CARE International in Zambia

Building Livelihoods and Resilience within Climate Change (BLRCC) Project in Kalomo District of Southern Province

Baseline Assessment Report

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Acknowledgement goes to project participants who rendered their time to provide information solicited through a questionnaire and other in-depth interview guides. Lastly, special appreciation goes to the Lead Farmers and community leaders who allowed the exercise to be conducted in their respective communities and further allow communities to participate without whom this exercise would not have been a success.

EXECUTIVE SUMMARY

The baseline was conducted to establish baseline values on agriculture, nutrition and climate change related topics. Specific objectives included: examining knowledge, attitudes, behaviors and practices related to agriculture, nutrition, gender and livelihoods of small scale farmers in the district and identifying programmatic priorities and approaches through in-depth interviews with key stakeholders such as government staff, community leaders and project beneficiaries.

The baseline assessment adopted a cross-sectional pre-post study design with mixed methods approaches. A pre-post study design is aimed at measuring the occurrence of an outcome before, and again after a particular intervention has been implemented. In perspective therefore, the BLRCC project is operating in specific selected communities of Kalomo district of Southern province. Methodically, the baseline assessment gathered both qualitative and quantitative data elements. Quantitative data were collected through a structured household schedule (questionnaire) while qualitative data were collected through semi-structured Focus Group Discussions, Individual In-depth Interviews (IDIs) and Key Informant Interviews (KIIs).

Limitations to the baseline study included the exercise being implemented during the farming season for most farmers in the area as a result, most project participants were not at home at the time of the survey. However, community volunteers were proactive to organize households to be interviewed.

The key findings were the following:

1. 94% (776) confirmed of having grown some crops during the 2020/21 farming season as compared to only 6% (53) who may have not grown any crops. When asked the kind of crops grown, maize accounted for more than 96% of participants, followed by soya beans accounting for 22.4% of participants. Those who cited of having grown other crops such as cotton, beans, sunflower, cow peas, etc. accounted for 8.2%
2. Farming profit was predominant, accounting for 87% of participants, followed by other means such as charcoal burning, sale of fish, and gardening, accounting for 5.2% of study participants. Husband's income was cited as one of the sources of income accounting for 4% of participants. Ninety-two percent of study participants owned livestock and the other 8% did not. Of those that confirmed of having owned any livestock, 88% owned chickens, 74% owned goats, and 68% owned cattle, whilst 8% owned sheep, 8% owned pigs, and only less than 1 % owned a horse.
3. 92% of the respondents indicated that their households experienced "little to no hunger" in the 30 days prior to the evaluation in 2020. Moreover, evaluation results indicate that 2% of the respondents reported that their households experienced "severe hunger" in the 30 days prior to the evaluation. Furthermore, 7% of the respondents reported that their households experienced "moderate hunger" in the 30 days prior to the evaluation.
4. The majority confirmed in affirmative that women should equally be engaged in economic activities accounting for 93.6% as compared to 6.4% who did not agree with this notion. Similarly, when asked to state whether they are able to make decisions regarding household savings, 79% of women participants confirmed of being able to do so as compared to 26% who confirmed of not being able to make decisions regarding household savings.

Based on the results in this report, the following are the recommendations:

i) In trying to build resilience, improve livelihoods, and achieve diversified crop production, the project must consider timely distribution of drought resistant crops and inputs, coupled with required trainings.

ii) Ensure agricultural technical assistance initiatives such as extension services targets vulnerable farmers and agricultural workers, including small-scale farms and households in order to promote increased access to women-friendly technology and skills.

iii) In food insecure contexts where communities have limited access to adequate food, scale-up of copying mechanisms for vulnerable households – the elderly, disabled, female headed households and chronically ill, should be considered. This would entail distribution of farming inputs to most affected and vulnerable households. Most importantly, the project should ensure that the selection and inclusion of vulnerable households is given priority.

1.0.INTRODUCTION

Poverty remains the greatest challenge to national development. Poverty trends suggest that overall income poverty prevalence was reduced between 1991 and 2015 by 24.6 percent, although an increase was observed in the late 1990s. The reduction in poverty was more significant in urban areas, where it declined by 25.6 percent, from 49 percent in 1991 to 23.4 percent in 2015. Income poverty in rural areas decreased from 88 to 76.6 percent in the period 1991 to 2015 (Government of Zambia. Zambia vision 2030) but due to changing climate patterns leading to declining agricultural productivity this trend has reversed post 2015.

The percentage distribution of the population by level of poverty in 2015 showed that 40.8 percent of the population was extremely poor while 13.6 percent was moderately poor. The proportion of the non-poor was 45.6 percent. With the 2015 projected national population at 15.9 million, this meant that 8.5 million people lived in poverty, with 3.5 million of those living in extreme poverty. It is clear that economic growth did not translate into significant poverty reduction, especially in rural areas. The pattern of economic growth in Zambia is highly unequal and incomes of the poor have not increased enough to lift them out of poverty, mainly because the economic growth historically has been concentrated in capital-intensive industries e.g. construction, mining and transport. The other reason being related to the geographical component i.e. urban areas have gained more than rural areas. Lastly, economic growth in Zambia is not associated with labour-intensive sectors in which the poor tend to work, such as agriculture.

Similarly, Zambia has been experiencing the adverse impacts of climate change in the last decade, including an increase in frequency and severity of seasonal droughts, occasional dry spells, and increased temperatures in valleys, flash floods and changes in the growing season. In 2019, the country experienced prolonged dry spells that led to crop failure and lack of water recharge into streams, rivers, dams and ground water aquifers in several provinces.

Agriculture is one of the most vulnerable sectors to climate change in Zambia. It is largely rain-fed and dominated by a single crop, maize, for food security. The majority of the population in rural areas (about 60%), in particular women, depend on the agriculture sector for their livelihood. Facing annual risks of climatic shocks, rural farming households tend to produce low-value subsistence crops of land with few inputs. Smallholder farmers face several constraints including land degradation, poor terms of trade and lack of investments, erratic and unpredictable rainfall patterns, poor access to markets, few off-farm employment opportunities, and low agricultural productivity

These changes in climate trends have led to decreased livelihoods through both food and economic insecurity due to lower agricultural and livestock productivity. Loss of agricultural productivity is caused by low soil fertility due to lack of organic matter, soil erosion and inherent low fertility, lack of improved early maturing and drought tolerant crop varieties, lack of irrigation infrastructure and water smart agriculture practices, unsustainable agricultural practices, insecure land tenure, lack of financial, climate and extension services, post-harvest

storage, and markets. Livestock productivity is affected by increase in livestock diseases and lack of pasture, water, unsustainable animal husbandry practices and poor extension services.

Deforestation from charcoal production is becoming a reactive livelihood, not done in a sustainable and traditional way with production increasing due to increased demand in urban centers and the drought's impact on agriculture livelihoods. This increase of charcoal production due to population growth and unavailable or unreliable energy sources increase both the climate change effects and environmental degradation, creating a negative feedback loop.

The lack of crop and livestock production, crop diversity, and the increasing economic insecurity is also increasing malnutrition. However, the economy is projected to grow by 1.0% in 2021 and 2.0% in 2022, underpinned by recovery in the mining, tourism, and manufacturing sectors. The recovery in international demand and copper prices are positive developments, while a reduction in COVID–19 cases will boost activity both in manufacturing and tourism.

1.1. Building Livelihoods and Resilience during Climate Change Project

1.1.1. Project Description

Agriculture-dependent communities are often poor and malnourished because of inequality: between men and women, between those who can access resources and those who cannot. Many farmers struggle to grow, raise, catch, or buy enough nutritious food because of degraded soil, water scarcity, and lack of diverse foods in the market or low incomes. They often lack secure land tenure, financial and extension services, weather information, post-harvest storage, and markets. Agricultural practices, from crop production to animal husbandry, are often unsustainable. But small-scale food producers can play a big role in producing more nutritious food more sustainably - for themselves and for local, sub-national and national markets.

This project will tackle these challenges with a comprehensive package of interventions that addresses the root causes of livelihood insecurity in Southern Province, Zambia. The project will target 3,750 vulnerable households (22,500 individuals) and be implemented in Kalomo, one of thirteen districts in the Province, where main crops include maize, sunflower, ground nuts, sweet potatoes, cow peas, soya beans, wheat, fruits and vegetables. The district also has robust livestock production. Despite its potential, the agriculture system in the district faces significant barriers and challenges, including unequal access to resources, climate change impacts, environmental degradation, poor coordination of service delivery and malnutrition.

The action will support communities in five targeted wards in Kalomo district engaging in alternative and complementary climate smart and regenerative agriculture activities that will increase their resilience and capacity to withstand food security, climate and economic shocks. The project will promote diversification of agricultural production and development of rural areas through strengthening the of resilience of small-scale farmers and vulnerable communities with a particular aims of mitigating drought impact, promoting diversified, resilient, sustainable livelihoods and improving the management of community forests, protected areas and communal grazing land. Strategies will include the promotion of agricultural productivity, improved weather information, promotion of climate change

awareness, forest and watershed protection, management of charcoal production, livestock production, pasture and rangeland management and water security.

1.2. Main Goal of the Assessment

The baseline assessment was aimed at collecting quantitative and qualitative information on nutrition and climate change related topics so as to measure the basis on which the project will be built.

1.2.1. Specific objectives

1) Examine Knowledge, attitudes, behaviors and practices related to agriculture, nutrition, gender and livelihoods of small scale farmers in the district.
2) Identify programmatic priorities and approaches through key informant interviews with stakeholders such as government staff, community leaders and project beneficiaries.

2.0. METHODOLOGY

2.1. Study Design

The baseline assessment adopted a cross-sectional pre-post study design with mixed methods approaches. A pre-post study design is aimed at measuring the occurrence of an outcome before, and again after a particular intervention has been implemented. In perspective therefore, the BLRCC project is operating in specific selected communities of Kalomo district of Southern province. Methodically, the baseline assessment gathered both qualitative and quantitative data elements. Quantitative data were collected through a structured household schedule (questionnaire) while qualitative data were collected through semi-structured Focus Group Discussions, Individual In-depth Interviews (IDIs) and Key Informant Interviews (KIIs).

2.2. Data collection

The assessment was conducted in December 2021. The assessment was designed to collect cross-sectional data on knowledge, attitudes, behaviours and practices related to agriculture, nutrition, gender, and livelihoods using a semi-structured household questionnaire. Other data collection procedures included the following:

a. Secondary data collection through document review of BLRCC project related relevant internal and external documents, and

b. Primary data collection through a **Household survey** using a semi-structured questionnaire with women and men of reproductive age group. **KIIs** (Key Informant Interviews) with agricultural extension officers and community leaders. **In-Depth Interviews** with project beneficiaries to fully appreciate the current levels of knowledge, attitudes and practices around nutrition, agriculture, and other gender related aspects.

2.3. Study Population

Targeted population for the baseline assessment included women and men of reproductive ages (15 – 49 years) who are small scale farmers in five selected wards of Kalomo district and government employees the Ministry of Agriculture including Agriculture Extension Officers. Other individuals targeted for the baseline assessment were community leaders and volunteers.

2.4. Ethical Considerations

As part of preparations for fieldwork, all partners were trained on research ethics, obtaining informed and on-going consent for household interviews, IDIs and KIIs; privacy and protection of identity of interviewees and avoiding negative blow back to interviewees. In addition, all Researchers were educated on ensuring that interviews were conducted in a safe and secure environment, i.e. ensuring physical safety of interviewees as well as data safety. Furthermore, given the COVID 19 pandemic, all interviews were conducted at a private but open space maintaining the recommended “social distancing” space of about 6 feet.

3.0. STUDY FINDINGS

3.1. Demographic Characteristics of Households

Information on the demographic characteristics of the households in Kalomo district provides a context to interpret the age, educational levels, and occupation and identify the heads of households and furnish an indication of the representativeness of males and females that participated in the survey.

A total of 829 households participated in the baseline assessment in Kalomo district of Southern province in Zambia. The survey results indicate that 467 (56%) were female and 362 (44%) were male. This is as depicted in figure 1.

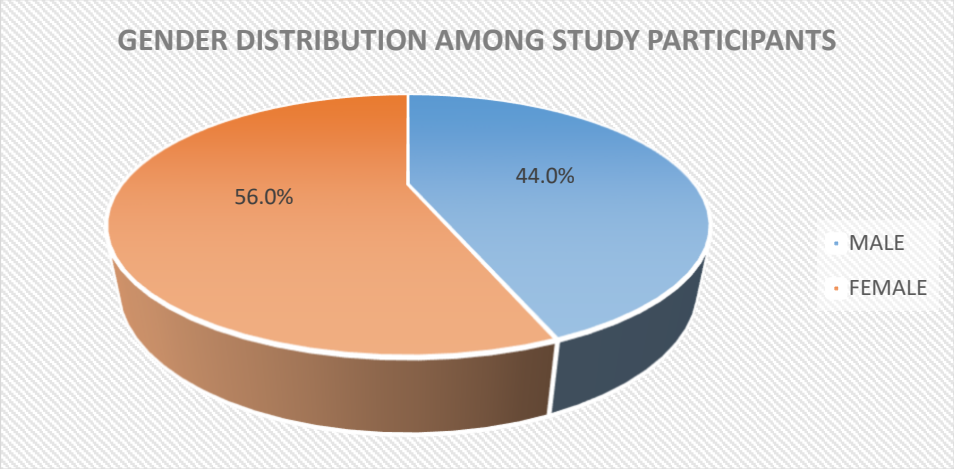

Figure 1: Gender distribution of study participants

On average, study participants were aged 42.07 years, while the majority were aged 45 years.

3.2. Head of Household Profile

The survey shows that male headed households accounted for 84.3% as compared to female headed households accounting for 15.4% of study participants (see table 1). The table shows that 64% of study participants were in monogamous marriages, whereas, 21% were in polygamous marriages. The significance of this finding resonates with the already existing situation in the district where polygamous marriages are prevalent. Therefore, it is expected that a man will marry a number of women and he remains head over those women. Findings further show that culture plays a critical role in the way men and women relate. However with the information on gender among the community members, women have been seen to participate in making decisions at the household level.

3.3. Education levels among the respondents

According to the Zambia Demographic Health Survey (ZDHS) the majority of Zambians have either no formal education or only some primary education. Urban residents are better educated

than rural residents.[1] In as far as education is concerned, the majority of study participants accounting 83% had formal education as compared to 17% who did not (see table 1)

Table 1: Socio-demographic characteristics of respondents

Variable	Baseline
n	829
	%
Marital Status	
Married (monogamous)	63.5
Married (polygamous)	20.8
Widowed	7.4
Divorced	4.6
Separated	1.8
Single (Never married)	1.7
Cohabiting with partner	0.2
Head of Household	
Male	84.3
Female	15.4
Formal Education	
Yes	83.0
No	17.0

3.4. Main Source of Income

When asked to state the main source of income for the household, farming profit was predominant, accounting for 87% of participants, followed by other means such as charcoal burning, sale of fish, and gardening, accounting for 5.2% of study participants. Husband's income was cited as one of the sources of income accounting for 4% of participants. This is shown in figure 2 below.

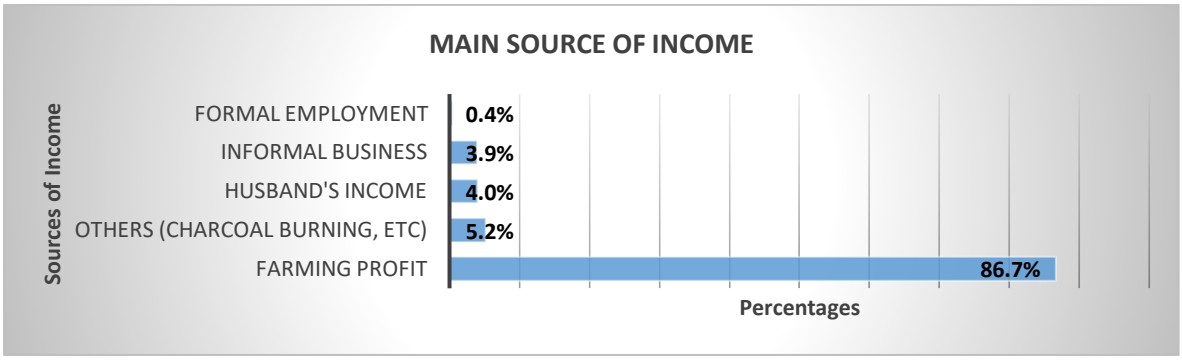

Figure 2: Percentage distribution of main source of income among study participants

Interestingly, when asked to state what the average monthly household income was, the study established that each household on average was earning ZMW872.97. Mostly this is an income that is realized out of crop or livestock sales and in most cases, it's once off in a year.

[1] Zambia Demographic Health Survey (2018)

3.5. Building Livelihoods

It was established that a significant number of community members are involved in charcoal burning as a means of survival accounting for 5.2% of study participants as shown in figure 2. However, a close look at the main type of energy used for cooking by households, this study established that 99.7 study participants used firewood coal and charcoal, whereas less than 1% used Gas or electricity. Studies have identified charcoal production as one of the main drivers of deforestation and forest degradation in Zambia. The traditional methods of making charcoal lead to high carbon emissions and are a waste of wood.

In order to mitigate this, the project will promote growing of trees to address issues related to deforestation. A picture below shows tree seedlings ready to be planted on a nursery plot for demonstration purposes. Selected small scale farmers will be given tree seedlings to plant in their respective yards and these are expected to survive for the future generation's use.

Photo: Courtesy of Renton Kashimbaya_at a Lead Farmer's Home in Kalomo

One of the thrusts of this project is to build meaningful livelihoods of small scale farmers by providing alternative survival skills through Farmer Field Schools. At the time the assessment was being conducted, 94% of project participants were members of Farmer Field Schools. Some of the key topics covered during various sessions in FFBS included conservation farming, crop rotation, climate smart agriculture, crop diversification, intercropping, crop marketing, tree planting, nutrition, avoiding bush burning, and many other topics that relate to gender and women empowerment. Figure 3 highlights some of the key topics covered during FFBS sessions held.

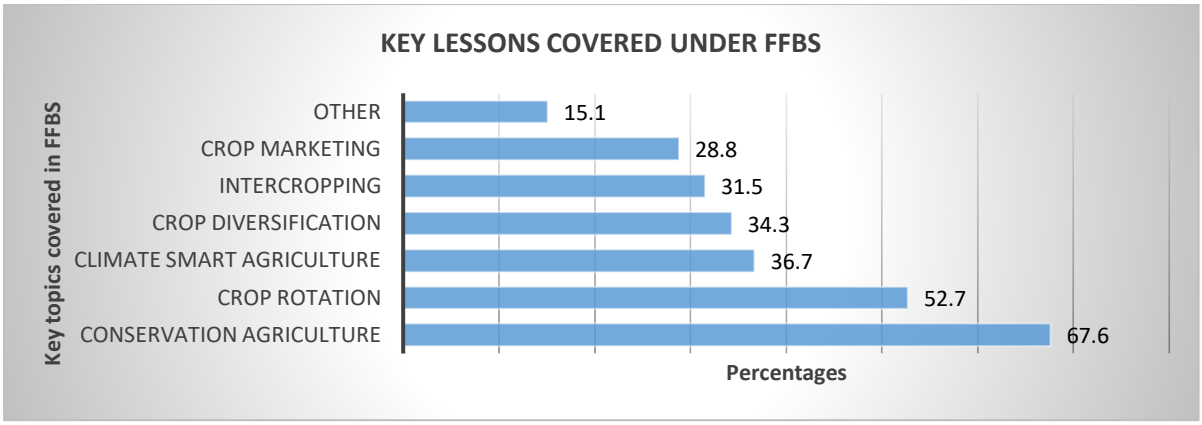

Figure 3: Percentage distribution of key topics covered under FFBS sessions among study participants

3.6. Agriculture production

The overall Zambian agriculture sector comprises crops, livestock, and fisheries. Domestic production is comprised of crops such as maize, sorghum, millet, and cassava while exports are driven by sugar, soybeans, coffee, groundnuts, rice, and cotton as well as horticultural produce[2].

One of the thrusts of this assessment was to establish whether households own land for agriculture. The study established that 93.6% households own land for agriculture and the other 6.4% do not. Similarly, this study established that all the participants were involved in crop production. About 93.6% (776) confirmed of having grown some crops during the 2020/2021 farming season as compared to only 6.4% (53) who may have not grown any crops.

When asked the kind of crops grown, maize accounted for more than 96% of participants, followed by Soya beans accounting for 22.4% of participants. Those who cited of having grown other crops such as cotton, beans, sunflower, cow peas, etc. accounted for 8.2% (details are shown in figure 4). However, this picture will be different in the 2021/2022 farming season as farmers will be expected to diversify growing of crops.

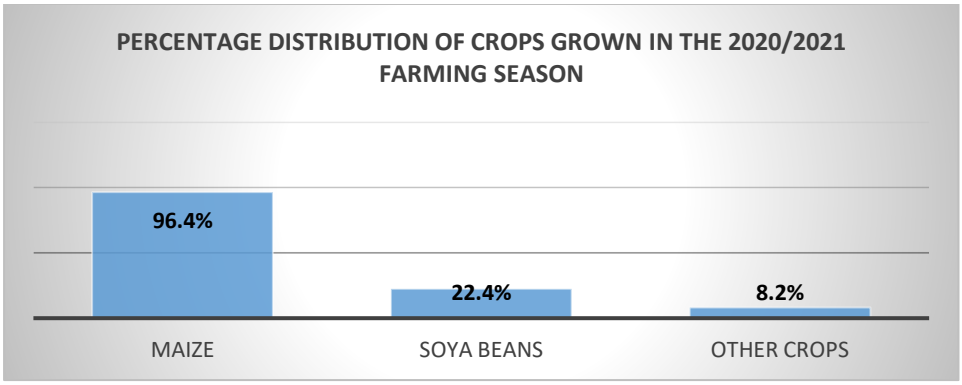

Figure 4: Percentage distribution of crops grown in the 2020/2021 farming season by study participants

[2] https://www.google.com/search?client=firefox-b-d&q=Agriculture+production+in+zambia

3.7. Sources of Household Food

It is one of the thrusts of the BLRCC project to improve food, nutrition and livelihood security of smallholder farmers and their households. When asked to state the main source of food consumed by their respective households, findings show that 94% of households produced own food, followed by those stated their main source is purchased food accounting for 40% of study participants. The rest of the details are shown in figure 5.

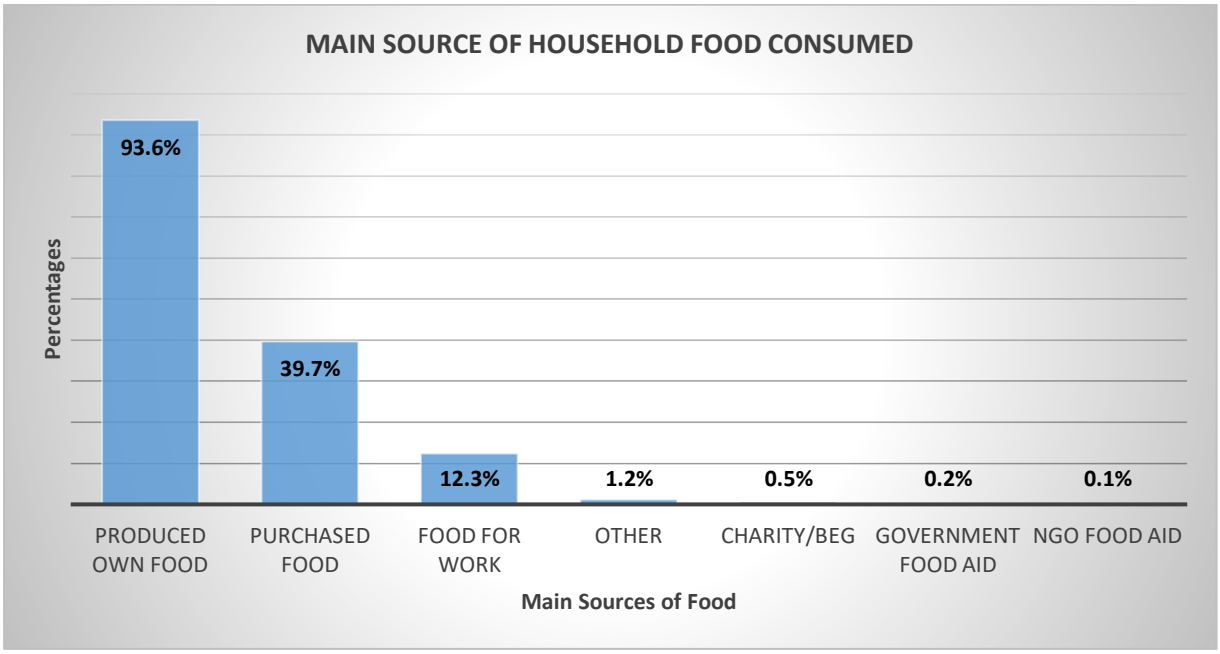

Figure 5: Percentage distribution of main sources of food consumed by study participants

3.8. Access to food and coping strategies

A household study conducted in Kalomo district in October 2020 showed that the percentage of women who reported not having had enough food in the 12 months prior to the evaluation was at 74.2%. Further findings show that January (61%), December (23%) and November (5.4%) were reported as "main months" (in the 12 months prior to the evaluation) in which respondents and their households did not have enough food. In addition, the findings indicate that few respondents and their households reported not having had enough food to eat in the months of June, July, May and April. Table 2 shows the rest of the details.

Table 2: Main Month household did not have enough food to eat

Month mainly did not have enough food to eat	Kalomo %
January	60.6
February	4.1
March	0.8
April	0.4
May	0.4
June	0
July	0
August	1.7

September	1.7
October	2.1
November	5.4
December	22.8

In 2020, 15% of the respondents in Kalomo reported that their households had difficulties accessing food in the 30 day prior to the evaluation. Moreover, respondents who reported having difficulties accessing food indicated that they resorted to; limiting meal size, reducing the number of meals per day and buying less expensive food in order to cope with food scarcity (see annex II for details on coping strategies).

As presented in table 3, 92% of the respondents indicated that their households experienced "little to no hunger" in the 30 days prior to the evaluation in 2020. Moreover, evaluation results indicate that 2% of the respondents reported that their households experienced "severe hunger" in the 30 days prior to the evaluation. Further, as shown in table 3, 7% of the respondents reported that their households experienced "moderate hunger" in the 30 days prior to the evaluation.

Table 3: Severity of Household Hunger

Severity of household hunger	Kalomo District
	%
Little to no hunger in the household	91.7
Moderate hunger in the household	6.5
Severe hunger in the household	1.8
Total	**100**

3.9. Experience of drought/floods and its effects on households

The BLRCC project aims to contribute to the reduction of under nutrition through a number of interventions, as indicated earlier, these include, among others, promoting the production and consumption of diverse foods. However, Kalomo district is among the districts affected by drought spells especially in the 2018, 2019 and 2020 in Zambia. Due to dependence on rain-fed agriculture in most parts of Zambia, droughts tend to affect negatively agricultural production, which in turn, negatively affect household food security. Household food insecurity in turn contributes to increased undernutrition, especially among women and children under two. It is therefore, assumed that the drought experienced in the district could have affected every farmer in the region.

As indicated in table 4, 98% of the women reported that they experienced drought/ flood, in 2020. Reduced crop production was the highest effect of drought (89%), followed by reduced food availability (82%). Furthermore, other effects of drought indicated by women were limited supply and access to water for both people and livestock, challenge in accessing safe water for drinking, and hardly had money as they did not have anything to sell to earn an income.

Table 4: Effects of Drought/floods on households

	Kalomo
	%
Experienced droughts/ floods	98.1
Effects of droughts	
Reduced crop production	88.6
Reduced livestock production	24.4
Reduced food availability	81.5
Reduced food diversity	19.8
Other effects	3.2

3.10. Small Livestock Ownership

It was one of the thrusts of this assessment to establish livestock ownership. It was established that 92% of study participants owned livestock and the other 8% did not. Of those that confirmed of having owned any livestock, 88% owned chickens, 74% owned goats, and 68% owned cattle, whilst 8% owned sheep, 8% owned pigs, and only less than 1 % owned a horse. This is depicted in figure 6 below.

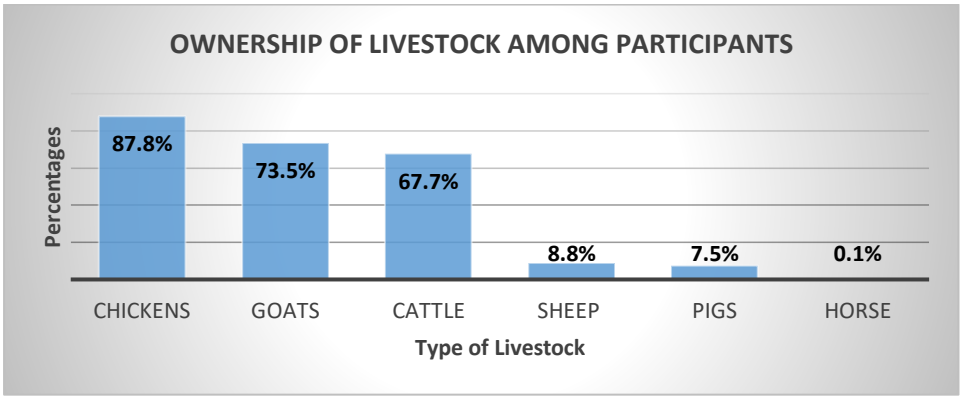

Figure 6: Percentage distribution of ownership of livestock among study participants

3.11. Agriculture Extension Services

Extension is a service or system which assists farm people, through educational procedures, in improving farming methods and techniques, increasing production efficiency and income, bettering their standard of living and lifting social and educational standards. The Zambia agricultural extension system commonly delivers extension services that focus on the promotion of improved technologies and practices in order to increase agricultural production and productivity for consumption based satisfaction. The extension service poorly addresses market oriented production systems.

When asked to state whether they were visited by an agriculture extension officer 12 months preceding the survey, 55% of study participants confirmed of not being visited by any agriculture officer in the period under review, whereas 45% confirmed of having been visited by the extension officers. This is depicted in figure 7.

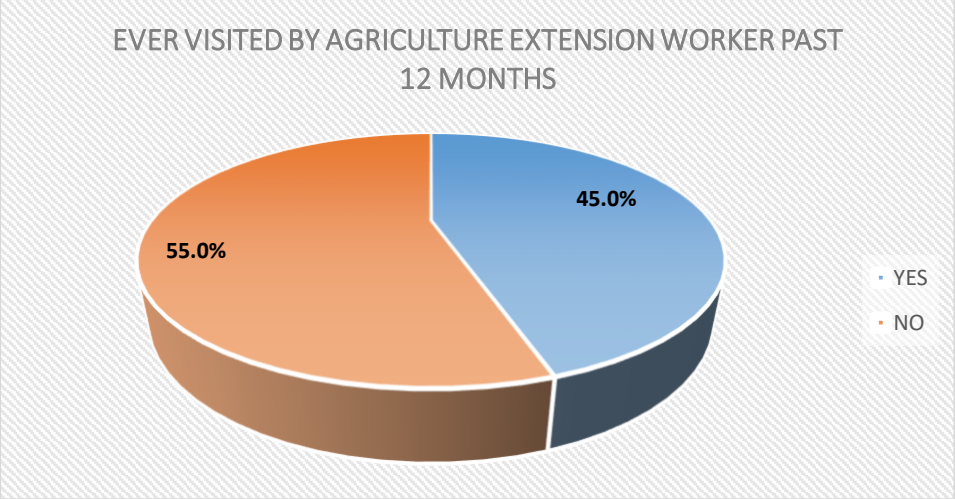

Figure 7: Percentage distribution of small scale farmers ever visited by Agriculture Extension Workers 12 months preceding the assessment

3.12. Gender Roles and Access to Resources at Household Level

The concept of 'gender roles,' refers to the activities ascribed to women and men based on their perceived differences. Gender roles are socially determined, changes over time and space and are influenced by social, cultural and environmental factors characterizing a certain society, community or historical period[3].

When asked to state whether women should engage in economic activities, the majority confirmed in affirmative that women should equally be engaged in economic activities accounting for 93.6% as compared to 6.4% who did not agree with this notion. Similarly, when asked to state whether they are able to make decisions regarding household savings, 79% of women participants confirmed of being able to do so as compared to 26% who confirmed of not being able to make decisions regarding household savings. Similarly, out of 467 women participants, 60.6% were not involved in any women empowerment initiatives as compared to 39.4% who confirmed of being involved in women empowerment initiatives.

However, this assessment went further to establish who makes decisions about large household purchases, findings show that 42% of women felt that husbands were responsible for large household purchases, 32% of women felt that wives were responsible this role too, and 24% of women suggested that both wives and husbands were responsible for large household purchases. This is depicted in figure 8.

[3] ILO – Module on Gender, Poverty and Employment, 2015

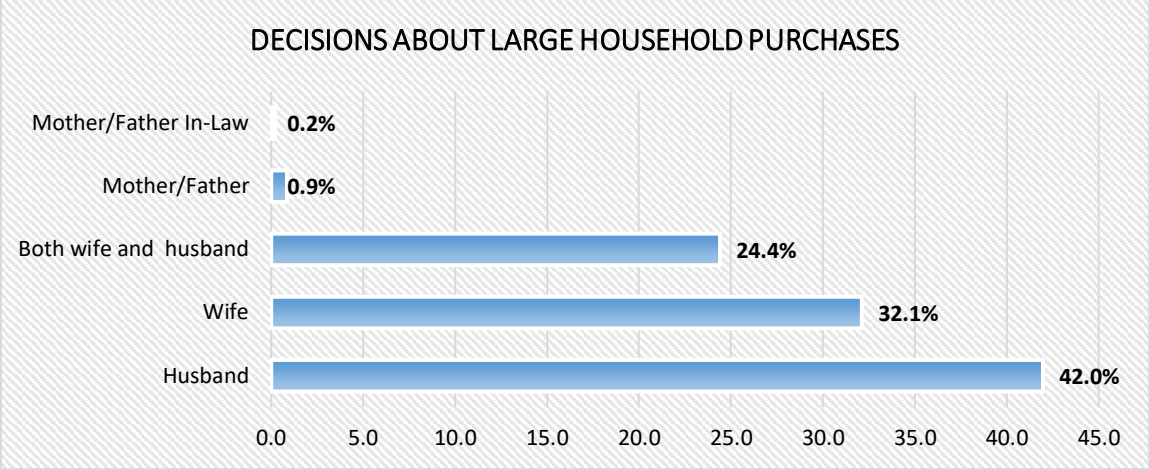

Figure 8: Percentage distribution of Ownership and control of productive assets among study participants

Gender experts say the root causes of Gender Based Violence can largely be narrowed down to inequality for women and the associated violence and harmful and controlling aspects of masculinity that result from patriarchal power imbalances embedded in much of Africa's traditional and cultural beliefs[4]. From the trend of beliefs presented above, the community remains with reported cases of women who are deprived of the privilege to make critical decisions for their general wellbeing, and this needs an open eye in order to change the status quo.

[4]https://www.google.com/search?q=causes+of+GBV+in+Southern+province&rlz=1C1AZAA_enZM751ZM751&oq=causes+of+GBV+in+Southern+province&aqs=chrome..69i57j33i160.15756j0j15&sourceid=chrome&ie=UTF-8

4.0. CONCLUSION AND RECOMMENDATIONS

4.1. Conclusion

In countries around the world, climate change poses a significant risk threatening the lives and livelihoods of people. These changes in climate trends have led to decreased livelihoods through both food and economic insecurity due to lower agricultural and livestock productivity. Loss of agricultural productivity is caused by low soil fertility due to lack of organic matter, soil erosion and inherent low fertility, lack of improved early maturing and drought tolerant crop varieties, lack of irrigation infrastructure and water smart agriculture practices, unsustainable agricultural practices, insecure land tenure, lack of financial, climate and extension services, post-harvest storage, and markets. Livestock productivity is affected by an increase in livestock diseases and lack of pasture, water, unsustainable animal husbandry practices and poor extension services

Poverty and the lack of access to basic services including infrastructure, financial services, health care, and social protection are strong predictors of vulnerability to climate change. To put it another way: the poorer communities are, the more climate change will affect them. Therefore, it is critical to boost the adaptive capacity of households, many already have incentives to adapt, but they need help overcoming obstacles, ranging from a lack of information and financing, to behavioral biases and imperfect markets.

Government can make information on climate risks available, clarify responsibilities and liabilities, support innovation and access to the best technologies, and ensure financing is available to all especially for solutions that come with high upfront costs. And they will also need to provide direct support to the poorest people, who cannot afford to invest in adaptation but are the most vulnerable to experiencing devastating effects of climate change[5].

Risks and impacts cannot be reduced to zero. Governments must develop strategies to ensure that when disasters do occur, people and firms can cope without devastating long-term consequences, and can recover quickly. Adaptive social protection systems, which can be rapidly scaled up to cover more people and provide bigger support after a disaster, are particularly efficient, but they rely on delivery and finance mechanisms that have to be created before a crisis occurs.

Plants and animals depend on water, just like people. When a drought occurs, their food supply can shrink, and their habitat can be damaged. This may further lead to an increase in diseases in wild animals, because of reduced food and water supplies.[6] If the situation is left unchecked, it has catastrophic implications at virtually all levels: national, district and community levels.

Food insecurity coupled with historic unequal power relations between women and men is pre-disposing women and girls to GBV. Any meaningful initiatives to respond to the climatic effects in the district and uplifting of people's livelihoods must take cognizance of the unequal power relations between women and men, contextual cultural interpretations of gender roles

[5] https://www.worldbank.org/en/news/feature/2020/11/17/the-adaptation-principles-6-ways-to-build-resilience-to-climate-change
[6] https://www.google.com/search?client=firefox-b-d&q=drought+in+zambia

and expectations and the resulting changes in relations between women and men, boys and girls. Innovative information dissemination strategies through social action analysis and gender dialogues on various livelihood activities that relate to agriculture, nutrition, and water, are still some of the key success factors to stopping the negative implications associated with improved livelihoods.

Key stakeholders including women, men, girls and boys, community leaders, policy makers and the non-profit sector must be fully involved and engaged in the development of programmes, initiatives, policies and strategies that directly or indirectly affect them. This will not only promote sense of ownership and participation but more also strengthen the road map towards sustainability of proposed interventions so that they last the taste of time.

Activities to quickly uplift families from the adverse effects of climate change should be given priority. Some of the initiatives should include distribution of farming inputs such as drought resistant crops and fertilizer. The project should consider promoting gender dialogue sessions in order for communities to appreciate the value of their contributions towards building resilience.

4.2. Recommendations

In countries around the world, climate change poses a significant risk threatening the lives and livelihoods of people. These risks cannot be reduced to zero, which means governments must take decisive action to help firms and people manage them. Doing so requires planning ahead and putting in place proactive measures that not only reduce climate risk but also accelerate development, and cut poverty, according to a new report, *The Adaptation Principles: A Guide for Designing Strategies for Climate Change Adaptation and Resilience*.

These changes in climate trends have led to decreased livelihoods through both food and economic insecurity due to lower agricultural and livestock productivity. Loss of agricultural productivity is caused by low soil fertility due to lack of organic matter, soil erosion and inherent low fertility, lack of improved early maturing and drought tolerant crop varieties, lack of irrigation infrastructure and water smart agriculture practices, unsustainable agricultural practices, insecure land tenure, lack of financial, climate and extension services, post-harvest storage, and markets. Livestock productivity is affected by increase in livestock diseases and lack of pasture, water, unsustainable animal husbandry practices and poor extension services.

Based on results in this report, the following are the recommendations:

iv) In trying to build resilience and improve livelihoods and achieve diversified crop production, the project must consider timely distribution of drought resistant crops and inputs, coupled with required trainings.

v) Ensure agricultural technical assistance initiatives such as extension services targets vulnerable farmers and agricultural workers, including small-scale farms and households in order to promote increased access to women-friendly technology and skills.

vi) In food insecure contexts where communities have limited access to adequate food, scale-up of copying mechanisms for vulnerable households – the elderly, disabled, female headed households and chronically ill, should be considered. This would entail

distribution of farming inputs to most affected and vulnerable households. Most importantly, the project should ensure that the selection and inclusion of vulnerable households is given priority.

vii) The project should consider scaling up initiatives to reverse the effects of deforestation in future such as discouraging indiscriminate cutting of trees for charcoal, burning of grazing land, and further promote tree planting. Currently, a number of farmers have been trained in tree planting but seedlings have not fully distributed to all. The project should consider intensifying this activity.

viii) Given the increased desire for the community to appreciate the value of the Farmer Field Schools, participation therein should be made mandatory for all project participants so as to disseminate uniform information on climatic effects and changes.

ix) For the few participants who have participated in gender dialogue sessions, they have come to appreciate how roles can be shared among men and women in households. Therefore, regular gender dialogue sessions with participation from men should be promoted at all levels of the project across all five wards of Kalomo districts.

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APPENDICES

Annex I: BLRCC Baseline Assessment Work Plan

No	Activities	Responsible	Date
1	Development of Concept note and data collection tools	Lason	1st December, 2021
2	Preparation of field work logistics	Lason	7th December, 2021
3	Programme quantitative questionnaire onto ODK	Renton	13th December, 2021
4	Travel to Choma/Kalomo	Lason & Renton	12th December, 2021
5	Meet the project team and strategize for the RAs' training	Lason, Thinkho & Renton	13th December, 2021
6	Training of Researchers and pre-test of questionnaire	Lason, Thinkho & Renton	14th – 16th December, 2021
7	Modification of Tools based on Pilot Test	Lason & Renton	17th December, 2021
8	Renton Travels back to Lusaka – Chipata	Renton	22nd December, 2021
9	Field data collection	Lason & Thinkho	18th – 29th November, 2021
10	Lason Travels Back to Lusaka	Lason	30th December, 2021
11	Transcription processes	Lason	23rd – 30th December, 2021
12	Data cleaning and Analyses	Lason	2nd – 7th January, 2022
13	Report writing and submission of draft report	Lason	10th January, 2022
14	Review of Report by SLT	Dr. Loongo, Chris & Thinkho	14th January, 2022
15	Prepare final report by incorporating comments from all stakeholders	Lason	18th January, 2022
16	Dissemination of KABP Findings	Lason	TBD

Annex II***: Coping strategies in periods of food difficulties***

Variable	Baseline
	Kalomo
	%
Experienced any food difficulties	15.4
Coping strategy	
Skip meals	
Never	34
Rarely (1 day a week)	26
Sometimes (2-3 days a week)	28
Often (4 or more days a week)	6
Daily	6
Limiting meal size	
Never	24
Rarely (1 day a week)	22
Sometimes (2-3 days a week)	34
Often (4 or more days a week)	8
Daily	12
Reducing meals	
Never	26
Rarely (1 day a week)	22
Sometimes (2-3 days a week)	34
Often (4 or more days a week)	14
Daily	4
Begging relatives	
Never	48
Rarely (1 day a week)	16
Sometimes (2-3 days a week)	20
Often (4 or more days a week)	14
Daily	2
Less expensive	
Never	22
Rarely (1 day a week)	24
Sometimes (2-3 days a week)	30
Often (4 or more days a week)	22
Daily	2
Credit food	
Never	38
Rarely (1 day a week)	30
Sometimes (2-3 days a week)	18
Often (4 or more days a week)	12
Gathering	
Never	54
Rarely (1 day a week)	8
Sometimes (2-3 days a week)	28
Often (4 or more days a week)	4
Daily	6
Immature crops	
Never	86
Rarely (1 day a week)	4
Sometimes (2-3 days a week)	2
Often (4 or more days a week)	8
Daily	0

Sending elsewhere	
Never	78
Rarely (1 day a week)	6
Sometimes (2-3 days a week)	12
Often (4 or more days a week)	4
Reducing adult portions	
Never	22
Rarely (1 day a week)	14
Sometimes (2-3 days a week)	54
Often (4 or more days a week)	8
Daily	2
Casual labour	
Never	28
Rarely (1 day a week)	6
Sometimes (2-3 days a week)	28
Often (4 or more days a week)	30
Daily	8
Selling assets	
Never	74
Rarely (1 day a week)	10
Sometimes (2-3 days a week)	10
Often (4 or more days a week)	6
Food assistance	
Never	74
Rarely (1 day a week)	10
Sometimes (2-3 days a week)	8
Often (4 or more days a week)	8