

Closing Funding Gaps in Agriculture: Implications for Food Security in Rural Ghana



With Funding Support from



Global Affairs Canada

**Closing Funding
Gaps in Agriculture:
Implications for Food
Security in Rural Ghana**

2016

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Table of Contents

| | Page |
|--|-----------|
| Abbreviations | v |
| Preface | vi |
| 1. Introduction and Background | 1 |
| 1.1. Introduction | 1 |
| 1.2. The Eastern Corridor of Ghana | 2 |
| 1.3. Study Methodology | 2 |
| 2. Funding Agricultural Sector Programmes | 3 |
| 2.1. Trends in Funding for District Level Agricultural Activities | 4 |
| 2.2. District Level Agricultural Expenditure Pattern | 4 |
| 2.2.1. Expenditure Patterns of Departments of Agriculture | 4 |
| 2.2.2. Expenditure Trends of District Assemblies for Agricultural Programmes | 5 |
| 2.3. Farmers' Access to Agricultural Inputs | 5 |
| 2.3.1. Access to Tractor Services | 5 |
| 2.3.2. Access to Extension Service | 7 |
| 2.3.3. Access to Veterinary Service..... | 8 |
| 2.3.4. Access to Education and Training in Nutrition/Post Harvest Handling | 9 |
| 3. Governance and Stakeholder Collaboration for Food Security | 11 |
| 3.1. Citizens' Involvement in Decision Making on Food Security | 11 |
| 3.2. Collaboration among Stakeholders in Promoting Food Security | 11 |
| 4. Assessing Food Security Status of Targeted Districts | 14 |
| 4.1. Smallholder Farmers' Understanding of Food Security | 14 |
| 4.2. Food Production and Utilization | 14 |
| 4.3. Food Storage | 15 |
| 4.4. Market Access | 16 |
| 5. Conclusion and Recommendations | 17 |

List of Tables

| | |
|--|----|
| Table 1 : Total Number of Farmers Reached by Tractor Services through DoA from 2010 to 2014 | 5 |
| Table 2 : Proportion of Farmers Reached by Extension Services in the Eight Districts | 7 |
| Table 3 : Number of Agriculture Extension Officers in a District | 8 |
| Table 4 : Areas of Collaboration between Civil Society Organizations and Department of Agriculture | 12 |
| Table 5 : Areas of Collaboration between Private Sector and Departments of Agriculture | 13 |
| Table 5 : Ways to Improve CSOs and DAs Collaboration | 13 |

List of Figures

| | |
|---|----|
| Figure 1: Some Farmers Working in a Soya Field | 1 |
| Figure 2: Sources of Funding to District Assemblies for Agriculture Programmes | 3 |
| Figure 3: Source of Funding to District Departments of Agriculture | 3 |
| Figure 4: Some Female Farmers Working in Soya Fields in the Project Area | 4 |
| Figure 5: A Tractor Service Operator Working on a Farm | 5 |
| Figure 6: Sex Disaggregation of Beneficiaries of Tractor Services | 5 |
| Figure 7: Sex Disaggregation of Beneficiaries of Extension Services per District | 7 |
| Figure 8: Beneficiaries of Veterinary Services | 9 |
| Figure 9: Beneficiaries of Education and Training | 9 |
| Figure 10: Education and Training Offered | 10 |
| Figure 11: Some Farmers Receiving Training | 10 |
| Figure 12: A Group of Farmers at a Focus Group Discussion | 11 |
| Figure 13: A Farmer Sharing His Experience with Stakeholders | 12 |
| Figure 14: A Yam Storage Facility in Lifaldo Community in the Nanumba North District | 15 |
| Figure 15: A Road Leading to a Soya Field | 16 |
| Figure 16: A Farmer in the Project Area Watering His Plants | 18 |
| Figure 17: One of the Female Farmers Working on the Field | 18 |

Abbreviations

| | |
|------------------|--|
| AEA | Agriculture Extension Agents |
| AEO | Agriculture Extension Officers |
| AMSEC | Agricultural Mechanization Services Centre |
| CCA | Canadian Co-operative Association |
| CSOs | Civil Society Organizations |
| CUA | Credit Union Association |
| CVAEA | Community Volunteer Agriculture Extension Agent |
| DA | District Assembly |
| DACF | District Assembly Common Fund |
| DDA | District Department of Agriculture |
| DCMC | District Citizens' Monitoring Committee |
| DDF | District Development Facility |
| DoA | Departments of Agriculture |
| EC | Eastern Corridor |
| EPDRA | Evangelical Presbyterian Development and Relief Agency |
| FAO | Food and Agriculture Organization of the United Nations |
| FGD | Focus Group Discussion |
| FDC | Farmers' Day Celebration |
| FOSTERING | Food Security through Co-operatives in Northern Ghana |
| GLSS | Ghana Living Standard Survey |
| GoG | Government of Ghana |
| GSOP | Ghana Social Opportunities Project |
| MDAs | Ministries, Departments and Agencies |
| MMDAs | Metropolitan, Municipal and District Assemblies |
| MoFA | Ministry of Food and Agriculture |
| NFBSC | National Food Buffer Stock Company |
| NGO | Non-Government Organisation |
| NPHC | National Population and Housing Census |
| NRGP | Northern Rural Growth Programme |
| PM&E | Participatory Monitoring and Evaluation Framework |
| RDADA | Regional and District Agricultural Departments and Agencies |
| RING | Resiliency in Northern Ghana |
| USAID | U.S. Agency for International Development |
| ToT | Training of Trainers |



Preface

In recent times, the agricultural sector performance has been poor in terms of annual growth rate and contribution to Gross Domestic Product (GDP) despite its huge importance to the economy and considerable increase in budgetary allocations.

In the three (3) regions of the north, about 680,000 people, representing 16% of all households, are estimated to be facing food insecurity. These regions have continually recorded high incidence of poverty and food insecurity despite Ghana's effort in ending hunger and meeting the Millennium development Goal (MDG) 1. As such, there is the need to intervene to reduce the vulnerability level of smallholder farmers through increasing investment in agriculture to meet the Sustainable Development Goal (SDG) 2.

A key component of the FOSTERING project, which directly focuses on improving food security and sustainable economic growth for smallholder farmers, is advocacy and public engagement with duty bearers on the implementation of district agriculture sector programmes and budgets to ensure food security.

The report provides evidence on who is benefitting from existing support mechanisms to boost growth in the sector and offer opportunities to exit poverty.

We are hopeful that key stakeholders in the sector will avail themselves of relevant information and perspectives that this report provides to guide in the targeting approach adopted for the implementation of policies and programmes in the sector.

I take this opportunity to acknowledge our partners, Global Affairs Canada and the Canada Cooperative Association, for supporting this work with funding. We are grateful.

I would also like to thank all government institutions including the Ministry of Food and Agriculture, Departments and MMDAs, CSOs for their support in providing us with relevant information that led to the successful completion of the study.

My words of appreciation would be incomplete if I fail to acknowledge our grassroots partners (DCMCs and focal NGOs) and the Zone Cooperative associations in the eight project districts for their continued show of true partnership and loyalty in execution of our programmes.

Finally, I am grateful to the SEND team for their commitment and dedication to duty. I cannot but to single out Rachel Gyabaah for leading the team in the preparation of this report.

George Osei-Bimpeh
Country Director

1.1. Introduction

In 2009, about 1.2 million (5%) Ghanaians were classified food insecure and 2 million (8%) were vulnerable to becoming food insecure. Majority (59%) of the people who were food insecure were located in the Upper West Region (34%), Upper East Region (15%) and Northern Region (10%). Again, about 40% of those at risk of becoming food insecure were also in rural areas of the three regions mentioned above (WFP, 2009, MOFA).

Generally, food production in Ghana faces many challenges. Among these are lack of access to agricultural technologies and inputs due to inadequate investment in the agricultural sector, low crop production, low shelf life for harvested produce, and lack of processing and marketing for farmers' products. In Northern Ghana in particular, over reliance on rain fed agriculture deepens farmers' woes especially with the current unpredictable weather pattern.

To address these challenges, the Government of Ghana (GoG) is implementing a number of food security programmes, particularly in northern Ghana. Some of these programmes include: block farming, the Agricultural Mechanization Services Centres (AMSEC) initiative, Northern Rural Growth Programme (NRGP), the National Food Buffer Stock Company (NFBSC), among others. These programmes are implemented by decentralized agricultural agencies in collaboration with the private sector and Civil Society Organizations (CSOs).

In addition, northern Ghana is a target of a number of donor funded food security initiatives under various implementation arrangements. These include the Resiliency in Northern Ghana (RING) project implemented by Global Communities with funding from the USAID and the Food Security through Co-operatives in Northern Ghana (FOSTERING) project funded by the Government of Canada and implemented by the Canadian Co-operative Association (CCA) with SEND GHANA and the Credit Union Association (CUA) as local partners. While some of these programmes provide direct budgetary support to Ministries, Departments and Agencies (MDAs) and Metropolitan, Municipal and District Assemblies (MMDAs), others provide indirect support in various forms.

In accordance with Ghana's fiscal decentralization programme, the Ministry of Food and Agriculture (MOFA), Regional and District Agricultural Departments and Agencies (RDADA) as well as MMDAs are expected to receive funds from the central government and donors to support implementation of these programmes. In addition, the agriculture MDAs as well as MMDAs through bilateral project agreements may receive direct budgetary support from donors (e.g. USAID) to implement specific projects.



*Fig.1: Some Farmers Working in a Soya Field
(Source: SEND GHANA)*

While the study recognises that support from non-governmental institutions are significant, it focuses on the analysis of public funding of food security initiatives in eight districts in the Eastern Corridor (EC) of Ghana where the (FOSTERING) project is being implemented. Thus, the report provides evidence on trends in public agricultural budgetary allocations and expenditure patterns at the district level. It also explores collaborations between and among the different stakeholders (public, private, CSOs and donors) for implementing food security initiatives.

1.2. The Eastern Corridor of Ghana

The Eastern Corridor (EC) consists of eight districts cutting across the Northern and Volta regions of Ghana. It is bordered in the south by the Volta and Brong Ahafo regions and adjacent to Togo in the west. The districts extend from the eastern part of the Northern Region and stretches into the Upper East Region. According to the 2010 National Population and Housing Census (NPHC), the eight districts had a total population of approximately 779,000 with 387,866 women and 390,801 men.

The EC experiences a tropical climatic condition with average temperatures ranging from 16 Degrees Celsius during the harmattan season (December-January) to as high as 40 Degrees Celsius during the peak of the dry season which spans from November to April. In recent times, the weather has been very unpredictable due to the changing climate.

Islam is the dominant religion in the EC (2010 National Population and Housing Census). In terms of ethnicity, there are diverse ethnic groups with Gurma being the dominant, followed by Guan.

Over 70% of inhabitants of the EC are food crop farmers; thus, they are vulnerable to poverty. According to the Ghana Living Standard Survey V (GLSS5) of 2005/06, poverty was highest among food crop farmers. The GLSS 6 of 2012/13 also confirmed that poverty was still highest among farmers generally.

Districts in the EC are prone to local conflicts which are rooted in land, ethnicity, and religious identity. These conflicts had been occurring annually since 1980 until 1994 when it was brought under control; however, some of the drivers of these conflicts persist, and thus tensions are still high. Small events and misunderstandings escalate quickly in an area where apprehension of one's neighbours is already elevated.

1.3. Study Methodology

The study adopted participatory approaches in gathering and validating data. Data collection team consisted of members of District Citizens Monitoring Committee (DCMC) who included farmers from the targeted districts.

Data was collected from the District Assemblies, Departments of Agriculture, private service providers, CSOs and citizens of the eight districts in EC. A combination of quantitative and qualitative data collection methods were used to gather information. These included questionnaires administered to MDAs and the Departments of Agriculture, key informant interviews with private sector providers and CSOs. Focused Group Discussions (FGDs) involving randomly selected smallholder farmers in 32 communities were also conducted.

¹DCMCs are SEND GHANA's grassroots network facilitating the Participatory Monitoring and Evaluation of pro-poor programmes in their respective districts.

In 2014, MoFA received a total of GH¢ 314.84 million to implement its programmes. This figure was slightly above MoFA's allocated amount of GH¢306.89 million in the 2014 national budget. Only 41% of the total receipts came from GoG, while donors financed the remaining 59%. Out of the total receipts, an amount of GH¢285.29 million was spent in 2014, indicating a budget execution rate of 90%.

At the district level, the Department of Agriculture (DoA) drew its funding mainly from GoG (46.8%) and donors (46.6%). The remaining, 6% and 0.6%, were drawn from the District Assembly Common Fund (DACF) and District Development Fund (DDF) respectively as shown in Figure 2. On the other hand, District Assemblies (DAs) drew funding for planned agricultural activities largely from the DACF (38%) and donors (28%). Other sources included GoG transfers (18%), DDF (4.6%) and others (10.7%).

In addition, most targeted districts were beneficiaries of parallel donor/CSOs projects which complemented food security initiatives. For instance, most districts covered by this study were: beneficiaries of the RING project funded by the USAID, the multi-donor funded Ghana Social Opportunities Project (GSOP), and the FOSTERING project funded by the Government of Canada and implemented by CCA, SEND-GHANA and CUA. The degree of support from donors varied across districts. For example, whilst the Krachi Nchumuru's DoA did not receive direct donor support, 97.2% of Tatale-Sangule's DoA programmes were funded by donor(s).

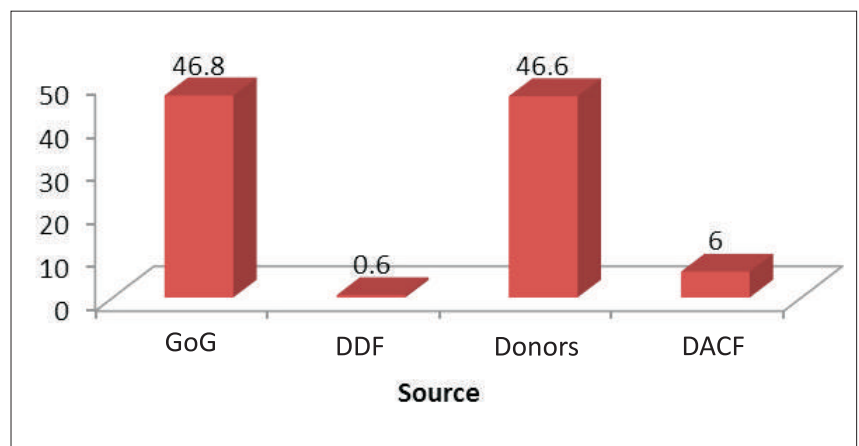


Fig. 2: Sources of Funding to District Assemblies for Agriculture Programmes

Source: Compiled from District Assemblies, 2015

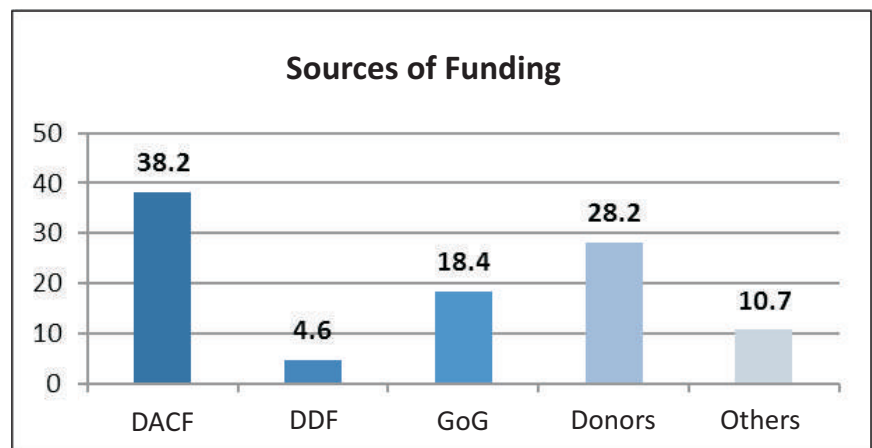


Fig. 3: Source of Funding to District Departments of Agriculture
Source: Compiled from Departments of Agriculture, 2015

2.1. Trends in Funding District Level Agricultural Activities

Between 2010 and 2014, majority of sampled DoAs had shortfalls in funding to implement agricultural activities. From 2010 to 2014, only two, Nanumba-North and Chereponi, out of the eight (8) DoAs received excess or an equivalent budgeted amount. Specifically, DoAs in the Nanumba-North in 2012 and Chereponi in 2013 received 42% and 23% in excess of their projected budget respectively. In sharp contrast, DoAs in the remaining districts received less than 60% of the budgeted amounts. For instance, in 2014, the Zabzugu DoA received only 4.8% of its projected budget while the DoA in Kpandai received no funding in 2013 and 2014. The result of huge cuts or non-release of budget amounts affected implementation of planned programmes.



Fig. 4: Some Female Farmers Working in Soya Fields in the Project Area (Source: SEND GHANA)

2.2. District Level Agricultural Expenditure Pattern

2.2.1. Expenditure Patterns of Departments of Agriculture

The DoA has the responsibility to facilitate the implementation of agriculture programmes. Its remit includes: facilitating the provision of extension services, tractor services, training and education on post-harvest handling, nutrition, monitoring and evaluation, among others. Between 2010 and 2014, a significant number of DoAs (73%) prioritised extension services for spending. Similarly, 70% of District Departments of Agriculture (DDAs) spent more of their resources on veterinary services. Yet, a little over half (55%) of the DDAs expended resources on tractor services and Farmers' Day Celebration (FDC), while less than half spent their resources on nutrition education (47.5%). Regarding expenditure on monitoring and storage related activities, only 30% and 20% of the DDAs respectively made these items priorities.

The Zabzugu DoA was the only institution which reported spending consistently on all priority areas within the same period. The East Gonja DoA did not make any expenditure related to post harvest handling (storage) from 2010 to 2014. On the other hand, the Nanumba South DoA did not spend any funds on general monitoring and supervision, while the DoA of Kpandai spent its entire budget on facilitating extension services provision. The Tatala-Sangule DoA stated that it had only received funds to support Farmers' Day Celebration.

Our analysis showed that most DoAs spent the least amount on post-harvest handling. Generally, access to storage facilities was limited in most districts. Interviews with 21 private service providers across the eight districts showed that none of them provided storage facilities. Limited access to storage facilities reflected in the FGDs held in the eight (8) districts as a challenge.

In general, it was observed that most DoAs underspent funds disbursed. For instance, though the DoA in Nanumba North in 2013 and 2014 received its total budget from government, it spent 75% of the amount received in 2013 and 58% in 2014. Similarly, the DoA in Nanumba South underspent its receipts consistently by about 55%. This was attributed to the late release of funds by GoG.

2.2.2. Expenditure Trends of District Assemblies for Agricultural Programmes

DAs provide support to the agriculture sector in diverse ways. They may provide direct services or support activities implemented by the DoA upon request. For most DAs, the priority agricultural activities they supported were maintenance of feeder roads, Farmers' Day celebration and tractor services.

The East Gonja District was the only district to expend on the training of farmers on the proper storage of produce and processing in 2013 and 2014. Similarly, Nanumba-South was the only district that indicated expenditure on rehabilitation of small dams and irrigation sector in 2013 and 2014. Generally, the need for irrigation services/dams was highlighted by both community members and private sector operators sampled. Farmers mentioned marked changes in rainfall patterns which necessitates access to irrigation dams.

Some DAs provided additional support to their respective DoAs. For instance, about 70% of DoAs mentioned that their assemblies occasionally supported DoAs with logistics (e.g. fuel) to facilitate Agriculture Extension Agents' (AEAs) work.

2.3. Farmers' Access to Agricultural Inputs

2.3.1. Access to Tractor Services

Five, out of the eight, departments provided data on tractor services outreach as shown in Table 1. When compared to the total farmer population, the Zabzugu District reached out to 35% of farmers (averagely) each year.³

Table 1 : Total Number of Farmers Reached by Tractor Services through DoA from 2010 to 2014

| District | No. of Beneficiaries | | | | Total |
|------------------------------------|----------------------|------------|--------|------------|--------|
| | Male | | Female | | |
| | Number | Percentage | Number | Percentage | |
| Nanumba North | 69,770 | 96.5 | 2,506 | 3.4 | 72,276 |
| Zabzugu | 23,900 | 68.3 | 11,110 | 31.7 | 35,010 |
| Nanumba South | 5,531 | 72.7 | 2,074 | 27.3 | 7,605 |
| East Gonja | 2,192 | 80.7 | 525 | 19.3 | 2,717 |
| Tatale -Sanguli⁴ | 750 | 75 | 250 | 25 | 1,000 |
| Total | 102,143 | 86 | 16 | 14 | 118 |

Source: Compiled from Departments of Agriculture, 2015

³ It was difficult determining that of other districts due to limited information.

⁴ Only for 2013 and 2014

Majority (86%) beneficiaries of the tractor services were men as shown in Figure 6. One reason cited by private operators of tractor services for low patronage by women was the size of their farms. This was consistent with the lamentation of a female discussant from Krachi Nchumuru. She said: *"The tractor people don't come early because they want to plough the big farms, and even when they come, they like to work on the farm which is 5 acre and more before they do ours."* Her sentiments were corroborated by another female discussant from Zabzugu. She asserted that: *"We have heard of the tractor support and fertilizer subsidy programme, but it mostly goes to the men."*



Fig. 5: A Tractor Service Operator Working on a Farm (Source: SEND GHANA)

The role of the private sector operators in the provision of tractor services cannot be understated. They numbered 197 across the eight districts. Chereponi and Kpandai districts had the highest number of private tractor service providers numbering 62 and 45 respectively, while the Tatale Sanguli district had the least of four (4) private providers.

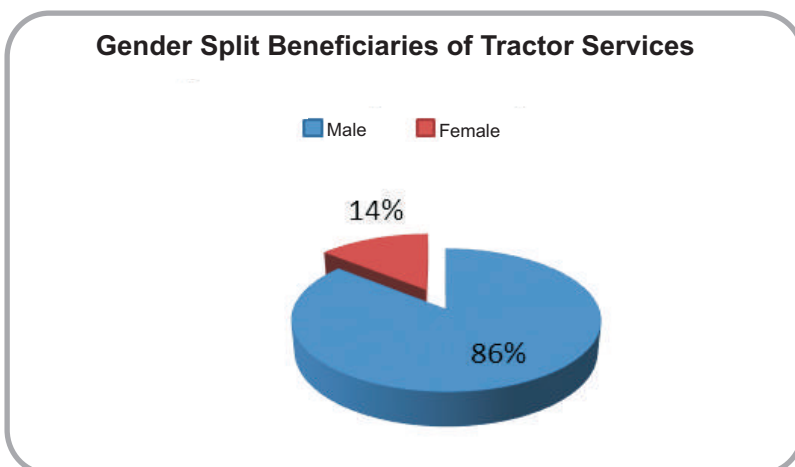


Fig. 6: Sex Disaggregation of Beneficiaries of Tractor Services
Source: SEND GHANA PM&E Field Survey, 2015

The number of private sector tractor providers in a particular district did not have a direct correlation with the number of farmers they reached in that particular district because they provided services based on a farmer's ability to pay for the service charge. Distance from key service points made it difficult for some farmers to access tractors within their districts. For instance, some farmers in the East Gonja District mentioned in a FGD that they accessed services from providers in Tamale. There were eight (8) Agricultural Mechanisation Service Centres across seven districts.

In some districts, payment for the tractor services was battered for a bag of produce harvested per acre. This was confirmed by private tractor service providers interviewed, but they were quick to add that they currently only take cash for service charges. They explained that they had challenges with debt collection; hence, their insistence on prompt cash payment for service charges.

2.3.2. Access to Extension Service

Extension services provided at the district level include: agriculture engineering services, management information service, and crop and livestock training.⁵ From 2010 to 2014, DoAs in all the eight districts provided extension services to a total of 416,403 beneficiaries. Of the five (5) districts that provided sex disaggregated data on beneficiaries of extension services, only 33% of them were women, accentuating gender disparity in targeting as already alluded to in preceding sessions. See Figure 7 for details.

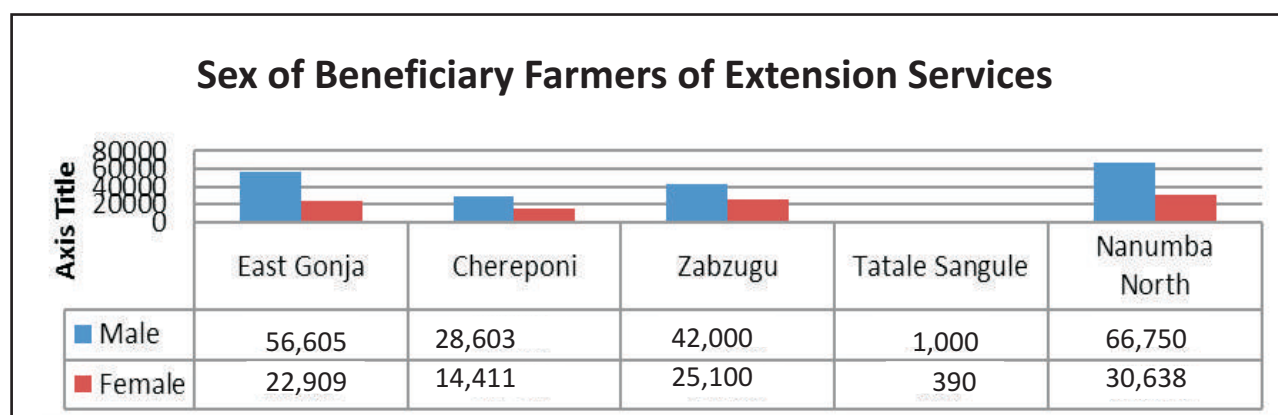


Fig. 7: Sex Disaggregation of Beneficiaries of Extension Services per District
Source: Compiled from Departments of Agriculture, 2015

Table 2 below indicates the yearly average proportion of farmers reached by all eight districts (8). The proportion of farmers reached was lowest in Nanumba South (7%), Kpandai (8%) and Chereponi (13%). On average, all the districts that were reached accounted for less than a third of farmers yearly.

Table 2: Proportion of Farmers Reached by Extension Services in the Eight Districts

| District | Farmers Population | Beneficiaries Extension Services from 2010 2014 | Average Beneficiaries per Year | Annual Percentage Coverage (%) |
|-----------------|--------------------|---|--------------------------------|----------------------------------|
| Chereponi | 68,054 | 43,014 | 8,603 | 13 |
| Krachi Nchumuru | 35,946 | 53,809 | 10,762 | 30 |
| Zabzugu | 39,387 | 67,100 | 13,420 | 34 |
| East Gonja | 72,111 | 79,514 | 15,903 | 22.1 |
| Nanumba North | 99,108 | 97,389 | 19,478 | 19.7 |
| Nanumba South | 70,272 | 24,595 | 4,919 | 7 |
| Kpandai | 93,255 | 37,302 | 7,460 | 8 |
| Tatala Sanguli | 38,000 | 13,680 | 6,840 | 18 |
| Total | 476,746 | 416,403 | 87,385 | 18 |

Source: Compiled from Departments of Agriculture, 2015

⁵Veterinary services discussed below

The number of beneficiaries of extension services decreased consistently from 2010-2014 for most districts. This meant that most citizens benefitted from extension services once in a while as confirmed by farmers contacted in East Gonja, Chereponi and Nanumba South districts.

The ability of DoAs to provide extension services was limited by inadequate Agriculture Extension Officers (AEOs) and logistics. Table 3 provides a summary of capacities of DoAs in providing extension services in the targeted districts. For instance, the Zabzugu District had three (3) AEOs, three (3) supervisors and three (3) motorcycles to reach out to 39,897 farmers in 24 operational areas. Thus the AEO-Farmer ratio in Zabzugu is 1:13,129 compared to national average of 1:1,300. As a consequence, only six (6) out of the 24 operational areas accessed extension services. Similar observations were made in Nanumba South and Kpandai districts with high AEO-Farmer ratio of 1:11,712 and 1:9,325 respectively. All the AEOs in the eight (8) districts were men, a situation that indirectly or directly entrench women's limited access to extension services.

Table 3: Number of Agriculture Extension Officers in a District

| District | Total No. of Farmers | | | No. of AEO | No. of Motor-bikes | Supervisors | No. of Operational Areas | No. of Operational Areas with Access |
|-----------------|----------------------|--------|--------|------------|--------------------|-------------|--------------------------|--------------------------------------|
| | M | F | Total | | | | | |
| Tatale Sanguli | 25,460 | 12,540 | 38,000 | 5 | 6 | 5 | 24 | 5 |
| Nanumba South | 52,704 | 17,568 | 24,595 | 8 | 0 | 5 | 14 | 6 |
| Kpandai | 74,604 | 18,651 | 93,255 | 10 | 6 | 4 | 24 | 15 |
| Nanumba North | * | * | 99,108 | 11 | 5 | 3 | 19 | 11 |
| Zabzugu | 19,339 | 20,048 | 39,387 | 3 | 3 | 3 | 24 | 6 |
| Chereponi | 33,401 | 34,653 | 68,054 | 13 | 8 | 4 | 5 | 3 |
| East Gonja | 68,535 | 3,576 | 72,111 | 8 | 5 | 4 | 5 | 5 |
| Krachi Nchumuru | 26,959 | 8,987 | 35,946 | 7 | 3 | 1 | 9 | 7 |

**Sex disaggregated data not available*

Source: Compiled from Departments of Agriculture, 2015

2.3.3. Access to Veterinary Service

With regards to extension services related to livestock, a total of 119,389 farmers were reached in five of the eight districts as shown in Figure 8. Again, more male farmers (76.7%) benefited than female farmers. For instance, in the Gonja East District, male beneficiaries from 2010 to 2014 constituted 90%.

About 60% of farmers that were reached confirmed in a FGD for having received some animals and support for related activities. It was also observed that the number of beneficiaries reached with veterinary services in East Gonja and Zabzugu districts reduced consistently.

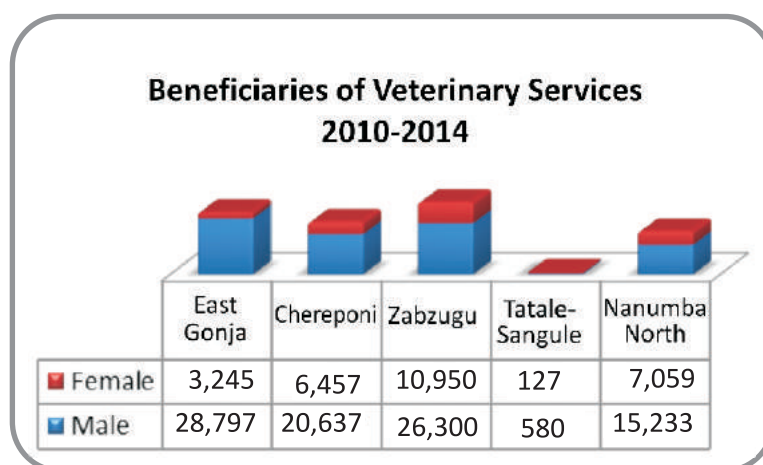


Fig. 8: Beneficiaries of Veterinary Services
Source: SEND GHANA'S PM&E Field Survey, 2015

2.3.4. Access to Education and Training in Nutrition/Post Harvest Handling

From data provided by DoAs, education and training in nutrition appeared a priority for few districts. From 2010 to 2014, a total of 38,645 farmers benefited from education on nutrition in East Gonja, Nanumba North, Chereponi, Tatale and Zabzugu districts.

Unlike previous instances where beneficiaries of services were skewed in favour of men, there were more women beneficiaries (61%) of education on nutrition than men. This may be explained by the perception that food preparation and preservation are women's roles.

Capacity building activities were focused on extension management, compost making, soil and fertilizer management, post-harvest losses, and safe handling and proper disposal of Agro-chemicals. Training topics treated were mainly on agribusiness. Details of beneficiaries of training programmes are shown in Figure 9 below.

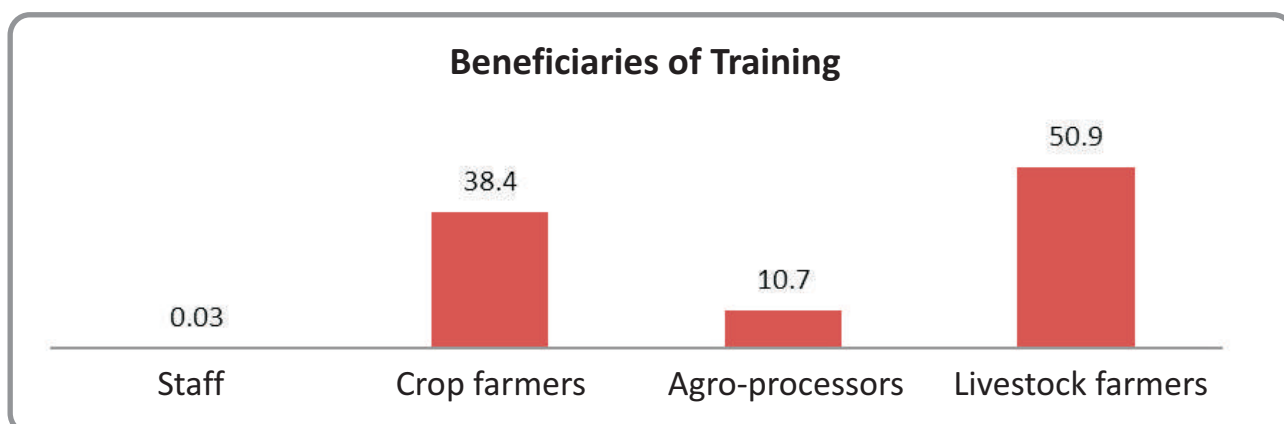


Fig. 9: Beneficiaries of Education and Training
Source: SEND GHANA PM&E Field Survey, 2015

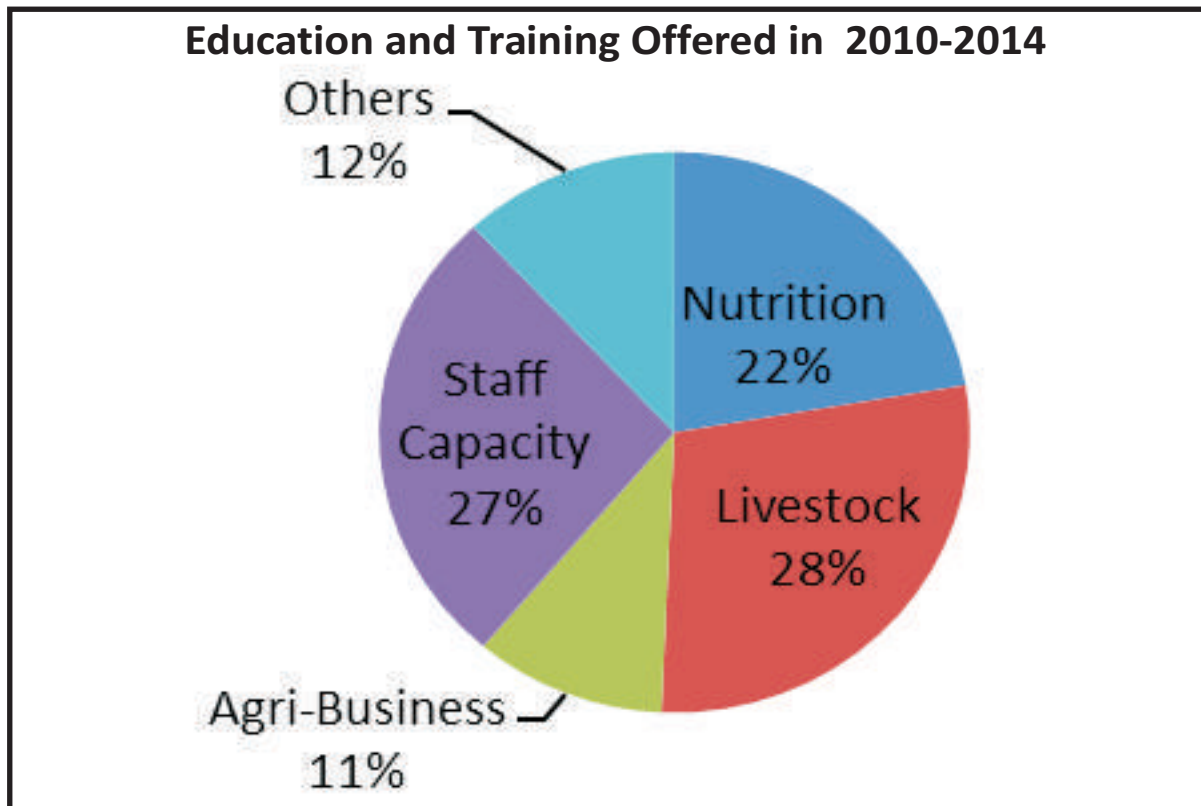


Fig. 10: Education and Training Offered
Source: SEND GHANA PM&E Field Survey, 2015



Fig. 11: Some Farmers Receiving Training
(Source: SEND GHANA)

3.1. Citizens' Involvement in Decision Making on Food Security

Citizens' participation in making decisions in agriculture is key to ensure proper investment of funds in the areas of need. This also increases public confidence, transparency and accountability in the management of resources. Data collected from Assemblies and the DOAs showed that both institutions have been engaging citizens through various channels. All six (6) districts that provided information on the medium of engagement mentioned they engaged citizens during review meetings, public fora and assembly sessions. In addition to these media, 60% stated agricultural sub-committees, radio and farmer group meetings as other channels for engaging citizens in the planning and implementation of agricultural activities. Contrary to these claims, 87% of citizens engaged in the FGDs in 31 communities across the eight (8) districts mentioned they had not been involved in any decisions concerning agriculture.

3.2. Collaboration Among Stakeholders in Promoting Food Security

The level of collaboration between and among districts, CSOs and private sector operators was rated as fairly good by the officials of Department of Agriculture and the MMDAs. Most CSOs collaborate with the assemblies and departments on advocacy and livelihood initiatives as well as provision of extension services. In the area of extension services, some CSOs (including SEND GHANA) provide logistics support (e.g. fuel) to enable AEOs visit farmers to provide education. There is also direct support in the form of credit services, sustainable agricultural practices, processing and input supplies. For instance, the USAID RING project provided small ruminants to farmers. A CSO staff from Zabzugu mentioned that: *"We are collaborating with Agriculture and Forestry department to promote diversification and strengthening of credit ... we organize quarterly meetings, planning and review meetings with DAs ..."*



Fig. 12: A Group of Farmers at a Focus Group Discussion
(Source: SEND GHANA)

Table 4: Areas of Collaboration between Civil Society Organizations and Department of Agriculture

| Services | East Gonja | Nanumba North | Krachi Nchumuru | Nanumba South | Zabzugu | Kpandai | Chereponi | Tatale-Sangui |
|------------------------------|------------|---------------|-----------------|---------------|---------|---------|-----------|---------------|
| Tractor Services | ✗ | | | ✗ | ✗ | ✗ | ✗ | ✗ |
| Marketing | ✗ | | | ✗ | ✗ | ✗ | ✗ | ✗ |
| Transportation | | | | ✗ | ✗ | | | |
| Credit | ✗ | | | | ✗ | ✗ | | |
| Processing | ✗ | | | ✗ | ✗ | ✗ | | |
| Storage | ✗ | | | | ✗ | ✗ | | |
| Seed and Fertilizer | ✗ | ✗ | | ✗ | ✗ | | | ✗ |
| Animal Feed | | | | ✗ | ✗ | | | ✗ |
| Training and Education | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ | | |
| Extension Services | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ |
| Veterinary | | ✗ | | ✗ | ✗ | | ✗ | ✗ |
| Advocacy | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ |
| Logistics (stationery, fuel) | ✗ | | | ✗ | ✗ | ✗ | ✗ | |

Source: SEND GHANA PM&E Field Survey, 2015

All eight DoAs indicated that private sector service providers collaborated with them in providing seeds and fertilizer. Table 5 below shows areas of collaboration between private sector and DoAs. Suggestions from DoAs on how to improve collaboration with CSOs are shown in Table 6.



Fig. 13: A Farmer Sharing His Experience with Stakeholders (Source: SEND GHANA)

Table 5: Areas of Collaboration between Private Sector and Departments of Agriculture

| Services | East Gonja | Nanumba North | Krachi Nchumuru | Nanumba South | Zabzugu | Kpandai | Chereponi | Tatale-Sangui |
|---------------------|------------|---------------|-----------------|---------------|---------|---------|-----------|---------------|
| Tractor Services | ✗ | | | ✗ | ✗ | ✗ | | ✗ |
| Marketing | ✗ | | | ✗ | ✗ | ✗ | | ✗ |
| Transportation | ✗ | | | ✗ | ✗ | ✗ | | |
| Credit | ✗ | | | | ✗ | ✗ | ✗ | |
| Processing | ✗ | | | ✗ | ✗ | ✗ | ✗ | |
| Storage | ✗ | ✗ | | | ✗ | ✗ | | |
| Seed and Fertilizer | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ |
| Animal Feed | ✗ | | ✗ | | ✗ | ✗ | | ✗ |

Source: SEND GHANA'S PM&E Field Survey, 2015

Unlike public and private interventions which largely targeted men, CSOs reported their initiatives made conscious efforts to reach women. A total of 70% of CSOs interviewed mentioned that women constituted a larger portion of their project beneficiaries, with nearly a tenth of the beneficiaries being young people. This was evident in reports accessed from CSOs on beneficiaries of their programmes/projects. All CSOs interviewed were able to provide information on the funds available for project implementation and the number of beneficiaries of the project disaggregated by gender .

Table 6: Ways to Improve CSOs and DAs Collaboration

| How to Improve Collaboration | DoA (%) |
|--|---------|
| Involvement in planning and implementation | 100 |
| Share work plans, reports and budgets | 87.5 |
| Monitoring and evaluation | 87.5 |
| Participate in project review meetings | 100 |
| Sharing of experience and expertise | 100 |
| Others | 37.5 |

Source: SEND GHANA PM&E Field Survey, 2015

⁶ Action Aid had three (3) projects in the study area, while Village Aid/Simili Aid and SEND GHANA had two and one projects respectively.

4.1. Smallholder Farmers' Understanding of Food Security

Food security is often defined in terms of food availability, food access and food utilization (USAID 1995). This means that sufficient quantities of food must be produced and made available to people who need them as and when they need them. In most parts of Ghana, food is made available through household production, local supply or commercial imports. Locally produced and commercially imported food can be accessed when individuals or households have the resources to procure them.

Aside sufficient production, food security is enhanced particularly among rural smallholder farmers when there is adequate storage facilities and access to market. This would enable them to store surplus produce against household future needs and or sell for income.

Assessment of smallholder farmers (respondents) understanding of food security showed high level of knowledge. Majority (98%) of discussants (farmers) in a focused group discussion demonstrated knowledge on food security. They mentioned that good farming practices helped to ensure food security. A male discussant from Nanumba North stated that: "When you farm different variety of crops such as maize, rice, soya bean, yam, cotton, sesame, we do petty trading alongside the farming to supplement food expenditure and also rear animals and sell some when the need arises, you can get food every time".

4.2. Food Production and Utilization

Majority (95%) of discussants in a FGD mentioned that they had food available 9 out of 12 months, but food shortage is prominent during the lean season which was mentioned as June to August by the discussants. One discussant in Kpandai said: *"Yes, we have food all year round but shortages in some months for a short period depending on the rainfall pattern, mostly from June to August. We feed three times a day but despite the scarcity during the lean season, we still strive to feed the children thrice a day because the children are used to it and we eat once or twice depending on its availability."*

"Food utilization is the proper biological use of food, requiring a diet providing sufficient energy and essential nutrients, potable water, and adequate sanitation. Effective food utilization depends in large measure on knowledge within the household of food storage and processing techniques, basic principles of nutrition and proper childcare" (FAO, 2013, p31). The study gathered that meals of farmers reached by the study were in short of nutritional requirements. According to the farmers, meals prepared in the dry season were usually limited to starchy food (e.g. cassava dough) due to unavailability of sufficient and variety food items. A FGD discussant mentioned that: *"Sometimes, we don't get even herrings [fish] to add to the food we eat. We cook and just eat the cassava because there is no food but we don't like it."*

Generally, farmers' ability to increase production is hampered by a number of challenges including the following:

- Inadequate tractors and high cost of service charges restrict farmers to the use of traditional hoe and cutlasses and therefore are unable to cultivate large acres of land.
- Inadequate extension staff to provide farmers with technical expertise in their work which limits farmers' knowledge on modern and best farming practices capable of increasing their yield.

- Limited access to credit facilities restricts farmers' access to modern equipment and expensive farm inputs such as fertilizer and other chemicals needed for effective production and labour cost.
- Absence of large scale input outlets reduces the yield of farmers as farm inputs may not be readily available for use when needed.
- Low soil fertility, inadequate fertilizer and the negative attitude of farmers towards diversification reduces their productivity, soil fertility and limits their ability to increase yields.
- Erratic rainfall pattern affects farmers' ability to plan for the farming season.

As a coping strategy, majority (95%) of the farmers rely on a second occupation to earn additional income. Most of the women sold fire wood, charcoal and also engaged in petty trading, whilst the men worked as paid labourers for construction and commercial farmers as well as engaged in bicycle repairing for additional income. Most of the youth moved to the cities during the dry season in search of alternative employment.

4.3. Food Storage

Storage is an important marketing function which involves holding and preserving goods from the time they are produced until they are needed for consumption. This ensures a continuous flow of food in the market and all year round food availability for families. Storage facilities can help farmers succeed financially by giving them greater control over their products and the timing of marketing.

BOX 1: FAO Food Security Parameters

Availability: Household food production and crop diversity

Access: Percentage food expenditure to total household Expenditures

Utilization: Degree of access to services (water, health and sanitation)

Stability: Stability of food prices and supply

Are Farmers Food Secured?

Using the FAO parameters in Box 1 above to measure the food security level of the surveyed districts, none of the 298 citizens in the sampled communities can be said to be food secured. Engagement with citizens during focused group discussion showed that they experienced food insecurity at some point in the year.

About 80% of the 298 citizens met at least 1 of the parameters whilst 20% did not meet any of the parameters.



Fig. 14: A Yam Storage Facility in Lifaldo Community in the Nanumba North District (Source: SEND GHANA)

From the analysis of the activity expenditure of both the DAs and the DoAs above, an observed pattern is that from 2010 to 2014 an insignificant amount was spent on training farmers on good storage practices and facilitating access to storage facilities. Only two (2) out of the eight (8) districts spent on activities related to food storage.

In terms of availability of storage facilities, Chereponi had the highest number (115) which was the result of interventions by Non-Governmental Organisations (NGOs). On average, each district had three storage facilities with the exception of Tatale-Sangule which did not have any. This was confirmed in FGDs held in the 32 communities. Farmers with surplus harvest were compelled to sell their produce as they did not have storage facilities.

Apart from communities under the SEND GHANA's FOSTERING project where farmers cultivating soya beans had access to silos, many of the farmers had to sell at lower prices due to supply glut. A discussant in East Gonja stated that: *"We store the produce in our rooms and verandas. It is only yam we store in the farm under huts. Sometimes insects spoil all our crops and so we sell them. If we have money to buy chemicals, we sometimes buy and use."* Another discussant narrated a similar incident: *"Two years ago, I harvested a lot and so my rooms and veranda were full and couldn't store it so I had to sell them and feed the family too. But if I was able to keep it, I could get more money for the produce in the lean season and won't have to be hungry."* Another discussant also said: *"We store our food in sacks mixed with some medicine from the open market, but we don't know the name; we normally call it "Watarawa Ayile" and it can kill cockroaches and ant."*

4.4. Market Access

Farmers need to be able to get their produce to the market and receive equitable price treatment after harvesting. Improving smallholders' access to markets requires close linkages between farmers, processors, traders, and retailers to coordinate supply and demand of produce. For majority of rural farmers, however, access to market is a challenge. About 85% of the smallholder farmers engaged in the FGDs sold their produce in the open market and prices were mostly determined by buyers. The remaining 15% (mostly yam producers and men) had some control over pricing.



Fig. 15: A Road Leading to a Soya Field
(Source: SEND GHANA)

About 11% of the farmers stated that they occasionally engaged in barter trading in situations when they had financial difficulties and needed other produce. A discussant from Wulensi mentioned that: *"Sometimes, we do barter trading for other produce."* This was confirmed by another discussant in the Krachi Nchumuru District who said that: *"We walk about 20km to the Volta River to wait for the locals in exchange for corn or yam or carry fire wood to them just to get small herrings to add to our food."* Some mentioned they sold their produce to organizations such as Evangelical Presbyterian Development and Relief Agency (EPDRA) and MoFA. Traders from neighbouring Togo also patronized their produce. Farmers mentioned challenges with access and high cost of transport due partly to bad roads. Due to this, most farmers have to mostly wait for the buyers to come to them.

The need for Ghana to improve food security is underscored by all stakeholders. A number of policy interventions have been rolled out to boost production particularly in affected areas. However, the implementation of many of these initiatives is hampered by inadequate resources and gender inequity in resource allocation. Provision of agriculture services are predominantly skewed in favour of men perpetuating gender inequality and inequity in the targeted districts. Also, other intervention areas to promote food security such as access to market and proper storage appear not to have received adequate attention.

The DoAs' role to support implementation of district level food security interventions is often challenged by inadequate and untimely release of funds as well as inadequate human resources. Collaboration with CSOs and private sector providers has made significant impact, but they are not enough to fully address the many challenges farmers face.

As a consequence, achieving food security in the EC remains a challenge as smallholder farmers' battle with low access to extension services, tractor services, storage and market as well as inadequate policy and institutional support. For instance, provision of tractor services is largely done by private sector operators who are profit motivated and therefore target commercial farmers or large acres of farms. As a consequence, majority of women farmers do not access the required tractor services.

On the basis of the findings, the following recommendations are made for policy consideration:

- District Assembly and Departments of Agriculture should extend invitation to smallholder farmers/groups during review meetings to make inputs, and also agree on their needs in order to tailor the solutions to the peculiar desire of smallholder farmers within the district.
- A number of policy researches have consistently mentioned inadequate infrastructures such as storage facilities and dams to support an all year round farming; and also prevent any waste as a challenge and made recommendations. Given the current status ascribed to agriculture, we recommend that government puts in more investment to address this issue.

Developing a stronger collaboration between the government, private sector and CSOs is important to harmonize all interventions in the district. Measures should also be taken by DAs to promote greater coordination and improved transparency and accountability.

- DAs should develop specific interventions to improve the coverage of tractor services on farms owned by women.
- To address the issue of extension officers and agricultural support, government should encourage students to opt for agricultural related courses in the tertiary institutions by employing graduates directly as with the health and education sectors.
- Shortage of AEA can be partly addressed through the adoption of the Community Volunteer Extension Agent (CVAEA) model being used by some CSOs. DoAs should identify some farmers and provide them with Training of Trainers (ToT), so they can in turn train their fellow farmers.

- There is the need for all institutions to improve targeting to get more women to access inputs and services such as extension and tractor to boost their capacity in increasing production and access to storage and market for improved food security.
- The budgeting and planning capacities of the DAs must be assessed in order to provide interventions that will allow the districts to prioritise agricultural activities in their budgets. Related to the above is the need to address capacity challenges and constraints that affect the spending capacities of the assemblies.



*Fig. 16: A Farmer in the Project Area Watering His Plants
(Source: SEND GHANA)*



*Fig. 17: One of the Female Farmers Working on the Field
(Source: SEND GHANA)*

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With Funding
Support from



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