in order** to attain higher yields. Marketing is organized as well as tractor services and inputs through MOFA, NGOs and private entrepreneurs/middlemen and transporters and buyers who operate in the Sissala West District. Women explained that they transport their produce to sell at local markets through the use of donkeys, bicycles, motor-bikes and urban buses in the district capitals of Tumu, Gwollu, and Leo-Boukina-Faso/Hamille.

According to women FGD (3+) in the Sissala West District, the market linkages are well organized for tractor services, input supplies, market linkages and technology (from Gwollu, Tumu, WA, Jirapa, Ejura, Techiman and Tamale). The FGD's with women confirm that they have buyers who come into the community to buy their farm produce in the Kupulima, Bullu and Jithong communities; but if they want to sell in small quantities the women carry the produce to Tumu, Gwollu or Leo which are smaller local markets. According to the HHS, market linkages were seen as being weak across the two districts with 32% of people having access to markets and 68% reporting that they did not have adequate market linkages particularly to the larger market centers at the regional and district capitals.

Some of the value chain additions seen in the field included the following:

- a. Maize –Production by small scale farmers and some using improved seed varieties (early maturing and fast growing) - mechanized farming using tractor for ploughing- agronomic practices of planting in line and fertilizer application—weeding 2 times per season- harvesting maize using combine harvesters or manual, remove the maize husk- shelling, drying and storage –Processing is done by milled into flour – roasted maize – blended maize. Marketing and sales; produce sold in local markets, mostly local and sometimes district markets- Jirapa, capital markets-WA, B/A, Ashanti, Accra and export to Burkina-Faso.
- b. Groundnuts- Production is done by using improved seed varieties (oil rich)- tractor services –spraying chemicals –weeding – groundnut- harvest and store. Post harvest and processing is done by removing the husk – dry seed and storage. Processing – locally milled groundnuts- roasted groundnuts- blended groundnuts- groundnut oil- groundnut paste- sweet peanuts. Marketing and sales; marketing is in local markets, district markets -Jirapa, capital markets-WA and export.
- c. Soybeans- Production is done by using improved seed- mechanized land preparation- sowing – weeding. Harvesting; harvesting-drying –storage. Marketing and sales: marketing (local market, Savannah grains development/Tamale) - home consumption - mixing with baobab seed into dawadawa, mixing with maize and beans for meals- soya flour –soybeans milk.

4.16 Extension and Crop Selection Support

In terms of whether HH respondents receive any form of support or advice on which crops to farm and which are most nutritional for the family to eat; only 20 households reported receiving information (40%). The majority (60%) of HH interviewed did not receive any form of support or advice. Those who did receive this support or advice obtained it from agriculture extension officers, NGO field officers, their women's groups, family members and health care workers.

Only 36% of the respondents had received information relating to which crops are lucrative and profitable. This information was mainly provided by agric extension officers, the district MOFA officers, NGO's, from their group members and from friends.

Household members interviewed understood that they could go to the district capital to seek advice from agriculture extension officers but very few exercised this option. Some HH did not know where to go to obtain information on better farming practices and some reported using their groups or NGO's to improve their knowledge on improved farming methods. 78% reported never having done this; with only 16% of households reporting that they had sought information from these extension sources. Interviews with MOFA at the regional and district levels confirmed that there are very few female extension officers and that male extension officers find it difficult to approach female farmers due to the tradition of not being able to approach a married woman without her husband. MOFA is now training volunteer community (female) extension officers to address this issue.

4.17 Financial Support Provided to Farmers in the Upper West

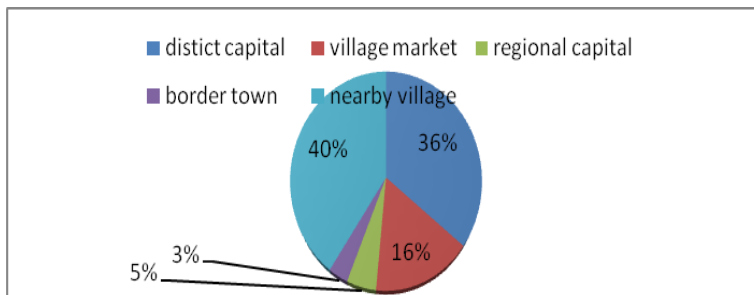
Only 14 out of the 50 household respondents (28%) reported having financial support from a financial institution in the Upper West such as NGO's or credit unions operating savings and credit schemes. Some of the agencies providing loans include: YARO (NGO), Ghana National Association of Teachers (GNAT), PRONET, Jirapa Rural Bank, Sissala Rural Bank, Tumu Credit Union, Tumu Rural Bank and women's groups themselves. The maximum amount borrowed was 1800 Ghana cedis from GNAT and the smallest amount borrowed was 80 Ghana cedis from YARO.

76% of HH respondents said they save some of their cash earned with 22% saying they don't Of those that do save, 26% save in a rural bank, 42% use their "susu" savings group, and 6% place it in their home. Only 2% said they use a credit union. Respondents reported that they often reinvest this savings in their farming activities, pay school fees and buy food and clothes during the lean season.

4.18 Sale and Marketing of Farm Produce

Consistent with the community interviews and community based survey, HHs reported that most of the farm produce was sold at the district capital (40%), while 36% was sold in nearby villages/communities, 16% reported selling their produce at the village market, 5% at the regional capital and only 3% at the border towns near Burkina Faso (i.e. Gwollu).

Figure 6: Locations of Markets cross the Two Districts



When asked what percentage of the farm produce is sold at the market 63% of respondents could not tell indicating a lack of information in relation to how much farm produce is sold. Considering that over 80% of the HHS respondents were women this could also indicate that women were not aware of the amount of food being sold at the HHS.

Table 25: Percentage of Food Sold

Percentage of produce sold	Frequency	Percentage
15	1	2.23
20	5	11.12
40	3	7.0
50	3	7.0
60	2	5.0
70	1	2.23
80	2	5.0
Can't tell	28	63.0

Respondents said the quantity sold depends on both the yield for the year and the financial needs and demands of the family.

4.19 Constraints and Challenges

Focal group discussions with women (3+) highlighted the main challenges across the two districts as being: loss of crops during and after the harvest period due to time constraints of women and the fact that crops are ready for harvest at the same time (August to September, October). Women explained across all 24 FGD's that they are primarily responsible for the harvest on their husband's farms before they work on their own farms in addition to the ongoing house chores and responsibilities which adds a tremendous burden. Women interviewed explained the challenges they face in having enough labor and time to ensure food security at the household level. *"If women could have the full time and labor to do farming, food shortages would be reduced."* Underlying the lack of time and labor constraints faced by the majority of women interviewed, is the lack of consultation with their husbands over the prioritization of crops, amount of land to farm, their labor/other input needs and planning household resources (e.g. amount of food to sell).

Several other challenges were mentioned by the FGD's across the two districts including erratic rainfall patterns, limited access to land, unfair credit schemes, high costs of inputs, forced sale to local markets and lack of farm labor. The rainy season is becoming shorter and the rains do not come early when needed which causes the crops to wither and die leading to lost investments of labor, time and money.

Descriptions of the problem tree were discussed at length with NGO's working at the grassroots level in order to identify what their experience was in addressing these constraints (e.g. Suntaa Nuntaa). Suntaa Nuntaa had observed that the main constraints related to household food security are caused by low soil fertility, low food production and erratic rainfall. Increased environmental degradation by poor environmental practices, and increased felling of trees which has worsened the situation. Their solutions are therefore to increase the income generating opportunities which are not directly in conflict with the environment, and promote sustainable farming practices.

One of the most important constraints listed by women and men were the erratic rainfall patterns which made farming even more challenging in predicting the timing of agricultural production. The second constraint which was consistently listed by women was the lack of labor to assist them on their own farms at the height of the farming season; success story cases appeared to overcome this constraint by using the women's groups to help them farm and then pay for their labor after the harvest period. The majority of women interviewed also complained that with some crops they require fertilizer and other farm inputs to ensure adequate yield from farming (beans).

The household survey questionnaire addressed the issue of constraints in relation to access to land and access to seeds. The HH survey revealed that male respondents generally think that women do not face challenges in accessing land. They believe that the land men allocate to their wives is enough. The only challenge they see women facing is in relation to access to farm inputs such as tractors, fertilizers, improved seeds etc. However the female HHS respondents said that men usually allocate less fertile lands to the women. New or virgin lands which are considered to be fertile are not given to women because men believe clearing such land is too labor intensive for women. One HHS female respondent said "sometimes when we insist on virgin lands, we are given lands in the deep forest where monkeys destroy crops". Table 26 below provides insight from the direct responses given during FGDs with male and female participants across the two districts in relation to their key constraints in sustaining food security.

Table 26: Main Constraints and Challenges in Sustaining Food Security in the Household

Name of Community	Q. 7: What are the most important challenges you face in sustaining the food in the family year round. (Men FGD Responses)	Q. 8: What constraints do you face in growing more crops for feeding the family or for sale? (Men FGD Responses)	Q. 7: What are the most important challenges you face in sustaining the food in the family year round. (Women FGD Responses)	Q. 8: What constraints do you face in growing more crops for feeding the family or for sale? (Women FGD Responses)
Bullu	Competing needs on farm produce. Farming is our main occupation, so we depend on produce from the farm to solve all family problems. E.g. repainting the house, paying school fees and medical bills. All these expenses reduce the amount of food available for consumption as it is sold to cater for such needs. Poor rainfall and soil conditions reduce harvest and yet all family problems have to be sorted out. Lack of access to farm inputs such as tractor services, fertilizer and improved seeds. These affects harvest.	Erratic rainfall pattern. The rainy season is also getting shorter. High cost of farm inputs. Now farming without fertilizer means low harvest. It cost them GH¢ 50 to plough an acre of land and GH¢70 for a bag of fertilizer without subsidy.	Low yields due to our inability to buy farm inputs (fertilizers, weedicides etc). No alternative source of income aside from farming. Labor constraints which lead to our inability to plough large plots of land. “Sometimes marketing representatives come into the community and decide to buy our produce at a lower price and because we can’t transport our produce to the urban markets we sell at a relatively cheaper price”. Female headed households are especially burdened. For women with migrated husbands, their husbands leave enough food behind. In few cases they don’t, leaving the women to fend for the family.	<ul style="list-style-type: none"> • Labor constraints (tractor services). • Inaccessible farm inputs (fertilizers and insecticides). • Erratic rainfall pattern.
Jitong	Erratic rainfall pattern. There is labor constrains as one tractor serves so many people. Inaccessible and unaffordable farm inputs such as improve seeds, fertilizers, insecticides and weedicides. The poor road networks prevent buyers from coming into the community.	Inaccessible tractors and bullocks for ploughing. Limited land due to the Burkina Faso border. Destruction of crops by cattle. Inaccessible farm inputs such as fertilizers, insecticides and weedicides.	Unfair credit schemes. Tractor services, fertilizers and insecticides are offered to us on credit and paid after harvesting with high interest. This compels us to sell the food when the prices are low. Funeral expenses are a drain on food stock. Several days are spent and lots of food is used to feed the visitors. Men sell the bulk of the food. Health care, school fees, repairs of house and the man’s daily spending money all come from the farm. This drains the food available.	High cost of inputs. Tractor services, fertilizer and insecticides are expensive and women are unable to afford it. Erratic and short raining season. Working on the man’s or family farm delays work on women farms. Sowing and harvesting are the only times when women are needed most on the man’s farm.

Across the **Jirapa focal study** communities several key constraints were identified by women during FGD's, the most commonly cited were:

- Poor and erratic rainfall patterns (single cropping and diminishing cropping).
- Lack of support for basic agricultural, technological and needed inputs (fertilizer and pesticides and seeds)
- Poor fertility and small acreages of land available to women and families for farming;
- Belief that women are unequal to men in relation to food production and management of income and resources; they are seen as an asset to be used for labor;
- Lack of women in decision making and control of agricultural and household food resources,
- Lack of alternative income generating activities in the non farming season

The outcomes of these key constraints resulted in very poor crop yields, poor production and shortages of food for an extended period of time from April to September. This also resulted in malnutrition among children and the poor care by parents. Communities were dependant on purchasing food during the off farming seasons (March/April to September). The poor gender relationship among men and women resulted in a lack of collaboration and consultation at the household level regarding important decisions on timing and amount of food for sale ultimately resulting in the disempowerment of women due to the “triple burden” they would face once the majority of food staples were sold by the men. Women in this district were experiencing extreme poverty often on their own without the support of their migrant husbands. Gender inequality also resulted in the lack of planning between men and women at the household level and the extreme risks and vulnerability that this lack of communication had on women trying to sustain their family.

Women's inability to plan, and ensure that their husbands recognize their contribution to the food production process and their ability to ensure that production was used for the benefit of the family left them in a cycle of poverty. Often this meant that women had to use the seed or small investment capital (e.g. ground nuts) for the coming season for food and hire her labor out at the most critical farming period in order to meet the immediate food needs in the family.

Men's views regarding the constraints for food security at the household level in Jirapa included erratic rain fall, poor soil fertility and unavailability of fertile land. Other constraints mentioned by male FGD's were the lack of farm inputs such as (fertilizer, seeds, and tractor services). Men interviewed recognized that they sold the majority of farm produce in the bumper season when prices were low and that they had very limited consultation with their wives on issues of household income, family food needs and expenditures.

4.20: Women's Views of the Constraints to HH Food Security in Sissala West District

The three main constraints mentioned across the focal group discussions with women (3+) in the Sissala West District were: lack of participation in decision making in sale of farm outputs, lack of land, and lack of tractors /inputs for farming. These constraints resulted in food shortages for

a period of two months per year and increasing costs of farming due to high cost of fertilizer and chemical inputs to farming. Women also found it difficult to reinvest in farming due to pressures on the family to use income for other needs.

There were also large family sizes on average of 6 per household-- which placed a burden on women. Polygamous relationships also brought complexity in consultative and decision making processes between men and women with the majority of power vested in the first wife. Other major constraints in food production were the lack of farm implements and inputs.

The final conclusions from the study suggest that there are four main constraints faced by women across all the communities in relation to HH food security:

- Unequal participation and involvement in decision making processes in relation to food security of the household (e.g. timing and quantity of food crops sold)
- Inability of women to cope with household and farming labor demands in order to ensure food security (triple burden).
- Lack of access to farm inputs to ensure adequate yield from farming activities,
- Lack of alternative sources of income particularly in the non farming season;

4.21 Proposed Interventions/ Solutions

When asked “what improvement or activities could you engage in if given the opportunity to improve your agricultural productivity and ensure household food security/ intake and access” men and women responded as follows;

Table 27: Alternative Activities to Improve Household Food Security

Men	Women
<ul style="list-style-type: none"> • Use improved seeds • Educate the community members on new methods of agric. production • Engage in dry season gardening • Increase livestock production • Use irrigation farming • Encourage the use of animal dropping for fertilizer; 	<ul style="list-style-type: none"> • Engage in petty trading and alternative livelihoods (e.g. pito brewing) • Equip the community with entrepreneurial skills and other income generating activities such as soap making, bread making etc. • Encourage women to join farming groups • Engage in dry season gardening • Use improved seeds and improved farming methods; • Use improved methods in making shea butter;

HH respondents mentioned that if given the opportunity, they would engage in the petty trading and artisanship activities to improve household food nutrition and access. To ensure that there is adequate food for the family throughout the year, respondents mentioned the following interventions as key to improving food production: increased access to fertilizer, access to tractor services, promote animal production, improve soil fertility, engage dry season gardening,

promote the cultivation of groundnuts on large scale, increase access to credit facilities and “grain banking”.

On deeper analysis women mainly spoke of the need or improved access to fertility and tractor services and inputs to promote agricultural and livestock productivity. The second most common response was related to the need to secure alternative livelihoods or income generating activities in the non farming seasons such as petty trading, vegetable gardening. Some of the women also spoke of the need to improve their agricultural production by increasing their land holdings, expanding their farms, improving their farming methods, and means of enabling them to sell their produce when prices are high.

On probing with the HHs on the question “what can be done to ensure that there is adequate food for the family though the year” several households also suggested that increasing the family farm size, increasing groundnut production and access to fertilizer and other farm implements was essential. They also mentioned there should be ways to minimize the sale of household food crops which would involve educating men to estimate the amount of food required per person per year. Women also mentioned that they should engage more in rearing small ruminants as a backup for food security.

On the issue of what could be done to improve women’s access to land, the HHS survey results showed that 90% of the women interviewed suggested that the chief, elders and men in the community should be educated on the importance and potential outcomes of women having more farm land. HHS respondents also suggested that men should be made to understand that they are not competing with women but that the produce from the women’s farms is supplementary to that from the household farm. Other women also suggested that they should be empowered financially to be able to rent land from men for farming activities. Some men interviewed were of the opinion that the problem is not with women not having access to land but limited access to technology, extension services and other farm inputs. On probing for solutions with women’s group leaders, they suggested that women’s groups have much more negotiating power to acquire land for the women (than do women individually) and this is one way to expand the size of the farms women have access to particularly if it is linked to block farming.

Women’s groups with less than 2+ and more than 2+ children suggest that in view of food scarcity and nutritional provision women in Bullu community, in Sissala West District have suggested that they should concentrate on production of some bambara beans, soya beans and cowpea to feed their families. They can also form cooperatives where members can help each other during farming. Most women’s FDGs’ across the two district education on new approaches to farming and accessibility to new varieties of high yielding crops should be promoted. These high yielding seeds can be supplied to the farms without cost. Provisions of dams to store rain water for dry season gardening will undoubtedly add to the income levels of various families. These recommendations have been captured also in the conclusion section of this report. See annex 8 for more details of the solutions that women suggested across the two districts investigated.

Chapter 5: Looking for Success among Female Farmers in the Upper West Region

The research team conducted in-depth case studies with twenty four (24) women identified by community members across the 8 communities as part of the Food Security Research Project in the Upper West Region. Focal group interviews with men and women selected successful female farmers based on their ability to cope and manage their farm activities, excel in terms of crop outputs, engage in farming ‘male’ controlled crops and be able to sustain the food security in the household for the majority of the year. The key findings from these case studies are categorized under the following themes: food security (availability, access and nutritional values), gender relations (decision making, control, labor and nutritional choices), constraints (socio-cultural, economic, and technology), coping strategies, and main interventions needed to improve food security.

Findings from the Upper West Region indicate that successful women ranged from widows making efforts to sustain large families independently to married women with exceptionally supportive and consultative husbands. Several of the success stories had migrant husbands and still demonstrated to their community members that they could survive on their own, take major decisions, and employ innovative ways to generate income often engaging in a variety of activities (e.g. trading in grains, shea butter, petty trading, dry season gardening, animal rearing etc). The ‘success story’ women had exceptional insight into the best crops to grow and were aware of the purchase price that these crops could bring during all seasons of the year (e.g. best times of sale). Most of the success stories were courageous woman who ventured into the production of “male controlled” crops such as maize/cotton and negotiated access to larger tracks of land sometimes using modern farm implements such as tractors which enabled them to increase their production as well as store and then sell in the “lean season.” Successful female farmers in the Upper West were often either leading or prominent members of the women’s groups, or used the groups for credit and labor on their own farms. The following section explores further the findings from these in-depth case study interviews with women across Jirapa and Sissala West districts.

In both Jirapa and Sissala West districts, men were aware that they stand a chance to benefit if their wives succeed in their farming activities, however they were also aware that they could ‘lose face’ and “control” if their wives out performed them in farming. As a result of this deep belief/norm ---of the man always having to “look better”, successful women in many cases remained careful to “go through the husband when asking for access to land or inputs for farming including tractor services and even allowed them to sell her produce”; some success stories remained submissive to their husbands because they didn’t want other community members to look down on them; or be referred to as “Ha gan daru” in the community--- too known. The findings from the study also suggest that even the most successful women in the communities wanted to ensure that their relationships with their husband remained peaceful and supportive¹⁵.

¹⁵ Please see annex 10 for examples of the successful women across the 8 communities studied.

Teni Gbemiah; Sissala West District (Jitong)---- the supportive husband/ womens' group experience

Teni Gbemiah is a 40 year old woman identified to be one of the most successful women farmers in Jitong by both men and women. She is in a monogamous marriage with seven biological and 1 fostered child (five males and three females). Madam Teni, like any rural woman, engages in household chores such as cooking, cleaning, and taking care of children. Her main occupation is farming. Madam Teni has the responsibility of supporting her husband on the family farm as well as her own farm of 6 acre where she cultivates 2 acres of groundnuts, 2 acres of beans, 1 of soya beans and 1 of bambara beans. Madam Teni's main farming activities include planting and harvesting. The majority of the ploughing and weeding on her farm is done by hired laborers from the community. She also gets some support from her husband with fertilizer application and spraying of insecticide on her farm. Besides farming she engages in petty trading and in a grain business. Other non farming activities she engages in include gathering Shea nuts and dawadawa seeds.

Madam Teni says her **secret to success** is her ability to take up every opportunity that comes her way. She said the kind of training she received from her mother has placed her in a position to be able to take up the least opportunity that presents itself. She also indicated that her hard work as a women's group leader (Amoana Women's Group) has paid off. As a leader of the group, she has unlimited access to information on improved farming practices (e.g. NGO's who enter the community and MOFA) and this has helped her to improve her yields and farming practices. Her access to market traders who come into the community to buy directly from her (ground nut, rice and soya etc) has been an important tool for her success as a female farmer. She does not have to incur extra costs to convey her farm produce to the market for sale since these traders come directly to the farm gate (e.g. from Techiman and Tumu markets).

Madam Teni revealed that it was not easy to **manage her own farm work alongside her husband's farm**, however she feels very lucky to have a **supportive husband** who does not leave the work for her alone to do. She explained that she supports her husband on his farm but her husband also does the same. They however have to ensure that the work on her husband's farm is complete before they work on her farm. She spends most of her time on the husband's farm because it is what this farm produces that feeds the main household. She also explained that they share a lot of information and consult and decide together on issues related to the farm (crop selection, sale of produce and farming methods). This consultation has helped them reflect on the best crops to invest in and the timing of the sales. Decision making relating to the sale of what farm produce is sold and when it's sold depends on whether it is from her own farm or from the family farm. She said with her own farm produce, she decides what to grow and when to sell with some consultation with her husband. With regard to that of the husbands farm produce, her husband has control over his farm produce.

With regards to what her **constraints** have been in ensuring good nutritional practices, Madam Teni's response revealed that due to the limited options available to her, she tends to rely a lot on carbohydrates with less protein and vitamin rich foods. She explained that she is very much aware of the nutritional value of the food produced. The issue however is that, at some point of the year, especially the lean season (July to August), she relies largely on what is available (wild vegetables and fish a few times a week). She added that her inability to purchase meat or fish all the time has informed her decision to keep a backyard garden to enable her meet the nutritional needs of her household. She outlined the major constraints to providing enough food for the house as follows:

- Labour has been one of Madam Teni's major constraints that limit her level of production. She told the team that she can barely do all the work on both her husband's farm and that of her own. She relies largely on the few tractor services available which are in high demand in the community sometimes having to queue for as long as two weeks to be able to get her plot ploughed.
- The high cost of farm inputs such as fertilizers, insecticides, and weedicide limits her output and ultimately the amount of food available for the family. She assesses how much input she can afford to determine how many acres she ploughs. If she cannot afford to buy enough farm inputs, then she reduces the number of acres cultivated.

Madam Teni said she does not have a problem with accessing land. She said that although women are not allowed to own land, she has access to her husband's land. She is given as much land as she needs as long as she can afford to clear the land and plough for her farm.

With respect to **what interventions can help women provide nutritious foods for their families**, Madam Teni recommended that support for women in terms of labour (tractors) will reduce their burden and will enable them to expand their farms and be able to produce enough for household food and cash to sustain their families. In addition, Madam Teni recommended support for women to engage in alternative sources of income such as what she does (grain banking and sale during the lean season). She said this type of business is a very lucrative one which has been very supportive to her family and thinks it would provide a great opportunity for other women to engage in inventory credit/grain banking. She concluded by encouraging women to belong to women's groups as it serves as a very important safety net for its members. She said being a member of the Amoana Women's group has increased her access to credit and important agric related information....which she encourages women to take advantage of.

5.1 Food Security

The SS case studies revealed that their households are able to cultivate larger acres of land compared to other women in the community, they are able to purchase modern farm inputs and output per acre is often considerably higher. Despite their large family sizes, successful female farmers were able to demonstrate that they could farm large tracks of land often using a variety of cropping and farming methods to ensure higher yields. For instance several of the success stories were using tractors and hired labor and were able to purchase necessary farm inputs such as fertilizer and insecticides. Some of the success stories had received support from family member (e.g. son or husband) to start their farming business but others would migrate to southern Ghana on "kayayoo" to ensure that they were able to raise the initial capacity for farming. The success stories demonstrated that they were starting to see their farming activities as a business enterprise.

Table 28: Success stories: Farming Activities and Family Support

Name of Success Story Interviewee	Districts and communities	A picture of success: type of farming and support from the household
Mulangarie Waawe	Jirapa District (Vingving)	Mulangarie farms guinea corn, ground nuts, bambara beans and rice on her three acres of farm land....last year she harvested 1 bag of guinea corn, 2 basins of bambara beans and 1 basin of rice (cows went to destroy her rice....
Braimah Fatima	Sissala West District (Gbal)	"Farming has been my success story. I sell groundnuts, firewood, shea butter for household consumption.... I also belong to a women's group called "maganana". I do susu sort of saving and very soon I will get some loans to help in farming. I farm in collaboration with my son and his wife... my son supported me with tractor services, fertilizers and labor".
Pogsar Dapla	Jirapa (Nimbare)	Madam Pogsar is the second of three wives whose husband passed away. She has four children with five other fostered children by her late husband's brother who has migrated and left the children behind. She farms on a 6 acre plot of land, out of which she uses 2 acres for groundnuts, 2 acres for millet and maize, 1 acre for soybeans and 1 acre for beans and bambara beans. She was able to harvest 20 bags of rice, 15 bags of groundnuts, 3 bags of beans a bag of millet and a bag of soybeans, and a bag of bambara beans.
Musah Barchisu	Sissala West	Madam Barchisu has a migrant husband who left her with five children. She

Name of Success Story Interviewee	Districts and communities	A picture of success: type of farming and support from the household
	(Bullu)	takes care of her children's feeding and schooling as well other household chores. She farms on a five acre plot of land. She farms rice, maize, groundnuts, and cowpea and has also ventured into the production of cotton. She went on kayayoo and was able to begin her farming activities...

5.2 Experiences in Managing Household Responsibilities and Food Production.

Generally women have the sole responsibility of taking care of the household chores which include cooking, sweeping, going to the market and preparing children for school. Aside from these daily chores, women have to ensure that they support their husbands on the farm as well as work on their own farm. The evolution of the “woman’s farm” is a recent phenomena (last 15 years) and has evolved partly from the need to supplement the family/husbands farm in times of stress; the control over the farming outputs/yields of the husbands farm have also become more challenging given the increasing demands on the family for cash (e.g. school fees and health costs). Two different approaches were observed in the districts in relation to support provided by husbands on the female farms. In Jirapa, men were not found supportive of women’s work on her own farm. Sissala West District presented a different picture with all of the women with the exception of widows having received some kind of support from their husbands to work on their own farms¹⁶.

Eighteen of the 24 successful women interviewed relied on hired labor (often young boys) for ploughing and weeding services in their own farms. The successful female farmers also used their own women’s groups for assistance particularly in the harvest season. Across all the success stories they recognized the importance of having to work on their own farms and therefore invested in tractor services or hired labor to ensure that their own farms produced an adequate yield. More research is needed to explore further the reasons behind the drive to farm by SS women and whether this was because the women believed that having their own farms would sustain the family income or for easing her own risk from the husbands’ sale of crops.

Table 29: Meeting Labour Needs: Perspective of Success Stories

Name of SS	HH Profile	What does she do for meeting the labor needs on her own farm
Mulangarie Waawe	Widowed with three children living with her that are dependants (8-16 years)	In terms of labor support, Mulangarie hires a group of young boys in the community to farm for her and she pays back after the harvest season. Mulangarie sells firewood, shea butter and gathers dawadawa from the bush to sell and buy for food for her children and sometimes prepares kenkey for her children to sell.
Braimah Fatima	Sissala West District (Gbal)	“I hire labor with the help of my son... for weeding I hire school boys in the community and pays them after harvest. Harvesting is done by hired women’s groups...”

¹⁶ Key farming activities conducted by Jirapa women in these communities mostly include planting, application of fertilizer, weeding and harvesting. Apart from these activities listed, all women except those who were widowed revealed that they have to do all farming activities (including ploughing, weeding, planting and harvesting) on their own farms.

Name of SS	HH Profile	What does she do for meeting the labor needs on her own farm
Pogsar Dapla	Jirapa (Nimbare) Widowed and has 5 children	Madam Dapla's labor sources are tractors to do the ploughing, and she also hires women's group labor for planting and weeding. Fertilizer application and harvesting is done by her and her older children.
Musah Barchisu	Sissala West (Bullu) Migrant husband and has 4 children	She usually hires tractor services for the ploughing, and the rest of the farming activities including planting, weeding, fertilizer application and harvesting is done by her children and herself.

The majority of these successful women complained of having very limited nutritional choices especially during the lean season. Madam Teni of Bullu Community told the team that she would usually forfeit the purchase of fish or meat to enable her to save enough money to pay for ploughing during the next farming season. Findings from the success story cases suggest that the majority of these women were keenly aware of the fact that if they did not invest inputs into their farming activities it would have a devastating effect on household food security.

5.3 Gender Relations and Decision making within the Household

The findings from the study suggest that the level of consultation within UW households was very low among men and women in relation to the choice of crops, amount of land available for cultivation and amount of food to be sold. The situation was however different for successful women and older wives. The level of consultation between men and women tended to be higher among successful women. This is because men see successful women as being able to make a contribution towards the planning of farm activities, and even be able to financially contribute to the purchase of farm inputs such as fertilizer and insecticides. The rate of decision making in relation to the choice of crops and quantity of produce for sale is higher among successful women particularly older wives. Women who are widowed and considered successful have a high level of control and decision making power over production and sale of farm produce, because the decision is taken solely by them. Table 30 below explores the secrets of success across the case studies in relation to personal characteristics and working principles.

Table 30: Secrets of Success: Success Stories' Perspective

Name of SS	Profiling	Secrets of Success (Based on Research Team Field Notes, 2012)
Mulangarie Waawe	Jirapa District (Vingving)	Her secret she said is her commitment and the fact that if she doesn't do it....who else will do it for her? "I will do anything to provide food for my children" she said. She said as the only daughter of her mother, who along the way lost all her six brothers; she was left with the burden of doing everything in the house as well as on the farm. And after a few years of marriage, she lost her husband. At this point the burden had increased because she had three childrenand she had to take care of them all by herself. She later got married to her late husband's brother, who also died after just two years and two extra children. So at that point of her life she said to herself that, she has to be more hard working than any other woman in the community to be able to take care of her

Name of SS	Profiling	Secrets of Success (Based on Research Team Field Notes, 2012)
		children. “I <i>have decided to adapt the heart of a man</i> ” to work to every extent to take care of my children.
Braimah Fatima	Sissala West District (Gbal)	I thought to myself that the way I struggled in life, I would not allow my children to go through the same struggle. I then decided to work hard to feed my children and put them through school. “My success is through my patience, hard work, and endeavors that I saw to it that every bit of food on the farm is brought home.
Pogsar Dapla	Jirapa (Nimbare)	‘My number one secret is patience’.. She’s always been a hardworking person since her childhood. She migrated to the Brong Ahafo region to hire her labor out for about four years, which she said she never got paid for. But the good thing is, she learned more about good farming practices....and this has helped her farming career. Her husband, when he was alive and a public sector worker was also very supportive to her. She usually got financial support from her husband to hire tractor services and to purchase other farm inputs which enabled her farm output to increase. She said she also has market linkages with women traders at the district level that come to buy her farm produce whenever she is ready to sell them.
Musah Barchisu	Sissala West (Bullu)	Since her husband migrated to Accra and left her children and herself, she has not had any support from any family members, so she also decided to travel to Accra for “Kayayoo” (head portage) for about two years. When she returned, she was able to put up a two room building for her children and herself. She was also able to get some startup capital to go into farming. At this point of her life, she promised herself to work very hard to take care of her children.....’And this has been my motivation till now”, she said.

The ‘secrets of success’ across the cases interviewed suggest that successful women often endured very difficult hardships and tragedy. They were learning how to cope and live in extreme circumstances and became better at depending on their own ingenuity. Fifteen out of the twenty four successful women interviewed said they take major decisions themselves related to what crops to farm and the quantity to cultivate on their own farms. Apart from the cultivation of food crops such as beans, groundnuts, cowpea and rice, SS women also ventured into the production of male dominated crops such as maize, and sometimes cotton.

Across the eight communities, 14 out of the 24 successful women have market linkages and a fair knowledge of food prices that are sold in the market. This informs their decision on when to sell their farm produce in order to make the maximum profit. Access to land and other productive resources for these women is not very different from the rest of the women in each of the districts but they were in a better position to negotiate these resources¹⁷ based on their reputation for being a “successful farmer”. Thirteen of the woman interviewed divulged that

¹⁷ Women in the Sissala West District have access to relatively fertile soils compared to Jirapa District; thus resulting in the difference in output and demand for farm inputs. Women in Jirapa District have to use greater amounts of farm inputs to be able to reach meaningful harvest levels.

being a member of a viable women's group serves as a very important safety net. These groups, apart from supporting each other in terms of labor, also provides comfort in times of need and some provided financial support to each other with little interest.

A good number of these successful women are able to manage their time and income efficiently by using hired labor. Successful women were also found to be involved in saving and credit schemes with some support from the rural banks/credit unions. They often used these savings to re-invest in their farming activities. The lessons from the success stories also suggest that these women had a notion that farming could be a business and that they managed their time and resources accordingly—often they were able to project, plan and manage their household responsibilities together with their farming activities. They also reflected on the successes and failures of different types of crops on their farms and knew which ones would yield the most profit.

Successful women also distinguished themselves by engaging in other income generating activities such as petty trading, pito brewing, and sale of firewood and charcoal as alternative sources of income for the families. The majority of these women reared animals such as pigs, goats, sheep and cattle in order to serve as a safety net and also as an alternative income source. “Successful” women in the Sissala West District were using of donkey carts for farming and conveying foodstuffs from their home to the farm and market.

5.4 Key Constraints of Successful Women

“Women’s farming is at risk, as women are consistently unable to spend much time on their own farms. If women are unable to produce by themselves crops that are considered nutritious, the family’s nutrition would be seriously affected because these are not crops men hope to produce for family consumption. The man would sell most of the bambara beans from the family farm”
Madam Sala Haite, Bullu.

Successful women interviewed across the two districts recognized that there were serious climactic and soil fertility constraint in their farming activities. They were also aware that the rainfall pattern was so erratic that this was affecting their ability to have adequate yields and they needed more information on how to cope with the situation. The ‘Success Story’ women also identified the lack of labor as a major constrain in expanding their agricultural yield and farm size although this was only feasible in the Sissala District where farm lands were more available. Success story women were reflective in their knowledge of farming and knew that poor soil fertility demanded that farm inputs be used. Unfortunately none of the women interviewed had adequate knowledge of the need to use agro forestry techniques to improve soil fertility.

Table 31: Key Constraints for Ensuring Food Security

Name of SS	Profiling (District and household status)	Key Constraints for ensuring food security
Mulangarie Waawe	Jirapa District (Vingving)	In the last five years it has become difficult to harvest enough food for her family. She attributes this to the fact that it hardly rains, and her inability to afford farm inputs to increase her yield. She also said she does not have any strong man beside her to support in her farm activities.
Braimah Fatima	Sissala West (Gbal)	Business not booming for us to have access to inputs on my farm. Rain pattern is very poor, but we cannot do otherwise.
Pogsar Dapla	Jirapa (Nimbare)	Erratic rainfall and poor soil fertility have been my greatest constraints. It affects the yield and amount of food available for consumption and sale. Inadequate farm inputs such as fertilizers, tractors and insecticides have limited my level of output. Animal diseases also killed most of my pigs.
Musah Barchisu	Sissala West (Bullu)	My greatest constraint is labor. I am unable to increase my farm size to meet my household food needs. Inaccessible farm inputs such as tractors, fertilizers and insecticides. No alternative source of income, so I have to sell most of my foodstuff for school fees and other household needs.

5.5 Income/Economic Activities and Coping Mechanisms

Successful women interviewed across the communities were women who engaged in several income generating activities such as shea butter production, sale of firewood/charcoal and rearing of animals particularly after the farming season. Most of the successful women had identified the purchase of grains in the harvest season and the sale of these grains in the “hunger/lean” season at higher prices as the most lucrative business to engage in.

Table 32: Coping Mechanisms

Name of SS	District	Coping Mechanism
Mulangarie Waawe	Jirapa District (Vingving)	She will usually gather dawa dawa and shea nuts from the bush to sell and buy food for her children. Other times she would sell a pig to enable her to hire labor and buy some food for her children. Sometimes she would go into the bush to search for a wild kind of yam known in dagaare as “tuupuo waa” to feed her children during the dry season.
Braimah Fatima	Sissala West District (Gbal)	I engage in petty trading, sale of firewood, shea nuts, and sale of some of the cash crops produced.
Pogsar Dapla	Jirapa (Nimbare)	I sell pito, firewood and charcoal to make money to buy food and other ingredients to feed the family in times of food shortage.
Musah Barchisu	Sissala West (Bullu)	During the lean season, she goes to borrow some food from friends. She goes to search for wild vegetables and fruits for her children. She tends to rely a lot more on gari and bit of sugar for children.

5.6 Solutions Cited During Interviews with Successful Women

The most important solutions cited by female success story interviewees were the need for tractor services or farm labor to increase their production and farm outputs. They also cited the need for improved farm inputs particularly improved seeds, lower cost fertilizer and insecticides. They also suggested the need for alternative sources of income during the lean season such as developing the inventory credit schemes in the community. Here are some of the notes from the field:

- Support for women in terms of labor (tractor) and other farm inputs to improve household food security.
- Access to credit facilities with low interest rates for women to engage in petty trading (especially grain business) is a very good alternative source of income for families especially during the dry season.
- Livestock production is seen as an important backstop for families and would improve families' food security.
- Need for improved seeds and sacks for storage to avoid the use of "rat poison" for storing beans and cowpea.
- Women identified training on entrepreneurship and alternative source of investment as an important mechanism for improving their food security situation. Interviews with women revealed that, most of them, especially men don't know what to do with money during bumper harvest.
- The need for families to expand their farms would require modern farm inputs such as tractors and fertilizer. The availability of tractors would also reduce women's workload and increase their farm outputs.
- Groundnuts were seen as a major and potential cash crop for women to improve their families' food security.
- Education on new methods and techniques of farming and accessibility to improved seeds will increase their productivity.
- If veterinary services could be extended to all communities (not only Kupulima), it would help them a lot as well as education on common diseases of animals and how to manage them.

Table 33: Key Interventions Needed to Support Women

Name of SS	District	Main interventions needed to support women
Mulangarie Waawe	Jirapa District (Vingving)	"If I have access to credit, I will rear more pigs to serve as an alternative source of income to feed my family". Support in relation to farm inputs (fertilizer, tractors, insecticides) will go a long way to improve output and household food security.
Braimah Fatima	Sissala West District (Gbal)	"We need training to improve upon our nutritional knowledge.....because we are deaf and dumb, and we need eye opening". Farm inputs should be available in all communities for easy access. Women should make maize, soya beans and groundnuts as key products for farming. Women should be ready to learn from one another....should be ready to share their blood for farm work and engage in other trades.
Pogsar Dapla	Jirapa	"I think women need to farm more nutritious foods like rice, beans,

	(Nimbare)	cowpea. This will require that we are supported with improved seeds and other farm inputs to be able to produce enough to feed the family”. “ I think soya beans and beans are viable crops that women can engage in large scale cultivation if given the needed support”
Musah Barchisu	Sissala West (Bullu)	Credit support for women with very low interest rates to enable us expand our farms and buy farm inputs to improve our yield. Financial/Credit support for women to engage in other income generating activities to serve as alternative sources of income....storage and sale of grains. Provision of labor to reduce women’s labor burden...

(Interviews with successful female farmers, 2012)

6.0 Final Conclusion

This final chapter explores the main recommendations which women suggested during the focal group interviews and interviews at the household level. It also suggests ways in which MEDA can address some of the systemic constraints women face particularly in relation to gender inequality and inequity. The chapter presents the potential risks and mitigating strategies identified in the study. Some of these risks include: male domination/cultural resistance, family breakdown, low production and crop failure, limited crop acceptability based on previous experience, and additional time constraints on women due to the project interventions.

6.1 Food Security Interventions

The main food security interventions which are cited in the literature include:

- Rural off farm opportunities or income generating activities which reduce the number of migrant farmers and help ensure that youth engage in farming activities
- Capacity building activities such as education, research and access to capacity building or infrastructure is a major focus of several programs.
- Gender sensitive development approaches needed to achieve food security. An inclusive approach where men and women complement each other to achieve set objectives in a project.
- Build on strategies that are proven to be working for communities. For instance there is the need to work through community opinion leaders like chiefs and elders that help sustain the communities.
- Safety nets are vital for ensuring short term food security especially for the most vulnerable people.
- Investments in agriculture such as cost-effective irrigation and improved practices and seeds can reduce the production risks especially for smallholder farmers, while improving their food security.

6.2 Risks and Mitigating Strategies

The field work revealed several factors which could pose as a risk if not taken into account by the project. These risks related mainly to the increasing role and responsibilities of women in order to provide the basic food for the family and the already difficult burden the added responsibilities of food production and household chores places on them. Please see table below for more details regarding the mitigating strategies.

Risks	Mitigating Strategies
Male dominated context with limited space for consultation	<ul style="list-style-type: none">• Increase women's empowerment through functional literacy education and agricultural production methods• Ensure men are involved in the project consultations in all stages of the project cycle (e.g. village development committee).• Have ongoing IEC campaigns to provide feedback to the entire community• Project should be designed to engage with existing community structures

Risks	Mitigating Strategies
	<p>(chiefs/elders etc)</p> <ul style="list-style-type: none"> • NGO's would be involved in women's empowerment processes
Family breakdown	<ul style="list-style-type: none"> • Increased consultative methods for women and men at the household level • Creating awareness concerning the potential benefits of working together, sharing information and becoming more transparent
Low production and crop failure	<ul style="list-style-type: none"> • Focus on districts which have potential for success in selected crops for the food security program and demonstrated adequate crop yield; • Focus on more soil fertile areas; later scale up to areas where there is acute food insecurity/fragility at a later stage in the project cycle. • Select communities based on strength and experience of women's groups having demonstrated ability to manage their food production--- NGO/MOFA selection of women's groups • Build on existing block farming experience with women's groups at district levels.
Erratic weather conditions and unpredictable poor rainfall pattern	<ul style="list-style-type: none"> • More awareness creation (posters) and women's education on the agricultural practices which can improve soil fertility; • Increase the usage and availability of the "talking books" to read weather conditions to the villagers in order to adjust agriculture practices; • Increase the integration of agro forestry approaches to stimulating tree planting/wood lots, and ways to generate alternative income sources to charcoal burning. (e.g. moringa and mangoes)
Very poor storage and marketing linkages	<ul style="list-style-type: none"> • Build on strengthening cooperative saving and credit systems which have been well tested in the Upper West (SILDEP and Credit Unions) • Promote inventory credit schemes at a community level and set up the mechanisms for marketing. • Increase and expand a formalized system of marketing the crop through group sales
Poor crop acceptability based on previous experience (soya failed)	<ul style="list-style-type: none"> • Pilot the project in relatively more soil fertile areas and introduce less risk adverse crops which already have acceptance/ high value for food security and at the market. • Introduce soya bean on a small scale in districts which are already producing on a relatively high scale (i.e. Sissala, Wa West and Wa East, Upper West Region). • Introduce less risk and high food secure staple crops (cow pea, groundnut, and beans) in zones which have demonstrated low yields, and very poor soil fertility. • Decision on selection a final crop for the project intervention should consider the context of intervention in terms of "food security"/comfortable crops. • More consultation should be held with women in order to finalize crops for intervention.
Added burden in terms of female farmers time and labor constraints	<ul style="list-style-type: none"> • Cost benefit analysis on the chosen crop for the community and women's groups • Support by providing group technology for improving women's production • Support through better inputs such as high yielding varieties of seeds and fertilizer/insecticides following a method of payback similar to the MOFA block farming program...
Political upheaval due to elections	<ul style="list-style-type: none"> • Ensuring that the project has fewer field based activities in the months leading up to the election.

6.3 Conclusions Based on the Findings

The following section is based on the field work findings, household survey and in-depth interviews conducted over the eight (8) communities in the Upper West. It is based on both the recommendations made by the communities and stakeholders interviewed and in some cases analysis by the researchers.

6.3.1 Erratic Weather Conditions and Soil Infertility

Findings from the study suggest that communities and households in the Upper West Region are facing severe climatic changes in weather patterns and rainfall which is having a marked impact on their food production. Women's groups complained about their inability to predict weather and rainfall patterns which undermines the investment they make in farming. Findings also suggest that there are significant differences in soil fertility profiles between districts in the Upper West; some districts (e.g. Jirapa) are facing signs of desertification resulting in very poor agricultural output per acreage farmed. This is one of the factors related to male migration to the south.

Recommendation 1: Integrate agro forestry methods and strategies in all aspects of the project in order that women are able to learn how to improve their farm land and sustain their livelihood from farming over the coming ten years. The planting of more fruit trees such as mango and moringa should be encouraged to also serve as an important source of micronutrients among families.

Recommendation 2: Women in the Upper West should be made aware of mitigating measures which can be taken due to erratic rainfall and the poor agricultural practices which will lead to increased soil infertility (e.g. firewood and charcoal burning).

Recommendation 3: Alternative income generating activities should be integrated into food security programming given the current environmental degradation and risks factors. Activities such as livestock production, dry season gardening and improved inventory credit schemes should be explored. Linkages to NGO's which are promoting community dam construction in order to secure a larger source of water for farming purposes should also be considered.

6.3.2 Food Security (access, availability and nutrition)

The findings from the study suggest that although men are expected to support the family food consumption needs by providing staple crops such as maize, millet and yam year round, there is a shifting of responsibility towards using the female farm outputs as a coping mechanism; this trend is becoming used more regularly and there are signs that men are giving women more land to cultivate in order to take on responsibility to supplement to the family farm. Men's control over the timing and quantity of food to be sold at the household level is the main factor effecting

household food security. Findings from this research suggest that women have extremely limited space to negotiate their family's needs in relation to what is sold by the men across all religious, ethnic and household structures included in the study (e.g. Muslim/Christian, Dagaare/Sissala, polygamous/non polygamous).

Surprisingly, female headed households due to death of husband, or migration revealed that women who are independent in making decisions related to their household consumption and in control the sale of the farm produce are able to ensure food security. Most importantly, successful women who have learned to use their ingenuity, galvanize the resources at their disposal (labor on credit) and plan their farming activities were generating higher crop yields.

Most women interviewed across the two districts demonstrated a good understanding of nutrition at the household level yet many women were unable to put this knowledge into practice due to limited food availability/access options, and simply lack of time to find the food needed to supplement the diet. Generally poor families are unable to afford protein rich foods and tended to rely a lot more on carbohydrates. This is especially evident in the hunger season.

Decision making regarding nutritional choices at the household level was largely taken by the woman and depended on what food was available at household level; other factors related to nutrition choice depended on how much food the male household head released to her for cooking purposes in a particular week or a month; it was also dependant on the woman's ability to produce a variety of crops on her own farm and/or purchase items from the market. In polygamous households where there was a mother-in-law together with the wives there could be some level of consultation or the individual women in the HH may decide independently what to cook. However the amount of food available for consumption at the household to a larger extent depended on the man's decisions regarding crop sales. Given that men and women's responsibilities in providing for the family are shifting, creating a larger burden on women, the following recommendations are made:

Recommendation 1: Any programs to support women in generating higher levels of cash or produce from the farm should be in close consultation the men and possibly the village elder structures to guide the program; this will enable men to be aware and engaged in knowing the program interests and goals.

Recommendation 2: Selected activities and interventions should have methods which help strengthen the family bond in order to reduce the burden on women particularly in relation to their time and labor constraints and consider their roles as caregivers of children.

Recommendation 3: There should be functional literacy/economic literacy and empowerment programming to support negotiation and consultation skills of women and men in order to ensure better communication at the household level. Agricultural business and planning workshops should be another dimension for both men and women to increase their skills.

Recommendation 4: Support women to increase their access to profit /credit for reinvestment in productive activities in the farming season. This can be done through grain

banking/inventory to enable women to store food during the harvest season and be able to have access to food for usage or sell it during the lean season when the prices are high.

6.3.3 Addressing the key constraints faced by women in the Upper West (gender relations, decision making power, access to resources)

Women experiencing extreme poverty were caught in a vicious cycle of deprivation which prevented them from using agriculture as a means of generating income, engaging fully in group membership and they had neither the time nor capacity to face any type of risk. The selection of the crop for introduction by MEDA will have to be carefully considered particularly in districts with poor soil fertility and where there are visible signs of extreme poverty among households.

Findings suggest that districts where there is a high level of soil infertility and high rates of food insecurity/ poverty... demand intervention in cash crops which are less “risky” for the smallholder farmers particularly women due to their HH poverty status. Selection of ground nut or cow pea are considered more “comfortable” crops which are less risky for food security, social and economic reasons mentioned in the report. In areas with higher rates of food security more risk and space for experimentation at household level can be made by the project (e.g. soya, cowpea and groundnut). Soya should be introduced and value chain activities strengthened in the districts which are already producing large yields of soya (e.g. Wa East, Wa West, Sissala West etc.)

The main constraints faced by women across the 8 communities in the two districts were:

- Lack of decision making power at household level in relation to the selection, amount and sale of produce.
- Lack of labor support for women to farm on the family and/or her individual farm; her inability to access alternative labor support such as tractors and other community members, animals etc.
- Limited access to farm inputs due to poverty and limited capital for investment;
- Limited alternative sources of income particularly in the non farming season.

Recommendations 1: MEDA should build on the “block farming” initiative by MOFA and leverage their support in districts where block farming is being better targeted at women. Explore the Gender Responsive Budgeting (GRB) initiatives within the MOFA to bring this forward in the selected districts of the Upper West.

Recommendations 2: Women should be supported to farm crops that they think are “comfortable”/ less labor intensive (e.g. groundnuts, cowpea) since they easily can be used for household consumption and also sale.

Recommendation 3: Support women’s groups in terms of micro credit and diversify rural sources of livelihoods which will help reduce the unsustainable use of the natural resources.

Recommendation 4: Begin any proposed programming in districts where there are already high production yields and adequate soil fertility to ensure that the first few years of startup are successful before a ripple effect is made in the more deprived and challenging districts (based on poor soil fertility).

Recommendations 5: Encourage animal husbandry and agro-forestry as an alternative source of income for households especially in the dry season.

Recommendation 7: Support dry season gardening as an off-farm activity. In the Sissala West District a few farmers are into dry season gardening due to small dam support provided by NGO's such as PLAN Ghana, and TUDREDEP.

6.3.4 Strengthening the Value Chain in Key Agricultural Products (Soya, groundnut or cowpea)

Very few crops identified in the field work were having strong value additions (e.g. maize, beans soya etc). Most were simply produced and harvested using very traditional methods of production, processing and sale; some of the practices used bordered on health risks (e.g. storage of cowpea with ash and maize with poison for rodents). The highest value addition is for groundnuts, and the husk is removed when they feel the seed is big enough to give a good price in the market.

Recommendations on supporting value chain strengthening

- Support for inputs in order to increase production will also be a primary step (loans for inputs)
- Inventory credit including improved storage management systems are critically needed in order to break the poverty cycle in some districts among farmers who sell at low prices and as a consequence lose any potential profit,
- Market linkages for improved cash crop varieties and technological knowhow among women's groups is needed.
- Improve marketing efficiencies and linkages with buyers from major market centers in Kumasi and Techiman in order to enable the flow of information, resources and benefits;
- Hold farm exhibitions on a yearly basis to exhibit and broadcast their potential.

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Annex 1: Final Schedule and Roll Out of Research

Date (Day month and number see below for example)	District/Community number	Actual name of community (once selected can be placed here)	Team 1 research activity	Team 2 research activity	Name of Note Taker/Data Recorder for event (team 1)	Name of Note Taker/Data Recorder (team 2)	Completed or outstanding instr. (team 1)	Completed or outstanding Instr. (team 2)
Saturday April 21, 2012			Travel from Accra to Wa	Travel from Accra and Bolga to Wa				
Sunday April, 22, 2012			Orientation for all data collectors (6) using field guide	Orientation for all data collectors (6) using field guide				
Monday, April 23, 2012			Regional level interviews	Regional level interviews				
Tuesday April 24, 2012	Jirapa Dist.	Jirapa	Travel from Wa to Jirapa	Travel from Wa to Jirapa				
			Conduct District Level interviews (Jirapa) District Planning officer CSO's	Conduct District Level interviews (Jirapa) District Agriculture Extension...				
		Community 1	Teams travel from the district capital to the first Community	Teams travel from the district capital to the first Community				
			Greetings and short interview with chief and elders	Greetings and short interview with chief and elders				
			Interview the women's leader with 3 older women	Transact walk through the village with key informants (youth)				
			Focal group with women	Focal group with women				

Date (Day month and number see below for example)	District/Community number	Actual name of community (once selected can be placed here)	Team 1 research activity	Team 2 research activity	Name of Note Taker/Data Recorder for event (team 1)	Name of Note Taker/Data Recorder (team 2)	Completed or outstanding instr. (team 1)	Completed or outstanding Instr. (team 2)
			with less than 2 dependants and relatively small compound house (younger)	with more than 3 dependants and relatively large compound house (older than 35 years of age)				
Wednesday April 25th 2012	Jirapa District	Cmmunity1	In-depth Case study	In-depth Case study				
			2 Household checklist/Observation / Household Survey	2 House hold Observation and Household Survey				
			Male Focal Group Discussion	1 In-depth Case study				
			Write ups in the morning and wrap up in community 1	Write ups in the morning and wrap up in community 1				
Thursday April 26th	Jirapa Dist.	Community 2	First day roll out in community 2	First day roll out in community 2				
Friday April 27th	Jirapa Dist.	Community 2	Write ups in the morning and Rap up in community 2	Write ups in the morning and Rap up in community 2				
Saturday April 28th	Jirapa Dist.	Jirapa	Reflection meeting on instrumentation and write ups	Reflection meeting on instrumentation and write ups				

Date (Day month and number see below for example)	District/Community number	Actual name of community (once selected can be placed here)	Team 1 research activity	Team 2 research activity	Name of Note Taker/Data Recorder for event (team 1)	Name of Note Taker/Data Recorder (team 2)	Completed or outstanding instr. (team 1)	Completed or outstanding Instr. (team 2)
Sunday April 29th	Jirapa Dist.	Jirapa	Rest and final write ups and adjustments to the field guide and instruments	Rest and final write ups and adjustments to the field guide and instruments				
Monday April 30 th	Jirapa Dist.	Community 3	First day roll out in community 3	First day roll out in community 3				
Tuesday May 1	Jirapa Dist.	Community 3	Write ups in the morning and Rap up in community 3	Write ups in the morning and Rap up in community 3				
Wed May 2	Jirapa Dist.	Community 4	First day roll out in community 4	First day roll out in community 4				
	Jirapa Dist.	Community 4	Write ups in the morning and Rap up in community 4	Write ups in the morning and Rap up in community 4				
Thurs May 3	Sissala West	am	Travel for about -3-4 hours	Travel for about -3-4 hours				
		Pm	District Interviews District Planner	District Interviews District Extension and NGO's				
Friday May 4	Sissala West	Community 5	First day roll out in community 5	First day roll out in community 5				
Saturday May 5	Sissala West	Community 5	Write ups in the morning and Rap up in community 5	Write ups in the morning and Rap up in community 5				
Sunday May 6	Sissala West	Community 6	First day roll out in community 6	First day roll out in community 6				
Monday May 7	Sissala West	Community 6	Write ups in the morning and	Write ups in the morning and				

Date (Day month and number see below for example)	District/Community number	Actual name of community (once selected can be placed here)	Team 1 research activity	Team 2 research activity	Name of Note Taker/Data Recorder for event (team 1)	Name of Note Taker/Data Recorder (team 2)	Completed or outstanding instr. (team 1)	Completed or outstanding Instr. (team 2)
			Rap up in community 6	Rap up in community 6				
Tuesday May 8th	Sissala West	Community 7	First day roll out in community 7	First day roll out in community 7				
Wed May 9 th	Sissala West	Community 7	Write ups in the morning and Rap up in community 7	Write ups in the morning and Rap up in community 7				
Thursday May 10	Sissala West	Community 8	First day roll out for all instruments in community 8	First day roll out in community 8				
Friday May 11	Sissala West	Community 8	Rap up morning in the community 8 Final field write ups	Write ups in the morning and Rap up in community 8				
Saturday May 12	Wa	Wa	Full team reflection meeting with Team leader	Full team reflection meeting with Team leader				
Sunday May 13	Travel back to Accra							

Annex 2: List of Members of the Research Team

NAME	ORGANIZATION	ROLES	LOCATION
Dr. Leslie Casely-Hayford	AFC	Team Leader(Development, Consultant Researcher)	Accra
Patience Diana Tetteh	AFC	Senior Researcher(Gender & Agric. Economist)	Accra
Rukayatu Adams	AFC	Researcher (Field Manager)	Accra
Andaratu Achuliwor	AFC	Researcher /Economist	Accra
Catherine Amissah	AFC/Pronet	Researcher	WA
Joyce Kanton	AFC/GSS	Translator/Researcher	WA
Irene Dumah	AFC/GSS	Translator/Researcher	WA/Tumu(Daagare)
Charity Bukari	AFC/CODERUC	Researcher	Zebilla
Imranah Adams	AFC	Researcher	Accra
Constance Banini	AFC	Finance / Administration	Accra
Patience Agbadi	AFC	Data Entry	Accra
Nadia Sia	AFC	Data Entry	Accra
Issifu Bukari	AFC	Driver	Accra
	Pronet	Driver	Wa
DATA ENTRY and ANALYSIS			
Cyprian Ekor	AFC/GSS	Senior Analyst	Accra
Joshua Jein Konde	AFC	Inter-médiate Analyst	Accra

Annex 3: List of Interviewees

Upper West Regional Level Interviews		
Name	Organization	Contact Number
Naa Robert (Bob) Loggah	Suntaa-Nuntaa Agro forestry Project	WA 0244210608 +233(0) 392022215
Mr Wahid Yahaya Catherine Amissah Mr. Martin Dery	Pronet - Food Security and M&E Officer	WA, 0264529624 0243949640
Dr Agnes Apusiga	University for Development studies.- Cultural Analysis Lecturer	WA
Mr. Asieku Yahaya	SARI- Savanah Agricultural Research Institute	WA
Mr. Kanton Yussif	YARO- Youth Advocacy on Rights and Opportunities- Programme coordinator	WA
Mr. Peter Zaator	PETOZ Investment Limited- Managing Director	WA, West, East and Central 0209833551
Mr.Osman Baba	Regional Coordinating Council (RCC).	WA
Mr Adams	Regional Planning Officer	WA
Mr Charles Adams	Ministry of Food and Agriculture, Regional Director	WA
Mr. Abdul Mohammed	NBSSI- National Board for small scale industries	WA
	North West Development Agency	WA
Mr Joseph Apeeliga-Manager Madam Amina-present Secretary/Accountant	ACDEP-Association of Church Development Projects (USAID-ACDI/VOCA).	Head office in Tamale, WA 0200716497,0243813444 0244-425394.
Catherine Bob- Millar	Ministry of Women and Children Affairs	WA 0208236475
Elizabeth Kutina	MOFA/WIAD Regional officer	WA,0269207895
Jirapa District Level Interviews		
Name	Organization	Contact Number
Mr. Edmund Anlando District Planning Officer	Jirapa District Assembly	Jirapa

Mr. Asaasiba George Akwanwelige - MIS Officer Mavis- WIAD officer	Jirapa, District Ministry of Food and Agriculture	Jirapa 0208395375
Mr. Mussah Ussif Jirapa District Coordinator	Jirapa District Assembly	Jirapa 0244885595
Dr. Stephen Degbor	Jirapa MOFA ,district director of Agriculture	0208395719
Sissala West District level Interviews		
Sissala West District Planning officer	Gwollu District Assembly	Gwollu
Mr.Peter Ayoreko Aleptoghe Food Security Specialist	Plan Ghana-NGO in Sissala West and East.-Food Security Specialist. In Charge	Tumu, Wa East
Mr. Fidelis Naapaneh-Project Officer Mr. Aloysius Kanchog- Head of Programme	TUDRIDEP- Tumu Deanery Rural Integrated Development Programme. NGO Project Officer.	Tumu, Wa East, Wa West
Mr. Musah	SILDEP- Sissala Literacy and Development	Tumu, Wa East, Wa West
Mr. Simon Yer-DAEO Mr. Cletus Annye -DVO	Ministry of Food and Agriculture- Sissala West	GWOLLU 0203218895 0246994340 0208005822
Interviews in Northern Region-Tamale		
	USAID ADVANCE -ACDI/VOCA, RING Project consultants	Tamale
	MOFA/WIAD Regional officer	Tamale

Community Level Interviews and Focal Group Discussions

Jirapa District		
Community	Activity	Number present
Tampala	Community questionnaire/Transect walk	2 Persons- Chief's regent, Secretary
Tampala	Chief and Elders/Assembly man in the community Interviews	-
Tampala	Household Observations	3 persons, Esi Janet (T4.10) Kaba Gandoo Yiri Taza
Tampala	Success Story (SS Household Questionnaires	Mary Lily Bachiela, married, Christian and household size of 13.
Tampala	SS Household Questionnaires	Esi Jane,widowed,Christian and household size of 3
Tampala	Randomly Selected Household	Catherine Bayor, married, Christian and

	Questionnaires	household size of 10.
Tampala	Randomly Selected Household Questionnaires	Gladys Daboo, married, Christian and household size of 14.
Tampala	Randomly Selected Household Questionnaires	Lariba Toazie, widowed, Christian and household size of 6.
Tampala	Randomly Selected Household Questionnaires	Jane Vengkumngeni, married, Christian and household size of 6.
Tampala	Focal group discussions, women Under 3 children	10 persons, all married, children 3-10. Polygamy and nonpolygamy. Women Group.
Tampala	2 Focal group discussions, women over 3children	8 persons, 6 married, 2 widows, children 3-7, 2 polygamy and 4 non-polygamy. Group.
Tampala	FGD with Men's group	8 men, married, children 2-10, age 30-75yrs
Tampala	3 In-depth Interviews with female success stories	3 females interviewed with HH survey Janet Kapuanani, widowed, children 2, 42 yrs Mary Lily Bachiela, married, children 6, 46yrs Catherine Bayor, married, children 5, 48 yrs
VingVing	Community questionnaire/ Transect walk	2 Persons- Chief, Dagba John, Fidelis Da-uri Unit committee member, 0543625063
VingVing	Chief and Elders/Assembly man in the community Interview	John, the chief and elders
VingVing	Household Observation	1 person at Waawe
VingVing	Success Story (SS) Household Questionnaire	Madam Aku, married, Christian household size 6.
VingVing	SS Household Questionnaire	Agnes Saan-le, married, Christian and household of 18.
VingVing	SS Household Questionnaire	Malungarie Waawe, widowed, Christian and household size of 4.
VingVing	Randomly Selected Household Questionnaire	Philomena Dagbaa, married, traditionalist and household size 11.
VingVing	Randomly Selected Household Questionnaire	Dasaah Napoka, married, Christian and household size of 8.
Vending	Randomly Selected Household Questionnaire	Bobalaeri, married, Christian and household size of 13.
VingVing	Randomly Selected Household Questionnaire	Porenchari, married, Christian and household size of 10.
VingVing	FGD with men's group	10 men, married, Christians, children 4-12, age 40-73 years
VingVing	2 Focal group discussions, women over 3children	6 women all married, 2 polygamy, 4 non polygamy. Group
VingVing	Focal group discussions, women under 3children	9 persons, all married, 3polygamy, 6 non-polygamy and 1-3children and age 20-30years.
Ving Ving	3 In-depth Interviews with female success stories	3 females interviewed with HH survey Comfort Tengbakani, married, 5 kids, 35yrs. Agnes Saanle, married, 2children, age 30 yrs. Malungarie Waawe widowed, 3 kids, 47 yrs.
Nimbare	Community questionnaire/Transect walk	1 person, Mahama Zeema, Unit committee chairman
Nimbare	Chief and Elders/Assembly man in the community Interview	-

Nimbare	Household Observations	1 person, Mrs. Pogaa Dabla 1 person at Geogi Yiri Guosong.
Nimbare	Success Story (SS Household Questionnaires)	Georgina Kanmaale, married, Christian and household size of 5.
Nimbare	SS Household Questionnaire	Kukuma Alberta, married, Christian and household size of 8.
Nimbare	SS Household Questionnaire	Pogsar Dapla, Christian, widowed and household size 13.
Nimbare	Randomly Selected Household Questionnaire	Mariama Abu, married, Muslim and household size of 9.
Nimbare	Randomly Selected Household Questionnaire	Tarituoria Yusaanoba, married, Christian and household size of 5.
Nimbare	Randomly Selected Household Questionnaire	Maalibo Grace, widowed, Christian and household size of 5.
Nimbare	FGD with men's group	6 men, married, 5 non-polygamy, 1 polygamy children 4-8, ages 50-70 years
Nimbare	2 Focal group discussions, women over 3 children	9 women, all married, children 3-6, 1 polygamy and 8 non-polygamy. Groups.
Nimbare	Focal group discussions, women under 3 children	8 persons, all married, 2 polygamy and 6 non-polygamy and age 25- 37 years.
Nimbare	3 In-depth Interviews with female success stories	3 females interviewed with HH survey Poggar Dapla, widowed, 7 children, 40 years Georgina Kanmaale, married, 3 kids, 31 years Alberta Kukurma, married, 8 children, 40+ yrs
Mwankuri	Community questionnaire /Transect walk	Mr John, the chief and assemblyman.
Mwankuri	Chief and Elders/Assembly man in the community Interview	9 persons, Chief, elders, landlord, assemblyman and men.
Mwankuri	Household Observation	Anataka Dakura , MW/SA/026
Mwankure	Success Story (SS Household Questionnaire)	Pudan Lamkpe divorced, Christian, household size 17 children, age 40 years.
Mwankure	SS Household Questionnaire	Jane Suglo, married, Christian, household size 6 and age 30 years.
Mwankure	SS Household Questionnaire	Taunamanuma Kanuala, traditionalist, married, household size 5, age 45 years
Mwankure	Randomly Selected Household Questionnaires	Francisca Zeneteri, married, Christian and household size 4
Mwankure	Randomly Selected Household Questionnaires	Rebecca Baminekang, widowed, Christian and household size 4.
Mwankure	Randomly Selected Household Questionnaires	Nubaerema Kanbotaa, married Christian and household size of 14.
Mwankure	Randomly Selected Household Questionnaires	Benedict a Dabine, married, Christian and household size of 5.
Mwankure	FGD with men's group	8 men, married, 3 polygamy, 4 non-polygamy, children 2-15, ages 25 -50.
Mwankure	2 Focal group discussions, women over 3 children	13 persons, 11 married, 2 widows, children 3-9, 2 polygamy and 9 non-polygamy. Group.
Mwankure	Focal group discussions, women under 3 children	8 persons, all married, female, 2 polygamy and 6 non-polygamy, age 20- 28 years.
Mwankure	3 In-depth Interviews with female	3 females interviewed with HH survey

	success stories	Jane Suglo, married, children 3, age 25yrs. Pogda Lakpe, divorced, children 2, age 59yrs Taunamanuma Kanuala, married, 5 kids, 45yrs.
Sissala West District		
Community	Activity	Number present
Bullu	Community questionnaire/Transect walk	1 person, Acting Chief and Honourable, Chiarman
Bullu	Chief and Elders/Assembly man in the community Interviews	8 persons, the chief, unit committee member, landlord, elders and men.
Bullu	2 Household Observations	2 persons, Issaka Musah, near central mosque. Braimah Basilitie, hse no 042
Bullu	Success Story (SS Household Questionnaire)	Safura Mahamadou, married, Muslim and Household size 36.
Bullu	SS Household Questionnaire	Musah Barchisu, married, Muslim and household size 6.
Bullu	SS Household Questionnaire	Sala Hatie, married, Muslim, and household size of 10.
Bullu	Randomly Selected Household Questionnaires	Kutum Issah, married, Muslim and household size of 10.
Bullu	Randomly Selected Household Questionnaire	Masata Imsah, widowed Muslim and household size 8.
Bullu	Randomly Selected Household Questionnaire	Sumani Sulemani Torwie, male, married, Muslim and household size of 45.
Bullu	Randomly Selected Household Questionnaire	Mariam Baakari, married Muslim and household size 10.
Bullu	FGD with men's group	9 men, married, 7 polygamy, 2 non-polygamy, children 2-15, age 35-74 years
Bullu	2 Focal group discussions, women over 3 children	9 women, all married, children 3-8, 7 polygamy and 2 non-polygamy. Groups.
Bullu	Focal group discussions, women under 3 children	11 persons, married, 9 polygamy and 2 non-polygamy, children 1-6, age 35-45 years.
Bullu	3 In-depth Interviews with female success stories	3 females interviewed with HH survey Safura Mamouda, 60yrs, 8 children, married Musah Barchiesu, 35yrs, 5 children, married Sala Hatie, 46yrs, 8 children, widowed
Kupulima	Community questionnaire/Transect walk	Chief, the elder, landlord
Kupulima	Chief and Elders/Assembly man in the community Interviews	9 persons, Chief, elders, landlord, unit committee member and men
Kupulima	Household Observation	1 person, Adams Zenabu, house number 019
Kupulima	SS (Household Questionnaire)	Hawawu Fuseini, married, Muslim and household size 11.
Kupulima	SS Household Questionnaire	Luri Abibata, married, Muslim and household size 9
Kupulima	SS Household Questionnaire	Salifu Fatima, married, Muslim and household size of 9.
Kupulima	Randomly Selected Household Questionnaires	Salamatu Amidu, married, Muslim and household size 10.
Kupulima	Randomly Selected Household	Alidu Halimuo, widowed, Muslim and

	Questionnaires	household size 11.
Kupulima	Randomly Selected Household Questionnaires	Aminu Sule, male, married, Muslim and household size 9.
Kupulima	Randomly Selected Household Questionnaires	Zeinabu Adams, married, Muslim and household size 6.
Kupulima	FGD with men's group.	6 men,4married,1 widower,1 single, children, 2-9, 2 polygamy,3non-poly, age 18-57yrs.
Kupulima	2 Focal group discussions, women over 3child	10 women farmers, children 3-9, 5 polygamy and 5 non-polygamy.
Kupulima	Focal group discussions, women under 3child	9 women farmers, married, 9 non-polygamy, children 1-2, ages 20 -29 years.
Kupulima	3 In-depth Interviews with female success stories	3 Abibata Luri, married, children 1,age 29 Fatima Salifu,married,children 2,age 28 yrs Hawa Fuseini, married children 5,age 40yrs.
Jithong	Community questionnaire/Transect walk	1 person, Abdul Laatif, Assemblyman.
Jithong	Chief and Elders/Assembly man in the community Interview	8 persons, including the chief, landlords, elders ,assemblyman
Jithong	2 Household Observations	2 persons, Mallam Walitie, near chiefs house towards zongo Tahiru Toraa, Pu- J t 021
Jithong	Success Story (SS Household Questionnaire)	Janabu Janeiali, married, muslim and Household size of 5.
Jithong	SS Household Questionnaire	Teni Gbemiah, married, Muslim and house hold size of 7
Jithong	SS Household Questionnaire	Afirowa Braimah, married, Muslim and household size of 9
Jithong	Randomly Selected Household Questionnaires	Imoro Chonia Yoho, male married, Muslim and household size of 7.
Jithong	Randomly Selected Household Questionnaires	Alimatu Baluwie, single, Muslim, and household size 6.
Jithong	FGD with men' group	10 men,married,6 non-polygamy,4 polygamy, children 1-8,age 28- 50years.
Jithong	2 Focal group discussions, women over 3child	10 women farmers all married with children between 3-8, 4 non-polygamy and 6 polygamous. Women groups.
Jithong	Focal group discussions, women under 3child	5 women farmers, married, 3 polygamy and 2 non-polygamy, children 1-2, age 17-23 years.
Jithong	3 In-depth Interviews with female success stories	3 females interviewed with HH survey Jenabu Jawiah, married, children 4,35yrs Afirowa Braimah, married, children 4,35yrs. Teni Gbemiah, married, children 7,40yrs.
Gbal	Community questionnaire/Transect walk	2 persons, Chief and elders.
Gbal	Chief and Elders/Assembly man in the community Interview	10 persons, the unit committee member, chief, elders, landlord and men.
Gbal	Household Observation	Not observed because they did not cook at the time.
Gbal	Success Story (SS Household	Braimah Badubia, married, Muslim and

	Questionnaire)	Household size 15.
Gbal	SS Household Questionnaire	Braimah Fatimah, widowed, Muslim and household size 6.
Gbal	SS Household Questionnaire	Kutumah Tahiru, married, Muslim and household size 8.
Gbal	SS Household Questionnaire	Saratu Braimah, widowed, Muslim and household size 21
Gbal	Randomly Selected Household Questionnaires	Dawuda Ajara, married, Muslim and household size 11.
Gbal	FGD with men's group	8 men, 7 married, 1 single, 3 non-polygamy, 4 polygamy, children 3-6, age 19-50 years
Gbal	2 Focal group discussions, women over 3 child	9 women farmers, all married children from 3-9, 6 polygamy, 3 non polygamy. Group
Gbal	Focal group discussions, women under 3 child	8 women farmers, married, 3 polygamy and 5 non-polygamy, children 1-3, age 18- 25 years.
Gbal	3 In-depth Interviews with female success stories	3 females interviewed with HH survey Fatima Braimah, widow age 65 years. Saratu Braimah, widow Kutuma Tahiru, married, children 4 , 23 yrs

Annex 4: District Profile of Jirapa

The Jirapa district is located in the North Western part of the Upper West Region of Ghana. It is bordered to the south by the Nadowli District, to the north by the Lambussie-Karni District, to the west by Lawra District and to the east by the Sissala West District. The district capital, Jirapa, is 62 km away from the Regional capital Wa. Agriculture remains the main economic activity in the district with 90% of the people in the district engaged in largely subsistence farming. Very few farmers are engaged in large-scale production of cereals and legumes. Key staple crops cultivated in the district include maize, millet, groundnuts, and beans. Cash crops cultivated are, groundnuts and maize. Few farmers are gradually going into small-scale businesses. Most of the farmers still rely on the use of the hoe and cutlass in food cultivation; a few farmers use tractor services and animal traction. Some of the farming systems in the district include mixed farming, crop rotation and bush fallowing. The land tenure system, the increasing pressure on land for farming and other activities are gradually limiting the system of farming. Cattle, sheep, goats, pigs and poultry are mainly produced as a supplement to crop farming.

Key Food security issues

According to the District Planning Office, the distribution of rain in the district is erratic making it difficult to predict any cropping year. As a result, it causes severe household food shortages and acute malnutrition among children and women. The district has no forest reserves except some isolated thickets along the Black Volta River which are undeveloped. These thickets provide protective cover for streams around these areas. Over reliance on fuel wood for cooking and pito brewing, annual bush fires, construction and inappropriate farming practices constitute the major activities which degrade the environment. The activities of a large number of contractors who win sand, gravel and stones contracts for various construction projects also cause considerable degradation of the district's environment.

The District Planning officer reported that migration is prevalent in the district. The incidence of migration to Southern Ghana and the regional capital according to the planning officer is very high among the economically active population. A lot of people migrate because of poor soils which results in poor crop yields. A good number of the youth migrate to the south after the farming season to look for menial work. Some come back, others do not. This leads to a reduction in the labour force of the district and hence low productivity. Those who return sometimes come with illnesses such as guinea worm, HIV/AIDS and other STDS, which negatively affect productivity. The over dependence of farmers on rain-fed agriculture adversely affects crop yield due to the erratic nature of the rains. This calls for alternative methods of farming such as irrigation to support crop production during the dry seasons.

Capacity Building Programs

Agency	Programs Implemented	Training/Service Provided
MOFA	Sustainable Land use Northern Rural Growth program Livestock development program Bank financing Extension service Block farms Fertilizer subsidy program	Train men and women in good agricultural practices such as proper land preparation, planting, weeding and maintenance, fertilizer application, harvesting and proper storage as well as usage in the household

Agency	Programs Implemented	Training/Service Provided
	Migration	
WIAD	Provides training on food cultivation and demonstration on nutritious foods for the family. WIAD and Ministry of Health collaborate and organize food clinics for women in the district	
WFP	Food for work	Distribute food to vulnerable households
GHS/WIAD	Promotes good nutrition using combination of foods available e.g. maize and soya beans flour used for TZ... a common local dish	Organizes food demonstrations and preparation of nutritious foods e.g. Kpaglo, Tom Brown, Apamprasa, belebele, soyabeans dawadawa. Use of local green leaves such as moringa

According to the Jirapa District Monitoring and Information officer at the Ministry of Food and Agriculture, there is high food insecurity in the district, the peak of it being between April to August where most households run out of food. He attributes this long period of hunger to infertile soils and erratic rainfall in the district. This is especially so for food crop farmers compared to cash crop farmers. Food is generally available in the market, but due the high cost as the lean season approaches, most families are unable to afford to buy from the market. He cited an example of 100 kg of maize being as high as GHc80 as at April 2011, which not every family could afford to buy¹⁸.

The MIS officer said that nutritional practices are very poor in the district due to the severe food insecurity situation. He explained that due to inadequate animal protein, most families tend to rely on soya beans, bambara beans, and groundnuts as the key nutritious foods in the household. They also rely on wild vegetables such as boabob leaves, blackberry leaves, and moringa leaves. There have been several interventions by MoFA to educate women on the nutritional value of the food available in the district as outlined in the table above.

Key Constraints and Strategies for Food Security in the Jirapa District

Low production output has been the greatest threat to food security in the district. The poor rainfalls and soil infertility can be attributed to this problem. Women and children tend to suffer the brunt of food shortages. He added that women's labor is usually divided – their husband farm, family and her own limiting their production capacities. Other constraints identified by the district stakeholders include the following;

Key Constraint identified by District Level Stakeholders

Agency	Constraints
MOFA/WIAD	<ul style="list-style-type: none"> • Poor soil fertility and erratic rainfall • Males dominate decision making in terms of food security • Lack of inputs prevent farmers from going into large scale

¹⁸ It will be even higher this year as there were problems with the minor season maize production in the BA and southern areas. A bag in NK at the moment is around the GHc120.00!!!!

	farming. <ul style="list-style-type: none"> • Lack of storage facilities also prevent people from going into larger farming endeavors. • Lack of market linkage • Cost of storing food too, is high • Infertile lands are given to women
District Assembly	<ul style="list-style-type: none"> • Poverty is the main cause of environmental degradation especially at the rural setting where they depend on the natural resources for their livelihoods. • The breakdown of cultural norms and values are partly responsible for environmental degradation.

Key Strategies/Solutions

According to the District MOFA, animal traction still remains the most appropriate and sustainable mechanization option in the area. However interest in this area especially bullock traction has greatly declined. Donkey traction for women is now on the increase. This has reduced greatly the drudgery of head potage and workload on women. Emphasis is now on the tractor which is faster for commercial purposes but also costly in terms of money. Many more farmers going into commercial farming also accounts for the option of tractors.

Land preparation has been less costly using donkeys and bullocks. The cost of ploughing an acre by bullocks is twenty five Ghana cedis (GHC25.00) that of tractor is forty five Ghana Cedis (GHC 45.00). The tractor is not easily available to farmers especially women and it degrades the soil. Through the group system women now have access to tractors and bullocks for their farm operations. Other strategies identified by the Ministry, District Assembly and other stakeholders are outlined below:

Key Strategies to Address Food Security

Agency	Strategy/Solution
MOFA	<ul style="list-style-type: none"> • Support small holder farmers especially women in terms of technology and resources to enable them to produce larger quantities of food • Improved access to quality seeds • Land banks be created for women groups to have access to. • Diversification of rural sources of livelihoods will help reduce the unsustainable use of the natural resources • Build strong Farmer Based Organizations (FBO's) that can negotiate market prices and advocate on policy issues affecting profitability of farming • Support existing Micro Credit facilities for women's groups • Stimulate, encourage and formalize the local Susu through Savings and Internal Lending Committee (SILC) to have Internal Credit for Increased Production • Encourage animal husbandry and agro-forestry
District Assembly	<ul style="list-style-type: none"> • Support farmer groups, especially for ploughing. • Subsidize and harmonies prices of tractor services • Increased production of food crops to help feed the family and the district at large. • Train more women in the best methods of modern farming to produce more food. • Increase access to markets
WIAD	<ul style="list-style-type: none"> • Triple Bag storage system • Use of improved farm inputs such as seeds, pesticides, insecticides, tractors • Economic empowerment of women • Income generating activities for women

Annex 5: Sissala West District Profile

The Sissala West District is located in the North Eastern part of the Upper West Region of Ghana. The district has a total land area of 41,128.989km. It shares a boundary with the Republic of Burkina Faso to the north, Sissala East District to the east, Lambussie District to the west and Wa East District to the south. The population of the district is 44,440; with a population density of 31.2 per square kilometre. The average population growth rate is about 1.7% compared to the national figure of 2.7%. The Sissala West District is predominantly agrarian with over 80% of the population engaged in agriculture. Major crops cultivated in the district include maize, millet, sorghum, rice, groundnuts, cowpea, yam and cotton. There have been modest improvements in food and animal production over the years. Despite these improvements, the district still experiences food shortages.

Key Food Security Issues

Interviews with key stakeholders including the District Planning officer and Director of Agriculture suggest that the key food security issues in the Sissala West District were:

- Cross border trade in grains. Farmers sell a lot of foodstuff in a nearby market in Burkina (Leo) where prices are comparatively higher. This contributes to food shortages in the district.
- Large family size is a threat to food security. In the event that there is insufficient food, larger households suffer more.
- High poverty levels are a threat. “Farming is not for the poor. It involves large investment within a short time”.
- The inability of farmers, general.

According to the District Planning Officer, an assessment made by MOFA indicates that the district has fertile land and can produce enough food to feed its population as well as sell to other districts. Yet there is generally food shortage in most households from June to mid August. The gap appears to be widening in recent years with the advent of cross border trade of grains. Most farmers are faced with the plight of selling off their farm produce immediately after harvesting because most of the credit schemes operating in the district require the farmer to pay loans after harvest. Therefore, farmers are compelled to sell their produce when the prices are low. This creates a cyclic dependency on credit to continue to farm at the same time deepening the poverty cycle. He added that larger families are more likely to experience food insecurity than smaller families.

According to a food security expert at PLAN Ghana, Mr. Peter Ayoreko Alebtoghe, the district has the potential to produce enough food to feed their families and sell to other districts too; soil conditions are still favorable compared to other districts in the region, e.g. Lawra. He however mentioned that increased production would require the use of more modern farm inputs such as fertilizers, improved seeds and tractor services. Other food security issues identified by PLAN include:

1. High population to land acreage ratio affects the amount of food produced as families are limited to the same piece of land regardless of an increase in population. This situation

also leads to over cropping and low fertility as the same plot of land is cultivated over and over again. Women are more likely to face decreased production due to poor soil condition as the land given to them have already been used by men and are often less fertile.

2. Increased sale of food for cash decreases the amount of food available for family consumption.

Interviews with TUDRIDEP, a leading NGO in agriculture in the Sissala West District indicated an increase in poor education and health levels of children due to food insecurity in the district. The woman's role of maintaining the households' feeding needs is very apparent. It was reported that at end of harvest, most men marry more wives and buy motor-bikes leaving women with the burden of caring for the children and family. Major constraints women face in producing enough food for the family are related to poor access to fertile land and exhausted labour efforts on the family farm. During the hunger/lean season, women are left with the responsibility of providing food for household consumption.

Capacity Building Programs in the District

Agency	Projects	Activities
District Assembly/ MOFA	<ul style="list-style-type: none"> • Block farming • Village Savings and Loans schemes • Livestock production: small ruminants, swine production, fish farming, Bee-keeping and animal traction. • Development and reshaping rural roads to facilitate the movement of food from rural areas to market centres. 	<ul style="list-style-type: none"> • Input credit to farmers • Link farmers to source of seeds, subsidized fertilizers • Routine Vaccination of animals
PLAN Ghana	<ul style="list-style-type: none"> • Village Savings and Loans Schemes/Associations (VSLA) to women groups. • Irrigation Project • Rain fed crop production: Soya beans, rice, maize and cowpea • Livestock production: small ruminants, swine production, fish farming, Bee-keeping and animal traction. 	<ul style="list-style-type: none"> • Training of women and men on how to keep various animals. • Training in food crops and vegetable production • Training in fish farming • Irrigation: Rice and Vegetables
TUDRIDEP	<ul style="list-style-type: none"> • Market Access Project aimed at Value Chain. Nursing Shea –trees, Orchards, Cashew, -2005, Soya beans • Actors/ Aggregators in Value Chain • Engaged in food security and climate change – work through Farmer Based Organization's to introduce improved varieties of seeds and into new crops. • Enterprise development support men and women on emphasis on tree production (livelihood) e.g. shea-butter, honey, and 	<ul style="list-style-type: none"> • Capacity Building in agronomic practices of farmers • Trained women farmers on utilization of weanimix (flour) • Gender Sensitization of farmers e.g. women will always take back to maternal home. Women don't have home.

	planting trees.	<ul style="list-style-type: none"> • Train women extension volunteers
SILDEP	<ul style="list-style-type: none"> • Education, Literacy, Savings Schemes and Training. • Girl Power and Rural Women Economic Empowerment project • Inventory Credit 	<ul style="list-style-type: none"> • Literacy classes • Skills training for girls and young women • Seeds and ploughing of land is done by SILDEP and other farm inputs are provided; and they pay back with Soya beans after harvesting.

A major strategy used by SILDEP to support women is the Economic Empowerment Project – is a village savings and loans scheme, sponsored by European Union and the project is on-going. The project is managed by the Village Committee members made up of both men and women. Evidence from this project has shown that, income of farmers has increased and they are able to store their farm produce till a time when prices are comparatively higher.

Key Food Security Constraints in the District

According to the district planning officer, key food security constraints in the district are inadequate access to large land area and capacity of small holder farmers to engage in large scale farming. For women, lands given to them are sub standard and are not fertile enough to yield the needed output. Other key constraints outlined by key stakeholders in the Sissala West district include the following;

Key Constraints

Agency	Key Constraints
District Assembly/MOFA	<ul style="list-style-type: none"> • Non engagement in other income generating activities • Staple crops to support the family and as a contingency for the family welfare in case her husband decides to sell off too much of the family produce.
TUDRIDEP	<ul style="list-style-type: none"> • Limited access to fertile land • Women are given worse land to farm • Women are not able to bargain (for hired labor) • Limited access to women. AEA's men difficult to go to women's farm • Limited yield of crops. • Family and Triple burden on women. Lack of control over own farm. Takes little decision on her own farm, limited labor on her farm and worse of it all, no control of money.
PLAN Ghana	<ul style="list-style-type: none"> • There is massive sale of foodstuff in most communities without consideration to how much food family require during the year. Men sell more food. • Man to land ratio is high, making land less accessible, especially to women. • Women are usually over burdened with farm work and house chores. Particularly with cases of female headed household burden in managing their food production and child rearing.

	<ul style="list-style-type: none"> • Women stand the chance to produce less food because of concentration on husband's farm
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Key Strategies/ Solutions

Agency	Strategies/Solutions
District Assembly/MOFA	<ul style="list-style-type: none"> • Village Savings and Loans Association to women to enhance their living standard. • Sensitization with female and male farming on the need to ensure food availability at the household level inadequate perception of men/women • Community nutrition demonstrations. • A policy framework within the ECOWAS treaty is required to reduce cross border trade of essential food items. • Train women on best farming techniques and better management of credit usage(Cost/Benefit) • Support to men and women in terms of how much food is required by a person per year to enable families reserve enough food for households. • Women need to be engaged in large scale production of crops. This will improve availability of food and the economic standing of women in order to better negotiate with husbands and be encouraging on a potentially good farm.'
PLAN Ghana	<ul style="list-style-type: none"> • Village Savings and Loans Association is very good for Women Groups • Livestock Production • Vegetables Production • Irrigation farming will help in food production
TUDRIDEP	<ul style="list-style-type: none"> • Dry season gardening be encouraged • Up land rice for women to farm • Soya/nutrition demonstration to women groups • Every developmental efforts must be sustainable • Farmer based organizations. Build capacity of farmers to develop appropriate structures that continues to save women in their farming activities. • Develop Change Process". Try to push women to some enterprise set up, since it is known to be farmers • Larger forum of Stakeholders should be women of productive resources to meet and put forward "Action Plan" of Chiefs, District Assemblies and Community members. • Women should be given enough inputs to produce quality food. • Produce more food crops both cash and consumption crops.
SILDEP	<ul style="list-style-type: none"> • Women can be helped through the formation of groups, that way, they can have access to land from the Tindana's or families. Therefore, husbands can lean on the women for assistance. Before any help can come to women of the two districts, the men should be involved in their meetings for their contributions to make headway, if not; some of the men are selfish or greedy to see their women getting some assistance.

Annex 6: Differences between Jirapa and Sissala West Districts (Based on HHS Data Set)

Indicator	Jirapa District	Sissala West District
Religion		
Christian	48%	-
Muslim	-	48%
Others	4%	-
House hold Type		
Polygamous	19.2%	91.7%
Non-polygamous	80.8%	8.3%
Migration rate	High rate of migration especially men due to lack of employment opportunities especially in the dry season.	Very minimal rate of migration Availability of employment opportunities in the dry season; Evidence of Kayayoo phenomena: young girls (14-25 yrs) migrating to Accra and Kumasi to find work in order to generate income.
Soil fertility	<ul style="list-style-type: none"> • Soils are less fertile • Farming is done around the homes • Land is rocky 	<ul style="list-style-type: none"> • Soil are relatively fertile • Farming is done several meters from settlements
Presence of technology	Traditional methods of farming	Improved technology.....use of tractor services, insecticides etc
Agricultural output	Output was relatively poor	Fairly high yield comparatively
Market linkages	Produce is mostly sold at nearby markets	Produce is sold at district capital, regional capita and the border. People come into the communities to buy produce
Average number of meals		
Harvest season	3meals (46.2%) 2meals (19.2%)	4meals (4.2%) 3meals (91.7%)
Hunger season	1 meal or no meal at all	3-2meals
Min and Max. Acreage of Farm lands		
Family lands (men controlled farm)	1-14acres	10-40acres
Women's farm land	2-3acres	1-10acres

Annex 7: Selected Institutions and NGO's Operating in the Upper West Region

Name of NGO	Description of their Core Food Security	Contacts Details and Telephone Numbers	National /District /Community
1. SUNTAA – NUNTAA(WA)	Suntaa – Nuntaa, in dagaara word means ‘Help on another, love each other is a community based organization engaged in the promotion of Agro-forestry in Wa and Jirapa district. Its activities started 1994/1995. It’s initial emphasis was on the promotion of planting moringa trees because it is a very important plant and also encourage moringa plantation in basic schools. Moringa is considered as a complete protein source when combined with kose or bean cakes.	Naa Bob Loggah 0244210608 +233-(0) 392022215	Three Districts in the Upper West:
2. PRONET NORTH (WA)	Supports about 140 women groups in its target districts including Jirapa, PRONET NORTH has divided its operational areas into eight (8) zones with each zone organizers. Women are trained in the following area: Micro Credit, HIV/Reproductive Health and are granted with loans.	Martin Dery Kate Amisah Wahid Yahaya 0264529624 0243949640	WA and Jirapa,8 zones
3. SARI	Their main activities included assisting women to go in to dry season gardening of vegetables. Women are given training on how to grow vegetables and given some financial support to start.	Dr Naa Dr Saaka Mr. Asieku Yahaya	WA, All Districts
4. YARO	Is an NGO which trains farmers on agronomic practices, composing, food fortifications (Soya beans) market linkages, storage construct and rehabilitate warehouse. YARO covers about 3,333 households with an average family size of 5. It provides other services like Banking on change, inventory credit, community management of micro finances and monitoring programmes.	Mr. Kanton Yussif	
MOFA	Assisting farmers in block farming, supplying them with farm inputs, give training, supervising projects, monitoring, extension services and reporting back to MOFA.	0208395719 0208395375 Dr. Stephen Degbor Mr George Asaasiba Mavis/WIAD	District – Jirapa
	The DA’s engage in Planning and has administrative authority. They		

R.C.C. (WA)	prepare plans to guide the development of the districts, monitor the performance through designs of checklist.	Mr Osman Baba	National - WA
TUDRIDEP	They build capacity of farmers, mobilizes them into groups, linking farmers to markets, mobilize women farmers to grow soya beans , they plant trees alongside (Agro forestry),honey production Nursing Sheanuts, dawadawa, and mangoes to communities.	Fidelis Naapaneh Aloysius Kanchong	Sissala East, Sissala, Wa East and Wa West
ACDEP(WA)	Association of Church Development Projects work in partnership with other organizations. Collaborating with NRGF for value chain in 9 districts, Farmer Production and Marketing project in 4 districts and Agricultural Development and Value Chain Enhancement (ADVANCE).Program is a USAID funded program and implemented by a consortium of local and International partners led by ACDI/VOCA.	Joseph Apeeliga 0244-425394 Tel: 0200716497/024381 3444 (Amina)	WA, All 9 districts in the Region
NBSSI (WA)	They do not do food security programmes. Promotes and develops small scale businesses. Offers training, EDP, Business advisory services, co-ordinates micro-credit schemes with implementing organizations	Mr. Abdul Mohammed	National – All districts in the Upper West
PETOZ INVESTMENT LIMITED	This is a profit making NGO which trains and supports farmers on value chain development projects. Project is West Africa Sorghum Value Chain development projects. Training and savings and loans, group dynamics and training programmes for women.	Mr. Zaator Tel; 0209833551	Profit Making - WA
MINISTRY OF FOOD and AGRICULTURE	They supervise the activities of farmers, train, and supply fertilizer yearly, support farmers with inputs and extension services. Oversee agricultural projects.	Mr. Charles Adams 0244885595	National Inst. – WA

Annex 8: Responses from Selected Focus Group Discussions with Men and Women across the Two Study Districts (the role of men and women in supporting the food provision in the family)

Jirapa District

Name of Community	Q. 6 What is your role in supporting the food provision in the family and what is your husband's role? How do you consult and collaborate? (Men FGD Responses)	Q. 6 What is your role in supporting the food provision in the family and what is your husband's role? How do you consult and collaborate? (Women FGD Responses)
Tampala	Selection of crops and types of it is done by both men and women. Degree of control over production process is done by men.	The women help to produce family farm crops, harvested and stored. Women also produce on their own farm to supplement the household produce. Men work on family farms. The men decide and control land, labour, cash for reinvesting into farming and community.
Nwankuri	Men basically decide on the type of crops to be cultivated but the women can contribute or advise the men on what crop to produce. Women engage themselves in non-farming activities such as burning charcoal	Men mostly do the ploughing, women plant, apply fertilizer and harvest. In polygamous families the wives work together on the family farm and work individually on their own farms. On decision making the senior wife gathers the views of her co-wives and then presents it to their husband as their views.

Sissala West District

Name of Community	Q. 6: What is your role in supporting the food provision in the family and what is your husband's role? How do you consult and collaborate? (Men FGD Responses)	Q. 6: What is your role in supporting the food provision in the family and what is your husband's role? How do you consult and collaborate? (Women FGD Responses)
Bullu	Men produce the core crops that feed the family. Women produce supplementary crops such as Bambara beans, soya beans, groundnuts and vegetables. Women buy ingredients for the soup and also mill the maize or millet into flour. Women cook the food.	Men mostly do the ploughing, women plant, apply fertilizer and harvest. Sometimes they have to go to the farm to chase rabbits and other animals from destroying the farm. At the end of the farming season the husband provides only the grain and the woman have to provide the ingredients for cooking the food. The choice of crops grown on the family farm is the decision of the man, but there is some level of consultation with the wife. In polygamous families, the eldest wife is consulted. How much land is cultivated is the decision of the man depending on his ability to

		<p>purchase farm inputs. With regard to the woman's farm, she decides how much land she can cultivate, she however does not have access fertile lands compared to the men.</p> <p>On the decision on which crops are sold, the woman has no hand in it. The man decides when, what and how much to sell. They even sell it themselves.</p>
Jitong	<p>Men basically provide the main staple crops. Women are responsible for providing the ingredients to make a complete meal. The women are to sell their farm produce to provide the ingredients.</p>	<p>Women produce supporting crops such as beans, soya beans. Women are solely in charge of buying ingredients for family use and also do the cooking.</p> <p>Men select crops and farm size for the family farm and control the produce from the family farm. Men decide whatsoever on the farm. It is worse in polygamous homes especially where the wives cook separately, they don't get consulted.</p>

Focus Group Discussion on Constraints and Challenges Faced by Men and Women in Jirapa

Name of Community	Q 7: What are the most important challenges you face in sustaining the food in the family year round. (Men FGD Responses)	Q. 8: What constraints do you face in growing more crops for feeding the family or for sale? (Men FGD Responses)	Q 7: What are the most important challenges you face in sustaining the food in the family year round. (Women FGD Responses)	Q. 8: What constraints do you face in growing more crops for feeding the family or for sale? (Women FGD Responses)
Tampala	<p>Most of the young strong men migrate down south to engage in farming activities in order to sustain their families. This even makes them more tired and limits strength to cultivate more acres for themselves.</p>	<p>The biggest constraints are lack of rain and cheap sale of crops in the market. Lack of animals as a result of them being stolen by Fulani men to sell in order to buy food.</p> <p>The difference is that in the non-polygamous homes the man/woman takes their decisions together.</p>	<p>Women have to work 2 times more than men. They also experience bad weather and erratic rainfall pattern. Infertile land, large family size and extended family to feed. Lack of farm inputs and credits. Inability to control and make decisions on family farms and food shortages. Low food production due to</p>	<p>It is difficult with polygamous marriages, where you will have to share cooking and working on the man's farm before you work on your own. Sometimes the younger wives get the upper hand. Too many culture and gender imbalances. Too many children to care for. Women cannot make good and important decisions and too much control of women.</p>

			<p>low technology, labour and credit facilities.</p> <p>Women have no money to hire labour. Some of the husbands migrate down south, bringing back nothing; some come back sick and later die.</p> <p>Women and children not strong and healthy (malnourished and over worked. Not happy)</p>	
Nwankuri	<p>Food quantities are reduced drastically for adults and moderately for children and families feed once a day mostly in the evenings.</p> <p>Most of the young strong men migrate down south to engage in farming activities in order to sustain their families. This even make them more tired and limits strength to cultivate more acres for themselves. Men confirm that women and children suffer the most during the hunger period.</p>	<p>Inaccessibility of tractor services which limits the number of acres they wish to cultivate. Lack of improved seeds. No education on farming methods and types of seeds.</p> <p>Erratic rainfall pattern.</p> <p>Insufficient land for farming. The lands are found outside the community, but where there is enough land, it is mostly infertile. Inaccessibility of farm inputs such as fertilizers, insecticides and weedicides. There is black marketing.</p> <p>Financial constraints.</p> <p>No dams for irrigational purposes and for animals to drink.</p>	<p>Lack of farm inputs and implements such as tractors, fertilizers, insecticides, weedicides and improved seeds.</p> <p>Erratic rainfall pattern.</p> <p>Deplorable road networks.</p>	<p>Polygamous families with large households, many mouths to feed. Planning and decision making and management are difficult.</p> <p>Labour is a constraint on women's farms</p>

Focus Group Discussions on Solutions/ Coping Strategies and Advice to Other Women on How to Survive during the Lean Season.

Jirapa District

Name of Community	Q. 9: How do you cope with these challenges during the year and what strategies do you use to sustain the feeding children and other dependents within the family? (Men FGD Responses)	Q. 10: What advice would you give other women and men in other communities in order to assist them cope with challenges you have listed above (related to food shortages, managing food and cash income demands, ensuring nutritious food is available at the household level. (Men FGD Responses)	Q. 9: How do you cope with these challenges during the year and what strategies do you use to sustain the feeding children and other dependents within the family? (Women FGD Responses)	Q. 10: What advice would you give other women and men in other communities in order to assist them cope with challenges you have listed above (related to food shortages, managing food and cash income demands, ensuring nutritious food is available at the household level. (Women FGD Responses)
Tampala	We store enough food seeds for the year round. Selling of some food, animals and dry season gardening- January to April or December to January-dry season gardening April, May, June, July, August and late September is rain, planting, weeding, fertilizer application and harvesting.	They should try to learn from those who have made it and follow their footsteps. Be hard working to achieve what you want. Eat enough balance food with your family and children. Save enough food for the lean season.	Most women have to cope with hunger and food shortages. This is very difficult. You have to manage with the least you can (known as deprivation). You have to try all tricks, mixtures of food stuffs not necessarily a balance diet. Some are not able to cope. They also try to use leafy plants, beans leaves, dawadawa, cowpea, soya beans etc.	They should get tractors and adopt good agricultural practices and inputs. They need training in education, livelihood and entrepreneurship. They also need training on nutrition, dietary and health issues. They need to receive regular extension and veterinary services. More access roads and market linkages/export drive. Access to microcredit, susu, loans to set up businesses and to farm on large scale. Acquire improved and new

				seeds/crops. Acquire machines and equipment's for agro-processing. Acquire dams, ponds, wells and irrigation systems and water source for animals. Promote soya beans production and utilisation
Nwankuri	Sale of livestock to buy food. Can hire the services of groups especially the men's group to be paid after production.	Accessibility and affordability of tractor services and fertilizers. Provision of improved seed. Dam for irrigation purposes and for animals to drink. Education on new farming methods.	Work hard and produce more food crops and cash crops. Buy food stuffs-rice. Stop migration and help women on their farms.	Both men and women should produce more cash and food crops. Harvested food crops must be well managed throughout the year to prevent hunger. Must engage in productive enterprises and off season activities. Adopt high yield/nutritive crops and use good agricultural practices. Grow different crops/fruits, vegetables and rear animals

Sissala West District

Name of Community	Q. 9: How do you cope with these challenges during the year and what strategies do you use to sustain the feeding children and other dependents within the family? (Men FGD Responses)	Q. 10: What advice would you give other women and men in other communities in order to assist them cope with challenges you have listed above (related to food shortages, managing food and cash income demands,	Q. 9: How do you cope with these challenges during the year and what strategies do you use to sustain the feeding children and other dependents within the family? (Women FGD Responses)	Q. 10: What advice would you give other women and men in other communities in order to assist them cope with challenges you have listed above (related to food shortages, managing food and cash income demands, ensuring nutritious food is available at the household
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		ensuring nutritious food is available at the household level. (Men FGD Responses)		level. (Women FGD Responses)
Bullu	Women use crops produce from their farms to supplement family feeding. Sell animals to buy food. Some women sell charcoal and firewood to buy food.	Men are heads of households and must produce enough to feed the family all year round. Keep more animals to help reduce the sale of core food to solve family problems. Sell an animal instead of food	Process sheabutter and dawadawa to be sold in the market for money. Rely on wild vegetables for soup which they eat with gari.	They should keep separate farms besides their husband's. They should also engage in the cultivation of different variety of crops to improve their nutritional choices. Women should also ensure they are part of groups. They should also educate their children.
Jitong	They encourage their women to keep separate farms to support the family farm. They try as much as possible to farm different crops to expand their choices of food and output.	Expand their farms (family farms) Use of tractor rather than hoe for ploughing as the tractor is able to turn the soil well for crop production. Women should go into petty trading and expand their farms as their farms are very supportive to the family food needs.	Take food stuffs on loan from people who still have and pay after harvest. They sell sheabutter to buy food stuffs from the market. Harvest wild vegetables to feed the family. E.g. Mix wild vegetables with gari for supper instead of T.Z.	It is important for women to farm and farm more, as this is the only way of ensuring food availability.

Annex 9: Community Profiles

Jirapa District: Mwankuri Community Profile, Jirapa District

Mwankuri is a typical Dagaare community, 21km east of the Jirapa the district capital. It has a population of about 2,733 people: 937 men, 1404 women and 392 children. The people are predominantly Christian and farm for family food consumption. The main crops grown are maize, cowpea, rice, groundnuts and bambara beans. Of these, the women controlled crops are rice and groundnuts which they produce from their own farms. Men in the community keep cattle, goats and sheep while woman basically keep pigs.

There are three women's groups and one men's group in the community and the main purpose is for socio-economic benefit. Members of the group work on a common farm, and the produce grown is sold and the profits shared. The group members also work on other people's farms for a fee (mostly on credit until after harvest). The groups also provide moral and social support to its members. For instance, they help each other out on the farm when members are in need at no fee. Women especially support each other with food, water etc in difficult times, e.g. bereavement.

The main source of water for household consumption and for watering animals in the community is a borehole. There are two boreholes but one has low yield. The community largely depends on Sabuli (to the north) and Bussie (to the south) markets to provide their needs. A few other households purchase agricultural supplies by travelling to the district or regional capitals e.g. fertilizer and insecticides. Interaction with the people indicates consistently poor harvest over the last five to ten years. In their own assessment poor rain patterns, poor soil and inaccessibility to modern farm inputs (tractor, fertilizer and insecticides) account for the poor harvest. As a result, most families are food insecure. Produce from the farm only last four months (December to March) and households then have to buy food and manage until the next harvest. It was clear that some amount of the harvest is sold to settle debts incurred during the farming season. In times of food shortage, women carry the burden of feeding the family. As a result of poor harvest, there is a high migration of men to villages in the Brong Ahafo Region to take advantage of the second farming season there. From their own assessment, the attendant problems of migration (transmission of diseases and chronic poverty) are inherent in the community. To help address the problem of food security, the following recommendations were made;

- support for women in terms of labour (tractors) will reduce their burden and will enable them expand their farms and be able to produce enough for household food and cash to sustain their families.
- support for women to engage in alternative sources of income such as what she does (grain banking and sale during the lean season).

Tampaala Community Profile – Jirapa District

Tampaala is a community 7km from Jirapa, the district capital with an estimated population of 3569 being made up of approximately 1200 men, 1800 women and the rest children. There are around 300 households with an average of 8 people per house hold. They are predominately Christians from the Donali and Kuseli ethnic groups. The main crops grown are maize, millet beans, groundnut and rice with soya beans being grown on a smaller scale. It is grown as a side crop around their main farms and is used for dawadawa. Groundnut and rice are classified as female controlled crops.

There are 5 women's groups and 4 men's groups in the community. The main focus of these groups is farming activities in particular to provide collective labour and help acquire financial support for each other. The main source of water for the community is a bore hole. There is a stream and a dam which is used for building/constructing purpose. The stream is about 1km from the community. The closest bank is at Jirapa.

The local market is less than 1km from the community and operates every 6 days. The regional capital (Wa) is about 41km from the community. The community market is also not a vibrant one; it has only one store where a few provisions and drinks are sold. Pito and pork are also sold in the market and largely patronized. Drumming and dancing takes place at the market square as a source of entertainment. Most of their food produce is not sold at the community market but rather at the district capital market because prices are relatively good there. The dam in the community is also used by a few people for dry season gardening.

During the non – farming season, the main activities include; gathering of fruits, selling of firewood, burning of wood into charcoal for sale, selling of baobab leaves, and brewing of pito for women. The men are engaged in rearing animals such as pigs, goats, sheep and poultry. There are no longer cattle in the community due to stealing by the Fulani herdsmen, Some men engage in dry season gardening, others drink pito, but majority migrate to the Brong Ahafo Region to work as hired labour. Children do not do much apart from pick wild fruits.

This community does not receive food aid of any type. On the average, most households eat 3 times a day during the non lean season and 2 times a day during the lean season. They eat whatever is available in the lean season. Some of their coping strategies in the lean season include:

1. Reducing the food portions per head.
2. Reducing the number of times a day they eat.
3. Sale of animals.
4. Migrating to other towns.

A few farmers engage in dry season gardening. The women do not own lands in the community however have access to land for farming. Priority is also given to widows since they are the most vulnerable.

Key Findings

- Women do not own land in Tampaala. The amount of land available to her depends on what her husband (head of household) has.
- If women have land separately from that of their husband's she is expected to work on her husband's farm first before she can use her excess time on her own farm.
- Some crops (maize, millet,) are classified as men's crop and others (ground and rice) are classified as women's crops.
- Soya beans are not grown on large scale in this village. It is grown around the main crop and used for dawadawa.

Constraints

- Erratic rains
- Lack of access to land especially by women
- Highly infertile lands.
- Most of the youth especially the men migrate to other towns especially Brong Ahafo Region (another forest zone) to farm for money.

Vingving Community Profile -Jirapa District

Vingving community has a population of 773 and 99 household and consists of spread out farm lands surrounding homes. Houses are made of mud/bricks and some are roofed with iron sheets. Some are compound houses and others semi-detached. An untarred access road runs through the community. The community has 3 boreholes, a school and a shared CHPS compound. The people are mostly Christians and practice both polygamy and monogamy. The women prepare lot of pito and there are 3 shops selling hard liquor. The men drink a lot, and some smoke cigarette. Many men have migrated down South, but come back during the farming season.

Men grow millet, maize, beans (cowpea) and bambara beans as food crops for the family but grow Groundnuts for mainly cash. The women also grow groundnuts as a cash crop. The women rear pigs, goats and sheep for cash to support themselves and the family. Twenty six people have been involved in livestock production with the support of MOFA whereby they were given animals and they are doing quite well. There are many NGO's i.e. Plan International, Action Aid, RAAP and MOFA supporting the community members.

The Vingving soil is very degraded and infertile resulting in very low crop yields. Groups have engaged in key activities such as block farming and livestock improvement and agro-processing. The households have little grains and engaged in traditional storage (sun drying, put in rooms on the floor, in bowls, sacks and small mud silos). The community is faced with food insecurity and children are malnourished with the families eating 1 meal a day and dry fruits and leaves in April / May to August. Some are forced to eat their seedlings for the next farming season. The community displays coping strategies such as burn wood to produce charcoal for sale as well as selling firewood to buy food. Most men migrate during the lean season and return during raining season.

The men make most of the decisions on farming for family and women's farms. They control the land which is already limited and infertile. They also control labour. Women have to work hard on their husband's farm before going to work on own farm. The choice of food crop is also controlled by men. Women have little choice but to grow groundnuts and beans, and some grow a little maize. Women after planting and harvesting during lean period engage in productive activities like selling some of their cash/food crops, picking and processing shea nuts and dawadawa for sale or for food.

Both men and women practice and understand nutrition, but this is difficult because of poor crop yields. Malnutrition is a problem and men heavily engage in drinking pito brewed by women in the community for sale.

Constraints

1. Less land and very poor soil. Soil cannot allow for the selection of many crops. Yield is also low and food stored or sold is minimal.
2. Lack access to tractor, seeds, fertilizer due to poor yield and low income.
3. Lack water for dry season farming
4. Low livestock production. Area is bare due to bushfires, selling trees for charcoal/firewood, over-cultivation.
5. Low use of agricultural knowledge and technologies.

Interventions

1. Form active women/men groups.
2. Introduce food/cash crops with input support to both groups of farmers.
3. Introduce trees (mangoes, cashew) livestock (sheep, goats, pigs) and soil improvement programme.
4. Support food production and nutrition programmes.
5. Add skills and livelihood/SME's/ Credit for both.

Key Finding

1. A very poor community due to low yield for the farmers. The soil is bad and rainfall often fails. This has made the people poor and discouraged.
2. Many interventions in the community by Plan, Action Aid, MOFA, NRG, PRONET North, and Care International/EU/OXFAM/Techno serve however production remains very low and people are still poor.
3. The community faces long periods of food shortage (April – August) and farming activities are not rewarding.
4. The women are hard working but not happy about the behaviour of the men.
5. A lot of migration, mostly by stronger men who leave wives behind with little food.
6. Aware of nutrition, but cannot afford 3 times meal a day consisting of nutritious food. Animal production is very low. No water source for dry season farming.
7. Use soya beans but do not grow soya beans.
8. Men control women and there are many cases of abuse and domestic violence.

Nimbare Community Profile– Jirapa District

Nimbare is a medium size community situated along the main road between Jirapa and Tizaa . It is a few miles from the capital, Jirapa. The community has electricity, fairly large compound houses, and a tarred road running through the community. Also present in the community is a fairly large river. A large portion of the land has been used up for buildings leaving small plots of land for farming, especially the women. The community is predominantly Christian with few Muslims. The average family has 3- 7 children and practice mainly monogamous marriages. Men and women are largely engage in farming. Crops cultivated are rice, groundnut, millet and Bambara beans. According to opinion leaders of the community, there has been a decrease in farming activities because farm sizes have decreased and yield is low/poor. There is high level of poverty in the community. Main farming activities conducted by men include land preparation, ploughing and weeding. Men take the best portion of the land available and give the less fertile/over cropped land to the women. Women are engaged in planting, weeding, fertilizer application, harvesting, storage and marketing. Women then work on their own farms after the family farm.

The people of the community have fair knowledge on nutrition/health. They combine foods like maize, soya beans, cowpea and groundnuts to make nutritious local dishes such as belebele, apamprasa, rice and beans etc. The women cultivate rice, beans, cowpea, soya beans and groundnuts. The groundnut is mostly sold for cash. Most food crops are dried and stored after harvesting. Groundnuts are semi-processed before sale Women work more on the farm than men. Women are the pillars in food provision. Men are interested in cultivating cash crops. Men mainly select what crops to grow and make most of the decisions on the family farm, although they sometimes ask their wives for input.

Challenges

1. Poor soil, bad rains, lack of inputs: poor harvest.
2. Men sell most of the crops, reducing the amount of food left for the family eating. They will sell even if there is shortage/lean season.
3. During the lean season, food is expensive and men do not often support their wives.
4. Lack of access to fertile soil.
5. Inability to make large farms

The group concept is helpful in providing labour on farms, supporting each other in times of hardship; members can save money and also access loans from group savings.

Key Findings in Nimbare

1. Many groups have been formed by NGO's and MOFA to give support to both men and women.
2. There is lack of employment for the men and women especially during the lean season.
3. Men and women try to farm on the limited land available, and are being supported by MOFA to form groups and do block farming (maize, soya); and women groups who grew soya beans are also being supported. The MOFA/WIAD has in collaboration with other partners prepared farms for soya bean and a food utilization programme for them.

4. Harvests are low, therefore the Community experiences food shortages particularly during the lean season.
5. Women mostly cultivate rice and others try to cultivate millet; groundnut is mostly sold for cash.
6. The land is quiet fertile, but needs fertilizer. There is an available water source and dam/irrigation potential not far away. The community is close to Jirapa Market.
7. Migration is limited for the youth in this community.
8. The women work hard to provide food for the family and to support their husbands. The relationship between women and men is good. The men consult the women on their farming.

Sissala District: Kupulima Community Profile, Sissala West District

Kupulima is located at the western part of the Sissala West District. It is at the far end of the northern part of the country (Ghana) neighboring Burkina Faso. Kupulima shares a border with Leo a major market centre in Burkina Faso. Kupulima is a small community with a population of 814 people: 167 men, 299 women and 348 children. There is a primary school, a J.H.S. and a non-formal system of education (night school) in the community, as well as a health centre with a community health nurse. Farming, charcoal burning and local quarry extraction are the major occupations for men and women. Their main ethnic group is dawie. They are predominantly Muslims with a few Christians in the community.

They farm maize, groundnut, beans, yam, cowpea, soya bean, cotton and bambara beans. They also rear animals such as goats, sheep, fowls, cattle and donkeys. Their main means of transport is the donkey cart. The community has a dam and 3 boreholes as their main source of water for dry season gardening and household consumption. They generally do not have large vast of land for farming because of the border between the community and Burkina Faso and also because a large portion of the land is under the control of the forestry commission. The land fertility is not very good and so they require a lot on inputs to enable them get enough food. The community has no form of food aid.

In the lean season (June, July and August) the community faces hunger. Men and women have a fair understanding of the need for good nutrition and put this knowledge into practice when nutritious foods are available. However they often run short of their own supplies and cannot afford to buy externally. Their harvest has decreased over the last few years due to erratic rainfall patterns and loss of soil fertility. On average they get 10 bags of maize/acre, 8 bags of groundnut/acre, and 4 bags of soybean per acre. During the dry season the men are engaged in vegetable gardening and stone quarrying. The level of migration is very minimal in this community. Women during the lean season are engaged in petty trading, charcoal burning, and selling firewood. The men in Kupulima do not consult their wives much with regard to decisions on use of land, what crop to farm, how much to sell, and what to do with the money.

Women in the community have formed strong and effective groups. The breastfeeding mothers group for instance is there to help mothers take good care of their children. They contribute money and buy items such as soap, powder and clothes for the mother and baby. They also do susu and support each other financially.

Gbal Community Profile, Sissala West District.

The Gbal community is located 14km from Gwollu (District Capital). It shares boundaries with Kuni to the North, Kwala to the East, Fathu to the West, Bullu to the south. The name Gbal simply means “wait”. It has a population of about 950 people. For the most part it is a relatively flat rocky area, gently undulating at the southern part. There are neither rivers nor dams but a stream called “Charegini.” The rainfall pattern is generally erratic in terms of timing of onset, duration and total amount of rainfall which has been the limiting factor affecting crop production.

The people of Gbal are basically peasant farmers, charcoal burners and shea butter producers. African Traditional Religion, Christianity and Islam are the three main religions practiced however there is a Muslim majority. There are four ethnic tribes in the community: Sissala, Fulani, Dagaaba and a few Akans. The majority are Sissalas, the indigenous group. The extended family system and patrilineal system of inheritance are practiced. Marriage in this community is mostly polygamous. Respect, hard work, decent dressing, hospitality, trustworthiness and greetings are the values highly regarded.

The community is without a clinic or a health care centre. They only have a health volunteer sponsored by an NGO – Plan Ghana. He caters and attends to infants and children below 6 years of age. Out of the 65 houses in the community, 93.7% were built with mud blocks and have a thatched roof. These houses lack basic facilities such as toilets, piped water and an adequate ventilation system.

Yam, maize, groundnuts, millet, cotton and beans are mainly cultivated for domestic consumption. Groundnuts are the major cash crop. The main types of livestock reared are cattle, sheep, goats, donkeys, fowls and guinea fowls. Traditional methods of farming are largely practiced using the hoe and cutlass. A few farmers who can afford it use tractors to plough their farms.

Land acquisition is based on inheritance by natives. However, strangers who want to acquire land for farming would have to seek the consent of the chief and “Tindaana” (Landlord). Agricultural activity is mainly rain fed. Most natives are unemployed during the long dry season. Some of the youth also migrate to other towns to seek job opportunities, better social amenities and education, reducing the available labour force of the community.

Productivity continues to decline due to frequent use of crude methods of farming and absolute dependence on the rain as the only source of water for their crops. In addition, the land is infertile coupled with inadequate credit facilities for the acquisition of inputs. Most farmers financed themselves with the money acquired during the previous season, and in a few cases borrowed from friends to support their farming activities.

Main sources of labor for farming come from family members, friends or hired laborer from within the community. Donkeys are mostly used to carry the farm produce and tools, and bullocks are used for ploughing. Local silos made of thatch are the main storage facilities in this

community. Others use their rooms to store their farm produce. The community has no local market relying on the District capital market to sell their cash crops. Gbal is a very deprived community in terms of basic facilities such as drainage facilities, toilets and waste disposal system, markets, electricity and pipe bore water.

Bullu Community Profile, Sissala District

Bullu is located on the main trunk road from Jirapa to Gwollu, the district capital, not far from a major market town called Jeffise. Bullu shares border with Burkina Faso to the North, Wa East District to the south, Jirapa Lambussie district to the west and Sissala East district to the east. The land is low lying but gently undulating at latitudes ranging between 150m and 300m above sea level. The river Kulpawn and its tributaries pass through the district. The relatively low lying nature of the District complete with a number of streams would allow for dams to be constructed along these waterways to supplement the water requirement of farmers especially during the dry season. Bullu has 3 small bridges constructed to prevent flooding over the road, but flooding remains a common problem during the rainy season. Bullu has 5 boreholes and a dam for dry season farming (vegetables) but members expressed a strong desire for the dam area to be fenced to prevent animals (cattle) destroying their crops which is a serious issue that deters a number of farmers from using the dam.

The soils found in the area are good for plant growth. The problem in the area is absence of dense vegetation caused by bush fires/burning, over grazing, poor farming practices, firewood collection and charcoal burning. This means that good farm yield can be obtained with the application of fertilizers and farm yard manure. The earth also is suitable for mechanized farming. The vegetation consists of grass with scattered drought resistance trees such as the shea, the baobab, dawadawa and neem trees.

The population of Bullu is 1,614. The main ethnic groups in the community are the Sissalas, Moshies, Fulanis and Wangara. Other ethnic groups include Nambelle, Jasale, Kamajekele, Vagla, Gwobelle, Kanjaga and Bukumbelle. The people are predominantly Muslims. Bullu community is divided into two main areas. The Nuharaba River divides the two areas. Bullu has a Primary/JHS, electricity and a wide access road, running through from Jirapa to Jeffesi, The community has a dam constructed by IFAD/GOG/AFDB/MOFA for dry season farming.

Capacity building received by the community includes support from MOFA on soya bean cultivation and utilization. NRGF also trained farmers and supported women in rice cultivation. GHS has provided nutrition/ health training, and TUDRIDEP has supported soya production, afforestation, food nutrition demonstration, and empowerment of groups on livelihood/enterprise.

The main food crops grown by men include millet, maize, yam, beans, rice, bambara beans, and soya beans. Male cash crops are groundnuts, sorghum, and cotton. Women grow rice, cowpea, groundnuts, and any of the male crops if they have enough labor. Animals reared are cattle, goats, sheep and household fowls. Women normally do not own cattle, but can have donkeys. Women also pick and process shea nuts and dawadawa.

During the non – farming season, men are engaged in building and renovating their houses, dry season gardening, clearing new farm lands, a few migrate down south. Women are engaged in petty trading, gather firewood, burn charcoal for sale, pick and process shea-nuts baobab and soya into dawadawa. A few are also engaged in dry season gardening and rearing of animals. A few young girls and women go to Accra and Kumasi to engage in kayaye. The community receives food-aid in the form of food for Work (World Food Programme), and GSFP for school children.

Bullu is a very organized and growing Muslim community. The community has 4 male and 3 women groups engaged in block farming with the Northern Growth Rural Project, RAAP, Livestock Production Project (Sheep) and in supporting each other in the community. The community is pro-active in the cultivation of soya beans by both men and women. The focus of these groups is to help each other improve farming and animal production. Many NGO's and stakeholders have supported these groups.

The nearest local market to Bullu is Gwollu the district capital which operates weekly. Other markets include Wa, Jeffise and Tumu markets. Bullu is well served and linked to wider markets. Buying agents and middle women come to Bullu to buy their produce. Maize and groundnuts are sold to buyers from Kumasi, Techiman and even Accra (Agbogloshie Markets). Soya bean growers have access to market Aggregators (Savannah Marketing Company) . Middle women also come from Wa and Leo (18 miles way)

A fairly large number of the people are engaged in banking, savings and micro-credit or loans to support farming activities. Their main options include the Sissala West Rural Bank, Gwollu Rural Bank, and Agric. Development Bank. Individuals and NGO's are also into susu and group savings and Money-box. The nearest bank to the community is Gwollu Rural bank which is approximately 9kms away.

The following were identified as the key constraints of women from being able to provide adequate and quality farm produce to buyers.

1. Women do rice but lack tools/equipments and technologies to process quality rice for market. The women still use traditional/ tedious low yielding methods to produce rice.
2. Lack of equipments/machines for farming.
3. Women pick shea nuts and process them with intense labor . Most women pick and sell at very low price to Aggregators/Agents/Buyers.
4. Most women in the community are illiterate therefore need training, education, advice, information, skills and empowerment.

Bullu produces enough food crops and is a very important cash crop farming and commercial livestock production community. They have a short hunger-lean season between June – August. These periods of food shortages are attributed to large family size, polygamy and extended family system. Other key constraints include low yield due to erratic rainfall, lack of inputs (fertilizer, seeds) and modern farming technologies such as tractors. Farmers are able to store enough food to feed the family except for the period of lean season.

During the lean season, coping mechanism adopted by families include not eating preferred meals. They have 1 or 2 big meals a day, often T.Z and green leafy soup or rice and stew. They also make meals from mixing maize, groundnut, beans or soya and cooking them. The women pick shea nut and process dawadawa for food and sale; they also tend to rely on wild leaves and fruits – berries, mangoes. During a good season, they eat a lot and what they prefer because the harvest is good. They also sell to get cash to buy other ingredients and vegetables and to re-invest into farming. Migration of young men to the south to farm or work is a coping strategy. A lot of young men leave the community (during lean season and come back with food or assets).

Annex 10: In-depth Case Studies of Success Stories.

Catherine Bayor, Jirapa District (Tampaala)—migrant husband managing life

Madam Catherine is a 46 years old farmer identified as a successful woman farmer in Tampaala. She was selected because she is seen as one of the women within the community who have distinguished herself in farming, while also engaging in other income generating activities. She has five biological children and two other fostered children. She is married into a non – polygamous home. Speaking on her experiences in managing household responsibilities and farming activities, Madam Catherine said she has been doing this for over 20 years. She said she dove-tails many activities within the day i.e. cooking, cleaning the house and its environments, fetching water, and farming activities among others. When coming back from the farm, she collects firewood and carries it to the house. She says that the most important thing is her ability and willingness to sacrifice everything she has for the betterment of the family, especially her children.

She said on her own farm, the crops selection is done by her but on the family farm the selection is mostly done by the husband but she can advice the husband on the type of crop to be cultivated based on past experiences. On farming activities she said most of the work on both husband and her own farm is done by her (woman). She carries out all farming activities: prepares the land, plants, weeds, applies fertilizer, harvests and does the processing of food crops such as drying and storing them properly. Her off-farming activities include brewing pito (local drink), harvesting and sale of firewood, and charcoal burning. Household responsibilities like child rearing often limit her farming activities. Sometimes she wished she could cultivate more but she does not have enough strength to do that. The main cash crop for her is groundnut even though she cultivates beans, bambara beans and sometimes maize/millet, however these are for household consumption.

The secret to Catherine's success is that she is engaged in several different income generating activities apart from farming: for instance, livestock production especially pigs, goats and local poultry. Mostly, she sells these animals to purchase major staples food to feed the family. She ensures that there's enough food in her house before she buys anything like cloth. She buys a cloth for herself and her children once a year i.e. during Christmas. The largest constraint for her is the inaccessibility and inability to afford to purchase fertilizer and other farm inputs such as tractor services to enable her to cultivate on a larger scale. Erratic rainfall patterns for the last few years (3) have also posed a bigger problem for her. There has been a shift in crop production from millet to guinea corn. She also mentions not having access to improved seeds and education on the types/varieties of seeds available to them to be a major constraint. She said the community has experienced outbreak of several disease among animals but they are unable to access veterinary services due to the cost involved.

Catherine explained that traditionally there's no respect for women's ownership over property such as land. "*A women herself is seen as a property owned by the husband and property does not own property*". For example livestock owned by women are sold at cheaper prices, others kill these animals because of hatred and some do not even pay when they buy animals on credit.

This has limited women's sources of income (inadequate resources). They also have a problem in marketing their animals and other farm produce. Markets are far from the community and women have to walk long distances with their food stuff or animals to these markets. When they are unable to do that, their husband's are contracted but they (husbands) may not give them the right amount and women are obligated to show appreciation by giving part of the income to husband as tradition demands.

Culture also demands that women's property be sold by men. In situations where the woman is allowed to sell her own property, the man is consulted and at least given his approval before the women can sell anything. However a man can sell off a woman's property without consulting her only to inform her later. When a woman sells her property (animals) she shows the money to her husband first, he takes a certain amount from it as tradition and gives the rest to the woman. This shows respect and submissiveness to the husband/man.

Madam Catherine said she has fair knowledge on food nutrition from M.O.H. MOH teach them how to combine food crops such as rice and beans to ensure good nutritional value. She can also combine beans and maize powder to prepare food (kpoglo). She also cooks bambara beans and uses dawadawa and herrings in her soup. Information has been available on the different uses of the various food crops they know such as beans, soya beans, groundnut and bambara beans. They are sometimes educated by Action Aid aside from MOH, WIAD/MOFA.

She has her own farm of 3 acres where she cultivates groundnuts (cash crop), bambara beans, rice and sometimes guinea corn with her groundnuts (inter cropping). Beans, bambara beans, rice and guinea corn are mainly for house hold consumption. She admitted that she's always tired because she has to work on her husband's farm first before hers. This, she says, actually affects her output because she has limited time and energy to work on her own farm. Sometimes, she has to go for the cultivation of some crops on her farm. (Provides about 65 – 70% labour to husband). She would be grateful if she had access to affordable tractor service, fertilizer and other farming inputs.

Also, if they could have access to improved seeds maybe early maturing varieties could be of help because of poor rains (short). They also need education on new farming methods and transparency between them (community members) and extension (field workers in the Agric Sector). On recommendation, she said she would encourage group formation for women since there's financial assistance, and some sort of labour support and it brings enlightenment to women. She also encouraged women to cultivate crops they are more comfortable with especially groundnut and venture into maize though maize yield is not so good. She concluded by saying that they (women) would like to venture into the production of soya as both cash and food crop if they get enough education on its production.

Sala Haite. Sissala West District (Bullu). Widowed woman with a large household (25 members)

Sala Haite is a 46-year old widowed woman. Madam Sala has a fairly large household of about 25 members. Her major occupation is farming. She has a few grownups that are able to take care of the household chores. She has a 14-acre plot of farm on which she cultivates 10 acres of maize, 1 acre each of rice, groundnuts, soya beans, and cowpea. She was able to harvest 144 bags of maize, 5 bags of rice, 10 maxi bags of beans, 5 bags of soya beans and 2 bags of cowpea. Her main sources of labour include her children and hired labour (young men). She also hires a tractor for ploughing. She takes farm inputs on credit and pays back after harvest. She determines the production size, type of crops to grow and labour needs of the farm. She has access to land since her husband left behind enough land for her children and herself. Her farm activities (shared with her children) include weeding, planting, fertilizer application and insecticide application. Non-farm activities include processing of shea nut into shea butter for sale, and the sale of other petty ingredients.

According to Sala Haite, her **secret to success** have been her ability to utilise the labour of young men in the community who are willing to work. She added that she does not face any problems with her late husband's family in relation to the use of his land; so she has access to large plots of land. Most of her children are grown ups and are able to contribute to the labour needs of the farm. She has access to market linkages with women in Techiman that come into the community to buy her farm produce.

Madam Sala's **knowledge on good nutritional choices and practices** is fair and she gave examples that food such as fish, meat soya beans, and vegetables are very good for the health of her family. She told the team that "my children have never gone hungry; we eat three times each day throughout the year. There has never been a time I got short of food. I make sure that I reserve enough food for household consumption after harvest".

According to Sala Haite, her **major constraints in ensuring food security** have been inaccessible tractor services and other farm inputs. "By the time a poor woman like me competes with men to get a tractor it is too late to do any major farming. Sometimes it is difficult to get labourers since everybody is busy working on their farms at the time you need them the most". Her greatest constraint to providing nutritious food to her family is that she sometimes has to forfeit buying nutritious items like meat and fish to save money to pay for tractor services and other farm inputs.

"I work so hard to ensure that I never run out of food. The children have been helpful in taking care of the household chores and as extra help on the farm. I reserve a good quantity of the farm produce for consumption. There is always a buffer stock, just in case we run out of food". She always ensures that she keeps extra food of which she sometimes loans out to her friends who run out of food in the lean season, and they pay back with no interest.

With respect to what interventions and recommendations are needed to help women improve their household food security, Madam said that there is the need for women to intensify their

farming activities. “Men need education to free their women to increase production on their own farms”. She added that women should be supported with farm inputs. “With just a hoe, women are unable to compete with men using tractors and other farm inputs”.

Taunamanuman Kanuala, Jirapa District (Mwankuri)

Madam Taunamanuman Kanuala is 45 years old and married into a polygamous home. She has five children with two fostered children. Kanuala was identified by the women’s group as one of the successful women in the community who has been able to manage her household responsibilities and being able to provide enough food for her family. According to Kanuala, her husband has been bedridden for the past five years and she has been handed the responsibility together with two other wives to take care of the family’s food needs. With respect to how she’s been able to manage her responsibilities as a wife and providing enough food for the family, she said combining household responsibilities together with farming is a difficult task but she is at a point where she has no option but to do it to the best of her ability. She revealed that there were times she got really tired and sometimes sick, but she still had to push forward because she didn’t have any support from the immediate and extended family. She said she is especially obliged to do so because she has to take care of her children’s needs so that they wouldn’t go hungry.

With regard to **her farming activities**, she said she had to do all farm activities ranging from ploughing to harvesting on the family farm together with the other wives. According to Kanuala, the family (husband’s/family) farm is 10 acres and they cultivate maize (5 acres), beans (2 acres), millet (2 acres) and rice (1acre). This mainly is for household consumption. She has a 3 acre personal farm where she cultivates groundnut (cash crop) and beans (household consumption). Working on two farms and doing virtually everything on these two farms has serious implications on how much she can produce on her own farm. She felt lucky to have access to the services of her women’s group. For non-farming activities, she said she’s engaged herself in a couple of economic activities as backup and coping mechanism such as buying and selling of food crops (rice, groundnut, maize) when prices are quite high especially the hunger season, she brews pito for sale, sells other alcoholic drinks, keeps livestock specifically goats and sheep and she sells fried fish.

According to Madam Kanuala, her **major constraint in relation to increasing farm produce and food security at the household level** is access to a regular supply of labour. The husband is very sick and she and the other two wives have to do all the work on the family farm. This has limited her ability to increase production on her own farm because her husband is unable to help particularly in land preparation. Secondly, inaccessibility of improved seeds (ground nut and beans especially), and the early maturing variety has implications for her output as she usually has to plant late. She also complained about the fact that the cost of tractor services and other farm inputs are increasing at a fast pace without corresponding increases in output. The level of soil infertility is also a great source of concern to her.

Regarding her **knowledge on nutritional choices**, Madam Kanuala said she was aware of nutritional foods such as beans, soya, dawadawa, moringa, and other wild vegetables and fruits such as black berry leaves. In relation to nutritional and dietary practices at the household level,

she ensures that her meals are balanced by combining these foods. She was however quick to add that, these foods were not available at all times. When nutritional foods were not available she buys from the market or feeds the family with what is available which are mostly carbohydrates. She added that she tries as much as possible to feed her family with beans at least three times a week and with dawadawa and herrings each day.

Madam Kanuala explained that when the lean season begins, which usually lasts from June to August, women are responsible for the provision of food in the family. Men become helpless and look up to the women. Women have to harvest and sell firewood, dawadawa, shea nuts and wild fruits and vegetables such as black berry leaves to buy food for the house. The good thing in this community is that men appreciate and acknowledge the role and importance of women and women are respected for that. There's a cordial relationship between men and women. Great consultation exists between women and men, and men understand the need for women to have their own farms.

She said there's always food in the house though the quantity reduces during the lean season. She engages the services of her group on the farm at a fee to be paid after production either in kind or cash. Responding to what her recommendations are in improving food security in the community stated access to tractor services and other farm inputs especially fertilizer as important for people to engage in larger scale. she added that Provision of improved seeds especially the early maturing variety will do them a lot of good. She also recommended for education on new methods of farming and knowledge on crop diseases and control management. She recommends that most women should join groups and try to engage in other non-farming activities to improve their standard of living. She concluded by saying that they need a dam badly for irrigational purposes and for their animals. She said there's no school in the community and when they send their children to farm, they disturb them a lot so that they hardly do any effective work. The women also don't want their children to suffer like them. Education she said is the only solution.

Annex 11: Seasonal Calendars

Mwankuri Women's Seasonal Calendar												
Main Activities	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Pre-planting	XX	XX	XX	XX	Rice							
Planting	XX	XX	XX	XX	Groundnuts	Rice, Groundnuts (Weeding)	Groundnut					
Weeding 1				Cowpea	Cowpea	Rice, Cowpea	Rice (Pick) Cowpea (Spraying)	Rice				
Weeding 2						Cowpea (Spraying)		Cowpea (Spraying)				
Harvesting										Rice	Rice	
Processing											Rice, Cowpea	
Market												Rice

Main Crops Grown: Cowpea, Rice, Groundnut.

Bullu Men's Group												
					Hunger Period							
Main Activities	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Pre- planting				Maize	Maize			Maize				
Planting	Yam				Yam	Groundnut	Millet					
1st Weeding					Groundnut	Maize	Groundnut	Groundnut				
2nd Weeding								Millet				
Harvesting										Millet	Groundnut	
Processing												
Marketing										Millet	Groundnut	

Main Crops Grown: Maize, Groundnut, Millet, Yam

Tampaala Men's Seasonal Calendar

Main Activities	Hunger Period											
	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Pre-planting			Maize millet	Groundnut Millet	Groundnut						Yam	Yam
Planting	Yam			Maize	Cowpea Maize Millet Guinea Corn	Rice, Soya, Groundnut	Groundnut Bambara Beans, Soya			Bambara beans		Yam
Weeding 1				Yam			Millet, Guinea corn, cowpea	Guinea corn				
Weeding 2						Cowpea	Cowpea	Cowpea				
Harvesting								Guinea corn, cowpea	Guinea corn, Maize	groundnut rice	Soyabeans Groundnut Millet Rice	Millet
Processing												
Market												

Main Crops grown: Maize, Millet, Groundnuts, Soya Beans, Cowpea, Rice and Yam

Tampaala Women's Seasonal Calendar												
Main Activity	Hunger period											
	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
Pre planting	XX	XX	XX	XX								
Planting					Ground nuts Beans	Rice Maize Ground nut Millet						
Weeding 1						Beans	Maize (fertilize) Groundnuts					
Weeding 2							Rice	Groundnuts				
Harvest								Maize Cowpea		Groundnuts	Rice Millet Soya Beans	
Process												
Market												

Main Crops Grown: Maize, Rice, Groundnut, Beans

Bullu Women's Seasonal Calendar												
Main Activities	Jan	Feb	Mar	April	May	June	Jul	Aug	Sept	Oct	Nov	Dec
Pre-Planting	XX	XX	XX									
Planting			Yam		Groundnut Cowpea Beans	Maize, Rice, Soya	Maize (fertilizer)					
Weeding 1						Groundnut (1st weeding) Cowpea/ Beans (1st weeding)	Groundnut Beans Cowpea, Yam (Sticking)	Maize , Soya, Rice				
Harvesting								Beans, Cowpea Yam	Ground nut, Maize, Yam		Rice, Soya, Yam	
Processing									Beans, Cowpea	Maize, Ground nut	Yam	
Marketing						Groundnut Maize		Beans, Cowpea	Yam Maize Ground nut	Maize		Ground nut, Maize, Cowpea Yam

Main Crops Grown: Maize, Cowpea, Groundnut, Beans, Yam, Rice, Soya Bean

Gbal -Sisala West Women's Seasonal Calendar

Main Activities	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Land Clearing		Yam	Yam									
Ploughing		Yam	Yam	Rice Soya beans								
Planting			Yam	Yam	Maize Rice Soya beans	Beans Millet Maize						
Weeding					Beans	Beans Rice Soya beans	Maize Beans Rice Millet	Millet				
Fertilizer Application							Maize					
Spraying							Soya beans Beans					
Harvesting								S/beans Rice Beans	Maize Yam	Maize Yam Millet	Yam Millet	

Main Crops Grown: Maize, Groundnut, Soya beans, Millet, Beans

Vinning - Jirapa Women's Seasonal Calendar												
Main Activities	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Land Clearing				Beans Rice		Groundnut						
Ploughing				Beans Rice			Groundnut					
Planting					Beans Rice		Groundnut					
2nd Weeding						Beans Rice	Beans Rice	Groundnut				
Fertilizer APP												
Spraying												
Harvesting									Beans Rice	Groundnut Rice		

Main Crops Grown: Beans, Rice, Groundnut

