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The U.S. Government's Global Hunger & Food Security Initiative

Integrating Gender and Nutrition within Agricultural Extension Services

GHANA

Landscape Analysis

Working document

April 2016



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INGENAES

Integrating Gender and Nutrition
within Agricultural Extension Services



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Acronyms

ADP	Area Development programs
ADVANCE II	Agricultural Development And Value Chain Enhancement
AEA	Agricultural Extension Agents
APSP	Agriculture Policy Support Project
ATT	Agriculture Technology Transfer Project
CAABIC	Ghana Agricultural Associations Business & Information Centre
CAADP	Comprehensive Africa Agriculture Development Program
CDCS	Country Development Cooperation Strategy
CSO	Civil Society Organization
CSPG	Cross-Sectoral Planning Group
DAES	Department of Agricultural Extension Services
EAS	Extension and Advisory Services
FAO	Food and Agriculture Organization
FBO	Farmer Based Organization
FFS	Farmer Field Schools
FONG	Farmer's Organization Network in Ghana
GAABIC	Ghana Agricultural Associations Business & Information Centre
GCAP	Ghana Commercial Agriculture Project
GDHS	Ghana Demographic and Health Survey
GHI	Global Health Initiative
GoG	Government of Ghana
GSS	Ghana Statistical Service
FASDEP II	Food and Agriculture Sector Development Policy
ISFM	Integrated soil fertility management
ISU	College of Agriculture and Life Sciences of Iowa State University
MEAS	Modernizing Extension and Advisory Services
MoFA	Ministry of Food and Agriculture
MoH	Ministry of Health
NED	National Extension Directorate
NAFCO	National Food Buffer Stock Company

NGO	Non-Governmental Organization
NNP	National Nutrition Policy
RING	Resiliency in Northern Ghana
SADA	Savannah Accelerated Development Authority
SPRING	Strengthening Partnerships, Results and Innovations in Nutrition Globally
SUN	Scaling Up Nutrition
TVS	Training and Visit System
UES	Unified Extension System
USG	United States Government
VSO	Voluntary Service Overseas
WEV	Women Extension Volunteer
WHO	World Health Organization
WIAD	Women in the Agricultural Development Directorate
WUR-CDI	Centre for Development Innovation of Wageningen University & Research Centre

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Introduction

The Integrating Gender and Nutrition within Agricultural Extension Services (INGENAES) project is funded through the Bureau for Food Security (BFS) of the United States Agency for International Development (USAID) to support the Presidential Feed the Future Initiative, which strives to increase agricultural productivity and the incomes of both men and women in rural areas who rely on agriculture for their livelihoods.

This landscape study provides an overview of Ghana's agriculture and the status of country's extension system. It also provides information on the prevalence of poverty, nutrition and gender related issues in the country with special focus on rural areas. It summarizes Ghana's current agricultural and nutrition policy. This report provides a summary of several on-going projects by the USG and other donors in the country related to agriculture extension, and gender and nutrition impacts.

INGENAES supports the development of improved extension and advisory systems (EAS) to reduce gender gaps in agricultural extension services, increase empowerment of women farmers, and improve gender and nutrition integration within extension services by directly or indirectly assisting multiple types of stakeholders within a country, such as farmers, producer groups, cooperatives, policy makers, technical specialists, development NGO practitioners, and donors.

INGENAES efforts will strengthen the capacity of key stakeholders and providing the fora and networks for them to coordinate and reach agreement on policies and strategies to implement improved EAS that better meet the needs of men and women farmers. While INGENAES project will not directly monitor beneficiary impact, it will focus on changes in institutions that directly impact men and women who access agricultural information, training, technologies and nutrition information. Improved services empower women and engage men.

INGENAES will strengthen institutions by identifying their needs and strengthening their capacity to effectively integrate gender and nutrition sensitive information and activities into agricultural extension systems with the aim to promote gender equality, improved household nutrition, and increased women incomes and, subsequently, household food security. Based on the identification of four main gaps in extension services in terms of gender and nutrition integration, INGENAES activities can be divided into the following action areas:

- Build more robust, gender-responsive, and nutrition-sensitive institutions, projects, and programs capable of assessing and responding to the needs of both men and women farmers through extension advisory services (EAS);
- Identify and scale proven mechanisms for delivering improved EAS to women farmers;
- Disseminate technologies that improve women's agricultural productivity and increase household nutrition; and,
- Apply effective, nutrition sensitive, extension approaches and tools for engaging both men and women.

Indicative activities of the INGENAES project include: learning exchanges, assessments, curricula development, training into action, mentoring relationships, internship experiences, and networks that focus on identifying gender-responsive and nutrition-sensitive innovations that can be promoted by EAS organizations, and adopted by men and women farmers. Developing these outputs collaboratively with

agricultural extension experts and other partners will transform extension-relevant institutions working directly with men and women farmers.

In each country INGENAES needs to examine the relationships, identify the key change actors, build their capacity, and provide them the incentives to make changes (e.g., set new policies, employ new management practices, modify organizational structures, make changes in practice, adopt innovations). The key actors will vary from country to country, although policy makers, the Ministries of Agriculture and Health, NGOs and the private sector, and of course, women farmers, are likely to be involved in most countries. Key actors will be identified as part of the needs and scoping assessments. Thus, and in preparation of country level activities, the consortium gathers information and key contacts to develop a landscape study of the agricultural sector in that country, a simple description of the pluralistic extension system, nutrition related initiatives, and gender issues. As such, the landscape study is intended as a preparatory tool and handy reference document for work in country. Each landscape study will be updated periodically as INGENAES continues to engage in that country and identifies new key contacts, organizations, and initiatives.

Background

The Republic of Ghana (Ghana) became the first African country to gain independence from Great Britain in 1957 (GhanaWeb, 2015). It is located in western African and is situated along of the Gulf of Guinea, covering approximately 239,000 kilometers. With an estimated population of 27 million, women account for an estimated 50% of the population (GhanaWeb, 2015; Ghana Statistical Service, 2013). Most of the population lives in rural communities (two-thirds), while the rest of the population resides in urban areas (GSS, 2014). Additionally, an estimate of 85% of the population lives below the poverty line and over 22% of these poverty-stricken Ghanaians reside in Feed the Future target areas (African Development Fund, 2015; USAID, 2012). According to the Human Development Index, Ghana ranks at 135 out of 187 countries with a large number of the population who are malnourished (Food and Agriculture (FAO), 2013).

Home to Africa's ninth largest economy, Ghana is a leading manufacturer of petroleum and natural and leading exporter of cocoa, gold, and diamonds (GhanaWeb, 2015; Ghana Statistical Service (GSS), 2013). Though Ghana has achieved these economic successes, Ghana still faced considerable challenges, specifically in the agricultural sector. Despite employing approximately 45% of Ghana's population, agricultural yields have been far below their potential, farmers improperly use agricultural technologies, and very few farmers have adopted technological advances that could increase their agricultural output (Diao, 2010; GSS, 2014). To combat this issue, The Government of Ghana (GoG) and several organizations have intervened. GoG has implemented several programs and policies to improve the agricultural sector. For instance, the National Food Buffer Stock Company (NAFCO) was established in 2010 to reduce post-harvest losses and sustain the stability of prices (FAO, 2015). Similarly, in 2014, Feed the Future initiatives in Ghana assisted over 23,000 farmers in introducing new technologies and practices, such as high-yielding seeds, fertilizer application, soil conservation and water management, on their farms for the first time. The introduction of these higher productivity technologies has generated millions of dollars in income (USAID, 2012) and Ghana's agricultural sector has experienced an agricultural growth rate of approximately five percent per year, which has contributed to an overall reduction of poverty by over 20%, increased farmer's income, and improved child and adult malnutrition (Leturque & Wiggins, 2011).

In addition to the challenges discussed above, the agricultural sector is impacted by gender inequality and discrimination against women (Ministry of Food and Agriculture (MoFA), 2007). Ghanaian women play an instrumental role in agricultural development. Women are vital players in the agricultural and services sectors of Ghana's economy. Approximately 41% of those employed in the agricultural sector are women, while approximately 30% of those employed in the services sector are women (GSS, 2014). Despite the women's prominent presence in these sectors, women's contribution appears to be limited in many ways. For instance, women in Ghana have limited access to economic resources such as land or credit, which hinders their participation in the labor market. Additionally, societal or cultural barriers have also limited women's participation. Because women are viewed as the primary caretakers of the household and children, women suffer from time constraints that dictate their participation in the Ghana's economy (Amu, 2005).

Women also play an important role in food security. Women are the primary preparers of food as well actively engage in the labor market to earn an income and purchase the food for consumption. However, for many female farmers, limitations hinder their contribution to both the agricultural sector and the nutrition status of their families. Thus, increasing opportunities for Ghanaian women can significantly contribute to agricultural growth and development and improve the nutritional status of women and children through consumption of own food and increase in earnings from agricultural productivity. In the upcoming sections, this paper will review Ghana's agricultural sector and explore the gender related challenges faced by women in these sectors as well as review the current programs, policies, and extension services that have are implemented in Ghana to understand the strategies that are being undertaken to improve the conditions of women in Ghana. This review will serve to enhance the understanding of the linkages of agriculture and nutritional outcomes for women in Ghana.

Figure 1: Map of Ghana



Source: GSS, 2015a

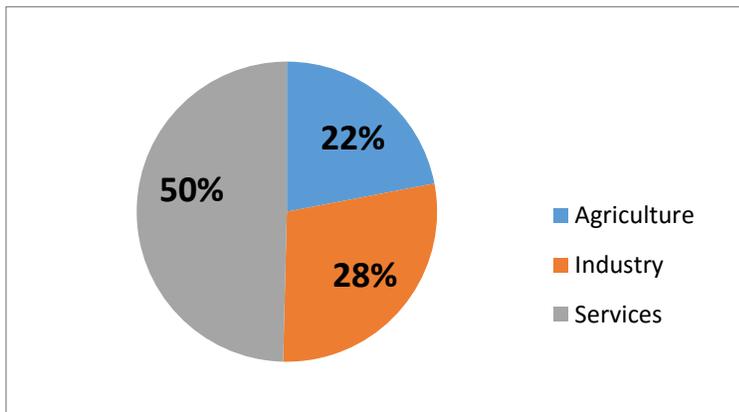
Agricultural Sector in Ghana

Ghana's economy largely depends on the agricultural sector, which accounts for more than one-fifth of Ghana's gross domestic product (GDP) (see Figure 2 and Figure 3) and employs more than half of its labor force. Over half (57%) of Ghana's land is used by the agricultural sector. Ghana produces a variety of

crops in a range of climatic zones in the country. The country can be classified into three regions: the forest vegetation zone, northern savannah zone, and the coastal savannah zone. The forest zone covers approximately one-third of country and cocoa, rubber, coffee, and various citrus fruits including bananas are grown. The northern savannah zone is cultivated with rice, yams, cattle, and sheep. Rice, maize, and various types of vegetables is grown in the coastal savannah zone.

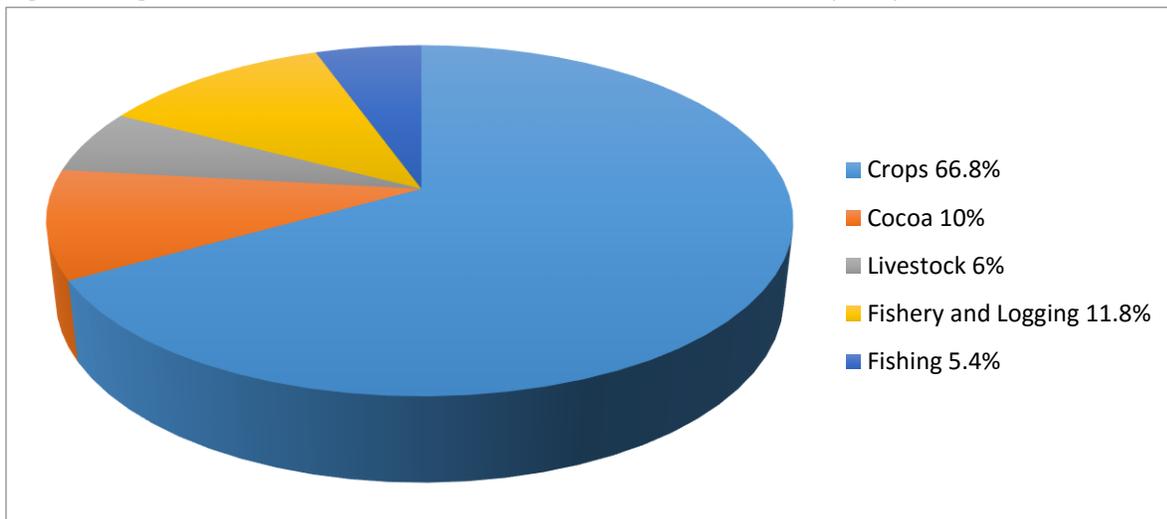
Ghana is currently dominated by several major farming systems and the usage typically varies by ecological zones. The dominant farming systems include: The bush fallow system, permanent tree crop system, mixed farming system, compound farming system, and horticultural farming system (Asuming-Brempong, 2004).

Figure 2: Sector Contribution of GDP at Basic Prices (2014)



Source: GSS, 2015b

Figure 3: Agricultural Subsector Contribution of GDP at Basic Prices (2014)



Source: GSS, 2015b

Gender Roles in Agriculture

Women significantly contribute to Ghana’s economy. It is estimated that Ghanaian women are responsible for producing approximately 80% of Ghana’s food (Amu, 2005). Ghanaian women extensively contribute

to agriculture in their responsibilities of food production, marketing, and the processing of agricultural goods. In the agricultural sector, women are either self-employed or work as unpaid labor in the household (MoFA, 2007).

Despite women's contribution to the agricultural sector, Ghanaian women face considerable challenges. There is a division of roles for men and women in farming activities. To a large extent, women are responsible for weeding, hoeing, and crop transportation, while men are responsible for clearing the land, though these agricultural activities may vary by region (Blackden and Wodon, 2006). In addition to these responsibilities, women significantly contribute to essential food and nutrients for the households using home gardens. Home gardens usually provide crops such as legumes, vegetables, maize, rice, yam, millet, and guinea corn (Bagson & Naamwintome Beyuo, 2012; FAO, 2011).

Using empirical data from Ghana, Doss (2002) argues there is no clear division in crops grown by men and crops grown by women, though their data revealed that there are crops disproportionately grown by men or women, but these differences in crop production are the result of ecological zone, preferred method of the farmer, or societal constraints. Additionally, men tend to dominate cash crops and women tend to be more involved in food crop production. For example, men dominate in cocoa farming. This is due in part to men's access to land ownership, which is not easily accessible to women. However, women are still active in cocoa farming, either operating their own cocoa farm or supplying labor (Doss, 2002).

In addition to women's agricultural activities, Ghanaian women are constrained by their responsibilities to the household. For instance, rural women are responsible to household tasks such as caring for the children, cooking, cleaning, and obtaining fuel wood and water for the household. These tasks restricts the amount of time women that may spend on farming activities and productivity as well as reduce the amount of time that can be devoted to improving farming methods or practices (Amu, 2005; FAO, 2012). Overall, women spend more time completing domestic tasks than men and approximately 30% more time splitting their time between household duties, farming and non-farming employment (Hill & Vigneri, 2014).

Women are constrained by social factors that impact their agriculture productivity. For instance, as a result of customary laws, women are less likely to inherit land. Women own about 10% of the land in Ghana, while men own twice that amount of land (Deere & Doss, 2006). Ghana is prominently organized under both matrilineal and patrilineal structure systems. These systems influence the women's access to land and property, thus influencing their participation in the labor market (Baglund, 2013). In matrilineal systems, where women have greater access to resources, land is traditionally distributed to men. Similarly, men are given more rights to land in patrilineal systems (Duncan, 2010). In both patrilineal and matrilineal systems, women are only able to gain access to the land through their relationship with a male relative such as a father (Amu, 2005). As a result, Ghanaian women are less likely to own agricultural land or be sole operators of that land. If women own land, they typically are owners of land at an older age and the land is consistently smaller and of lesser soil quality those of men (Amu, 2005; FAO, 2012). Due to women's difficulty to acquire lands, their agricultural productivity is reduced (Amu, 2005).

Ghanaian women also have limited access to fertilizer, machinery, labor, and, livestock (FAO, 2011). Male-headed households are more likely to possess three times more livestock than females headed households (FAO, 2011). Further, in addition to women's labor being limited by cultural expectations of caregiving, it is also limited their farming activities. For instance, in a study of Ghanaian female cocoa farmers, Hill and Vigneri (2014) found that female cocoa farmers, who needed male labor for tasks such as felling trees, had to rely on male wage labor instead of labor exchange groups due to men and women being in separate

groups. Additionally, the study found that due to lack of access to credit or cash, the female farmers are unable to adequately purchase agricultural inputs such as fertilizer or appropriate technology.

Ghanaian women also lack access to credit. Due to women not being able to own land, they lack collateral to get loans or credit. Even in cases in which women have access to credit, the credit is smaller in comparison to men, and conditions for repayment is difficult for women to accept (Amu, 2005; Fletschner & Kenney, 2014; Hill & Vigneri, 2014). As a result, women resort to borrowing money from family members, moneylenders, or traders. However, these forms of credit come with high risk as well due to higher repayment or shorter repayment periods (Amu, 2005). Lack of access to credit greatly affects women as agricultural extension workers are more likely to approach wealthier farmers (Anaglo, Boateng & Boateng, 2014).

Additionally, Ghanaian women have limited access to technology or extension services. Only about 4% of Ghanaian female farmers have access to extension services (Duncan, 2004). Some women lack access to extension services and new technological information due to their geographical location. For example, though some women have access to new technological information, many women who live in rural areas do not have access to the information. This limited access to information may impact their production (Amu, 2005). Further, women may be excluded from accessing new technological information due to cultural norms. Research studies examining information communication technology (ICT) have revealed gender differences in ICT use due to several barriers such as social norms that discourage women's use of technology or women's technology use and ownership being monitored or controlled by their husbands. Many women do not have control over technology such as mobile phones, television, or radios (Manfre, 2011; Mbo'o-Tchouawou & Colverson, 2014).

There are also substantial differences in educational attainment for males and females as well as between rural and urban regions. Research indicates that almost twice as many Ghanaian women as men have never attended school (GSS, 2013). The gap is even more pronounced in rural areas, where approximately 70% of women and 60% of men have never attended school (FAO, 2012). Lack of education and access to extension services reduces the chances of adopting new technology (Amu, 2005).

As discussed above, female farmers in Ghana are faced with many challenges to their agricultural productivity. They are limited in the access to many agricultural resources because of cultural norms and the result of many of the agricultural resources being dominated by men. For instance, many of the input suppliers are men (Krausova & Banful, 2010) as well the largest proportion of extension workers (MEAS, 2012). With cultural norms limiting the interaction between female and non-male relatives, it is imperative for agricultural extension workers to be aware of the cultural context and adapt to meet the needs of female farmers.

Status of Nutrition

Undernutrition is a serious issue in Ghana and it has been linked to low productivity and increased risk of illness. Though Ghana has made some changes that have improved the nutrition for some Ghanaians, undernutrition still presents challenges to the country. Rates of stunting and wasting remain high in Ghana, especially among children under 5 representing approximately 19% and 5% respectively. Ghana's northern region (Upper East, Upper West, Northern region) and central region experiences the highest rates, in some instances, reflecting twice or triple the rates of stunting and wasting in comparison to other regions (GSS, 2015). In the northern regions of Ghana, rates of wasting are considerably high, creeping towards

15% in some northern regions making it close to the World Health Organization's (WHO) threshold to issue an urgent warrant and intervention strategies. Researchers have linked these rates to food insecurity in the area resulting from the unavailability of food due to seasonal changes (FAO, 2013).

Ghana has experienced a change in its underweight population. The Ghana Demographic and Health Survey (GDHS) (2008) reports the rates of underweight is approximately 14% indicating a reduction in underweight children by 10% (GSS, 2009). According to 2014 survey, the percentage of children underweight had decreased to 11%. Interestingly, reports indicate disparities in regions with underweight rates ranges from six percent to 20%. For instance, it is reported that 20% of children under the age of 5 are underweight in the Northern region of Ghana, while the rate is approximately 6 percent in the Brong Ahafo region. Children in rural areas have an increased risk of experiencing stunting, wasting, or being underweight than those in urban areas (GSS, 2015).

Undernutrition is associated with micronutrient deficiencies. Specifically, women and children in all age groups suffer from micronutrient deficiencies and attention is specifically paid to the adequate intake of Vitamin A, iodine, and iron (FAO, 2013). Researchers have linked micronutrient deficiencies to many health concerns. For instance, iron deficiency has been associated with anemia. Ghanaians with iron deficiency who are exposed to malaria are at an increased chance of suffering from anemia. Anemia is particularly troublesome for pregnant women, who may experience complications due to the illness. The prevalence of anemia among pregnant women and non-pregnant women has increased over the decade. Additionally, anemia has affected children at an alarming rate, with 66% of children under five having been diagnosed with anemia (Birks, 2012; GSS, 2015a; Infant and Young Child Nutrition Project, 2011; World Health Organization, 2009). Anemia is a serious concern for children because it may stunt growth and impair cognitive development (GSS, 2015a). Further, the prevalence of anemia is considerably high (at approximately 74%) in all of the regions of Ghana, though it is considerably higher in rural areas (GSS, 2015a).

Infant feeding practices have also been linked to undernutrition. Approximately 13% of children ages 6-23 months are fed according to the WHO's recommendation (GSS, 2015a). Though Ghana has made progress towards improving feeding practices for children, over 60% of women do not feed their young children according to recommendations described by WHO. (GSS, 2009). WHO recommends the following infant feeding practices (FAO, 2013):

- Initiation of breastfeeding within the first hour of birth
- Exclusive breastfeeding for the first six months of life
- Timely introduction of nutritionally adequate, age-appropriate, and safe complementary foods at six months of age
- Continued breastfeeding for up to two years of age or beyond

Nutrition Policies and Programs

Nutrition interventions are currently being implemented in different regions of Ghana. These interventions seek to reduce poverty and hunger, increase education, increase food security, and provide adequate health care. However, some nutrition interventions have not been able to achieve their full potential due to these intervention activities being implemented by donor agencies, who may not adequately fund nutrition initiatives (Brantuo et al., 2009). Additionally, several nutrition interventions lack adequate capital investment and human resources. This results in nutrition interventions insufficient

funding of programs as well as lack of human resources to implement and deliver nutrition services. Several of the nutritional interventions have also failed due to insufficient coordination of nutrition strategies across relevant governmental and nongovernmental agencies and a lack of policies and institutional frameworks that hinder the success of interventions (FAO, 2013).

Ghana has also established Cross-Sectoral Planning Group (CSPG) under the National Development Commission. The CSPG played a pivotal role in establishing the National Nutrition Policy (NNP), which aims to highlight nutrition as an important issue, integrates nutrition efforts into national programs and campaigns, and provides and facilitates the implementation of nutrition-sensitive programs and interventions.

FTF is also an important combatant against Ghana's nutritional issues. FTF is helping to improve the nutritional status of vulnerable women and children in Ghana. It is currently investing in activities that will increase the diversity in food as well as improve in the quality of the food in these households. Further, FTF engaging in activities to improve the breast-feeding practices of women (USAID, 2012). Additionally, Ghana joined the Scaling Up Nutrition (SUN)¹ Movement that aims to increase governmental funding for nutrition and brings together the key stakeholder from governmental agencies, civil society organizations (CSO), the United Nations, as well as representatives from business, academia, and donor networks, to highlight nutrition issues. Ghana is also an active participant in Comprehensive Africa Agriculture Development Program (CAADP), which aims to reduce poverty and hunger and increase economic growth through agriculture. CAADP's mission is to use agriculture to address nutrition challenges in Ghana (Ghana Nutrition Profile, 2014).

Agricultural Extension Services (AES) in Ghana

Agricultural extension systems (AES) have played an important role in Ghana's agriculture history, since more than half of its labor force (about 4.2 million) is directly engaged in agriculture (Food and Agriculture Sector Development Policy (FASDEP II, 2007). Agricultural extension systems were first implemented in Ghana during the colonial era. These agricultural systems were implemented in an effort to encourage farmers to adopt good cultural practices for their cash crops including cocoa and rubber. Following Ghana's independence in 1957, the agricultural strategy shifted to food crop development. This approach was implemented in order to modernize traditional farming techniques by introducing agricultural technologies to farmers (Amezah & Hesse, 2002; Saravanan, 2008). The Ministry of Food and Agriculture (MoFA) implemented the Training and Visit System (T&V systems) of extension in the 1980s. TVS was implemented with support from the World Bank and others organizations. TVS aimed to provide specific technologies to farmers (Amezah & Hesse, 2002).

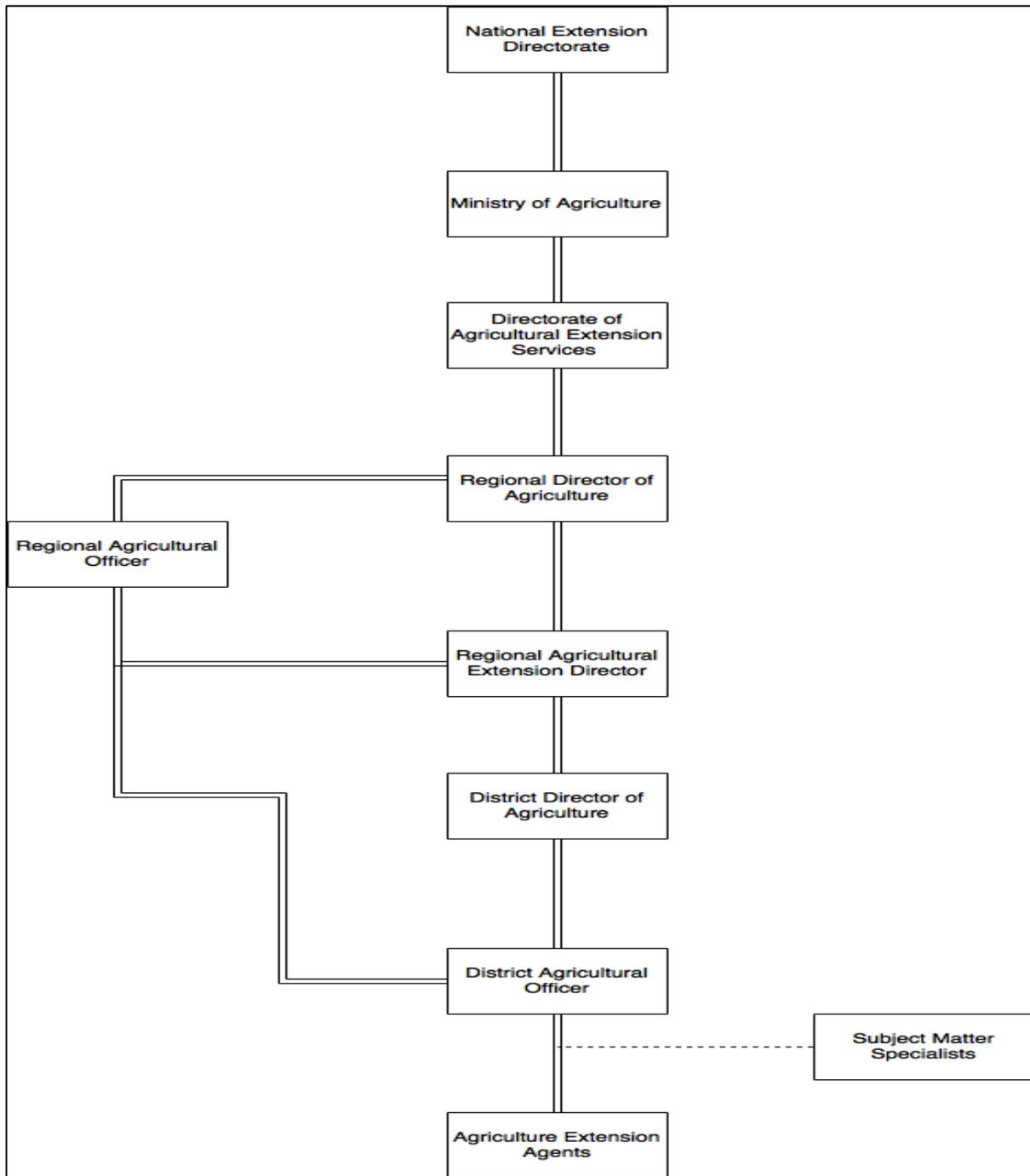
In 1987, the Department of Agricultural Extension Services (DAES) was established within the Ministry of Agriculture. DAES was established to consolidate the extension programs in Ghana. In the early 1990s, MoFA adopted the Unified Extension System (UES) approach. UES approach implemented a top-down, single line of command management structure. The approach also emphasized frequent staff trainings and extension visits with farmers (Okorley, Gray, & Reid, 2009; Saravanan, 2008). Following criticisms of the UES approach in 1997, MoFA decentralized AES in conjunction with Ghana's governmental decentralization policy. As part of this reform, the extension program became a structure of District

¹ Please refer to <http://scalingupnutrition.org/sun-countries/ghana> for additional information

Directorates of Agriculture (Amexah & Hesse, 2002). As a result, power was transferred to district level offices (Annan, 2012). As a result, services provided at the district level were combined to form one structure headed by a district director (Amexah & Hesse, 2002). These offices have more access to the rural population, but they lack the authority to enact changes in agricultural extension services (Puskar, 2013).

Table I outlines the organizational structure of MoFA. The National Extension Directorate (NED) directs MoFA (MEAS, 2012). Through the DAES, MoFA provides its extension services through agricultural extension agents (AEA). Table I outlines the organizational structure of MoFA. Each district has AEA that provide extension services at the community level as well as assist with other activities (MEAS, 2012).

Table I: Organizational Structure of MoFA in Ghana



Source: Epeki, 2009; MEAS, 2012

In comparison to other extension providers, MoFA has invested the largest number of extension workers in Ghana. Despite this large number of extension workers, many of these agents are not reaching the farmers due to the number of farmers outnumbering the number of available extension workers and many of the extension workers are not currently actively in the field engaging with the farmers. Additionally, the representation of female extension workers is low (MEAS, 2014). According to a 2014 report, there

are about 3500 MoFA employees, and women account for approximately 16% of the total workforce and approximately 10% of the upper decision making positions. Unfortunately, this representation mirrors the efforts that reach female farmers. Only about 20% of extension services actually reach female farmers (MoFA, 2007; Modernizing Extension and Advisory Services (MEAS), 2014). The addition of female extension workers could serve to increase the number of farmers, specifically female farmers, who are receiving inadequate services due to cultural norms that restrict the interaction between females and non-related males. In some contexts, it is not acceptable for female farmers to engage with male extension workers. The inclusion of female extension workers will address this issue (FAO, 2011).

MoFA assisted in preparing the Food and Agriculture Sector Development Policy (FASDEP II). The mission of FASDEP II is to improve food security, reduce poverty, and increase employment opportunities in Ghana. The policy emphasizes the following objectives:

- “Growth in small-holder farmer incomes
- Food security and emergency preparedness
- Greater commercialization and competitiveness along with increased integration of the Ghanaian agricultural sector in international markets
- Environmental sustainability of agricultural practices,
- The application of science and technology into agricultural development
- Heightened institutional coordination” (MEAS, 2012; FASDEP II, 2007).

Currently, Ghana has several types of AES. Ghana’s agricultural extension systems are promoted and implemented by various extension systems providers including governmental (MoFA), non-governmental organizations (NGOs), private companies, and farmer-based organizations (FBO). These providers implements various extension systems approaches including Trainings and Visits (TVS), Farmer Field Schools (FFSs), and commodity participatory approaches. There are currently approximately 5,600 registered FBOS, which are comprised of 82,000 farmers. Approximately one-fourth of farmers are women (Fanzo et al, 2013). For example, the Farmer’s Organization Network in Ghana (FONG) is a FBO that consist of small-scale farmers and fisher organizations. This organization aims to promote agricultural development and economic growth.²

Recently, AES in Ghana was reviewed to understand the successes and improvements necessary for successful implementation. Madhvani & Pehu (2010) examined agricultural extension in multiple countries, including India, Ethiopia, and Ghana. By surveying households, community organizations, and community members, the researchers found Ghana to have the lowest access to agricultural extension than the other countries in the study, though Ghana had the highest number of female extension workers). The researchers provided the following strategies to address their findings:

1. Improve the management of agricultural extension
2. Increase the access of female farmers to agricultural extension
3. Prepare extension agents for Local Government Service
4. Reconsider the role of Farmer Based Organizations (FBO)

² Additional information can be found at <https://www.growafrica.com/organizations/farmers-organization-network-ghana-fong>

Further, following a review of literature, 2013 MEAS report (MEAS, 2013) reported key principles to improve extension services. The report suggests the following:

- Increase the proportion of female extension workers
- Train all extension workers with skills to address needs of both male and female farmers
- Adapt gender responsive tools to location of services
- Provide cross-sectoral programming
- Collect data from both men and women regarding effectiveness of EAS services
- Evaluate the impact EAS services on reducing gender inequalities in agriculture

In 2015, the DAES, MoFA, MEAS, and the Agriculture Policy Support Project (APSP) collaborated to develop a new extension policy. The new extension policy addressing the four following themes with corresponding objectives, which are outlined in Table 1:

- Promoting farmer demand-driven extension
- Promoting efficient and effective management and operations of agricultural extension
- Promoting capacity building for extension
- Incorporating emerging topical issues into agricultural extension

Table 2: Agricultural Extension Policy (Source: MEAS, 2015)

Policy Main Categories	Objectives
Promoting farmer demand-driven extension	<p>Objectives 1: To promote farmer driven extension and research to ensure that services provided are relevant to farmers.</p> <p>Objective 2: To empower farmers through the formation and development of FBOs in the areas of marketing and agro-processing in collaboration with the Department of Cooperatives (DOC)</p> <p>Objective 3: To promote best agricultural practices.</p>
Promoting efficient and effective management and operations of agricultural extension	<p>Objective 4: (MOFA) will increase the efficiency and cost effectiveness of publicly funded extension services</p> <p>Objective 5: To broaden extension services delivery to include other extension approaches</p> <p>Objective 6: To ensure that appropriate institutional structures and capacity are developed at all implementation levels to operate the new Agricultural Extension Policy. Ministry of Food and Agriculture will operationalize the roles and responsibilities of the various levels of governance (national, regional and district) as defined under the decentralization process.</p> <p>Objective 7: To design and implement an effective monitoring and evaluation system for agricultural extension services</p>
Promoting capacity building for extension	<p>Objective 8: To attain a broad based human resource development programme by ensuring continuous building of agricultural development workers</p>

Incorporating emerging topical issues into agricultural extension.	Objective 9: To respond to the emerging issues of HIV/AIDS pandemic, environmental degradation and poverty reduction. Extension efforts will also focus on the areas of gender, equity and client empowerment as they relate to sustainable agricultural production
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Programs and Strategies to Improve Services to Female Farmers and Youth

The Women in the Agricultural Development Directorate (WIAD), a directorate of MoFA, serves to improve the wellbeing of women in the agricultural sector by developing programs and policies that will promote the dissemination of new technological and agricultural information. WIAD seeks to address nutrition, food safety, value addition and gender/livelihoods. Its main functions are to promote the following³:

- “Improved nutrition interventions: bio-fortification, food fortification, food enrichment, nutrition education in relation to food production, post-production, and food consumption
- Value addition to agricultural produce: food processing and preservation
- Food safety along the agricultural value chain (safe production and handling of exotic vegetables, cottage level processing, etc.
- Resource management (farm, home, processing site)
- Gender mainstreaming of all agricultural policies, programs, and projects”

In 2008, Voluntary Service Overseas (VSO) Ghana and MoFA developed the Women Extension Volunteer (WEV) Model with a goal to increase the reach of extension and advisory services (EAS) to rural farmers in Northern Ghana. The WEV model is designed to increase agricultural development and thus, improve the livelihoods of rural populations. In a collaborative effort, agricultural extension agents (AEAs) from MoFA, community members, and farmer groups chose female volunteers to receive basic training on agricultural practices, health and sanitation, income generating activities, and leadership and group development. After receiving training, volunteers organized workshops to pass their information to other women in the community (Fanzo et al., 2013). In a 2009 pilot study, 45 volunteers were sent out to 27 districts across three regions of Ghana with the primary goal of working with female farming groups in the community and adjacent community. The study revealed the following results (Hird-Younger & Simpson, 2013):

- The WEV model was successful in strengthening the female farmer groups
- Model addressed gender specific constraints such as low number of female AEAs and a lack of gender-specific extension programming
- WEV model helped to establish a foundation in which female farmers can continue to strengthen their access to extension services

Though the WEV model has achieved many successes, it is still faced with several challenges. Because it relies on female volunteers to act as mediators between the female farmers and EAS providers, it has been argued that this approach may lead to diminishing investments in EAS by governmental agencies as well as other providers of EAS. Additionally, this approach could lead to inadequate EAS services for

³ Women in Agricultural Development Directorate <http://waapp.org.gh/agencies/mofa/wiad>

women. If EAS services are differentiated by sex, men and women receive different EAS services. For instance, if male farmers receive assistance from paid EAS service providers and women farmers receive assistance from voluntary EAS service providers, female farmers could potentially receive adequate services (Mbo'o-Tchouawou & Colverson, 2014).

World Vision, a NGO, began work in Ghana in 1979 and has implemented various projects focusing on nutrition and agriculture⁴. Currently, World Vision implements 32 Area Development Programs (ADPs) and numerous other projects in all the 10 administrative regions in Ghana. These programs directly benefit about two million people through health and nutrition, water and sanitation, education, food security, micro-enterprise development and Christian Commitments programs.⁵ World Vision has also partnered with Ministry of Health (MoH), MoFA, and other governmental extension agents to help improve nutritional and agricultural practices of farmers (Fanzo et al., 2013).

Feed the Future Multi-Year Strategy

The Feed the Future strategy is an important component in Ghana's fight against poverty and nutritional concerns. The Feed the Future initiative specifically targets regions in Ghana that will garnish the greatest impact on the country. The Feed the Future multi-year strategy is implemented in the following areas of Ghana: Upper West, Upper East, and the Northern Region of Ghana. Additionally, Feed the Future is also implemented in specific areas of the Brong Ahafo Region (Refer to Annex I). Currently, 5.2 million of Ghana's 27 million populations reside in these targeted areas. Much of the Feed the Future's target population resides in northern region of Ghana, which is a rural area of Ghana. The Feed the Future strategy aims to improve the nutritional status of women and children, and seeks to link agricultural production and income growth by focusing on reducing agricultural losses, reduce gender equality, and introducing technological advances. Currently, the Feed the Future's project, Agriculture and Value Chain Enhancement (Advance II) aims to link smallholder farmers to larger farmers and markets that could increase their access to finances and technology. Additionally, the project, Resiliency in Northern Ghana (RING) aims to assist rural, smallholder farmers in improving the nutritional status of Ghanaians. The Feed the Future strategy aims to reduce the poverty as well as stunting and wasting in children by over 20% with the implementation of these projects (Ghana Nutrition Profile, 2014).

In addition to focusing on the northern areas of Ghana, the Feed the Future strategy also targets the western region of Ghana, specifically, the marine fisheries of that area. Because much of the nutrients in a diet of many citizens of Ghana come from fish, it is critical to maintain healthy fisheries and thus, to improve the nutritional status of Ghana. However, evidence reveals that Ghana's fisheries are severely depleted and Feed the Future aims to improve access to marine resources and engage both men and women in the decision making process over the fisheries (USAID, 2011).

The [Chart 1](#) outlines the core objectives of the Feed the Future strategy, whereas [Chart 2](#) illustrates the core Feed the Future investment areas. In Ghana, the Feed the Future strategy aims to improve the market competitiveness of major food chains by increasing agricultural productivity and market access. Additionally, the Feed the Future strategy, in conjunction with the Global Health Initiative (GHI), aims to strengthen households of vulnerable populations, especially the nutritional status of women and children,

⁴ Refer to <http://www.wvi.org/article/integrating-improved-nutrition-ghana>

⁵ World Vision Ghana <http://www.wvi.org/ghana>

and reduce under-nutrition. To achieve these objectives, the Feed the Future initiative seeks to improve access to quality food, change nutrition related behaviors, and engage communities and the government in nutrition related responsiveness (USAID, 2011).

The Feed the Future initiative, aligns with GoG, and acknowledges the importance of women in agricultural production and have developed strategies to include women in achieving its objectives. [Chart 3](#) illustrates the Feed the Future's strategies to integrating gender into its objectives. The agricultural sector relies on the labor of both men and women. Women are responsible in many agricultural production activities and thus, they are essential to improving agriculture production and nutritional outcomes. Because women are usually disadvantaged in the agricultural sector and greatly affected by poor nutrition, the Feed the Future's strategies aim to include equitable agricultural growth and nutritional practices for both men and women (USAID, 2011).

USAID's Country Development Cooperation Strategy

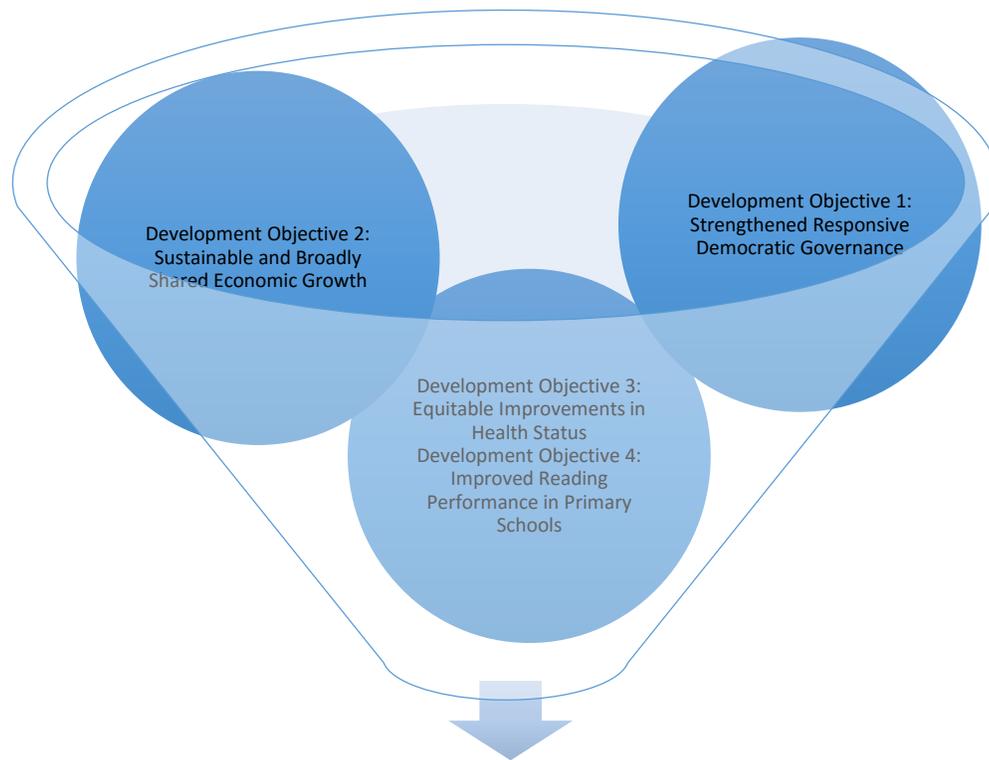
The goal of USAID's Country Development Cooperation Strategy (CDCS)⁶, in conjunction with GoG, seeks to transform Ghana into a middle-income country by 2022. The CDCS proposes four development objectives that will help Ghana achieve this goal and these objectives are outlined in Chart 4. Each development objective has intermediate results that will help to achieve the objective. Development objective 1, which focuses on strengthening democratic governance, focuses on capacity building within public institutions as well as holding the local and national government accountable and transparent to its citizens. Though this objective focuses on improving the accountability of the public sector, each objective shares this cross cutting intermediate result.

Development objective 2, which focuses on sustainable and broadly shared economic growth, emphasizes the need to address gender inequalities as well as geographic disparities in Ghana. For instance, northern Ghana appears to be devastated by poverty, where the rate of poverty is 60%. However, the poverty rate in southern Ghana is approximately 20%. This objective seeks to address disparities such as this in order to improve the income generated in northern Ghana in hopes of reducing the poverty rate. Additionally, this objective aims to focus on the low rate of agricultural growth and constrained access to resources due to political situation.

Further, development objective 3, with focuses on equitable improvements in health status, focuses on addresses disparities in health regarding gender and geographic location. Specifically, the objective seeks to reduce the rates of gender based violence and maternal mortality as well as alleviate the burden that women experience as being the primary caregivers of the children and household. Lastly, development objective 4 seeks to improve reading performance in primary schools by focusing on the quality of education. This objective aims to improve both literacy and numeracy skills of Ghanaians. These four objectives may help Ghana establish middle-income status.

⁶Refer to https://www.usaid.gov/sites/default/files/documents/1860/Ghana_CDCS_fy2013-17.pdf

Chart 4: Development Objectives to Accomplish CDCS's Goal for Ghana



CDCS Goal: Transforming Ghana into an Established Middle Income and Aid Independent Country

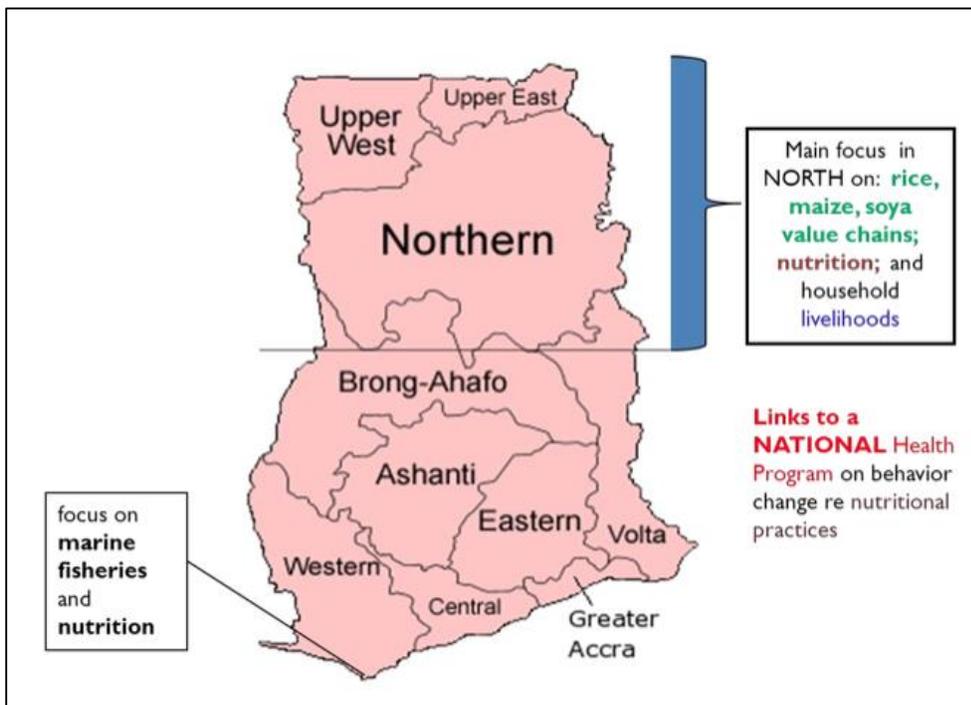
Conclusion

This report provided an overview of Ghana's agriculture and the status of country's extension system. It reviews information on the prevalence of poverty, nutrition and gender related issues in the country with special focus on rural areas. Rural areas are greatly affected by poverty and poor nutrition and these conditions affect many women and children. Additionally, this report summarizes Ghana's current agricultural and nutrition policy. These policies have sought to improve the nutrition and health of Ghana's population. Though several of the aims of these policies have been achieved, additionally work is needed. For instance, the status of women is still a major issue that affects both the agricultural sector and nutritional status of the population. Women play a pivotal role in agricultural production as well as in the household. Providing more opportunities for women to enhance their agricultural production, whether through more access to credit, extension services, and land, could significantly increase their production. Additionally, this access to agricultural resources could also improve their nutritional status and the nutritional status of their children. Therefore, it is essential to create these opportunities increase women's participation in the agricultural sector through capacity building of extension workers and policies which provide women more access to these resources.

Annex I: Geographic Focus of Feed the Future Ghana



Source: <https://ifdcorg.files.wordpress.com/2014/12/att-factsheet.p>



Source: USAID (2011)

Annex 2: USAID-funded Projects in Ghana

Project	Implementers	Project Goals/ Objectives and Activities/Approaches	Key contact	Website
Agricultural Development And Value Chain Enhancement (ADVANCE II) Project	ACDI-VOCA	<ul style="list-style-type: none"> • Increase agricultural productivity in rice, maize, and soy value chains • Increase adoption of agricultural technology (e.g., hybrid seed, mechanization, climate-smart practices, etc.) • Increase market linkages • Strengthen local capacity for advocacy and development • Facilitate local commercial agricultural services for smallholders (e.g., tractor services, threshing, advisory) • Facilitate agricultural finance for emerging commercial and smallholder farmers • Demonstrate technology packages (hybrid seed, fertilizer, good agricultural practices) in cooperation with input suppliers (e.g., Dupont Pioneer, Yara, etc.) • Facilitate linkages between buyers and sellers through annual pre-planting and pre-harvest agricultural fairs • Create sustainable opportunities for women and men along targeted value chains, as well as identify and address gender inequality with public and private sector awareness building and strengthened networks promoting gender equity 	Meredith Jones mjones@acdivoca.org	http://acdivoca.org/our-programs/project-profiles/ghana-agricultural-development-and-value-chain-enhancement-ii-advance
Agriculture Technology Transfer Project (ATT)	Ghana Agricultural Associations Business & Information Centre (GAABIC) College of Agriculture and Life Sciences of Iowa State University (ISU)	<ul style="list-style-type: none"> • To increase the availability and adoption of agricultural technologies in Northern Ghana • This project has three components: • Seeds • Integrated soil fertility management (ISFM) • Capacity building for agricultural research 	ATT@ifdc.org	http://ifdc.org/feed-the-future-ghana-agriculture-technology-transfer-project/

	Centre for Development Innovation of Wageningen University & Research Centre (WUR-CDI)			
Ghana Commercial Agriculture Project (GCAP)		<ul style="list-style-type: none"> • Strengthen investment promotion infrastructure and thus, securing access to land • Secure Public-Private Partnerships (PPPs) and small holder linkages in Accra Plains • Secure PPPs and small holder linkages in Savannah Accelerated Development Authority (SADA) zone • Project management and evaluation 		http://www.usaidlandtenure.net/project/ghana-commercial-agriculture-project
Strengthening Partnerships, Results and Innovations in Nutrition Globally (SPRING)		<ul style="list-style-type: none"> • Improve delivery of high impact nutrition services • Increase demand for high impact nutrition practices and services • Improve enabling environment for adoption and delivery of high impact nutrition practices and services • Enhance evidence base regarding delivery of high impact interventions • Enhance policy environment for delivery of nutrition interventions 		https://www.spring-nutrition.org/sites/default/files/landing_pages/spring_ghana.pdf
The Resiliency in Northern Ghana (RING) Project		<ul style="list-style-type: none"> • Increase access and consumption of diverse quality food • Improve behaviors related to nutrition and hygiene • Strengthen local support networks that address vulnerable populations 		http://www.globalcommunities.org/publications/2015-Ghana-RING-APS.pdf http://pdf.usaid.gov/pdf_docs/PA00K9F4.pdf
Systems for Health		<ul style="list-style-type: none"> • To reduce underweight, stunting, and anemia of women and children in five regions in Ghana 	Fatoumata Camara fcamara@usaid.gov	http://www.urcchs.com/projects/usaid-ghana-systems-health-project

Annex 3: Feed the Future Charts

Chart 1: Feed the Future Core Objectives in Ghana

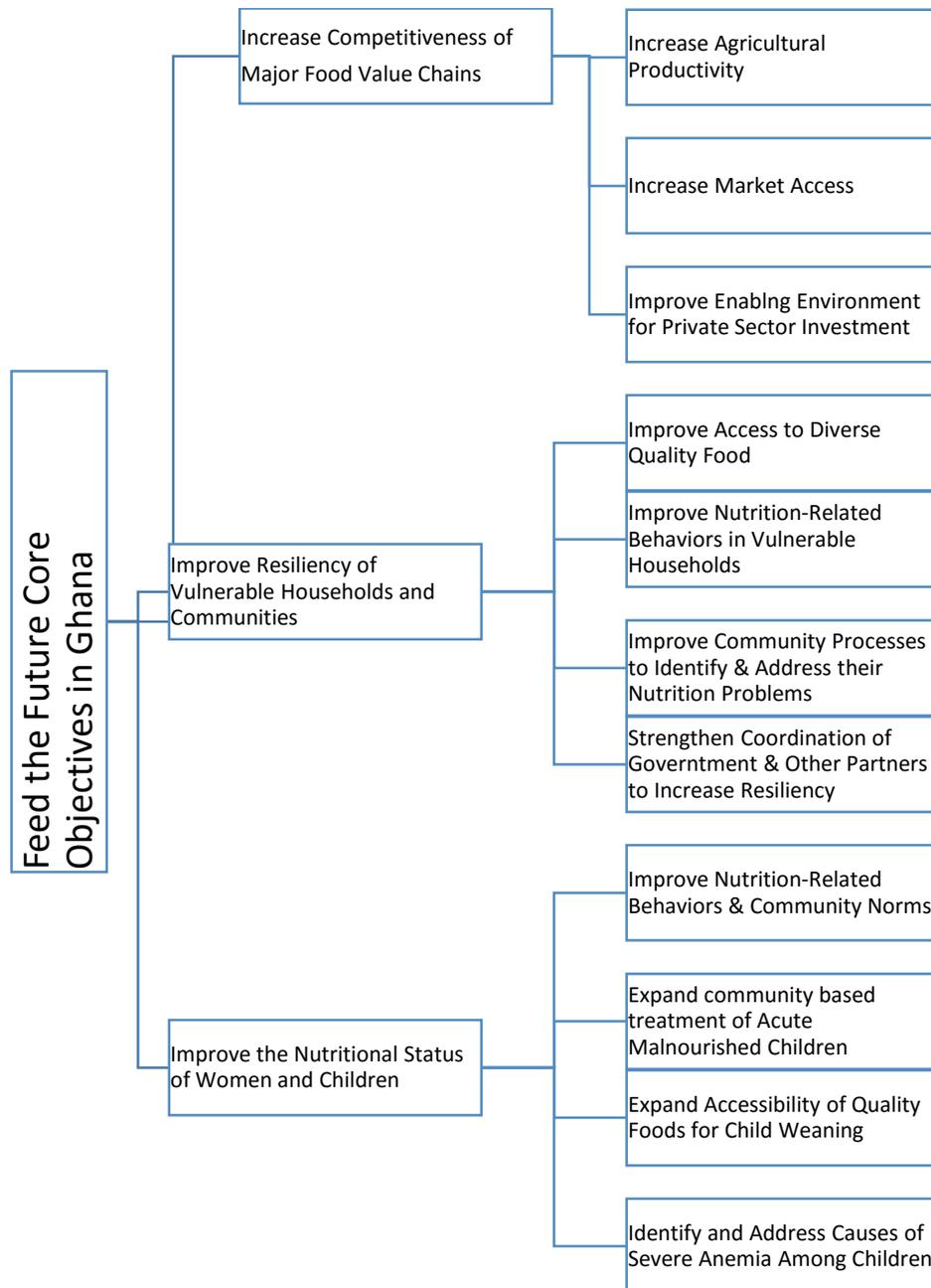


Chart 2: Feed the Future Investment Areas in Ghana

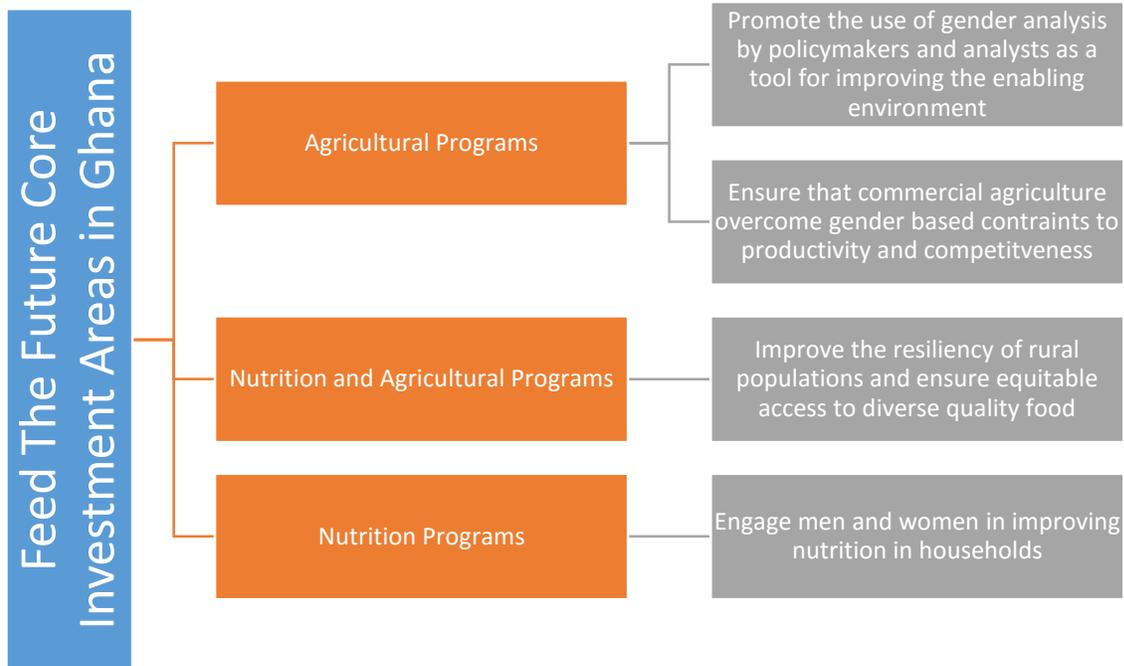
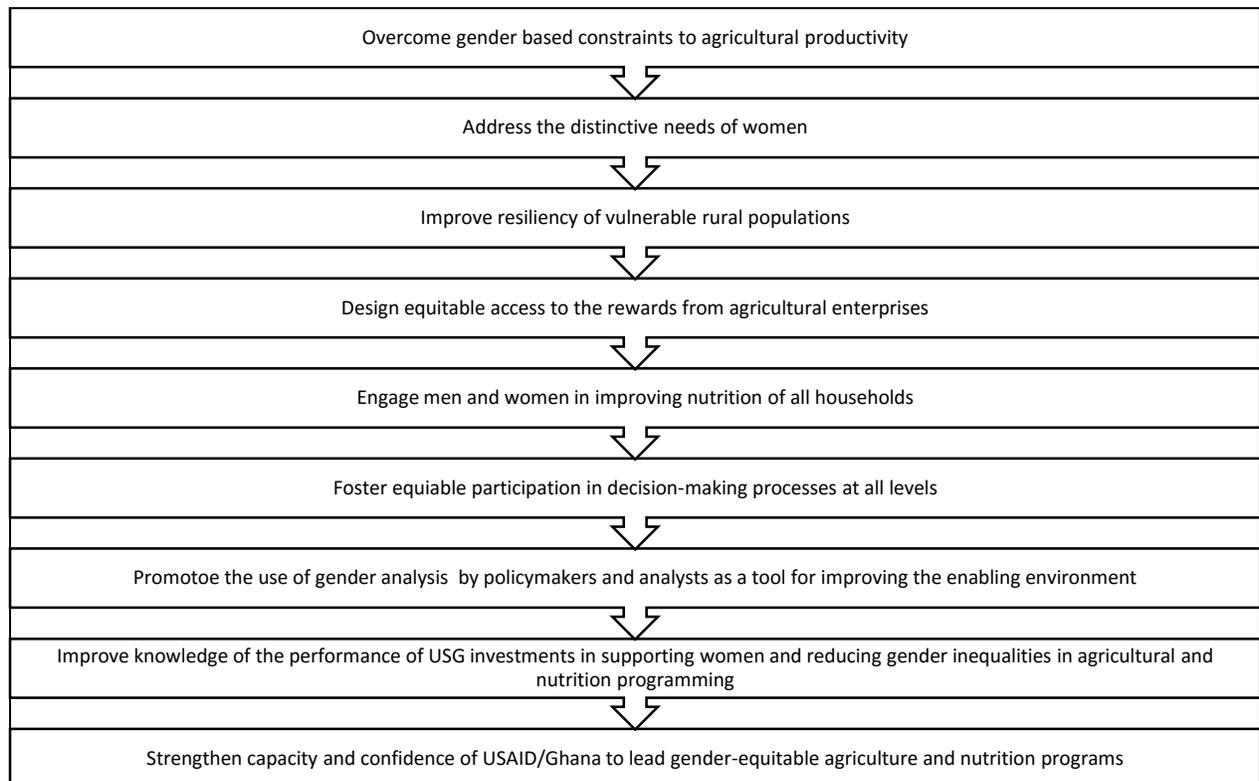


Chart 3: Gender Analysis for Feed the Future Strategy



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