FINAL EVALUATION REPORT OF THE HOUSEHOLD ECONOMIC SECURITY FOR POOR WOMEN'S PROJECT (HESP)

FINAL REPORT

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List of acronyms

BLF	Big Lottery Fund
CBEAs	Community Based Extension Agents
CGC	Community Gender Champions
CIDs	Community Input Dealers
CSGs	Community Seed Growers
FFBS	Farmer Field and Business School
FGD	Focus Group Discussion
FHH	Female Headed Household
GoG	Government of Ghana
GTD	Garu-Tempane District
HESP	Household Economic Security for Poor Women Project
HH	Household
LAMATOA	Lambussie Area Tractor Owners Association
LD	Lambussie District
MHH	Male headed household
MOFA	Ministry of Food and Agriculture
MRCs	Market Research Committees
PPTM	Participatory Performance Tracking Meetings
PRUDA	Partnership for Rural Development Action
REP	Rural Enterprises Programme
SARI	Savannah Agricultural Research Institute
SPSS	Statistical Package for Social Scientists
VSLA	Village Savings and Loans Association
WEAI	Women's Empowerment in Agriculture Index
WVA	Women in Value Addition

Executive Summary

From the perspective of a strong gender focus, CARE's Household Economic Security for Poor Women's Project (HESP) sought to improve the economic security of women smallholder farmers and their households in Northern Ghana by increasing their productivity and access to inputs and markets. Funded through the Big Lottery Fund of the UK, HESP is implemented in the Garu-Tempane (GTD) and Lambussie (LD) districts of the Upper East and West regions of Ghana, respectively.

The project's objectives and ultimate outcomes are:

1. Increased agricultural productivity for smallholder women farmers through improved and sustainable farming methods and increased access to productive resources; and
2. Increased household income for smallholder women farmers and micro entrepreneurs through effective engagement in economic opportunities along the soy and groundnut value chain.

CARE identified 6 indicators in two key impact areas to measure progress. The impact and performance indicators, organized by impact area, are as follows:

a) ***Increased agricultural productivity***: Yield(kg) per unit land achieved by poor women smallholder farmers in cultivating selected crops; % of poor women smallholder farmers reporting control over or ownership of a core set of productive resources; % of women with access to a core set of agricultural services (e.g. extension); and number of new pieces of technology being utilized by commodity clusters and community based extension agents; and

b) ***Increased female smallholder farmers' income***: number of women engaged in new off-farm businesses in soy and groundnut value chain; number of women who have control over their own income; and number of commodity clusters providing internal services to members.

A summary of the results of the endline juxtaposed to what was uncovered at baseline are presented in the table below:

PROJECT OUTCOMES	INDICATORS		BASELINE	ENDLINE
1. Increased agricultural productivity for small holder women farmers through improved and sustainable farming	1. Increase in yield per unit land achieved by poor women smallholder farmers in cultivating selected crops (in kg) (acre)	Millet	220	433
		Sorghum	410	679
		Maize	917	1,325
		Rice	312.5	266
		Soybean	375	847
		Groundnut	1,557	1,959
		Cowpea	200	349

methods and increased access to productive resources.		Bambara beans	200	180
		Overall average	624	755
		Average yield increase for selected crops (G'nut & Soya): **45.2%** ***(against and end of project target of 30%)***		
	2. Number of poor women smallholder farmers reporting control over or ownership of a core set of productive resources and assets (e.g. land, water, inputs, tools)			
		Agricultural land (pieces/plots)	47.10%	88.5%
		Small livestock	40.00%	82.2%
		Poultry (chickens/guinea fowl, etc.)	39.50%	77%
		Mechanized Farm equipment	41.00%	70.4%
		Large livestock	19.50%	55.2%
		2,240 women or 74.7% ***(against an end of project target of 40%)***		
	3. Percentage of women with access to a core set of agricultural services (e.g. extension, information, finance, market)	Extension services	52.70%	90.1%
		Agricultural input	26.20%	58.7%
		Agricultural finance	38%	59.3%
		Output market	86.70%	93.8%
		2264 women or 75.5% (against an end of project target of 1,500)		
2. Increased HH income for smallholder women farmers and micro entrepreneurs through effective engagement in economic opportunities along the soy and groundnut value chain	Total increase and percentage (annual income) among women farmers.	**Baseline** Overall annual income Male Headed Female Headed	 GHS 3,391.03 GHS 3,582.57 GHS 2,264.48	
		Endline Overall annual income Male Headed Female Headed	**Actual (on-farm + off-farm)** GHS 7,266.90 GHS 7,416.09 GHS 6,694.26	
		295.6% increase in incomes of FHH ***(against an end of project target of 50%)***		
	The number of new off-farm businesses available to women in the soy and groundnut value chain.	**Baseline:** Average Number of Off-farm businesses: 1.4 **Endline:** Average Number of Off-farm businesses: 3.6 No. of new off-farm businesses available to women: **66** ***(against an end of project target of 40)*** – this target was outstripped by as much as **26**.		
	The number of commodity clusters providing internal services to members.	138 clusters in 32 communities (***achievement by endline***) (***against an end of project target of 130 commodity clusters***) – target was outstripped by 8 additional commodity clusters.		

Context

The analysis of the data and endline findings should be understood in the context of environmental shocks that adversely affected agricultural production and income in both HESP districts in 2017 and earlier. It is important to appreciate from the outset that, the project has been facilitated under conditions characterized by cyclical income poverty, protracted dry agro-ecological conditions (mean annual rainfall ranges between 800-1200 mm and the sandy loamy soils with underlying hard iron pans generally have poor inherent soil fertility) and poor crop production. Similarly, many HESP farmers have experienced extraordinary drought conditions and poor-to-non-existent harvests and agricultural yields during the past two years of the

project. Notwithstanding these daunting circumstances of severe production and environmental challenges, participating HESP households have managed to improve their productivity (over ***45.2%*** for selected crops), income (***over 295%*** for FHH) and women's empowerment everywhere. In the few negligible instances where productivity and income mobility challenges arose, the reasons were largely attributable to: a) illiteracy; b) inaccuracies in reporting yields (this is due to incorrect record keeping arising from failure to capture family consumption and payments in kind to labourers); and c) unwillingness by some beneficiaries to be seen as living above the poverty line and losing out on future project support.

Results and Findings: Findings for each HESP outcome area are based on integrated quantitative and qualitative data. Organized around the impact and performance indicators, the report presents results from baseline and endline quantitative household interviews and qualitative community focus group discussions, key informant interviews and various participatory rural appraisal exercises (such as ranking, mapping etc.) .

HESP women have increasingly enjoyed a degree of economic and social empowerment; progress and positive change toward women's empowerment. VSLA activities have undoubtedly contributed to women's increased participation in decisions about producing and spending household income as well as decisions about roles and divisions of labour within the household and participation outside of the household. Building on existing CARE VSLAs has served as an excellent entry point for other HESP activities and women participants offer positive role models in communities in each of the project districts. Communities have experienced enhanced discourse about patriarchal roles, relationships, and practices. Women cite their VSLA involvement as a gateway toward more equitable household decision-making and a greater voice inside and outside of the household. But this is a long process; HESP has only begun this process.

Access to agricultural extension increased dramatically over the three-year period for women in both districts. At the end line, twice as many women in both districts have access to output markets and more than twice accessed agricultural inputs due to the availability of input suppliers. This is notable progress given the social and economic constraints faced by female farmers. Participating women in both districts have experienced improved access to output and input markets. Participants specifically linked increased access to extension services with the ability to get higher yields thus, increasing their productivity. The endline survey results also indicate increased crop diversity and adaptation of early-maturing varieties that help buffer increasingly unpredictable rains. Extension reach was further enhanced by means of the demos and Participatory Scenario Planning workshops and their accompanying input fairs that were facilitated under the HESP Farmer Field and Business Schools (FFBS) initiative. From baseline to end line, HESP women participants across both districts are far more likely to apply improved agricultural practices, including increased adoption of improved seeds, use of manure or

composting, crop rotation, and mixed cropping. Women farmers have increasingly diversified their crop production as well; across both districts, the number of crops grown by women has increased. Successful households are serving as a model for those who are slower to adopt change (according to focus group discussants); it is likely that more women will access services as they observe the benefits of participating households.

The HESP concept provides a good model that should be carried forward, either as a continuation of this project or in future projects. Nearly three years after introducing HESP at LD and GTD, CARE and its implementing partners have successfully achieved most of the objectives of this highly striving project, including the following change levers:

- ***Capacity*** – improved knowledge, skills, relationships, self-confidence, and conviction of women farmers: ***excellent progress***[1]
- ***Access*** – increased access to productive resources, assets, markets, and appropriate and reliable services and inputs for poor women farmers: ***very good progress***
- ***Productivity and Incomes*** – improvement in yields (***45.2%***) and incomes (***295.6%***) through adoption of sustainable and intensified agriculture and value addition: ***major progress in most of the crops grown, but deflated partly due to drought and other forms of environmental shocks***
- ***Household influence*** – increased poor women farmer contributions to and influence over household income and decision-making: ***very good progress***
- ***Enabling environment*** – more positive and enabling attitudes, behaviours, social norms, policies, and institutions – ***excellent progress and for some social groups and institutions, sustainable progress***

Conclusion and Recommendations - Designed, developed, and implemented within highly patriarchal social-cultural contexts of the two districts, where women's access to and control over productive assets and resources have been highly constricted, HESP has been greatly successful in attaining measured progress toward attaining the simultaneous empowerment of women economically and socially. This is an important project for women in each of the districts. Female and male participants perceive that their households have improved their wellbeing after participating in HESP activities. Based on the findings of the endline, the following recommendations are proffered:

a) ***Develop an effective value-chain strategy to integrate into a HESP-type strategic programming approach***.

[1] Excellent Progress- Performance on core indicators exceeding 80%
Very Good Progress – Performance on core indicators being in the range of 70 -79%
Good Progress – Performance on core indicators being in the range of 60-69%
Sustainable Progress – Performance on core indicators being in the range of 70 and above with strong local organizational or institutional arrangements for continuous functionality or operational longevity.

b) ***Continue to promote gender sensitization training in conjunction with technical agricultural and business skills training*** for HESP participants, including men, and field staff from the onset of any future HESP-type project in order to maximize women's empowerment potential.

c) ***Consider strengthening the strategy used by the project to improve women's access to land***. Access to good agricultural land has been a challenge for women in both districts. The practical application of a programming strategy to promote women's access to cultivable land would be a step in the right direction, and may require an advocacy component to challenge customary practice vis-a-vis policy and law. Luckily, CARE Ghana has the Land Access for Poor Women's Project (LAW) experience as a guide to see how gender champions can be brought on-board the agenda to work towards strengthening access to land for HESP participants.

d) ***Use the strengthened collectives to expand women's access to formal micro-finance institutions (MFIs) to increase their capacity to invest in income generating activities*** (IGAs). Depending on the district and context, it may be feasible to devise a strategy calling on farming households collaborating within collectives to provide collateral for each other to access formal loans.

e) ***Enhance financial management and leadership training as well as numeracy and literacy training for women participating in VSLAs in order to increase their business skills and acumen***.

f) ***Systematically document HESP impact on women's empowerment and the transformation of gender norms through knowledge management***. The HESP project offers a unique and potentially powerful approach to increase women's participation in household and community social and economic life, including an effective roadmap toward women's empowerment.

g) ***Build on successes of soya and groundnut production and consumption and improve market linkages***. Participants requested earlier access to inputs, better prices for inputs, and bullock or tractor services for tilling like the case of LAMATOA. Future projects should provide services and/or subsidies in view of the general poverty situation in the project districts.

h) ***The exit strategy for HESP should include mechanisms for continued support to women's collectives and village organizing volunteers*** such as CBEAs, MRCs and Gender champions, and advocacy for successful linkages to government schemes and support.

i) ***Place greater focus on marital status when designing and targeting specific initiatives.*** Differences between females residing in male- and female-headed households should be noted and activities aligned to the circumstances of each.

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Section 1: Project Description

1.0 Structure of the report

This document is structured into five sections. The first section describes the project and geographical area and context in which it was implemented. The second section presents the methodology used to gather relevant data for the study, the third section presents the bio-data of the respondents or project participants. The fourth section presents findings pertinent to the overall purpose of the evaluation, whereas the fifth section dwells on the salient findings relative to the evaluation questions thus leading to the conclusions and recommendations of the evaluation.

1.1 Background to the study

The Household Economic Security for Poor Women Project (HESP) contributes to the livelihood and economic security of rural women in Northern Ghana. The project's aim is to improve the economic security of women smallholder farmers and their households by increasing their productivity and access to inputs and markets. The three year project which is funded by the BLF of UK works towards improving the lives of 3,000 women and 18,000 members of their households in 33 communities in Garu-Tempane and Lambussie Districts. The project has two major outcomes; 1) increased agricultural productivity for smallholder women farmers through improved and sustainable farming methods and increased access to productive resources, and 2) increased household income for smallholder women farmers and micro entrepreneurs through effective engagement in economic opportunities along the soy and groundnut value chain.

Recognizing the role of women in improving household economic and food security, the project focuses on increasing agricultural productivity and income of small holder women farmers by building their capacity on soybean and groundnut value chains. The focus on women's capacity is geared towards increasing household income in order to gain control over household resources and decision-making. In addition to building women's capacity, the project also worked on increasing women's access to productive resources and inputs including improved seeds and implements, financial services, information and technology on improved agronomic practices and extension services.

1.2 Purpose and objectives of the final evaluation

The main purpose for this end of project evaluation was to facilitate a process, which will document project outcomes and impact with respect to baseline findings. The specific objectives are:

1. To assess project performance and achievements in relation to expected outcomes and set indicators;
2. To conduct impact assessment of various interventions at the participants' level;
3. To analyze the relevance and effectiveness of the project's activities and strategies according to key actors and current context of the project;

4. To generate lessons learned from the implementation of the project's activities and the outcomes achieved that will be useful for scaling up and replication in the future; and
5. To present specific recommendations for CARE International and BLF anchored on the conclusions from the outcomes and impacts.

1.3 Scope of the study

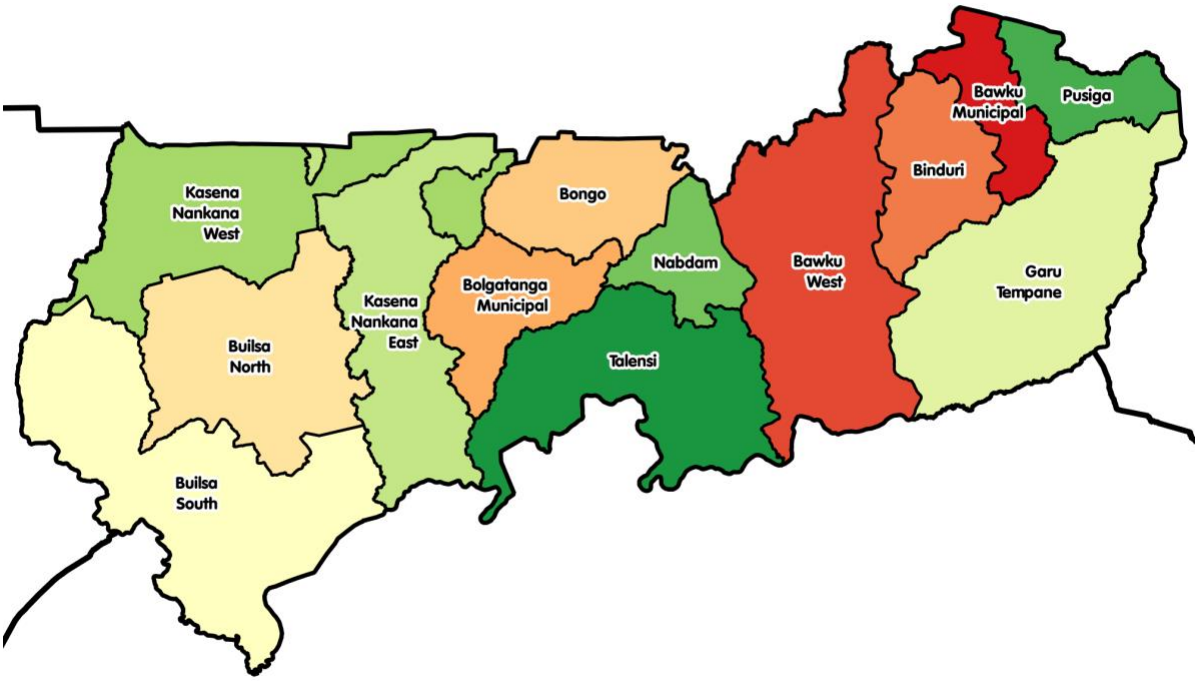
The scope of work comprised an assessment of the project's performance and achievement in relation to the seven strategic interventions at the participants' level; an analysis of the relevance and effectiveness of the project's activities and strategies; generation of both intended and unintended lessons learned with the view to making specific recommendations for CARE International and BLF to inform future programming.

CARE Ghana implemented HESP for three years in the Garu-Tempane and Lambussie districts to build on existing programming and the vulnerability of the population. Located close to the border of Burkina Faso, this area is in one of the poorest regions in Ghana where low productivity and incomes remain priorities. It is in the savannah ecological zone with unreliable rainfall and severe erosion difficulties. The geographical scope of the study was limited to ten sampled communities in Garu-Tempane and Lambussie Districts (5 communities for each district). A brief description of the two districts is as follows:

1.3.1 Garu-Tempane District

The population of Garu Tempane District, according to the 2010 Population and Housing Census, is 130,003 representing 1.2 percent of the Upper East Region's total population. Males constitute 47.9 percent and females represent 52.3 percent. Over ninety five percent of the population is rural. The population of the district is youthful (i.e. 0-24 years, 46.0%) depicting a broad base population pyramid which tapers off with a small number of elderly persons (7.8%). The total age dependency ratio for the District is 116.9, the age dependency ratio for males is higher (137.2) than that of females (101.5). The district has a household population of 128,623 with a total number of 17,520 households. The average household size in the district is 7.3 persons per household. Children (0-14 years) constitute the largest proportion of the household members accounting for 58.4 percent. Spouses form about 0.4 percent. Nuclear households (head, spouse(s) and children) constitute 17.9 percent of the total number of households in the district. About 77.2 percent of the population aged 15 years and older is economically active while 22.8 per cent are economically not active. Of the economically active population, 98.5 percent are employed while 1.5 percent is unemployed. For those who are economically not active, a large proportion of them are students (38.8%), 20.9% perform household duties and 8.6 percent are disabled or too sick to work. Of the economically active population, about 85.2 percent are engaged as skilled agricultural, forestry and fishery workers, 5.1 percent in service and sales, 5.8 percent in craft and related trade, and 2.2 percent are engaged as managers, professionals, and technicians.

Figure 1: Map of Garu-Tempane District within the context of Upper East Region of Ghana

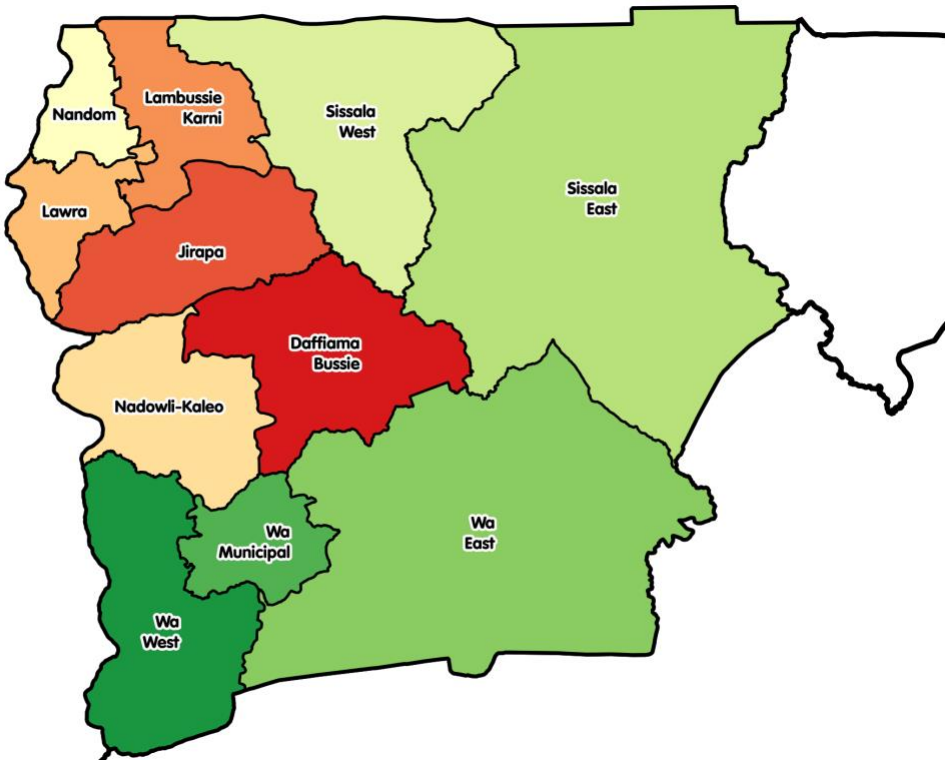


1.3.2 Lambussie District

The population of Lambussie District, according to the 2010 Population and Housing Census, is 51,654 representing 7.4 percent of the region's total population. Males constitute 48.3 percent and females represent 51.7 percent. About 86.7 percent of the population lives in rural localities. The district has a sex ratio of 93.4. The population of the district is youthful (under 15 years) (42.9%) depicting a broad base population pyramid which tapers off with a small number of elderly persons 60 years and above (9.1%). The total age dependency ratio for the District is 98.0, the child dependency ratio is higher (85.0) than that of old age dependency ratio (13.1).

About 70.8 percent of the populations aged 15 years and older are economically active while 29.2 per cent are economically not active. Of the economically active population, 96.3 percent are employed while 3.7 percent are unemployed. For those who are economically not active, a larger percentage of them are students (33.5%) and 32.9% perform household duties. About 73.1 percent are engaged as skilled agricultural, forestry and fishery workers, 11.6 percent in craft and related trade and 7.8 percent in service and sales.

Figure 2: Map of Lambussie District within the context of the Upper West Region



Section 2: Methodology

The HESP baseline and endline surveys used a non-experimental design for pre-post comparison of results (i.e., the same households are compared at baseline and end line). Both the baseline and endline surveys are "beneficiary-based" in that the sample is drawn randomly from a sampling frame composed of all households with a female member in a collective (e.g., VSLA) with which HESP is working. The sample size was determined to provide statistically representative results for household and individual level indicators at the project level.

2.1 Research design

The evaluation design was a longitudinal study of households. Panel data was collected from the household survey in order to measure issues bordering on productivity, income and outcomes of project interventions. To achieve the objectives of the evaluation, the study adopted a mixed methods approach. A mixed methods approach is justified because it helps in the use of multiple data collection tools and techniques to enhance data triangulation. The methods of data collection were in-depth interviews, focus group discussions, key informant interviews, questionnaire and non-participant observation.

2.2 Sample size determination

The evaluation was conducted in 10 communities in the districts. A total of 250 households comprising 250 male and 250 female respondents constituted the sample size for the study. The

proportionate sampling technique approach, which distributes sample sizes into proportions based on a given sample, was used. With the proportionate approach, the sample size of each community was proportionate to the beneficiary population size of the community.

2.3 Sampling technique and processes

A purposive sampling technique was used to select the respondents for this study. Almost 97% (representing 243) of the baseline participants were available for the end line study. Only a total of 7 respondents from both districts were replaced by collective members at the time of the interview. The list of respondents was obtained from the client (CARE Ghana). The list (i.e. sampling frame) was used by the data enumerators at the community level to locate the respondents.

2.4 Data collection techniques and procedure

The study used both qualitative and quantitative data collection techniques concurrently at the community level. A variety of qualitative participatory tools were developed to explore contextual factors, including agency, structure, and relations and their impact on small-holder women farmers. Qualitative tools allowed the team to capture information on norms that affect women's empowerment and power relationships, particularly as these factors relate to women's ability to actively engage in and have control over agricultural production and marketing activities. The tools were designed to provide insight to better understand and interpret the quantitative indicators and to help identify the key factors critical to the success of HESP, including progress markers defined by HESP management. In addition to topical outlines, participatory tools included ranking exercises that captured the perceived effectiveness of HESP activities, wealth ranking matrix, daily activity record for women (where available), or social gender mobility mapping tools depending on the context, were deployed.

Focus group discussions were held in all the 10 sampled communities. The focus group discussions were conducted in English with the assistance of translators for the various local dialects, namely; Sissali, Moar, Kusaal and Dagaari. An average of 9 beneficiaries participated in the one hour FGD in all the 10 communities. Participatory methodology was used to secure information from project participants, including their views of what is most valuable and relevant. The three focus groups were: 1) female VSLA members, 2) husbands of female VSLA members, and 3) female non-members. In-depth interviews were held with executives of the market research committees (MRC), LAMATOA (Lambussie Tractor Operators Association), seed out-growers (multipliers), male gender champions, community based extension agents (CBEAs), participatory scenario planning advisors/facilitators and HESP project Facilitators in both districts. In-depth interviews lasted for between 30 minutes and 1 hour with each category of respondents.

In addition to qualitative data collection techniques, a questionnaire was used for the household surveys. Adaptations were made to the questionnaire to reflect key evaluation questions and

key global indicators of CARE International. Additionally, there were some modifications and rewording in the baseline questionnaire to suite the purpose of this current study. The questionnaire was administered with smart mobile phone devices. The smart mobile phone devices were installed with Census and Survey Processing System (CSPro version 7.1.0). The questionnaire had 10 sections (A-J), which concentrated on identification, socio-demographic characteristics of the respondents, female agriculture, access to productive capital, individual leadership and influence in the community, women's decision making, major sources of cash income, men's decision making, access to market, project achievement, sustainability and impact. Each data enumerator interviewed 13 households representing 13 female and 13 male household decision makers. The questionnaire had 27 pages and given the short battery life-span of the Samsung Tablets used, two households were interviewed per day by the data enumerators.

2.5 The study team

The study team comprised Joseph Abazaami -PhD (Lead Consultant), James Natia Adam -MPhil (Assistant consultant), 20 data enumerators who had no prior knowledge of the project and two Field Assistants from CARE International Ghana and PRUDA. The two Field Assistants' roles were limited to leading the study team to the communities and organizing the FGD discussants.

2.6 Training of data enumerators and study piloting

A one day capacity building workshop was held in the project districts for all the data enumerators. The recruitment of data enumerators took cognizance of gender (see Appendix I), at least one year experience of using computer assisted personal interview tools for data collection, educational qualification (with at least a minimum of Diploma), fluency in English language and local dialects (Kusaal, Moar, Sissali and Dagaare). The enumerators were trained on the use of the CSPro data collection software. The training helped the enumerators to understand the import of questions and the meaning of some terminologies. The training lasted 7 hours because the facilitators went through the entire questionnaire by reading question by question and explaining unfamiliar words to the enumerators. The translation of questions into quality local dialects for easy comprehension by the respondents was achieved. Other areas of the training workshop were community entry and exit procedures and approaches.

The enumerators also pre-tested the tool and reported their personal experiences with the software and reactions from interviewees. Some of the shared experiences from the enumerators included spending 3 hours to complete one questionnaire, short battery life span of the tablets etc. The challenges expatiated were addressed by the study team. These included the addition of three extra Samsung Tablets for backup and the provision of power banks to charge tablets with powers running low. The consultants were on the field with the data enumerators and this helped to address challenges that came up during the questionnaire

administration. The consultants ensured that data collected were accurately done before transmission to the server.

2.7 Data analysis

Data gathered from the field were edited and coded to ensure that all interviews were completed and transcribed. Content analysis was done for qualitative data. This involved a matrix of responses from key informant interviews, in-depth interviews and focus group discussions. Themes and patterns were developed and used to explain the quantitative results. Quantitative data were analyzed using Statistical Package for Social Scientists version 20. The results were also compared with international and national statistics on some variables. To measure women empowerment, we adopted the USAID Feed the Future Women's Empowerment in Agriculture Index (WEAI) model.

Section 3: Socio-demographic characteristics

This section presents the socio-demographic characteristics of the respondents. The variables of interest include household headship, gender, household size, age, marital status, highest educational level and literacy rate.

3.1 Gender of household head

Table 1 shows the gender of household heads. The results indicate that males dominate as heads of households in both districts. There are however more female headed households (35.2%) at Garu-Tempane District (GTD) than in Lambussie District (LD) – 24.8%. The results of the endline are consistent with baseline findings where it was reported that the development may be explained by the high proportion of widow/ers at GTD compared to LD.

Table 1: Gender of household head

Gender	Garu-Tempane district		Lambussie district		Both districts	
	F	%	F	%	F	%
Male	81	64.8	94	75.2	175	70.0
Female	44	35.2	31	24.8	75	30.0

Source: Field survey, 2018.

3.2 Age of household head

Table 2 presents the descriptive statistics of the ages of household heads. The findings show that the mean age of female household heads is 48.4 years at GTD compared to 51.9 years at LD. The results also indicate that the mean age of male household heads in GTD is 47.4 compared to 48.8 in LD. These results are consistent with baseline findings and do confirm the preponderance of the study population to be slightly aged and less youthful (i.e. mean age for both districts being 48.3 years). Contrary to age being flagged as a possible barrier to speedy uptake of project interventions at LD during the baseline, the findings of this evaluation do not readily lend credence to this view.

Table 2: Age of household head

District	HHH	N	Mean	Std. error of mean	SD	Minimum	Maximum
Garu-Tempane	MHH	81	47.35	1.822	16.399	18	72
	FHH	44	48.43	2.317	15.372	23	75
	Both	125	47.73	1.430	15.991	18	75
Lambussie	MHH	94	48.84	1.529	14.820	20	90
	FHH	31	51.94	2.282	12.704	21	80
	Both	125	49.61	1.282	14.338	20	90
Both Districts	MHH	175	48.15	1.175	15.543	18	90
	FHH	75	49.88	1.656	14.344	21	80
	Both	250	48.67	0.960	15.186	18	90

Source: Field survey, 2018.

3.3 Marital status of household head

Table 3 illustrates the marital status of the household heads. The results show that about 70% of household heads in GTD are married for more than 2 years compared to 78% of household heads at LD. This suggests that most marriages among HESP beneficiaries are stable and could be a good predictor of project success. The findings also show more widow/er in LD than in GTD contrary to results at baseline.

Table 3: Marital status of respondents

Marital status	Garu-Tempane		Lambussie		Both districts	
	F	%	F	%	F	%
Single	22	17.6	4	3.2	26	10.4
Married (less than 2 years)	7	5.6	2	1.6	9	3.6
Married (more than 2 years)	87	69.6	98	78.4	185	74.0
Widow/er	9	7.2	18	14.4	27	10.8
Separated	0	0.0	3	2.4	3	1.2

Source: Field survey, 2018.

3.4 Highest level of education of household head

Table 4 shows the highest level of education achieved by the household head. The results indicate that 78% and 60% of household heads in GTD and LD respectively have no formal education (an average of 69.2%). In terms of formal education achieved, the findings show that 14% of the household heads in both districts have highest education up to primary level. These findings are consistent with baseline results and cumulatively print a picture of a population without formal education, thus negatively impacting on the speedy rate at which project interventions could have received positive uptake.

Table 4: Highest level of education achieved

Education	Garu-Tempane		Lambussie		Both districts	
	F	%	F	%	F	%
No education	98	78.4	75	60.0	173	69.2

Primary	11	8.8	23	18.4	34	13.6
Junior High School	6	4.8	10	8.0	16	6.4
Secondary/Vocational/Technical	7	5.6	12	9.6	19	7.6
Tertiary	3	2.4	3	2.4	6	2.4
Non-formal	0	0.0	2	1.6	2	0.8

Source: Field survey, 2018.

3.5 Literacy level of household head

Table 5 shows the literacy level of household heads. The findings reveal that 84% and 76% of household heads in GTD and LD can neither read nor write. This finding is not surprising because majority of household heads do not have formal education as noted from baseline and this may be a strong indication that they have not had access to non-formal education opportunities to reverse the trend during the course of HESP.

Table 5: Literacy level of household head

Literacy	Garu-Tempane		Lambussie		Both districts	
	F	%	F	%	F	%
Can read and write	20	16.0	30	24.0	50	20.0
Cannot read and write	105	84.0	95	76.0	200	80.0

Source: Field survey, 2018.

Section 4: Results and Findings

The first project outcome is increased agricultural productivity for smallholder women farmers through improved and sustainable farming methods and increased access to productive resources.

There are five indicators to this outcome area. The findings of this evaluation clearly demonstrate that the outcome has been well ***achieved to a significant degree***. There is evidence from our field interactions that smallholder farmers have been trained on soy and groundnut production as well as the application of good agronomic practices – there is also an improved production asset base. The findings indicate that 85% of farmers have applied these agronomic practices to good effect and are even transferring the knowledge to other crops including maize, millet, guinea corn, etc. Most project participants (93% at GTD and 76% at LD) indicate the adoption of row planting as the most significant agronomic practice because of the enhanced benefits the method brings to their yields. Through row planting, farmers freely move in the farm to weed, apply agrochemicals and also have free flow of air (aeration) in the farm – an important environmental factor for optimal plant growth and yield.

Another intervention that has significantly contributed to increased agricultural productivity is in the area of improved access to agricultural inputs. HESP organized various input fairs at district, zonal and community levels to improve access to inputs for poor small-holder women

farmers (between 3 and 4 such fairs were organized for each district, zone and community during each farming season plus those organized as part of the PSP workshops). Through the input fairs, farmers compare prices of various inputs and seek clarification on methods of input application and disposal. To complement this process, local input dealers were trained by the Environmental Protection Agency (EPA) - focusing on issues around the environmental impacts of their operations; cautionary hazards and the appropriate use of protective gear; entry points on how to be legally registered as input dealers etc. Additionally, various linkages workshops were organized to link input dealers to wholesalers and input companies to broker dealerships that helped to lower transaction costs and afforded local input dealers the opportunity to procure directly at cheaper costs in order to retail at relatively lower costs to HESP participants and remain profitable. The same was done for the community seed multiplication scheme. This strategy proved useful as most input dealers consulted gave positive indication that they were more competitive now as they no longer deal with local intermediaries. What is not clearly evident is how this laudable initiative is expected to continue in the absence of HESP although the local implementing partner (PRUDA) has given positive indication of its willingness to sustain this effort.

The project also did exceptionally well in the area of facilitating access to timely traction services for small-holder women participants who find themselves in the perennial cycle of accessing traction services only after their male counterparts have completely met their traction needs. Optimal planting times have often been missed due to delays in accessing traction services and this has been the bane of low productivity among women small-holders for ages. Through the instrumentality of HESP, the Lambussie Area Association of Tractor Operators (LAMATOA) was created. The Association provides traction services to HESP beneficiaries in a timely and relatively lower negotiated cost compared to prevailing market rates. Prior to the creation of LAMATOA, most HESP participants used to plough late or even missed ploughing in the major farming season and this contributed to low productivity and a worsening of food and nutrition security as well as farm incomes of majority of women. The FGDs with most collectives at LD indicate that, not only are they better organized now to seek timely traction services, they are in direct touch with executives of LAMATOA to bring to their attention problems requiring technical backstopping support (e.g. issues of cheating relative to exact measurements of acreages; ploughing along rather than across the contours of the slope; unfair fee charges and rates etc.). A lot still remains to be done to sustain the operational functionality of LAMATOA as they are not yet fully registered with the Registrar General's Department and do have a large pool of worn-out tractors and implements that require immediate replacement. CARE together with PRUDA have facilitated processes to have LAMATOA registered with the District Assembly, the Department of Cooperatives as well as the Registrar General's Department to improve their recognition as a legitimate business entity that can do business with donor partners and government. While this process was still on-going at the time of this evaluation, it is important to note that continuous CARE programming at LD

needs to build on this effort to ensure operational sustainability.

The next sub-sections present results of the end line survey specific to each of the indicators stated in the HESP revised M&E framework:

4.1 Indicator 1: Yield per acre of land achieved by poor women smallholder farmers in cultivating soy and groundnut

Juxtaposing the end line data to baseline reveals that overall, agricultural yields improved from 624.32kg per acre at baseline to 754.73kg per acre (17%) by end line as shown in table 6. A comparison of yields of project targeted crops reveals quantum improvements both for soya and groundnuts. Whereas an average of 375kg per acre was realized from soya cultivation at baseline, there was an increase to 847.15kg per acre at end line (56%) - surpassing the HESP target of 30% (see Table 6). A similar trend is observed for groundnuts where improvements were marked by an increment from 1557.14kg at baseline to 1,959kg (20.5%) by end line due to no reported cases of leaf spot diseases. On average, acreages have increased for soya from 1.25 to 2.21 (43%) whereas those of groundnut have inched from 3.71 to 4.20 (12%). While these developments may qualify as improvements within the project context, they are still sub-optimal compared to potential yields expected of smallholders by FAO standards. Expected yields for soya per acre by FAO standards is between 600-1000 kg or 0.8 -1.2 tonnes. Similarly, the Savannah Agricultural Research Institute (SARI) estimates the average landholdings of women cultivating soya in northern Ghana to be 1.5 acres – the project's effort in supporting the extension of landholdings to 2.21 acres is a positive stride towards greater productivity.

To this end, there is the need to sustain the efforts that have been set in motion by HESP to support the upward drive in yields and landholdings – this would require further CARE programming and linkages to existing Government of Ghana (GoG) projects such as MoFA's Modernizing Agriculture in Ghana (MAG) project, IFAD/GoG's Ghana Agriculture Sector Investment Programme (GASIP), CARE/USAID's Northern Ghana Governance Activity Project etc.

One major challenge of farmers is the issue of measuring crop yield and this can be attributed to poor record keeping (due to high illiteracy rates). Focus group discussions clearly reveal that subsistence farmers start consuming from harvest through processing and to the barns. Hence, they are unable to quantity the amount of produce consumed; that given out to feed small ruminants and livestock and amounts given as donations to labourers who helped in clearing the fields, planting and harvesting. Analysis of the data and end line findings should be understood in the context of environmental shocks that adversely affected agricultural production and income in both HESP districts in 2017 and earlier. It is important to appreciate from the outset that, the project has been facilitated under conditions characterized by cyclical income poverty, protracted dry agro-ecological conditions (mean annual rainfall ranges between 800-1200 mm

and the sandy loamy soils with underlying hard iron pans generally poor in inherent soil fertility) and poor crop production. Similarly, many HESP farmers have experienced extraordinary drought conditions and poor-to-non-existent harvests and agricultural yields during the past two years of the project. Notwithstanding these daunting circumstances of severe production and environmental challenges, participating HESP households have managed to improve their productivity (45.2%) especially for the selected crops (soy and groundnuts) – surpassing the project's targeted 30% productivity target by endline.

Table 6: Women's agricultural yields (baseline vs endline)

Women's Agricultural Yields (Baseline)				
Crops cultivated	**N**	**% of women cultivating:**	**Area Cultivated (acres)**	**Yield/acre (kg)**
Millet	7	7.70	1.40	220.00
Sorghum	13	14.30	1.86	410.00
Maize	23	25.30	2.56	916.67
Rice	4	4.40	1.00	312.50
Soybean	5	5.50	1.25	375.00
Groundnut (unshelled)	26	28.60	3.71	1557.14
Cowpea	12	13.20	1.71	200.00
Bambara beans	1	1.10	1.00	200.00
Overall	91		2.07	624.32
Women's Agricultural Yields (Endline)				
Crops cultivated	**N**	**% of women cultivating:**	**Area Cultivated (acres)**	**Yield/acre (kg)**
Millet	38	16.00	2.45	432.89
Sorghum	45	20.10	2.18	679.04
Maize	31	19.40	3.83	1325.00
Rice	16	16.80	2.40	265.88
Soybean	33	19.90	2.21	847.15
Groundnut (unshelled)	78	37.70	4.20	1959.00
Cowpea	29	18.90	1.94	348.90
Bambara beans	7	1.70	1.00	180.44
Overall	177		2.53	754.73

Table 7: Number of different type of crops grown by female farmers (Baseline vs Endline)

Number of different type of crops grown by female farmers (Baseline)			
	Male-headed HH	**Female-headed HH**	**Total sample**
Mean number of crops grown	1.17	1.74	1.34
Percent of female farmers growing different types of crops	96.7	93.8	95.2
Major crop grown in the most recent agricultural year			
Millet	10.3	20.0	11.4
Sorghum	15.4	20.0	15.9
Maize	20.5	20.0	20.5
Rice	7.7	20.0	9.1
Soybean	7.7	20.0	9.1
Groundnut	17.9		15.9

Cowpea	17.9		15.9
Bambara beans	2.6		2.3

Number of different type of crops grown by female farmers (Endline)

	Male-headed HH	Female-headed HH	Total sample
Mean number of crops grown	3.24	2.79	3.05
% of female famers growing different types of crops	99.20	94.00	97.60
Major crops grown in the most recent agricultural year:			
Millet	15.90	21.80	17.40
Sorghum	35.40	25.70	23.80
Maize	51.20	24.20	24.20
Rice	7.40	5.30	6.60
Soybean	15.40	27.50	18.70
Groundnut	28.60	29.10	20.90
Cowpea	20.10	14.50	16.10
Bambara beans	4.20	1.20	2.20

In terms of crop diversification, there are improvements in the mean numbers of crops grown by FHH between baseline and end line. The mean number recorded at baseline was 1.74 for FHH, however, this jumped to 2.79 by end line (Table 7). It is evident from the data that, apart from groundnuts which is traditional to the project districts; soya, through the instrumentality of HESP has come to add to the mix of crops under cultivation. More FHH are growing soya and groundnut than at baseline and it would appear that, more of these households are going into cowpea, maize and sorghum as well than at baseline. Diversification cushions participants against shocks of all kinds and the erratic nature of rainfall as well as the vagaries of climate variability, makes this a primal response necessary for resilience building.

4.2 Indicator 2: Percentage of poor women smallholder farmers reporting control over or ownership of a core set of productive resources and assets

The measurement of this indicator is control over or ownership of agricultural land and mechanized farm equipment. The baseline results indicate that 47.1% of women smallholder farmers have control over or ownership of agricultural land (piece/plots) and 41.0% of smallholder farmers have control over or ownership of mechanized farm equipment. The project sets 40% increase on baseline as the target for women smallholder farmers' control over or ownership of agricultural land and mechanized farm equipment respectively. Results of the end line point to an encouraging future as all targets set for this indicator ***have been achieved well beyond expectation.***

With less than half of women households (43.5%) reporting ownership of assets at baseline, an impressive 92% of same households reported asset ownership by end line (Table 8). Great strides were made particularly for assets such as agricultural land, large consumer durables, mechanized farm equipment and means of transportation – with over 96% of FHH respondents reporting ownership (Table 8). This survey results ought to be treated with caution as the

understanding of "ownership" especially of agricultural land in many instances could easily be misunderstood to mean "access" although efforts were made to avoid this wrong interpretation. The questions in this section were set so as to get an idea about men's and women's access to capital or assets and their ability to control use of these resources. It is quite unlikely that FHH ownership of agricultural land in both districts could be as high as 96% as the endline survey result seeks to suggest, there is however, a great degree of corroboration from FGDs that male gender champions are making a difference in supporting increased recognition of women's right to land. It was also evident from FGDs that women were assuming more control over lands bequeathed to their infant male children by deceased spouses as well as lands procured through verbal contractual lease agreements. The results in Table 8 are therefore more indicative of secure access to land as opposed to ownership.

Table 8: Ownership of household asset, by type of household (Baseline vs Endline)

Ownership of household asset, by type of household (Baseline)			
Type of assets	**Total HHs (%)**	**Male-headed HH (%)**	**Female-headed HH (%)**
% of women household owning:			
Agricultural land	88.5	92.8	74.6
House (and other structures)	77.8	89.9	38.1
Small livestock (goats, sheep, etc.)	82.2	83.1	79.4
Means of transportation (bicycle, motorcycle, car, etc.)	79.6	84.1	65.1
Poultry (chickens/guinea fowl, etc.)	77.0	80.7	65.1
Mechanized farm equipment (tractor, hoe, cutlass, animal plough, etc.)	70.4	63.8	92.1
Cell phone	67.8	74.4	46.0
Small consumer durables	65.2	71.5	44.4
Large livestock (oxen/donkey/cattle)	55.2	64.7	23.8
Other land not used for agricultural purposes	30.7	36.7	11.1
Farm equipment (non-mechanized)	28.5	31.4	19.0
Large consumer durables (TV; sofa)	17.0	20.8	4.8
Non-farm business equipment	3.3	3.9	1.6
Overall	**57.2**	**61.4**	**43.5**
Ownership of household asset, by type of household (Endline)			
Type of assets	**Total HHs (%)**	**Male-headed HH (%)**	**Female-headed HH (%)**
% of women household owning:			
Agricultural land	92.3	90.6	96.0
House (and other structures)	94.9	93.4	97.4
Small livestock (goats, sheep, etc.)	96.1	94.7	92.0
Means of transportation (bicycle, motorcycle, car, etc.)	93.9	92.0	98.0
Poultry (chickens/guinea fowl, etc.)	58.4	69.3	71.8
Mechanized farm equipment (tractor, thresher etc.)	96.6	66.4	96.5
Cell phone	86.2	85.4	88.3
Small consumer durables	93.2	92.7	94.0

Large livestock (oxen/donkey/cattle)	90.8	89.3	94.6
Other land not used for agricultural purposes	98.6	99.0	97.8
Farm equipment (non-mechanized)	83.1	82.0	86.0
Large consumer durables (TV; sofa)	92.8	93.3	97.3
Non-farm business equipment	89.5	90.9	86.7
Overall	**89.7**	**87.6**	**92.0**

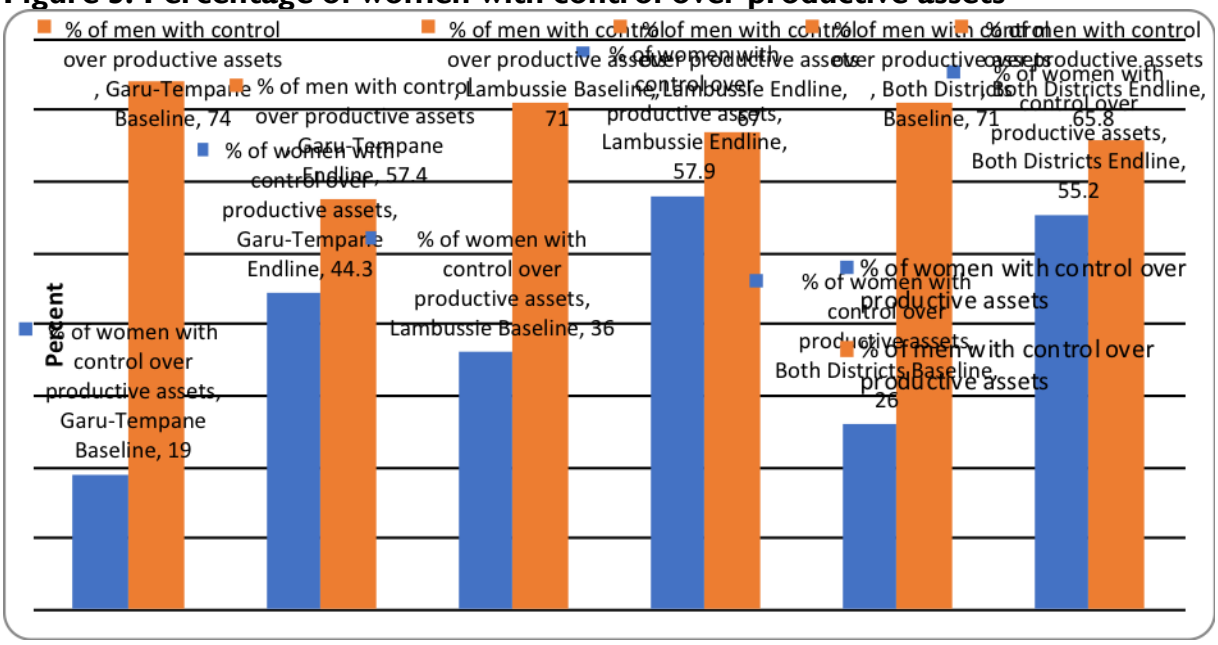
Apart from the significant progress marked in asset ownership, there is also a proportionate upward trend in the mean number of household assets owned by FHH. Endline survey results reveal that except for "*other land not used for agricultural purposes*", the mean number of household assets has increased for FHH in all categories of the set of assets surveyed (Table 9). This suggests that FHH have accumulated assets over the project period. Households are able to accumulate assets if income is greater than the necessary expenditures to meet household subsistence requirements (Figure 4). Assets also provide households with a cushion to adjust to shortfalls in incomes, or sudden increases in necessary expenditures. There is ample evidence from this growing trend of asset ownership that HESP households at endline are less vulnerable than before and have therefore improved their resilience over time.

Table 9: Mean number of household assets owned, by type of household (Baseline vs End line)

Mean number of household assets owned, by type of household (Baseline)			
Type of assets	**Total sample**	**Male-headed HH**	**Female-headed HH**
Poultry (chickens/guinea fowl, etc.)	12.56	13.69	7.98
Other land not used for agricultural purposes	11.63	11.95	8.14
Small livestock (goats; sheep; etc.)	8.46	9.28	5.64
Large livestock	5.23	5.42	3.60
Mechanized farm equipment	5.12	5.65	3.90
Agricultural land (pieces/plots)	4.99	5.71	2.91
Farm equipment (non-mechanized)	4.57	4.83	3.17
House (and other structures)	2.72	2.32	3.89
Means of transportation (bicycle, motorcycle, car, etc.)	1.92	2.06	1.34
Small consumer durables	1.77	1.82	1.54
Cell phone	1.62	1.65	1.45
Large consumer durables (TV; sofa)	1.37	1.33	2.00
Non-farm business equipment	1.00	1.00	1.0
Mean number of household assets owned, by type of household (Endline)			
Type of assets	**Total sample**	**Male-headed HH**	**Female-headed HH**
Poultry (chickens/guinea fowl, etc.)	10.31	10.86	8.91
Other land not used for agricultural purposes	6.09	6.69	4.86
Small livestock (goats; sheep; etc.)	8.48	8.89	7.43

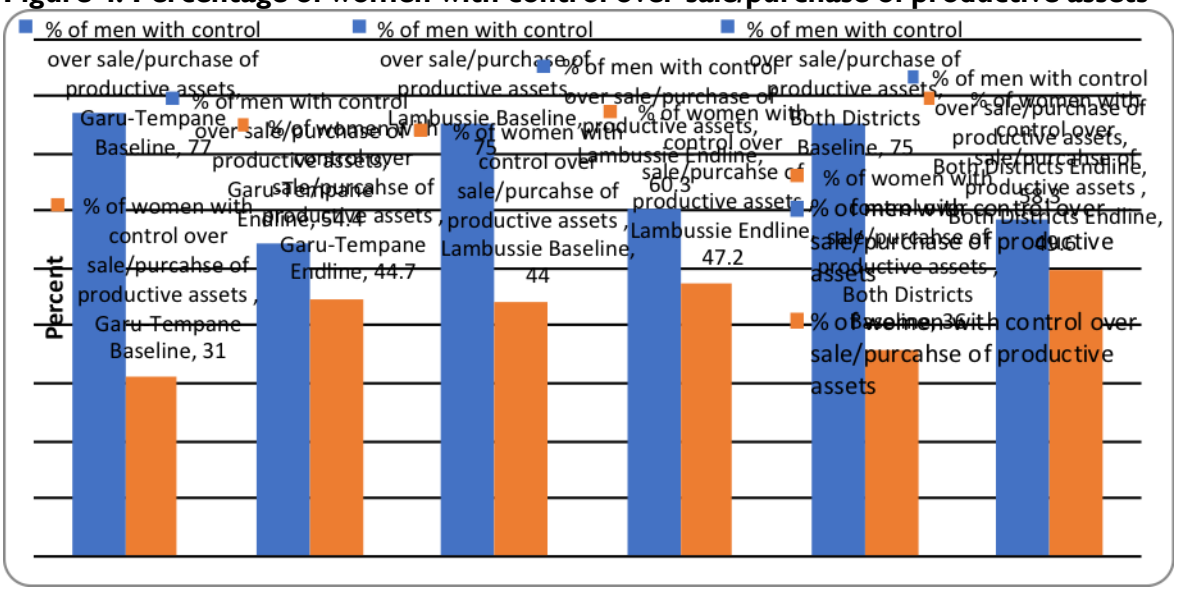
Large livestock	10.31	10.86	8.91
Mechanized farm equipment	5.07	5.27	4.56
Agricultural land (pieces/plots)	5.54	5.68	5.21
Farm equipment (non-mechanized)	4.54	2.42	9.20
House (and other structures)	1.94	1.83	2.19
Means of transportation (bicycle, motorcycle, car, etc.)	2.76	2.69	2.94
Small consumer durables	2.97	3.23	2.46
Cell phone	2.16	2.22	2.02
Large consumer durables (TV; sofa)	5.05	5.33	4.34
Non-farm business equipment	1.93	1.89	2.04

Figure 3: Percentage of women with control over productive assets



The end line results also suggest an improvement in women's control over/purchase of productive assets relative to baseline as illustrated in figure 5. At baseline only 33% of women reported having control over/purchase of productive assets compared to 49.6% at end line.

Figure 4: Percentage of women with control over sale/purchase of productive assets



4.3 Indicator 3: Percentage of women with access to a core set of agricultural services

Baseline survey results of access to agricultural extension services by HESP participants was 52.7%. On this account, the project set a target of 82.7% to achieve by the end of the three year period. The end line results reveal that ***the target for this indicator has been achieved with 90.3% or 2,709*** women having been reached by the end of the project as opposed to a target of ***1,500***. A factor contributing to this phenomenal achievement is the use of CARE's Community Based Extension Agents' (CBEAs) strategy. The CBEAs provide basic extension (crop and livestock) services to project and non-project beneficiaries on a voluntary basis and free of charge. The CBEAs are facilitated to establish solid links with MoFA/DDA and the partner organizations during the life of the project. After the end of the project, this linkage remains a means by which CBEAs continue to replenish their information and knowledge. They are a link between DDAs which are tight stretched for staff and the communities and this ensures their stability. CBEAs are helping to reduce the farmer to agricultural extension agents ratio particularly in the LD where there is currently only one Agriculture Extension Agent (AEA) serving the nine (9) operational zones of the district of over 14,705 farmers (each operational zone ideally is supposed to be manned by one AEA). In spite of Government's efforts to bridge the gap in extension with the introduction of the Youth in Agriculture (YEA) programme, not a single AEA was posted to LD to help address this huge deficit. This is confirmed by HESP's baseline data which pointed to the AEA to farmer ratio being 1:8,000 in LD compared to 1:800 in GTD prior to HESP. The use of CBEAs and the continuous capacity building programmes for CBEAs has improved AEAs to farmer ratio in both districts (1:6500 for LD; 1:520 in GTD). Continuous CARE programming in these districts is one of the surest ways of guaranteeing the sustainability of the CBEA model.

Figure 6 presents data on women's access to extension services, agricultural inputs, agricultural finance and output markets. Whereas 52.7% of HESP households at baseline in both districts had access to extension services, results of the end line indicate that, over 90% of same households now have access, with access at GTD (95.3%) being better than at LD (88.3%) - surpassing the set target of 82.7%. It would appear CARE's continuing programming support for CBEAs is contributing to this remarkable feat. Similarly, some progress was made in the area of agricultural inputs although the end line results (58.7%) suggest that the set target (76.2%) was missed, but the achievement within the project span represented an improvement over what was recorded at baseline (26%). The reason for missing the target set for agricultural input is that the local agricultural input dealers in the communities did not have most of the inputs in their stock because in some instances they could not broker favourable procurement and payment terms with major suppliers (although the project worked hard to have the situation improved).

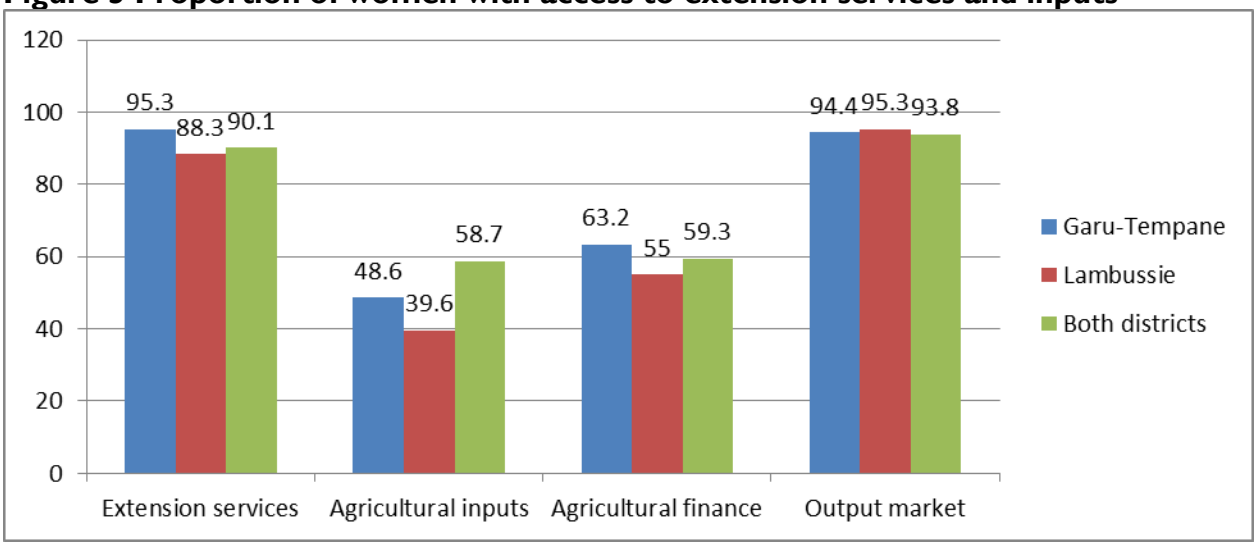
HESP was very instrumental and effective in improving physical access to inputs at both districts through various innovative and forward-looking strategic linkages. The end line results show that women in FHH in GTD had better access to agricultural inputs through community input fairs compared to women in MHH. In the LD, women in both MHH and FHH appear to access agricultural inputs from agro-dealers/input suppliers within 5km. The project drew this success through the implementation of input dealership schemes/fairs, community seed out-grower schemes among other strategies. In-depth interviews show that Heritage Seed Company was very pragmatic in terms of its provision of foundation seed for seed growers to grow certified seeds on agreed payment terms. HESP has additionally supported community input agro dealers in the project districts by procuring metal fabricated input shops for four project participants to increase access to inputs through the setting up of agro dealership businesses. Notwithstanding the non-achievement of the set target for increasing input access in the project districts, an improvement from 26.2% at baseline to 57.6% represents over 100% change in progress within the project span of three years. With the right policy sustenance measures in place, it is likely that the target set by HESP could be realized in the nearest foreseeable future.

Access to agricultural finance at end line (59.3%) surpasses baseline (38%), but the most outstanding progress was recorded at GTD (63.2%) while proportionate success was also registered at LD (55%). As reported at baseline, farmers' access to agricultural finance or credit was largely from the VSLAs, findings from the end line also confirm the predominant source of agricultural finance at GTD (FHH = 77%; MHH = 68%) and LD (FHH = 77%; MHH = 75%) to be from the VSLAs (Table 10). This means that the VSLA concept which the HESP project used as an entry point to working with women groups in the target communities has been very relevant and appropriate to local priorities and needs. The VSLA is not only meant for savings of household extra income but as collateral for accessing loans for farming and business

activities. While own savings represented another significant source of agricultural finance, micro-finance institutional loans, agricultural cooperatives and agricultural insurance represented insignificant sources of finance. It might be worthwhile to note that, with the increasing adverse effects of climate change, weather index insurance is increasingly becoming an avenue for farmers to manage risk and uncertainty through conscious planning – this is non-existent within the context of HESP project communities. There is an emerging agricultural insurance sector in Ghana with solutions aimed at creating a two-sided market for the supply and purchase of inputs, information services on Good Agricultural Practices (GAPs) and digital financial services. The sector is typified by the activities of the Ghana Agricultural Insurance Pool (GAIP), ESOKO, Farmerline etc. – it might be worthwhile to see how their initiatives can be brought on-board the agenda of supporting HESP participants in view of the absence of crop insurance products in the project districts.

In the area of output markets, ***outstanding success was achieved, with over 93% of HESP participants reporting access***. In all instances, more than half of HESP participants reported access to this set of services; implying that, a second phase of the project could see all participants having maximum access to these services.

Figure 5 Proportion of women with access to extension services and inputs



The most important source of access to agricultural information services was found to be radio (50.6%) for MHH and 29.5% FHH at GTD. The most significant source of access to agricultural information services for both MHH (35.1%) and FHH (29.0%) was from Input suppliers/agro-dealers at LD (see table 10). To a significant degree, community input fairs were identified by 25.0% and 35.5% of FHH at GTD and LD respectively, as important sources of access to agricultural information services. It would appear that the input fairs and agro-dealership schemes introduced by HESP are making a difference in terms of access to agricultural

information services for project participants. Surprisingly, not many respondents identified CBEAs, MRCs and other producers as important sources of agricultural information services although; FGDs and Key Informant interviews highlighted these sources to be significant.

Table 10: Access to agricultural information services

Sources of agricultural information services	Garu-Tempane district		Lambussie district	
	FHH (%)	MHH (%)	FHH (%)	MHH(%)
Cell phone/SMS update	11.4	8.6	9.7	8.5
Radio	29.5	50.6	25.8	20.2
Television	27.3	25.9	6.5	14.9
Government extension agents	13.6	11.1	12.9	9.6
Other producers	4.5	2.5	3.2	6.4
Collectors/traders	6.8	11.1	6.5	12.8
Input suppliers/agro dealers	25.0	25.9	29.0	35.1
NGO	4.5	1.2	6.5	7.4
Market research committee	9.1	14.8	3.2	4.3
Community based extension agents	9.1	11.1	9.7	4.3
Community input fairs	25.0	16.0	35.5	34.0

Source: Field survey, 2018.

The second project outcome is increased household income for smallholder women farmers and micro entrepreneurs through effective engagement in economic opportunities along the soy and groundnut value chain

Commendable progress has been made on this outcome. The HESP project did not only tackle women farmers' income through increases in crop yield but implemented strategic interventions in the area of community ***seed multiplication schemes*** in partnership with a certified seed production company - Heritage Seed. The project's Agricultural Production Team facilitated a Memorandum of Understanding (MoU) between Heritage Seed Company Limited[2] and 22 HESP women farmers (10 and 12 women LD and GTD respectively) to venture into commercial seed production and subsequently sell same both as an income generation enterprise and to contribute to improved access to certified seeds of soy and groundnuts at the community level. Key Informant Interviews (KII) with majority of these women indicates that access to prime lands for seed production is a huge challenge although the venture has so far proven to be profitable. It was reported that due to the high demand for certified seeds (soya in particular); their current production volumes (about 300kg per acre) are woefully inadequate to meet local demand. Moreover, the competitive price that the certified seeds are attracting is making sale to local farmers less attractive compared to selling to the seed produce buying companies with better offers. It is very apparent that current production volumes and land holdings for the purpose of seed production are low and would require strategic improvements to meet local priorities and needs. Even though, Heritage Seed Company has indicated

[2] Heritage Seed Company provided the foundation seed and fertilizer to the seed growers on credit

willingness to continue to work with the seed producers and is also interested in increasing the number of farmers on the scheme (because HESP women seed producers produce high quality well-sorted seed), what is explicit is that, current production volumes may not be adequate to compensate for transaction costs associated with Heritage Seed Company continuing to do business with them. There might be a need to up-scale and out-scale the initiative in order to sustain the interest of these companies.

In order to facilitate access to inputs for smallholder farmers, the project identified potential new ***input dealers*** among the target group who had the ability and capacity to develop this type of small scale business. HESP/CARE International's approach to improving farmers' access to input through the multiplication of sales points to reduce distances farmers travel to procure inputs and the provision of advisory services by trained input dealers to farmers should be highly commended. The input dealers were linked to wholesale dealers to be able to offer inputs to other producer groups. Mindful of the challenges most pioneering input dealers faced with respect to logistics for travelling to meet wholesalers, or sometimes the wrong products being on offer, the project found it expedient to facilitate a private sector-led roll out of a micro franchising model which would link small scale input dealers directly to manufacturers. Wholesalers are better able to serve as skilled input retailers offering the kind of high quality, market-oriented products and services that produce the best results for farmers in their communities.

The approach relies on cultivating a sustainable commercial relationship between the trained agri-input retailers at the community level and the VSLA groups. The model has indeed helped to reduce transaction costs for the local dealers; reduced prices of agro-inputs for HESP farmers; and ensured the right input is supplied. There are ***currently 32 trained community level agri-input dealers (with 9 of them as HESP direct beneficiaries)*** serving over 8,500 members of 341 VSLAs in 71 communities in both project districts. These have largely been the vehicles by which HESP organized the input fairs at the community, zonal and district levels to improve access to inputs. The HESP Team further facilitated the development of an agro-input training curriculum for the identified input dealers. The curriculum included training topics on; inputs handling and effects of chemical contamination, use of PPE, identification and use of quality agro-chemicals, business registration and management as well as record keeping. This intervention has brought about significant improvement in women's access to timely agro-inputs, which is evident in the increased yields and incomes being reported here.

Facilitating the establishment of ***Market Research Committees*** (MRCs) and linkages to buyers (major aggregators and processors) was another area of ***impressive success*** of HESP. The approach focuses on group marketing. MRCs have been formed at the community, zonal and district levels and their capacities built on key marketing basics such as: market planning; conducting market research; selecting joint and basic market outlets; and collective marketing.

Their role is to support efforts of the women collectives to aggregate soya and groundnut in order to leverage on collective bargaining. Through the facilitation of HESP, MoUs were signed between the MRCs and the Savannah Farmers Marketing Company (SFMC), Savannah Food Company and Yahaya Enterprise in Wa in 2016 and 2017. In 2016 a total of 244 (55kg each) bags of soy were bulked and supplied to the SFMC valued at sixteen thousand one hundred and four Cedis (GHS 16,104.00 equivalent of about US$ 3,578) - the said amount was paid to the MRC for disbursement to members of collectives at GTD. Additionally, SFMC bulked 12,500kg of soy in LD valued at GHS 17,500.00 equivalent of about US$ 3,889. The low volumes aggregated by the MRCs are informed by the availability of local demand and other produce buyers from neighbouring Burkina Faso (for LD) and Togo (for GTD). It was reported by majority of MRC executives that frequent delays in the arrival of produce buying companies leaves many farmers with little choice but to sell in local markets, moreover, in many instances, offers from the local markets are usually more attractive than those of the produce buying companies such as SFMC and Ghana Nuts Limited.

Apart from crop production being an entry point for income generation, HESP in collaboration with the Business Advisory Center facilitated various ***value addition trainings*** for 20 women in both districts along the soya and groundnut value chains. Women's 'market literacy,' (technical knowledge and skills) including training on the nutritional value of soy and groundnut were built in order to help diversify their incomes sources through appropriate value addition capacity. Women collectives were trained on how to make khebab, soya seasonings, soya cake ('kulikuli'), 'soya powder, groundnut dough/paste, groundnut oil among others through the cooking demos and bazaars organized under HESP support. In addition to the training, these women were provided with roasters to start their businesses. Most of these products were found on display at various VSLA meetings during this evaluation.

The specific results of the endline survey for the indicators in this outcome area are as follows:

4.4 Indicator 4: Percentage increase in annual income among women smallholder farmers

One key expected outcome of HESP is to "increase household income for smallholder women farmers and micro entrepreneurs through effective engagement in economic opportunities along the soy and groundnut value chain". HESP households were therefore asked about the income earned from on-farm/agricultural related activities as well as off-farm activities. Total annual income was estimated by adding both income sources. In-depth reviews and analyses of data on women in all the sampled communities indicate that their incomes have increased in nominal terms. The contributing factors are related to increases in yields from production, improved access to better markets, VSLA activities and profits from the sale of value-added products along the groundnut and soya value chains (diversification of income sources with the mean number of off-farm businesses engaged by women being 3.9).

The project's revised M&E framework indicates that it targets to increase incomes by 50%. The baseline reports total average annual household income for all project communities to be GHS 3, 391.03 (USD 892.4[3]), the endline results suggest that average annual household incomes for all the sampled communities increased significantly within the project period to GHS 5,666.94 (US$ 1,259.32[4]). Income growth has however been better for on-farm related income sources (GHS 4,719.01) than for off-farm sources (GHS 2,547.89). ***At the level of individual districts, a lot more progress was recorded in income mobility from off-farm activities at LD (GHS 2,190.70 = US$ 487) than at GTD (GHS 1,104.30 = US$ 245.4)*** (Table 11). In general terms however, incomes from both off-farm and own production of soya and groundnuts (GHS **1,997.04**) in both districts represents a significant improvement over a baseline situation where majority (66.2%) of FHH were not involved in soya and groundnut production.

Table 11: Annual Household Off-farm Income by Household headship and district

Income sources	Total HHs	Male headed HH	Female headed HH
Income from **off-farm** activities total GHS	**2,547.89**	**2,484.93**	**2,387.40**
Agriculture wage labour	1,186.35	1,225.87	1,108.53
Non agriculture: wage labour	1,113.57	1,107.17	1,131.07
Skilled labour	2,173.65	2,136.74	1,732.08
Small business activities (street vending, shop keeping)	1,152.83	1,172.70	1,176.38
Formal employee (Gov't, NGO, private)	1,449.53	1,450.92	1,447.14
Handicrafts	571.47	386.33	412.00
Remittances (foreign, domestic)	1,141.81	153.67	106.25
Wood/charcoal sales	884.82	876.41	805.45
Non-forest timber products	173.86	175.12	168.50
Garu-Tempane	1,104.30	1,025.09	1,136.15
Lambussie	2,190.70	2,169.72	2,113.23
Number of off-farm businesses available to women (mean)	4.1	3.3	3.9
% of women engaging in off-farm soy and groundnut	79.3	84.7	66.2
Small business activities (street vending, shop keeping) %	53.3	50.1	34.2
Wood/charcoal sales (%)	27.7	23.6	28.0
Agricultural wage labour (%)	49.3	44.8	33.3
Number of soy and groundnut businesses engaged by women (Mean)	3.6	3.4	3.8

Source: Field survey, 2018

An examination of results of income diversification available to women by type of household reveals an extraordinary performance or outcome between baseline and end line (see Table 12). Significant strides were made by HESP participants in all the on-farm/agricultural income

[3] Exchange rate as at survey period, 3.8

[4] Exchange rate of 4.54741 (www.oanda.com 16th May 2017)

variables considered. Income mobility within the project period increased by 210.16% (GHS 3197.51 or US$710.56) for all households engaged in on-farm/agricultural income generating activities. It was more the case for GTD (GHS 4,607.45 or US$ 1,023.88) than LD (GHS 3,629.18 or US$ 806.48). *A significant result was with respect to the income growth recorded by FHH in both districts; whereas reported incomes of this category was* ***GHS 861.15 (US$ 190.00)*** *at baseline, there was quantum leap in income mobility* to ***GHS 4,306.86 (US$ 957.08)*** *by end line – representing an impressive* ***400%*** *increase.* There was also an impressive improvement in the percentage of women engaged in on-farm agricultural activities compared to baseline – with the most promising developments being all the variables considered under this category (see Table 12).

The results from Table 11 and Table 12 suggest the project beneficiaries are better off and can be regarded as people now living above the poverty line as a result of the project intervention. The findings show that on-farm income plus off-farm income of the project beneficiaries increased by 114.30% (GHS 7,266.90). There is however, a higher increase (195.62%) for FHH compared with 107% for MHH. This implies that the project has contributed massively in improving the income levels of FHH and this has improved their access to productive assets and decision making.

Table 12: Annual Household On-farm Income by Household headship and district (Baseline vs Endlines)

Baseline			
	Total HHs	Male-headed HH	Female-headed HH
On-farm/agricultural income[Total GH¢]	**1521.50**	**1647.16**	**861.15**
Crop sales (own production)	512.01	561.41	329.51
Sales of livestock and livestock products	395.91	426.45	220.00
Nursery products	150.41	173.25	48.89
Seed selling	101.87	106.24	88.08
Other	356.29	374.8	307.30
Lambussie	1694.77	1773.08	837.57
Garu Tempane	976.69	1082.18	673.16
% of women engaging in on-farm agriculture activities (Multiple response):			
Crop sales (own production/household gardening)	64.3	57.1	62.6
Agriculture wage labour	19.3	14.3	18.1
Processing	17.9	9.5	15.9
Seed selling	19.8	20.6	20.0
Time spent in generating income from soy and groundnut (in hours)	6.5	7.0	5.5
Endline			
	Total	Male-	Female-

	HHs	headed HH	headed HH
On-farm/agricultural income[Total GH¢]	**4,719.01**	**4,931.16**	**4,306.86**
Crop sales (own production)	2,592.12	2,661.95	2,462.29
Sales of livestock and livestock products	1,401.34	1,520.85	1,366.30
Nursery products	1,196.06	1,217.75	1,222.20
Seed selling	1,183.71	1,199.81	1,118.56
Other	1,499.15	1,412.80	1,337.51
Lambussie	3,629.18	3,941.33	3,507.19
Garu Tempane	4,607.45	4,773.36	4,783.04
% of women engaging in on-farm agriculture activities (Multiple response):			
Crop sales (own production/household gardening)	70.3	71.2	67.4
Agriculture wage labour	32.1	25.5	28.6
Processing	26.3	25.8	34.4
Seed selling	30.6	28.8	32.4
Time spent in generating income from soy and groundnut (in hours)	-	-	-

Source: Field survey, 2018

A further examination of results of improved access to markets for soya and groundnut value chain activities as presented in Table 13 gives credence to the possibility of improved income mobility within the project span. The mean prices of both soya and groundnuts increased well above the prices recorded at baseline by over a 100% in both districts over the project span. With a stable inflation rate within the project span, it is very likely that the margins realized from the sale of these crops would have brought in above normal profits which should have translated into improved incomes.

Table 13: Access to market along soy and groundnuts value chain (Baseline vs Endline)

Baseline		
	Garu Tempane (soy)	**Lambussie (groundnut)**
% reporting selling last harvest produce through:		
Open market	93.8%	100%
Other buyer	6.2%	-
Volume of 100kg per maxi bag of produce sold through:		
Open market	75.6	160.2
Other buyer	4.3	-
Total Volume of produce sold (100kg of maxi bag)	79.9	160.2
Mean price of 100kg of maxi bag of produce sold through:		
Open market	110	109.75
Other buyers	210.27	-
Mean price of 100kg maxi bag of produce during bumper season	135.94	93.21
Mean price of 100kg maxi bag of produce during lean season	259.87	126.25

% reporting difficult in getting market for their produce			30.2%	72.9%
Nature of difficulty encountered:				
Low prices for products			10.3	35.8
Lack of buyers for produce			0.7	18.7
Transportation			4.4	73.9
Storage			0.7	56.7
Endline				
	Garu Tempane		**Lambussie**	
	soy	**groundnut**	**soy**	**groundnut**
% reporting selling last harvest produce through:				
Marketing committee	25.0%	23.7%	34.7%	43.4%
Open market	65.3%	47.2%	40.0%	52.8%
Other buyer	30.3%	59.2%	49.6%	40.8%
Volume of 100kg per maxi bag of produce sold through:				
Marketing committee	144.81	99.11	75.33	83.55
Open market	134.57	108.73	37.20	89.08
Other buyer	151.09	80.10	14.00	74.35
Total Volume of produce sold (100kg of maxi bag)	430.36	287.94	126.53	246.98
Mean price of 100kg of maxi bag of produce sold through:				
Marketing committee	230.0	440.00	205.00	410.00
Open market	220.00	400.00	200.00	390.00
Other buyers	215.00	385.00	190.00	375.00
Mean price of 100kg maxi bag of produce during bumper season	221.67	408.33	198.33	391.67
Mean price of 100kg maxi bag of produce during lean season	250.00	450.00	210.00	430.00
% reporting difficult in getting market for their produce	48.2%	48.7%	36.5%	51.7%
Nature of difficulty encountered:				
Low prices for products	29.3%	19.3%	29.3%	35.8%
Lack of buyers for produce	31.7%	28.1%	31.7%	18.7%
Transportation	38.1%	40.2%	38.1%	73.9%
Storage	27.4%	57.3%	27.4%	56.7%

Source: Field survey, 2018

4.5 Indicator 5: Number of women engaged in new off-farm businesses in soy and groundnut value chain

One of the project outcomes of HESP is to increase household income for smallholder women farmers and micro entrepreneurs through effective engagement in economic opportunities along the soy and groundnut value chain. The set target for this indicator in the project's revised M&E framework is 40 members of women's collectives engaged in new off-farm businesses along the groundnut and soya value chains. The end line data suggests that apart

from the project facilitating 10 women to go into agro-processing; 52 women were additionally engaged in soy and groundnut aggregation and 4 others in input dealerships (bringing the total to 66). This suggests that ***the set target was surpassed by as much as 26 additional beneficiaries.***

The project's strategy in value addition targeted solely the processing of soya and groundnuts. To this end, selected project participants were first given capacity building support in key areas of business management such as customer care, stock management and record-keeping. They were also trained on 'market literacy,' (technical knowledge and skills) including training on the nutritional value of soy/groundnut (through cooking demonstrations and bazaars) and packaging in order to whip-up and sustain their ability to seek further business opportunities along these value chains. Project participants reported being able to produce oil, khebab, various seasonings, cakes, pastes and a variety of wean mixes at end line. In order to lessen the drudgery associated with manually roasting soya and groundnuts, each participant was supported with a roaster. At end line, project participants are reporting improved diversification of income sources. An average of ***GHS155*** an equivalent of US$ 34.44 is being reported by project participants at GTD as profit they earn from activities of the groundnut value chain each month. Similarly, ***GHS168*** was reported for those in the soya value chain at LD. It can be concluded from these simple estimates that, groundnut and soya value chain actors can expect to earn profits in the range of ***GHS1,860*** and ***GHS2,016*** (i.e. US$ 413 – 448) annually. This profit has enabled women to pay school fees of their children; renew their health insurance; purchase small ruminants and others.

4.6 Indicator 6: Number of commodity clusters providing internal services to members

An important factor to consider from the outset relative to this indicator is the fact that the VSLAs were defined as commodity clusters for purposes of HESP's operations. The project's strategy of working with and through existing CARE VSLAs makes measurement of this indicator a little complicated. This is especially the case because HESP did not facilitate the formation of new commodity clusters. The strategy was a good approach for maintaining the functional sustainability of CARE's VSLAs as past experience has shown that when these groups remain for a while without project support they often tend to loose cohesion and become dormant or disintegrated. It was evident from majority of FGDs and interviews that VSLAs were composed of CBEAs, Input Dealers, Producers, Agro-processors, Gender Champions and MRC members. It has been highlighted extensively in earlier phases of this report the instrumental roles these actors play in providing internal services. Their roles have ranged from the transfer or sharing of appropriate and sustainable agricultural practices; improving access (both fiscally and physically) to relevant inputs at affordable prices at venues of good proximity; processing and sale of various value-added commodities along the soya and groundnut value chains to members of clusters and others - to such vital activities as, facilitating linkages for

aggregators to reach buyers and processors.

Additionally, the project facilitated commodity clusters to engage the services of LAMATOA and RASTEL for traction (ploughing) services. The HESP Review and Planning Meetings report reveals that in 2017, 2,950 representing 98.3% of project beneficiaries had access to traction services during the farming season. Similarly, gender champions are also providing essential services, which enhance group cohesion and stability in the communities and thus has helped to prevent divorces in the project communities as evidenced from results of the endline survey on the marital status of the respondents. Not a single individual reported a divorce since the inception of the project. HESP has therefore been very instrumental in helping clusters provide not less than seven (7) internal services to members. In sum, the project succeeded by endline in facilitating ***138 clusters in 32 communities*** against an end of project ***target of 130 commodity clusters*** –this target was outstripped by ***8*** additional commodity clusters**.**

Section 5: Summary of Baseline Indicators, Conclusions and Recommendations

5.1 Summary of Baseline and Endline Indicators

Table 14: Summary of Baseline and Endline Indiators

PROJECT OUTCOMES	INDICATORS		BASELINE	ENDLINE
1. Increased agricultural productivity for small holder women farmers through improved and sustainable farming methods and increased access to productive resources.	1. Increase in yield per unit land achieved by poor women smallholder farmers in cultivating selected crops (in kg) (acre)	Millet	220	433
		Sorghum	410	679
		Maize	917	1,325
		Rice	312.5	266
		Soybean	375	847
		Groundnut	1,557	1,959
		Cowpea	200	349
		Bambara beans	200	180
		Overall average	624	755
		Average yield increase for selected crops (G'nut & Soya): **45.2%** ***(against and end of project target of 30%)***		
	2. Number of poor women smallholder farmers reporting control over or ownership of a core set of productive resources and assets (e.g. land, water, inputs, tools)			
		Agricultural land (pieces/plots)	47.10%	88.5%
		Small livestock	40.00%	82.2%
		Poultry (chickens/guinea fowl, etc.)	39.50%	77%
		Mechanized Farm equipment	41.00%	70.4%
		Large livestock	19.50%	55.2%
		2,240 women or 74.7% *(against an end of project target of 40%)*		
	3. Percentage of women with access to a core set of agricultural services (e.g. extension,	Extension services	52.70%	90.1%
		Agricultural input	26.20%	58.7%
		Agricultural finance	38%	59.3%

	information, finance, market)	Output market 86.70% 93.8% ***2264 women or 75.5% (against an end of project target of 1,500)***
2. Increased HH income for smallholder women farmers and micro entrepreneurs through effective engagement in economic opportunities along the soy and groundnut value chain	Total increase and percentage (annual income) among women farmers.	**Baseline** Overall annual income GHS 3,391.03 Male Headed GHS 3,582.57 Female Headed GHS 2,264.48 **Endline** **Actual (on-farm + off-farm)** Overall annual income GHS 7,266.90 Male Headed GHS 7,416.09 Female Headed GHS 6,694.26 **295.6% increase in incomes of FHH *(against an end of project target of 50%)***
	The number of new off-farm businesses available to women in the soy and groundnut value chain.	**Baseline:** Average Number of Off-farm businesses: 1.4 **Endline:** Average Number of Off-farm businesses: 3.6 No. of new off-farm businesses available to women: **66 *(against an end of project target of 40)*** – this target was outstripped by as much as **26**.
	The number of commodity clusters providing internal services to members.	138 clusters in 32 communities (***achievement by endline***) (***against an end of project target of 130 commodity clusters***) – target was outstripped by 8 additional commodity clusters.

Source: Endline Survey, 2018

Drawing from the summary of emerging findings in Table 14, the following observations are evident relative to the relevance, effectiveness, impact and sustainability of HESP:

5.1.1 Relevance

HESP has been instrumental in building women's capacities to enhance their livelihood and economic security in rural Northern Ghana. The endline survey confirms improvements in access to and ownership of productive assets such as roasters and threshers to improve income generating activities like groundnut and soya processing. Overall, the FGDs held with collectives gave a strong indication that the target communities feel that the project has been successful in meeting their immediate needs for sustainable income (over ***295.6%*** improvement) and improved agricultural productivity (over ***45.2%*** improvement). The project through these activities is helping to fight poverty and inequality which remain cardinal pillars of the sustainable development goals (SDGs).

Focus group discussions with collectives revealed that improved productivity and incomes have translated into improved registration in the National Health Insurance Scheme (NHIS) – all members of collectives are registered by means of the social contributions they make through the VSLAs. Following from these developments, there is good indication that the objectives of HESP are still highly valid and relevant. The project is especially relevant because of the precarious situation of women in Northern Ghana (malaria, reproductive health, maternal mortality etc.) and that enrolment in NHIS is often an issue due to problems of acceptance,

awareness, affordability and access (the 4As).The project has especially been very instrumental in increasing and building on all 4As (a relevant unintended outcome).

Furthermore, the relevance of the project can also be viewed in respect of its forward looking responsiveness to the Government of Ghana's recent focus on how to use its Venture Capital Trust Fund (VCTF) portion of its Agricultural Fund to go into soya value chain development. There is potential in the soya industry which requires adequate funding to target nucleus farmers, out-growers and farmer-based organizations to build partnerships with key institutions, especially incubators and centres of innovation, to promote entrepreneurship along the value chain. HESP has demonstrated in a practical way, viable ways in which such a process can be facilitated. Moreover, Government of Ghana's *Coordinated Programme of Economic and Social Development Policies* (2017-2024 pp. 68) recognizes that the growth of agriculture will be the main driving force for rural development and transformation; and that, one of the main objectives of agricultural development is to promote agro-industrial enterprises as the basis for the One District, One Factory initiative (1D1F). As a result, there will be a complete paradigm shift in agricultural development from a supply driven-approach, to a more strategic, business-centered and demand-driven approach as exemplified by HESP. To this end, HESP is in sync with this new orientation that will constitute the new operational framework for agricultural development in the medium-to-long term in Ghana – the relevance of the project is therefore not in question.

In summary, it can be concluded that with respect to consistency of the project at the ultimate level, the project strategy has shown sufficient flexibility; there has been no serious indication of the non-validity of the project logic. It is evident from the results presented in the preceding sections that the project's ultimate goal of improving the economic security of women smallholder farmers and their households by increasing their productivity and access to inputs and markets has been achieved significantly.

5.1.2 Effectiveness

Drawing from the performance of the project and wide consultations with beneficiaries and key local institutional level stakeholders, the most promising results in terms of the factors influencing the achievement of the objectives of the project include the right agricultural advisory services (well-focused and participatory in nature -FFBS) and targeting strategies used. Using the VSLAs as conduits to improve agricultural productivity, incomes and inputs/markets proved to be an effective platform. The approach was found to be women-friendly, women-dominated (100% in some instances) and self-sustaining in a way that afforded and enhanced access to productive assets aside the direct financial security it offered to project beneficiaries.

In addition to the VSLAs, the Market research Committees (MRCs) have a huge potential to revolutionize women's participation in the soy and groundnut value chains especially negotiating for better prices for group members, accessing support from service providers like input

dealers, ploughing service providers (LAMATOA), Seed Companies (Heritage Seed) etc. Testimonial evidence of increased economic inclusion of women collectives during the FGDs among others included; women expressing an awakening of the mind, awareness and knowledge attributable to HESP.

Improved community mobilization and reported improvements in access to a 'basket of collaborators' across both districts are only a few examples of how HESP contributed positively to changes in knowledge, attitudes, and practices, empowerment of women, and access to regional and national markets and institutions (District Departments of Agriculture, Business Advisory Centers, Input Dealers, Produce Buying Companies etc.). They provide an indicative glimpse of how these achievements may contribute to security of income, improvements in the agricultural productivity and markets of women collectives and linkages to relevant institutions supportive of their livelihood diversification options.

In general, HESP was perceived as a "women's project" with activities specifically targeting women's economic empowerment and sense of free agency. This is particularly impressive given the strongly-cemented barriers to women's empowerment in northern Ghana. There is strong evidence to suggest that HESP/CARE has indeed contributed to building women's collectives': (i) asset base; (ii) knowledge and information; (iii) institutions and entitlements; (iv) flexible, forward-thinking decision-making and governance; and (v) innovation, albeit the contribution in some areas may be stronger than in others. HESP's contribution to (i), (ii) and (iii) are perhaps the most obvious with reported improvements in access to market opportunities and financial resources, as well as access to training, extension support and new agricultural knowledge. Repeated accounts of the increased 'basket of collaborators' that HESP has introduced to communities suggests that beneficiaries are now confident in the institutions available to support and assist them.

5.1.3 Impact

HESP's impact, or influence, on agricultural productivity (over ***45.2%*** improvement), incomes (over ***295.6%*** improvement), access to inputs (over ***55%*** improvement) and markets (**93.8% access**) has been strong at both districts. At the community level, incomes have increased through various avenues such as agro-dealerships; value additions to soya and groundnut; VSLA activities; seed multiplication; collective aggregation/bulking and marketing etc. The efforts of HESP in strengthening each collective's operations by ensuring that they adhere to VSLA guidelines with a satisfactory level of local executive leadership has by default supported a process of transformational change in local governance for income generation and agricultural productivity. Similarly, at the MRC level, the evaluation sees much clearer and direct evidence of HESP/CARE's role in strengthening the position of collectives in advocating for greater bargaining power through product aggregation for the groundnut and soya value chains. At this level one cannot attribute these developments to HESP/CARE's work alone, but testimonial evidence suggests that the project has had considerable influence in this regard.

Overall, HESP's evidence of impact is quite strong as evidenced by the results presented in Table 14. The project has achieved considerable impact at the individual, household, community and district levels. Impacts at the household level are perhaps the greatest and provide the strongest evidence of how the lives of beneficiaries have changed as a result of their direct participation in the project. They include evidence of strengthened and diversified livelihoods sources (through skill acquisition for income generating activities such as groundnut and soya processing), and access to financial, social and human assets (through the VSLAs, LAMATOA, MRCs, BACs etc.). Where challenges and barriers to impact were encountered, contributing factors included mostly difficult situations such as climate variability and complex attitudes and perceptions deeply embedded in culture, custom or religion.

At the district level, the project's impact is again commendable although a lot more could have been achieved. Of particular note was the project's willingness to work with others and their ability to coordinate a 'basket of collaborators' (DDA, BAC, LAMATOA etc.) to better serve the needs and interests of project communities. At GTD for example, the HESP/CARE is considered the 'teacher' of the Farmer Field and Business School. Comments heard by the evaluation team in this district suggest that communities feel more empowered and are more mobilized through such groups as the VSLAs, MRCs, CBEAs etc. This was confirmed by MoFA officers who commented that some MRCs were visiting their offices on a regular basis, demanding updates on market prices of soya and groundnut; availability of improved and climate tolerant seeds as well as the whereabouts of produce buying companies with the best competitive offers in the market.

5.1.4 Sustainability

Some evidence exists of communities and households in HESP target communities showing ownership of project activities, willingness and capacity to sustain project outcomes. Evidence of sustainability include linking the Agro-dealerships to the Environmental Protection Agency (EPA) and BACs in the districts to guarantee continuous support after the exit of HESP - technical backstopping and coordination support in the former; and skills training and financial support in the latter. Through the BACs, the collectives are able to access GoG's Rural Enterprises Development Fund (RED Fund) and a Matching Grant to support the up-scaling of their businesses along the soya or groundnut value chains (under the Ghana Rural Enterprises Programme or the Venture Capital Trust Fund).

HESP's strategy to project delivery, which emphasizes capacity building and community mobilization to empower women so they can address their own problems, has in itself supported the sustainability of project outcomes. Training and joint participatory mass extension approaches such as the farmer Field and Business Schools are strategies HESP has employed to improve the capacity of women collectives to increase their agricultural productivity and incomes. Without further interventions (HESP Phase II or otherwise), communities' abilities to sustain livelihood benefits and gains in gender equality could be at risk.

Gender-related results of the project, including improved confidence of women, access to financial capital through savings and yearly share outs from the VSLAs and economic independence through participation in small scale income generating activities are significant. However, persistent challenges like disparities in education levels among females (in all project districts) and rigid gender roles can keep women in a vulnerable position if a second phase of HESP is not implemented to sustain the gains set in motion.

5.2 Conclusion

The HESP concept provides a good model that should be carried forward, either as a continuation of this project or in future projects. Nearly three years after introducing HESP at LD and GTD, CARE and its implementing partners have successfully achieved most of the objectives of this highly striving project, including the following change levers:

- ***Capacity*** – improved knowledge, skills, relationships, self-confidence, and conviction of women farmers: ***excellent progress***
- ***Access*** – increased access to productive resources, assets, markets, and appropriate and reliable services and inputs for poor women farmers: ***very good progress***
- ***Productivity and Incomes*** – improvement in yields and incomes through adoption of sustainable and intensified agriculture and value addition: ***some progress, but deflated partly because of various environmental shocks***
- ***Household influence*** – increased poor women farmer contributions to and influence over household income and decision-making: ***very good progress***
- ***Enabling environment*** – more positive and enabling attitudes, behaviours, social norms, policies, and institutions – ***excellent and for some social groups and institutions, sustainable progress***

Designed, developed, and implemented within highly patriarchal social-cultural contexts of the two districts, where women's access to and control over productive assets and resources have been highly constricted, HESP has been greatly successful in attaining measured progress toward attaining the simultaneous empowerment of women economically and socially. This is an important project for women in each of the districts. Female and male participants perceive that their households have improved their wellbeing after participating in HESP activities.

HESP women have increasingly enjoyed a degree of economic and social empowerment; progress and positive change toward women's empowerment. VSLA activities have undoubtedly contributed to women's increased participation in decisions about producing and expending household income as well as decisions about roles and divisions of labour within the household and participation outside of the household. Building on existing CARE VSLAs has served as an excellent entry point for other HESP activities and women participants offer positive role models in communities in each of the project districts. Communities have experienced enhanced discourse about patriarchal roles, relationships, and practices. Women cite their

VSLA involvement as a gateway toward more equitable household decision-making and a greater voice inside and outside of the household. But this is a long process; HESP has only begun this process.

FGDs in all 10 project communities sampled for the final evaluation indicated that HESP women who started cultivating soya and groundnuts and participated in VSLAs contributed to household income more significantly compared to non-participants. It should be noted, however, that income data are notoriously unreliable in some instances due to poor record keeping and mass illiteracy among the target group. Like households in surveys elsewhere, households across both districts undoubtedly in some instances underreported their income due to fear of losing their eligibility to the Below Poverty Line (BPL) status[5] and a potential loss of future support for projects targeted at people living below the poverty line.

Access to agricultural extension increased dramatically over the three-year period for women in both districts. At endline, twice as many women in both districts have access to output markets and more than twice as many accessed agricultural inputs due to the availability of input suppliers. This is notable progress given the social and economic constraints faced by female farmers. Participating women in both districts have experienced improved access to output and input markets. Participants specifically linked increased access to extension services with the ability to get higher yields (productivity). End-line survey results also indicate increased crop diversity and adaptation of early-maturing varieties that help buffer increasingly unpredictable rains. Extension reach was further enhanced by means of the demos and Participatory Scenario Planning workshops and their accompanying input fairs that were facilitated under the HESP Farmer Field and Business Schools (FFBS) initiative.

From baseline to endline, HESP women participants across both districts are far more likely to apply improved agricultural practices, including increased adoption of improved seeds, use of manure or composting, crop rotation, and mixed cropping. Women farmers have increasingly diversified their crop production as well; across both districts, the number of crops grown by women has increased. Successful households are serving as a model for those who are slower to adopt change (according to focus group discussants); it is likely that more women will access services as they observe the benefits of participating households.

5.3 Recommendations

Based on the findings of the final evaluation, this section provides recommendations for either an extension of the current project or new projects based on the HESP model. Some

[5] Other wealth indicators like number of assets owned or expenditures made could be used as proxy instead of directly seeking the income levels of project participants. Direct income approaches have often been very problematic to estimate in most project situations, therefore a combination of expenditure and other approaches is recommended for similar future endeavours.

overarching themes and patterns across HESP districts contribute to the reflections presented as suggestions below:

a) ***Develop an effective value-chain strategy to integrate into a HESP-type strategic programming approach***. Such an effort would require intensified business training for participating farmers within marketing and producer groups. Project staff would need additional training of their own to develop and understand the proper sequencing of marketing initiatives, including closing the information gap between producers and buyers such that producers understand market demand and how they are positioned to respond to that demand. The project would also need to emphasize diversification and specialization to increase competitiveness and competitive advantages.
b) ***Continue to promote gender sensitization training in conjunction with technical agricultural and business skills training*** for HESP participants, including men, and field staff from the onset of any future HESP-type project in order to maximize women's empowerment potential.
c) ***Consider strengthening the strategy used by the project to improve women's access to land***. Customary land tenure arrangements and the practice of land inheritance patterns do not vary substantially between both project districts. A common thread across both districts is the patriarchal patterns of customary land rights, land tenure arrangements, and customary land inheritance patterns as practiced in rural communities. Access to good agricultural land has been a challenge for women in both districts. The practical application of a programming strategy to promote women's access to cultivable land would be a step in the right direction, and may require an advocacy component to challenge customary practice vis-a-vis policy and law. Luckily, CARE Ghana has the Land Access for Poor Women's Project (LAW) experience as a guide to see how gender champions can be brought on-board the agenda to work towards strengthening access to land for HESP participants.
d) ***Use the strengthened collectives to expand women's access to formal micro-finance institutions (MFIs) to increase their capacity to invest in income generating activities*** (IGAs). VSLA strengthening has served as an excellent entry point for other HESP activities and women participants offer positive role models in HESP communities. VSLA involvement has allowed women to be more frequently included in household purchasing decisions as evidenced by results of the endline. Household members consider it a benefit to the household when women are able to save and access credit. Accessing sufficient credit to invest in productive enterprises, however, remains problematic. Few HESP participants access credit from formal institutions in both districts. At some point, households seeking investment and income enhancement opportunities will need to seek services from the formal financial sector. Depending on the district and context, it may be feasible to devise a strategy calling on farming

households collaborating within collectives to provide collateral for each other to access formal loans.

e) ***Enhance financial management and leadership training as well as numeracy and literacy training for women participating in VSLAs in order to increase their business skills and acumen***. Focus group participants throughout all the 10 communities sampled for the endline reiterated that education – and in particular, literacy training - are key factors limiting women's participation, particularly in positions of leadership. Scaling up literacy and numeracy initiatives as well as entrepreneurship capacity and negotiation skills will multiply project impact and maximize the integration of other project activities. Creative means of delivery could be explored. Numeracy skills could be disseminated through extension services, teachers, or other types of community -based extension agents.

f) ***Systematically document HESP impact on women's empowerment and the transformation of gender norms through knowledge management***. The HESP project offers a unique and potentially powerful approach to increase women's participation in household and community social and economic life, including an effective roadmap toward women's empowerment. HESP could in the future explore the possibility of documenting progress through cohort case studies of 5 women per district as a means of documenting HESP's participation and women's different trajectories toward empowerment status. The documentation could include specific guidelines on how to implement better practices. Strengthening knowledge management would also allow CARE to identify and advertise the achievements and outcomes of HESP and therefore more effectively advocate for support of initiatives that could realize greater scale and impact.

g) ***Build on successes of soya and groundnut production and consumption and improve market linkages***. Participants requested earlier access to inputs, better prices for inputs, and bullock or tractor services for tilling like the case of LAMATOA. Future projects should provide services and/or subsidies in view of the general poverty situation in the project districts. There was also a call to ensure better linkage of agricultural training and access to inputs. The training farmers received in agricultural production was at times ineffective because there were no proper implements to increase production. This included seeds, use of fertilizers, insecticides, and pesticides (due to poor fiscal accessibility capacity). The timing of the training should coincide with the availability of inputs. Additionally, sometimes (in a few cases though) inputs were not provided at the time of the year needed for seasonal agricultural activities even though there has been an improvement through the activities of LAMATOA.

h) ***The exit strategy for HESP should include mechanisms for continued support to women's collectives and village organizing volunteers*** such as CBEAs, MRCs and Gender champions, and advocacy for successful linkages to government schemes and support. Therefore, Care International, Ghana should advocate the District Assemblies

to have budgets to help these groups –CBEAs, MRC, etc continue to play the roles that will improve agricultural productivity.

i) ***Place greater focus on marital status when designing and targeting specific initiatives.*** Differences between females residing in male- and female-headed households should be noted and activities aligned to the circumstances of each. More research into who controls the decisions of women in female-headed households could help future projects design initiatives that specifically target these parties for inclusion in the gender dialogue sessions. Additionally progress for female-headed households in areas such as non-farm income, asset accumulation (especially land), and productivity, could be enhanced if future projects take a more critical look at the factors hindering their ability to achieve equal status with their male-headed counterparts and specifically design initiatives to address these challenges.

Annex I: List of data enumerators

List of data enumerators in Garu-Tempane District

SN	Name	Sex	Mobile contact
1	Rukaya M. Atimbilla	F	0243674381
2	Felix Ayambilla	M	0548865296
3	Dominic Alale Bukari	M	0246269013
4	Norbert Awinbood Akparibo	M	0543975516
5	Alimatu Mbula Akudugu	F	0248740457
6	Titus Atiiga Ababilla	M	
7	Justina Blessing Asagtmbey	F	0547521026
8	Moses Atogsi	M	0244119213
9	Yakubu Abdulai	M	0245375337
10	Emmanuel Abazaami	M	0248356307

List of data enumerators in Garu-Tempane District

SN	Name	Sex	Mobile contact
1	Rita Basaaking	F	0248786772
2	Amuna Kazie	M	0207246759
3	Callistus D. Balebe	M	0242862297
4	Saila Nibormoka	F	0550500050
5	Issahaku Kubin	M	0547907480
6	Zummeweh Zakariay Guo	M	0541260003
7	Paschal Tengan	M	0240208610
8	Esther Gan	F	0553810255
9	Jutha Bogneh	F	0548355470
10	Bachonyianeh Mannah	M	05498355470

Annex II: List of focus group discussants

List of participants in Zamballa

SN	Name	Sex	Mobile contact
1	Alimah Abdulai	F	-
2	Mariama Musah	F	-
3	Jamila Yusif	F	-
4	Salamatu Awudu	F	0547031145
5	Adisah Issah	F	0241745757
6	Sompoa Awuni	F	-
7	Fouzia Adam	F	-
8	Hawa Asam	F	-
9	Amina Awuni	F	-
10	Amina Salifu	F	-
11	Fata Alale	F	-
12	Ayi Nashiru	F	0554823322
13	Damata Abdulai	F	-
14	Zenabu Zakaria	F	-
15	Ramatu Mohammed	F	0543006379
16	Rahinatu Abdul-Kadir	F	0542381084
17	Shetu Hamidu	F	-
18	Fati Awudu	F	-

Annex III: List of FGDs and KII

Location	Name	Sex
Garu-Tempane		
KII		
Zomanika	Azure Shetu	
	Abu Nafisah	
	Bukari Shetu	
Nadegri	FGD	
	Mahama Zakari	
	Sophia Muntari	
	Abdulai Limata	
	Muntari Ninfam	
	Kofi Akua	
	Kombat Damatu	
	Sumaila Fati	
	Sale Zenabu	
	Lambon Teni	
Nadegri	FGD	
	Iddris Sherifa	
	Suuk Fatima	
	Fuseini Fusheina	
	Hamidu Laadi	
	Abu Konduuk	
	Sakwa Kojo	
	Matua Badam Christopher	
	Lukitin Lale	
	Kombat Suuk	
Zamsiri Buliga	KII	
	Barikisu Tahiru	
Bupielsi	KII	
	Juliana Kabir	
	Gifty Sambo	
Zamballa		
	Atalkae Awudu Samiu	
Lambussie		
Piina	KII	
	Felix Gandaakuu	PRUDA
	Salifu Fatawu	
	Bamousin Richard	
	Lawrence Bapommusie Boyuo	MRC
	Ibrahim Kazie Bamakera	
Lambussie	Banka Tawie Fuseini	

	Tong Ella-Tondwiisi Baloroo	LAMATOA
	Morfair Obed	
	Banuosin A. Latif	
Tabier	FGD	
	Bayuo Mpetuo	
	Kumbele D. John	
	Asunta Kanzio	
	Bayuo Theresah	
	Yeltuola Ubakpieretie	
	John The Baptist Yuor	
	Vincent Batunyiga	
	Daminu Aanyele	
	Buobabute Dietige	
	Lucy Sanyare	
	Gabiela Aanyele	
	Scholastica Kuubiele	
	Yuora Kuubile	
	Alberta Sanyare	
	Ernestina Aankuo	
	Kumbaar Bayuo	
	Magdalene Kuubile	
	Sylvanus Suntenga	
	Mary Suntenga	
	Genevieve Yelfayi	
	Ernestina Batumiyiya	
	Bayuo Kukuradum	
Sentu	FGD	
	Alfredina Boludame	
	Rose-Mary Dapallah	
	Yelkaya Ninfar	
	Beatrice Nyinzuma	
	Juliet Wiele	
	Angelina Dery	
	Yepaltuo Janet	
	Fidelia Kogh	
	Fehata Wiele	
	Gladys Tukpe	
	Jacinta Aankuro	
	Gifty Dery	
	Murhi Minwaar	
	Ernestina Wura	
	Donata Kumbayin	
	Valeria Bagumi	
	Vida Sentu	

	Paulina Tempele	
	Georgina Bafaayiri	
	Tuotuo Grace	
	Felicia Dapallah	
	Mary-Grace Bayuo	
	Mwinzumih Mary	
Lambussie	KII	
	Tingbani Malik Abdulai	