ENHANCED VEGETABLE PRODUCTION AND COMMERCIALIZATION PROJECT

EVALUATION REPORT

OCTOBER 2012

Prepared By: Christopher Kambole

CMB Development Consultants

EXECUTIVE SUMMARY

INTRODUCTION

CARE, with support from the Jeff Peierls Foundation has been implementing a Vegetable and Commercialization Project for an initial implementation period of six months starting from March to August, 2012 in Kalomo and Kazungula districts. An extension by two months to the end of October 2012 was approved to ensure smooth phase-out. The project used Agro-dealers that were recruited through CARE's ZASP project as point of bulking (from female vegetable producers) and onward sale to the upper markets

The overall goal of the project was to improve the livelihood security of rural women and girls in selected food-insecure Agro-dealer catchment areas of Kalomo and Kazungula districts in the Southern province of Zambia. In support of this goal, CARE focused on three core activities:

1. Providing seeds and other inputs to improve vegetable quality;
2. Strengthening linkages with retailers to enhance reliable access to markets; and
3. Promoting group-based savings and credit schemes for participants to access funds for investment in agricultural expansion or other income-generating ventures.

As part of the EVPC Project, the project team explored using CARE's proven village savings and loan (VSL) methodology, to promote sustainable economic gains while fostering a sense of solidarity among participants, in this case, the rural Women and Girls.

EVALUATION OBJECTIVES

The specific objectives of the end of project evaluation were:

- Determine the extent of implementation against the planned activities
- Ascertain the cost effectiveness of using Agro-dealers for vegetable output marketing-among the female vegetable growers
- To assess the project outcomes(intended, unintended, negative/positive) on the various vegetable value chain actors(Agro-dealers & female vegetable producers) the project worked with particularly the Women and Girls
- Ascertain the economic effects of climate change (Frost) and other internal and external factors that facilitated or hindered the achievement of project outcomes
- To draw practical and applicable lessons and recommendations for future and/or current similar project

METHODOLOGY

CARE envisaged to measure changes at vegetable producer level using the longitudinal study approach. With this regard, a baseline at the start of the project was conducted on forty Eight (48) vegetable producers in Kazungula and seventy two (72) in Kalomo District.

Data collection blended both the quantitative and qualitative data collection methods. Quantitative data was collected using the household questionnaire. The questionnaire was administered on the vegetable producers who were interviewed at baseline.

For triangulation purposes and to obtain the results at Agro-dealer level, qualitative data was collected from the project participants. Stakeholder interviews were conducted with Ministry of Agriculture and Livestock and the Agro-dealers.

Focus group discussions were conducted; in each district, one group discussion was conducted with the female vegetable producers that the project worked with. Case studies were also conducted on a few selected producers in order to ascertain the effects of frost in the project areas.

Key documents such as the project concept note, work plan, log frame, activity tracking sheet and baseline report were among the documents that the evaluation team reviewed for purposes of in-depth understanding of the project design.

MAIN FINDINGS

HOUSEHOLD BACKGROUND CHARACTERISTICS

A total of 2,400 women and girls, and 10 agro-dealers were reached by the project. Traditionally, vegetable growing, besides cash crops, has been primarily a men's preoccupation, growing mainly non-indigenous vegetables in relatively small garden plots for sale and home consumption. The evaluation team learnt that men had over the years fairly mastered the art of growing vegetables. However, the EVPC project worked with the underserved women vegetable growers in the 10 agro-dealer catchment areas spread over two districts.

Household data on marital status collected during the evaluation study compared well with the one collected at baseline (shown in brackets) for each district- see table below. Overall, data on marital status showed that the majority of the respondents were married (78%); followed by widowed (13%); divorced (5%); single (3%) and separated (1%). Thus, based on comparable data on marital status the two samples i.e. baseline and evaluation study samples were similar.

Marital Status	Kalomo [%]		Kazungula [%]	
Married	89	[87]	62	[68]
Widowed	7	[8]	21	[18]
Separated	0	[0]	2	[0]
Divorced	4	[5]	9	[7]
Single	0	[0]	6	[7]

Further, though not captured at baseline, 73% of the respondents had attended up-to primary education, 20% had attended secondary education and about 8% had not had any formal education. The average family size among the women growers was 8, with an average age of women growers of 41 years. A typical grower had access to about 1.7 limas of land available for growing vegetables.

The study also captured data on the main sources of income for the households categorized as 'non-farm' and 'on-farm' income. The main source of non-farm income was petty trading (62%) while the main sources of on-farm household income on *a weighted basis based on proportion of respondents*, were rain fed crops(87%), ***vegetable sales (8%)***, livestock sales (4%) and 1% casual agricultural labour were the main sources of on-farm household income. In terms of the household expenditure, agricultural inputs followed by school requisites were the main items on which

households spent their income. Expenditure towards staple foods for home consumption was quite insignificant.

PROJECT MANAGEMENT AND COORDINATION

Implementation of project interventions began in earnest between April and May 2012 during which time the project team embarked on identifying project participants and mobilizing communities through sensitization meetings. In all, a total of 2,400 women growers were identified in addition to 10 agro-dealers, consisting of 2 women and 8 men in ten catchment areas spanning over two districts. The project engaged Camp Extension Officers (CEOs) from the Ministry of Agriculture and Livestock (MAL) to train women growers in among other things, nursery management, crop management and harvesting. Six out of 10 agro-dealers (1 female and 5 male) were also trained in business skills under ZASP. The rest were trained by the EVPC project. However, it was difficult to assess the effectiveness of the one-day orientation training for producers that was conducted by the CEOs, as ***no training modules were availed to the evaluation team***. Moreover, feedback from key informant interviews indicated that the training was at best a sensitization meeting and that a more structured training programme was required. ***For instance, 78% of the women growers who attended the one-day 'training' rated the training below par (less than 50% in terms of effectiveness).***

In addition, the project linked agro-dealers to input suppliers to ensure the right type of seed and chemicals were sourced. Further, the project also established linkages with the Dept of Market Development (DMD) for the purpose of market facilitation. In Kalomo district, for instance, the Dept provided largely informal training to farmers through a CEO in farming as a business. ***No such training was conducted in Kazungula district.*** The project team also facilitated VSL groups towards the end of the official project assistance supposedly due to overlapping timelines. Further, results of key informant interviews and group discussions showed that there was enormous interest and enthusiasm among the target group to register as members of the VSLs, as almost all the respondents interviewed (93%) belonged to a group of some sort. It was however, noted that VSLs were hastily facilitated with a lot of critical issues such as group development, operations and management of these groups unattended to. *Lastly, effectively managing project interventions under tight timelines in 10 different agro-dealer catchment areas spanning over 2 districts by two project staff proved quite a challenge!*

The EVPC project concept note highlighted a number of key stakeholders besides the producers and agro-dealers that the project was supposed to collaborate with to guarantee success and sustainability of project interventions. Among the key stakeholders were the MAL, IDE, ASNAPP and ZNFU. However, other than MAL with which the project had largely informal working relationship, there was no evidence of any meaningful collaboration with these stakeholders. Even within MAL itself, there was no attempt by the project team to effectively coordinate the work of the two Departments namely: Field Services under which CEOs fell and Market Development. For instance, the Dept of Market Development had commissioned a horticulture value-chain study in May 2012 aimed at promoting commercialization of vegetable production in most districts of Southern Province. With adequate collaboration between the project and MAL, the findings of the study could have provided useful insights for the EVPC project. Furthermore, the evaluation team noted with concern the weak link between Dept of Marketing under MAL and district based agro-

dealers which, was certainly going to affect smooth working relationship between the two entities after project phase-out.

PROJECT PERFORMANCE

Project Operations Plan

The project team had formulated an operations plan for the entire duration of the project, which plan was availed to the evaluation team. ***However, the ops plan was not being followed and neither was there any evidence of tracking to ensure timely execution of planned activities***. While a number of initial activities such as preparation of a project ops plan, baseline study and sensitization meetings were successfully executed. Important activities that were key for the smooth running of project activities after project phase-out such as training for farmers in business management (e.g. in entrepreneurship, record keeping) in Kazungula district, identifying and maintaining market linkages and mentorship programme for agro-dealers in both districts were not implemented. Where these were implemented, they were hastily done and rendered less effective in some cases. While the evaluation team appreciated the tight deadlines under which the project operated, some of the critical activities were not implemented mainly due to weak adherence to the project ops plan. For instance, an up-to-date status of the project ops plan was only made available some days after the visit to the project office in Kalomo by the evaluation team. ***Additionally, the timing and sequencing of project activities were not well synchronized in the ops plan because critical activity timeframes were lacking.*** The evaluation team noted with concern that some of the activities could not be executed owing to logistical hitches, as the Development Coordinator was unable to travel to the project sites alone on account that she was not able to drive. In the absence of a project driver, the Project Management Coordinator assumed the role of a driver besides his own duties.

Monitoring, Evaluation and Reporting

At commencement of interventions, a baseline was undertaken in-house to collect baseline data on specific indicators that were formulated based on an initial project log frame which was later revised. The evaluation team observed that some of the indicators on which data was collected at baseline, as documented in the baseline report, were different from those outlined in the revised log frame. This in essence made it difficult to compare baseline with end line data. Further, due to the short duration of the project, anticipated results at outcome level could not be attained. Alternatively, such design elements could have been set at a lower level.

The project team also designed an activity tracking table (ATT) with the help of MELU, although there was no evidence indicating that the ATT was used to effectively monitor implementation of activities. Further, by design, reporting on project activities was supposed to be done on a monthly basis and this was also reflected in the project ops plan. The team was further informed that the requirement for monthly reporting was later changed to provision of mere project updates. Thus, only one monthly report for the month of July was submitted or filed for the entire duration of the project, which update report was availed to the evaluation team. Nevertheless, the evaluation team was of the view that adherence to sound project reporting on activity status with clearly defined reporting responsibilities and feedback mechanisms would have contributed to improved project performance.

Beneficiary Targeting

Women growers were identified and selected at household level in all the catchments areas in which project interventions were implemented. The household was used as a unit for selecting project beneficiaries. However, no specific project interventions were implemented at the household level.

Project Outcomes

The goal of the project was to improve the livelihoods security of rural women and girls in selected Agro-dealer catchment areas of Kalomo and Kazungula districts through increased food security and income generating opportunities.

Based on the findings of the current evaluation, a number of key project outcomes were recorded as a direct result of the project interventions. Among the key outcomes recorded was the observed increase in the proportion of growers procuring inputs from agro-dealers within the community. At the end of the project, 77% of the growers procured inputs from community-based agro-dealers compared to 60% at project commencement, representing an increase of 17%. During the same period, the prominence of district-based agro-dealers as sources of inputs diminished drastically from 40% at baseline down to 21% at the end of the project.

Further, a good proportion of respondents (61%) reported an increase in vegetable sales which ***could have been a direct result of the sensitization activities by the project***. Among the reasons given for the observed increase in vegetable sales were: increased volumes of vegetables produced (41%), perceived increased access to markets through agro-dealers (16%), favourable price of vegetables (3%) and other factors (2%). Furthermore, even though the market within the community was by far the most important market for vegetables (71%) i.e. by proportion of growers, the agro-dealer market linkage (26%) appeared to be growing in prominence. This was mainly because sales within the community tended to be relatively smaller by volume as opposed to sales via the agro-dealer. Further, established market linkages facilitated by the project through agro-dealers, with especially Spar, had opened up new opportunities for growers to increase supply volumes through bulking. In turn, the reported increase in vegetable sales among growers had also improved business opportunities for agro-dealers for inputs and other household items.

In addition, current evaluation findings also revealed some positive behavioural change on the part of the growers with regard to what type of vegetables were demanded by the market and what type was for household consumption. As a result of the knowledge imparted by the project, growers were beginning to make important enterprise decisions by increasing area planted for vegetables mostly demanded by the market while cutting on those grown mainly for home consumption.

Another visible outcome of the project interventions was the positive effects of the VSLs. Though most of the VSLs were at formation stage, a number of growers had already started depositing money with their respective groups, a trend that was likely going to impact positively on village savings and investments. Additionally, some growers had accessed loans from the VSLs mainly for re-investing into vegetable production.

COST EFFECTIVENESS OF AGRO-DEALER MODEL

The Project strategy used agro-dealers as bulking points for fresh vegetable produce from women growers for onward delivery to up-stream markets within the vegetable value-chain. Agro-dealers

also played a critical role of facilitating easy access to production inputs for women growers while also providing market information required for quality improvement within the value-chain.

Spar, a chain of stores in Zambia, with operations in Livingstone and Choma of Southern province, was the main important single up-stream market with which agro-dealers in both Kazungula and Kalomo districts under the project had established viable market linkages. This market linkage was facilitated by the EVPC project staff working in conjunction with the Dept of Market Development of the MAL. The resulting market supply agreement was secured between Spar Livingstone and a Kazungula based agro-dealer trading under the name Nagrey. Under this arrangement, Nagrey managed to execute one delivery up-to the time of the evaluation. The project facilitated a similar market supply arrangement for Muna Agro-dealer based in Kalomo district with Spar- Choma. Because Spar Outlets in both districts were not willing to enter into agreements with multiple agro-dealers, all other agro-dealers under the project could only supply through the two Spar-registered agro-dealers. It was further noted that the supply agreements facilitated by the project with Spar outlets in both Kazungula and Kalomo districts were by way of registration of the agro-dealers into the Outlet's database of suppliers. No supply contracts were signed or entered into by concerned parties.

Thus, the agro-dealer played a vital role within the vegetable value-chain, supplying required inputs such as seed, fertilizer and chemicals in the production of vegetables and providing vital link to the main market for fresh vegetables. In addition, agro-dealer provided vital market information to vegetable growers on type of vegetables demanded by the market, quality requirements and price. Additionally, the agro-dealer network played an essential role of re-aligning production to the requirements of the market and bridging the gap in terms of market requirements through specific tailored training for producers. Given that the majority of the growers under the project produced relatively small quantities, the presence of the agro-dealer made it possible to profitably bulk the produce to meet the supply requirements of especially up-stream markets. This market arrangement under the agro-dealer model also tended to lower both production and marketing costs per individual grower and thereby increasing their operating margins. Additionally, the agro-dealer model had positive spill over effects on the business of in-community agro-dealers through increased business opportunities not only for agro-inputs but for other household goods.

In terms of markets for vegetables, the surrounding local community was the main market by proportion of number of growers who sold on this market. Nevertheless, the critical role of the agro-dealer could not be overlooked, as most of the growers (26%) who sold their produce in outside district markets did so through the agro-dealer

Further, there was need to draw a distinction between vegetables grown mostly for home consumption and those grown mainly for sale. This emphasis would ensure that growers paid special attention when it came to producing for the market to ensure that growers produced the right vegetables demanded by the market. In general, however, there was not much difference in terms of the type of vegetables produced both for home consumption and for sale- at least for the two main vegetables i.e. rape and cabbage. However, based on feedback from Spar Livingstone, the main preferred vegetables were egg plant, green pepper, butter nut, red pepper, yellow pepper and tomato. According to one agro-dealer, a lot of sensitization and training was required to change attitudes of growers from growing vegetables that they have traditionally grown to those required by the market.

Further, while the evaluation team appreciated the deliberate attempt by the project to support underserved women and girls, over-emphasis on women tended to alienate potential men who had fairly mastered the art of growing vegetables over the years. For instance, the project could have deliberately used some of these men as mentors or role models to facilitate cultural change and skills transfer among women growers. As a matter of fact, one agro-dealer had deliberately incorporated men because according to her, their produce was of better quality than their women folk.

For the agro-dealer model to score greater successes, more effort was required to improve the capacity of both agro-dealers and women growers through training. The team observed that very little had been done by the project to enhance the capacity of these entities.

Lastly, it was observed that under the current arrangement the agro-dealer was quite exposed to business risks arising from e.g. natural deterioration of the produce due to lack of transport or buyers in up-stream markets unwilling to take in more supplies at a particular time. While the growers were adequately covered upon delivery to the agro-dealer, the agro-dealer on the other hand, absorbed all the risks related to storage, handling, and transportation including marketing of the produce! If the issue of risk exposure by the agro-dealer was not adequately addressed, the effectiveness of the agro-dealer model might be compromised. While the evaluation team appreciated the fact that prior arrangements were made before actual supply (this was true with Spar Supermarket outlets in Choma and Livingstone). Critical factors such as problems of transport sometimes made it difficult for an agro-dealer to effectively executive a delivery order on time. For example, one agro-dealer from Monde satellite area was forced to sell vegetables at relatively lower price at a public market because Spar Choma could not take in enough supplies resulting in loses on the part of the agro-dealer.

ECONOMIC EFFECTS OF FROST

Both Kazungula and Kalomo districts experienced frost conditions this winter which stemmed primarily resulting from low minimum temperatures experienced during this period. In Kalomo, for instance, the evaluation team was informed that the intensity of frost that occurred in 2011 was worse than in 2012 and that areas within the district were affected differently. Further, different types of vegetables were also affected differently. Cabbage and rape for instance, were less affected by frost compared to tomato, egg plant, green pepper, red pepper and impwa. *Incidentally, vegetables most susceptible to frost enjoyed high demand in the upstream markets such as Spar.*

The team observed that the pre-implementation phase for the EVPC project did not adequately address the issue of frost in terms of its impact on vegetable growing and how the negative effects of frost could have been ameliorated at project design stage. A detailed situation analysis prior to project implementation would have provided useful insights for the project.

In order to effectively appropriate the economic effects of frost a number of factors should be considered such as climate and crop production over a period of time. In addition, assessing economic effects of frost required a detailed study in order to appropriately determine the impact of frost in relation to e.g. food security, income, health and nutrition etc.

The evaluation team attempted to assess effect of frost from a narrow view focusing on income loss stemming from possible loss of production due to frost. However, due to the short duration of the

project and the fact that no significant production since inception of project had taken place, meant that there was no credible data on which to conduct income analysis for 2012. Based on a limited number of case studies that were conducted, estimated direct losses in income as a percentage of sales due to frost experienced in 2012 were in the range of 44%, 60% and 69% for a grower in Kanchele, Bbilili and Milangu satellite areas, respectively. Notwithstanding the fact that these figures were mere estimates at best, it was clear that going by the proportion of income loss, climate change (frost) posed a real challenge to the viability of vegetable business.

CHALLENGES

Though the future of the vegetable business was quite bright, vegetable growing still faced a number of challenges ranging from access to water and negative effects of climate change i.e. frost occurrence in the cold season. Other factors that affected the vegetable business included relatively low price for especially produce within the community, low demand stiff competition due to limited market facilitation by the project and over flooding/supply of similar produce, unreliable or lack of transport to deliver produce to market at the right time resulting in losses and relatively long distances covered by producers to market their produce within the community.

CONCLUDING REMARKS

Notwithstanding the short project duration and the fact that key stakeholders of the EVPC project were just beginning to conceptualize the goal and objectives of the project.

Findings of the evaluation study revealed that a number of positive outcomes were recorded by the project. Besides, there was a lot of enthusiasm exhibited especially among women growers and agro-dealers alike concerning the overall benefits of the EVPC project. Further, the long-term prospects of the vegetable business as a whole remained quite bright, partly due to the project strategy which hinged on a self-sustaining business model. Additionally, the presence of the agro-dealer as a reliable link to up-stream markets eliminated the major constraint faced by growers in terms of access to viable markets. Further, the agro-dealer also occupied a vital link within the value-chain as a supplier of the necessary farm inputs such as improved seed and chemicals. In the past, a number of development projects have tended to falter because of dependence on hand-outs, which could not in most cases be sustained beyond the official duration of project assistance.

The success of the EVPC project could have exceeded expectations if most of the interventions that were planned under the project had been given enough take-off time. Ideally, the design of the project should have provided for at least two complete farming cycles which could have given the project team adequate time to mobilize the targeted communities and adequately prepare for project take-off. Adequate time was also needed for growers, agro-dealers and other key project stakeholders to understand and appreciate the project concept, its objectives and expected benefits.

Further, ***the weak project's monitoring, reporting and control mechanisms*** in place did not help matters, as the required feedback on project progress and implementation status were not communicated on time. Additionally, weak coordination within the project structure and among key stakeholders reduced the potential for building synergies and viable linkages especially in terms of output marketing.

Furthermore, the tight project duration did not give both the project team and stakeholders adequate time for smooth phase-out and phase-in. For instance, women growers in Kanchele had

no idea that the project had come to a close and looked quite surprised. Further, irrigation equipment that had been procured through facilitation by the project through agro-dealers was being distributed at the time of the evaluation. It was also evident that one of the agro-dealers who was to be the custodian of the equipment on behalf the growers had serious capacity problems mainly due to lack of training. For instance, at the time of the evaluation, this agro-dealer from Kazungula had not yet established an agro-shop despite receiving a grant toward construction the shop. As a result, growers under his catchment area were forced to procure inputs from Livingstone.

Lastly, through interaction from stakeholders during the evaluation, it was evident that active stakeholder participation at project pre-implementation phase would have ensured better coordination during project execution. It was clear that in the absence of this, commitment from key stakeholders such MAL was quite low.

RECOMMENDATIONS

Pre-implementation phase:

- It was evident from the results of the evaluation that participation of key stakeholders, in particular MAL, during planning and design of the project was quite limited. This affected their participation and contribution towards the project during the implementation phase. In future, there would need to actively involve all key stakeholders in order to secure their commitment and ensure continuity after phase-out.

- There was generally inadequate understanding and appreciation of the environment in which the project operated in with regard to issues of climate change vis-a-vis occurrence of frost among stakeholders. This was attributed to inadequate situation analysis at project design stage. The evaluation team highly recommended the need to undertake an in-depth detailed situation analysis to inform the project design.

Implementation phase

- Both timing and duration of the project gave teething problems not only to the project team but also to the direct beneficiaries of the interventions. Critical project activities such as community mobilization and beneficiary selection began at the time when growers should have been busy in their gardens and the project ended when interventions were just starting in earnest. In future, timing and duration of interventions should be well synchronized.

- Additionally, effective management of project interventions under tight timelines in 10 different agro-dealer catchment areas spanning over 2 districts by two project staff proved quite a big challenge. The evaluation team was of the view that the project interventions should have been more effectively implemented in fewer catchment areas than was the case. Alternatively, the project duration should have been longer than six months (utmost two seasons) to allow for smooth execution of activities, including establishment of diversified output market linkages.

- Vegetable production, particularly non-indigenous vegetables, in the project areas have traditionally been grown by men. In recent years, most women in those areas have been

introduced to vegetable production, especially for the market. In fact, one of the agro-dealers interviewed preferred bulking from men because the quality of their produce was better compared to their female counterparts. However, there was no coordinated attempt by the project to tap men's skills to benefit the women growers. Future development interventions should have a component of mentorship programme in order to tap local skills and promote diffusion of knowledge.

- Related to the above recommendation, was the issue of beneficiary targeting. While it was well appreciated that a good proportion of women in the targeted communities were underserved and hence needed support. Complete exclusion of men was counterproductive and tended to work against women empowerment- the very essence of the project. For development projects targeting women to enjoy high level of success, deliberate efforts must be made to bring men on board either as mentors or role models.

- Although the household was used as a unit for identifying and selecting women beneficiaries for the project, no specific interventions were implemented at that level. Yet, from the results of the current evaluation and other studies, power relations at the household level were critical for addressing some gender imbalances. In order to effectively address issues of gender imbalances and promote women empowerment at the household level, there would be need for future development initiatives to deliberately target households as well with specific interventions

- Activity tracking and reporting mechanisms in place for the project were quite weak and did not provide adequate feedback for timely decision-making. The evaluation team highly recommended an effective monitoring and reporting system with clearly defined roles, responsibilities and deadlines

Output Marketing

- The agro-dealer model was a cost-effective and self-sustaining business strategy for improving access not only to key inputs used in vegetable production but also to reliable up-stream markets for fresh vegetables with a guaranteed premium price. In addition, the agro-dealer business model facilitated easy access to critical market information by women growers essential for sound enterprise planning and quality improvements to meet the requirements of the up-stream markets. However, the team also recommended further strengthening of the capacity of both agro-dealers and growers in order to not only maintain existing market linkages but also facilitate establishment of new ones.

- Related to the above recommendation, was the need for further training and sensitization of vegetable growers in order to produce quality produce for the market

- Notwithstanding the benefits of the agro-dealer model, the current state of affairs tended to expose the agro-dealer to business risks while shielding the grower. Hence, there was need to minimize the agro-dealer's exposure to risk through some form of risk sharing mechanism between the agro-dealer and the growers.

Effects of Climate Change (frost)

- The negative effects of frost on vegetable production including the risk that frost conditions posed to maintaining viable market linkages through reliable supply of produce to up-stream markets were quite real. Further, there was need to mainstream climate change related information into crop production. Additionally, such information should be packaged and disseminated to all concerned parties and incorporated into e.g. the extension delivery system under MAL. Further, there was need to pursue viable local solutions for mitigating the negative impact of frost on vegetable production.

LESSONS LEARNT

- Project Design and Planning- adequate situation analysis would be required in future in order to understand and appreciate the environment in which development interventions are going to be implemented

- Active participation of all key stakeholders from the outset is critical to guarantee their commitment during implementation and phase-out

- Beneficiary targeting- while the evaluation team appreciated the need to support underserved women (and girls), there was need to fully understand the power play and other factors that affected both men and women. Otherwise, well intended development initiatives may work against the very essence of women empowerment.

- Project duration- experience from the EVPC project showed that the need to realistically set project duration should be based not only on available resources but also on what is attainable.

- Agro-dealer Model – there was no doubt that the agro-dealer model which was self-sustaining was a more effective and viable way to empower the underserved womenfolk than a strategy based on handouts. However, more work will be required to further develop the model and also realistically appropriate risks and other factors that may affect its effectiveness.

ACKNOWLEDGEMENTS

The author wishes to express profound appreciation to all who in one way or another contributed to this report and the findings therein. In particular, the author is highly indebted to the EVPC Project Management Coordinator Mr. Chibinga, EVPC Development Coordinator Ms Florence Lushibashi and Ms Brenda Kambaila from Care-MELU for their valuable contributions and support without which this report would not have been possible. Further gratitude goes to the two research assistants namely Miyoba Hakubecha and Josephine for their exceptional dedication and hard work. Lastly, the author wishes to convey appreciation to all the stakeholders who contributed to this work.

Christopher Kambole

Team Leader

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

1.0 INTRODUCTION

Since 2007, with funding from the US government, CARE has implemented a program in southern Zambia known as the Consortium for Food Security, Agriculture, and Nutrition, AIDS, Resiliency, and Markets (C-FAARM). Through this program, CARE assisted women producers in Kalomo and Kazungula districts in the Southern province to implement drought-resistant farming methods. Additionally, CARE linked the women to reliable bulk buyers, such as major retail chains Shoprite and Spar. However, it was realized that a vast number of women farmers in the area remained underserved. The underserved women repeatedly voiced the desire to take part in CARE's work in order to improve their livelihoods. Given the success of the CFAARM program and the expressed demand for greater services, CARE, with support from the Jeff Peierls Foundation has been implementing Enhanced Vegetable and Commercialization (EVPC) Project from March to October, 2012 in Kalomo and Kazungula districts of Sothern Province. The EVPC Project has been using locally based Agro-dealers that were recruited and trained through CARE's ZASP Project as point of bulking for onward supply to up-stream markets mostly located in district centres. In turn, the agro-dealer network provided on the down-stream side of the vegetable value-chain, readily source of inputs such as seed and chemicals to support vegetable production. Besides the agro-dealers, the Project worked with women vegetable growers and girls clustered around agro-dealer catchment areas.

The overall goal of the project was to improve the livelihood security of 2,400 rural women and girls in 10 food-insecure Agro-dealer catchment areas of Kalomo and Kazungula districts in the Southern province of Zambia. In support of this goal, CARE focused on three core activities:

4. Facilitating provision of improved seed and other inputs to improve vegetable quality;
5. Strengthening linkages with retailers to enhance reliable access to markets; and
6. Promoting group-based savings and credit schemes for participants to access funds for investment in agricultural expansion or other income-generating ventures.

Towards the end of the project, the project team explored the use of CARE's proven village savings and loan methodology, in order to enhance sustainable economic gains while fostering a sense of solidarity among project participants.

2.0 EVALUATION OBJECTIVES

The specific objectives of the end of project evaluation are:

- Determine the extent of implementation against the planned activities
- Ascertain the cost effectiveness of using Agro-dealers for vegetable output marketing-among the female vegetable growers
- To assess the project outcomes(intended, unintended, negative/positive) on the various vegetable value chain actors(Agro-dealers & female vegetable producers) the project worked with particularly the Women and Girls
- Ascertain the economic effects of climate change (Frost) and other internal and external factors that facilitated or hindered the achievement of project outcomes

- To draw practical and applicable lessons and recommendations for future and/or current similar project

3.0 EVALUATION METHODOLOGY

CARE envisaged to measure changes at vegetable producer level using the longitudinal study approach. With this regard, a baseline at the start of the project was conducted on forty Eight (48) vegetable producers in Kazungula and seventy two (72) in Kalomo District.

Data collection blended both the quantitative and qualitative data collection methods. Quantitative data was collected using the household questionnaire. The questionnaire was administered on the vegetable producers who were interviewed at baseline. The table below shows the number of households/vegetable producers visited per Agro-dealer catchment area:

Table 1: SAMPLING FRAME AND SAMPLE SIZE

District	Agro-dealer Catchment	# of Vegetable Producers Interviewed
Kalomo	Muna	23
	Chimanamasaka	23
	Katimbe	24
Kazungula	Nagrey	23
	Malvin	22

For triangulation purposes and to obtain the results at Agro-dealer level, qualitative data was collected from the project participants. Stakeholder interviews were conducted with Ministry of Agriculture and Livestock and the Agro-dealers.

Focus group discussions were conducted; in each district, one group discussion was conducted with the female vegetable producers that the project worked with. Case studies were also conducted on a few selected producers.

Key documents such as the project concept note, work plan, log frame, activity tracking sheet and baseline report were among the documents that the evaluation team reviewed for purposes of in-depth understanding of the project design.

4.0 STUDY LIMITATIONS

The findings of the evaluation study were constrained in a way by limited time available to the evaluation team for field work. In addition, implementation of most project interventions was just taking off at the time of the evaluation. As such limited achievements and outcomes were expected. Furthermore, limited data on climate change and in particular frost, in the project districts made it difficult if not impossible to conduct any economic assessment relating to the impact of frost on

vegetable production. Notwithstanding the above limitations, the results contained in this report represent a fair assessment of the performance and outcome of the EVPC project interventions.

5.0 MAIN FINDINGS

The outline of the report is organized around the evaluation objectives.

5.1 HOUSEHOLD BACKGROUND CHARACTERISTICS AND TARGETING

As earlier indicated, the project targeted women and girls in selected communities of Kazungula and Kalomo districts organized along agro-dealer catchment areas. A total of 2,400 women and girls, and 10 agro-dealers were reached by the project. Traditionally, vegetable growing has been primarily a men's preoccupation, growing mainly non-indegenous vegetables in relatively small garden plots for sale and home consumption. The evaluation team learnt that men had over the years fairly mastered the art of growing vegetables. However, the project worked with the underserved women and girls.

Household data on marital status collected during the evaluation study compared well with the data at baseline (shown in brackets) - see table below. Overall, data on marital status showed that the majority of the respondents were married (78%); followed by widowed (13%); divorced (5%); single (3%) and separated (1%). Thus, based on comparable data on marital status the two samples i.e. baseline and evaluation study samples were similar.

Marital Status	Kalomo [%]		Kazungula [%]	
Married	89	[87]	62	[68]
Widowed	7	[8]	21	[18]
Separated	0	[0]	2	[0]
Divorced	4	[5]	9	[7]
Single	0	[0]	6	[7]

Further, though not captured at baseline, 73% of the respondents had attended up-to primary education, 20% had attended some form of secondary education and about 8% had not had any formal education. The study also captured data on the main sources of income for the households categorized as 'non-farm' and 'on-farm' income. The main source of non-farm income was petty trading (62%) while rain fed crops (81%), vegetable sales (7%) and livestock sales (4%) were the main sources of on-farm household income. In terms of the household expenditure, agricultural inputs followed by school requisites were the main items on which households spent their income. Expenditure towards staple foods for home consumption was quite insignificant (refer to the figure 1 below on household expenditure). It should be mentioned however that the evaluation study was carried-out at a time when most rural smallholder farmers were still holding adequate maize stocks from the 2011/12 farming season. Hence, staple food purchases were quite insignificant during this period.

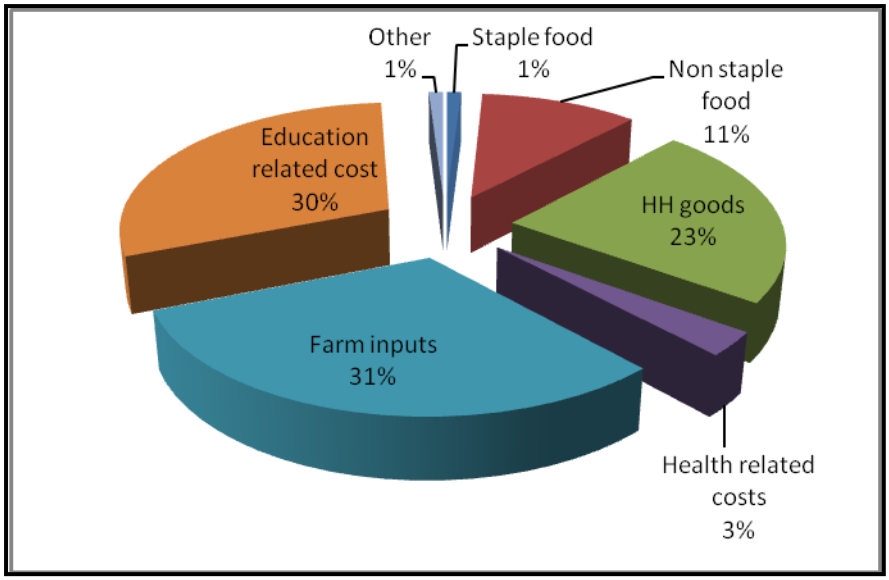

Figure 1: PROPORTION OF HOUSEHOLD EXPENDITURE

5.2 PROJECT MANAGEMENT, IMPLEMENTATION AND COORDINATION

Overall management and oversight of the project was through the Project Manager, assisted by a Development Coordinator both based in Kalomo district. The project's strategic focus was threefold: 1) linking producers to market for farm inputs 2) capacity development for both women vegetable growers and agro-dealers in order to improve quality of produce and 3) linking producers to more viable and reliable markets. Towards the end of the project life, a component of Village Savings and Loans (VSL) groups were facilitated by the project team in order to promote savings and investments for quality improvement and expansion among the women growers.

Implementation of project interventions began in earnest between April and May 2012 during which time the project team embarked on identifying project participants and mobilizing communities through sensitization meetings. In all, total 2,400 women growers were identified in addition to 10 agro-dealers, consisting of 2 women and 8 men. The project engaged Camp Extension Officers (CEOs) from the Ministry of Agriculture and Livestock (MAL) to train women growers in among other things, nursery management, crop management and harvesting. Six out of 10 agro-dealers (1 female and 5 male) were also trained in business skills under ZASP. However, it was difficult to assess the effectiveness of the one-day orientation training for producers that was conducted by the CEOs, as no training modules were availed to the evaluation team. Moreover, feedback from key informant interviews indicated that the training was at best a sensitization meeting and that a more structured training programme was needed. For instance, 78% of the women growers who attended the one-day 'training' rated the training below par (less than 50% in terms of effectiveness).

In addition, the project linked agro-dealers to input suppliers to ensure the right type of seed and chemicals were sourced. Further, the project also established linkages with the Dept of Market Development (DMD) for the purpose of market facilitation. In Kalomo district, the Dept provided largely informal training of farmers through a CEO in farming as a business. In Kazungula no such training in entrepreneurship and market facilitation was conducted among vegetable growers. As mentioned earlier, the project team also facilitated VSL groups towards the end of the official project support. Additionally, the savings groups incorporated a social fund to cater for funerals,

illnesses and other social needs of the members. Further, results of key informant interviews and group discussions showed that there was enormous interest and enthusiasm among the target group to register as members of the VSLs, as almost everyone (93%) was a member of a group of some sort. A total of two (02) savings groups were facilitated by the project per agro-dealer catchment area. However, the evaluation team learnt that the VSLs were hastily facilitated with a lot of critical issues such as group development, operations and management of these groups unattended to.

The EVPC project concept note highlighted a number of key stakeholders besides the producers and agro-dealers that the project was supposed to collaborate with to guarantee success and sustainability of project interventions. Among the key stakeholders were the MAL, IDE, ASNAPP and ZNFU. However, other than MAL with which the project had largely informal working relationship, there was no evidence of any collaboration with these stakeholders. Even within MAL itself, there was no attempt by the project team to effectively coordinate the work of the two Departments namely: Field Services under which CEOs fell and Market Development. *By effectively coordinating the work of the two MAL Departments, the project would have ensured that vegetable production including extension training services were tailored to the specific requirements of the market.* Further, the Dept of Market Development had commissioned a horticulture value-chain study in May 2012 aimed at promoting commercialization of vegetable production in most districts of Southern Province. With adequate collaboration between the project and MAL, the findings of the study could have provided useful insights for the EVPC project. Furthermore, the evaluation team noted with concern the weak link between Dept of Marketing under MAL and district based agro-dealers. For instance, one official from MAL complained that the Dept was forced to go through Care (through the project) as a conduit to collaborate with agro-dealers. Lack of an appropriate stakeholder forum coupled with limited understanding of the roles of the different stakeholders had made the situation worse.

5.3 PROJECT PERFORMANCE

5.3.1 Project Operations Plan

The project team had formulated an operations plan for the entire duration of the project, which plan was availed to the evaluation team. However, the ops plan was not being followed and neither was there any evidence of tracking to ensure timely execution of planned activities. While a number of initial activities such as preparation of a project ops plan, baseline study and sensitization meetings were successfully executed. Important activities that were key for the smooth running of project activities after project phase-out such as training for farmers, identifying and maintaining market linkages and mentorship programme for agro-dealers were not implemented. Where these were implemented, they were hastily done and rendered less effective. The evaluation team also observed that most of these important activities were not implemented due to weak adherence to the project ops plan. For instance, an up-to-date status of the project ops plan was only made available some days after the visit to the project office in Kalomo by the evaluation team. Additionally, the timing and sequencing of project activities were not articulated in the ops plan. The evaluation team noted with concern that some of the activities could not be executed owing to logistical hitches, as the Development Coordinator was unable to travel to the project sites alone on account that she was not able to drive. In the absence of a project driver, the Project Management Coordinator assumed the role of a driver besides his own duties.

5.3.2 Monitoring, Evaluation and Reporting System

At commencement of interventions, a baseline was undertaken in-house to collect baseline data on specific indicators that were formulated based on an initial project log frame which was later revised. The evaluation team observed that some of the indicators on which data was collected at baseline, as documented in the baseline report, were different from those outlined in the revised log frame. This in essence made it difficult to compare baseline with end line data. Further, due to the short duration of the project, anticipated results at outcome level could not be attained. Alternatively, such design elements could have been set at a lower level. The project team also designed an activity tracking table (ATT), although there was no evidence to show that the ATT was used to effectively monitor activity implementation. Furthermore, by design, reporting on project activities was supposed to be done on a monthly basis and this was also reflected in the project ops plan. The team was further informed that the requirement for monthly reporting was later changed to provision of project updates. Thus, only one monthly report was submitted for the entire duration of the project. In addition, the evaluation team was only availed project update status for July. Nevertheless, the evaluation team was of the view that adherence to sound project reporting with clearly defined reporting channels and feedback mechanisms would have contributed to improved project performance.

5.3.3 Beneficiary Targeting

Women growers were identified and selected at household level in all the catchments areas in which project interventions were implemented. The household was used as a unit for selecting project beneficiaries. However, no specific project interventions were implemented at the household level.

5.3.4 PROJECT ACHIEVEMENTS AND OUTCOMES

The overall goal of the project was to improve the livelihoods security of rural women and girls in selected Agro-dealer catchment areas of Kalomo and Kazungula districts through increased food security and income generating opportunities.

Based on current evaluation findings, the EVPC project recorded a number of positive outcomes. Among the notable outcomes (refer to Table 2) of the project interventions was the increase in the proportion of growers procuring inputs from agro-dealers within the community. At the end of the project, 77% of the growers procured inputs from community-based agro-dealers compared to 60% at project commencement, representing an increase of 17%. This observed increase was to a large extent due to diminished prominence of district-based agro-dealers as sources of inputs during the same period i.e. from 40% at baseline down to 21% at the end of the project.

Further, a good proportion of respondents (61%) reported an increase in vegetable sales which could have been a direct result of the sensitization activities by the project. Among the reasons given for the observed increase in vegetable sales were: increased volumes of vegetables produced (41%), increased access to markets (16%), favourable price of vegetables (3%) and other factors (2%). Furthermore, even though the market within the community was by far the most important market for vegetables (71%) i.e. by proportion of growers, the agro-dealer market linkage (26%) seemed to be growing in prominence. This was mainly because sales within the community tended to be relatively smaller by volume as opposed to sales via the agro-dealer. On the contrary,

established market linkages facilitated by the project through agro-dealers, with especially Spar, had opened up new opportunities for growers to increase supply volumes through bulking.

In addition, current findings from the evaluation study also revealed some positive behavioural change on the part of the growers with regard to what type of vegetables were demanded by the market and what type was for household consumption. As a result of the knowledge imparted by the project, growers were beginning to make important enterprise decisions by increasing area planted under vegetables mostly demanded by the market while cutting on those grown mainly for home consumption.

Another visible outcome of the project interventions was the positive effects of the VSLs. Though most of the VSLs were at formation stage, a number of growers had already started depositing money with their respective groups, a trend that was likely going to impact positively on village savings and investments. Additionally, some growers had accessed loans from the VSLs mainly for re-investing into their vegetable businesses.

Lastly, the evaluation team documented other equally important project achievements and have been highlighted under Annex 11.1

Table 2: BASELINE VS END LINE VALUES

Key Performance Indicator	BASELINE MARCH 2012	EVALUATION AUGUST 2012	COMMENTS
Average HH income (farm & non-farm)	K629,642	672,254	Baseline → End line Kalomo [K770,192 → K575,859] Kazungula [K489,091 → K 817,872]
Average HH income from vegetable sales (March-August 2012)	-	K1,545,200	Kalomo * → K1,356,686 Kazungula * → K1,838,444 *Baseline data not available
Decision making on spending at household level: 1. Self (beneficiary): 2. Spouse (husband) 3. Joint (beneficiary & hubby) 4. Other	 31% 37% 32%	 26% 10% 64%	Decision making by district: Kalomo → Kazungula 24% → 17% 38% → 40% 46% → 7% 27% → 15% 29% → 76% 35% → 64%
Proportion of growers by source of farm inputs: 1. Community based agro dealers 2. District/town based agro dealers	 60% 40%	 77% 21%	As at final evaluation, proportion of growers sourcing farming inputs from in-community agro-dealers increased by 17%. This increase could have been partly due to reduced prominence of district based agro dealers from 40% at baseline to 21% at end line
Average area under vegetable and crop production	0.5 hectares Kalomo - 0.45 hectares Kazungula-0.68 hectares	-	
Average a area under vegetable production	-	0.425 ha	Baseline data not available
Quality of vegetables at Agro-dealer level	-		Based on feedback from Agro dealer in Kabuyu B (Nagrey), some improvement in quality had been noted though quality of veggies bulked from men was generally of higher quality.

# (%) of women (and girls) selling vegetables through established linkages: 1. Local community market 2. District/town market 3. Outside district market	 - - -	-Local community 71% -District/town market 3% -Outside district markets 26%	Baseline data on vegetable markets/linkages was not available. At final evaluation, 26% of the women and girls sold through the Agro-dealers
% of farmers belonging to the group savings and credit groups.	21%	93%	There was great enthusiasm among women growers to belong to a VSL of some kind
# of savings and credit (VSLA)schemes offering services to members	0	06	Though VSLs were at foundation stage, VSLs in Muna (01), Katimbe (01) and Nagrey (04) agro-dealer catchment areas (with number of beneficiaries in brackets) reported having provided services to its members i.e. members accessed funds to invest in vegetable production.
% of members accessing funds/services from schemes	-	0.9%	Refer to comment immediately above

6.0 COST EFFECTIVENESS OF AGRO-DEALER MODEL

6.1 The Agro Dealer Model

The Project made use of the Agro-dealer Model to link producers to reliable up-stream markets for fresh vegetables while providing vital source of inputs and innovation for producers to complete the value-chain. The Project strategy used agro-dealers as bulking points for fresh vegetable produce from women growers for onward delivery to up-stream markets within the vegetable value-chain. Agro-dealers also played a critical role of facilitating easy access to production inputs for women growers while also providing market information required for quality improvement within the value-chain.

Spar, a chain of stores in Zambia, with operations in Livingstone and Choma of Southern province, was the main important single up-stream market with which agro-dealers in both Kazungula and Kalomo districts under the project had established viable market linkages. This market linkage was facilitated by the EVPC project staff working in conjunction with the Dept of Market Development of the MAL. The resulting market supply agreement was secured between Spar Livingstone and a Kazungula based agro-dealer trading under the name Nagrey. Under this arrangement, Nagrey managed to execute one delivery up-to the time of the evaluation. The project facilitated a similar market supply arrangement for Muna Agro-dealer based in Kalomo district with Spar- Choma. Because Spar Outlets in both districts were not willing to enter into agreements with multiple agro-dealers, all other agro-dealers under the project could only supply through the two Spar-registered agro-dealers. *It was further noted that the supply agreements facilitated by the project with Spar outlets in both Kazungula and Kalomo districts were by way of registration of the agro-dealers into the Outlet's database of suppliers. No supply contracts were signed or entered into by concerned parties.*

Among the main suppliers of fresh vegetables to Spar – Livingstone were producers from Lusaka and Central provinces who mostly delivered their produce in bulk. However, it was noted that Livingstone based suppliers (including relatively small suppliers like the project supported agro-dealers) had an advantage over suppliers located outside Southern province due to their proximity. For instance, bulky suppliers from Lusaka and Central provinces have had problems in some cases with quality issues for their deliveries stemming from natural deterioration due to long distance covered to reach Spar outlets in Southern Province.

Below is a simplified diagram of the Agro-Dealer Model.

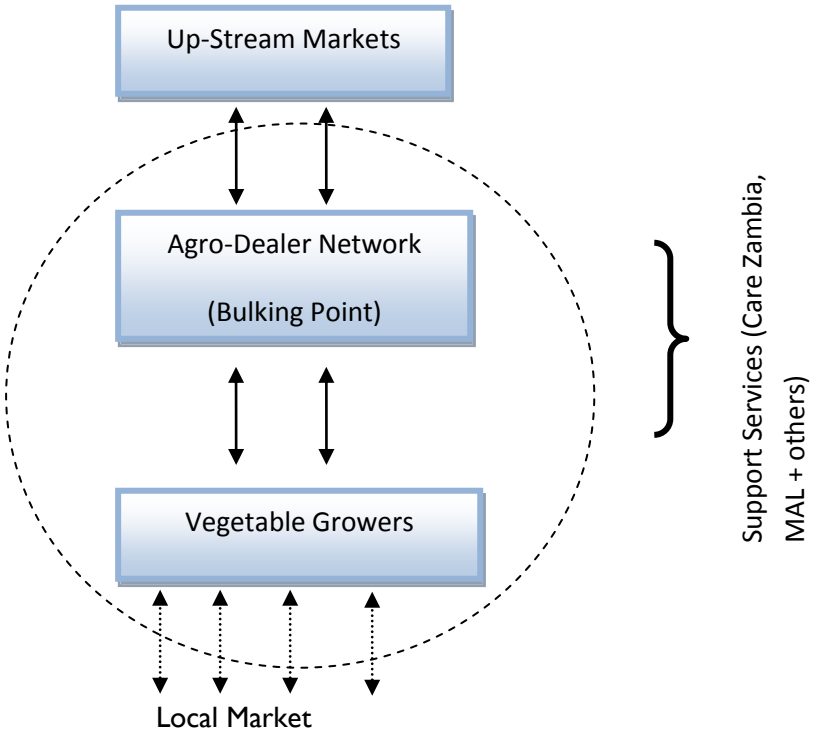

Figure 2: AGRO-DEALER MODEL

Thus, the agro-dealer played a vital role within the vegetable value-chain, supplying required inputs such as seed, fertilizer and chemicals in the production of vegetables and providing vital link to the main market for fresh vegetables. In addition, agro-dealer provided vital market information to vegetable growers on type of vegetables demanded by the market, quality requirements and price. In addition, the agro-dealer network played an essential role of re-aligning production to the requirements of the market and bridging the gap in terms of market requirements through specific tailored training for producers. Given that the majority of the growers under the project produced relatively small quantities, the presence of the agro-dealer made it possible to profitably bulk the produce to meet the supply requirements of especially up-stream markets. This market arrangement under the agro-dealer model also tended to lower both production and marketing costs per individual grower and thereby increasing their operating margins. Additionally, the agro-dealer model had positive spill over effects on the business of in-community agro-dealers through increased business opportunities not only for agro-inputs but for other household goods as well.

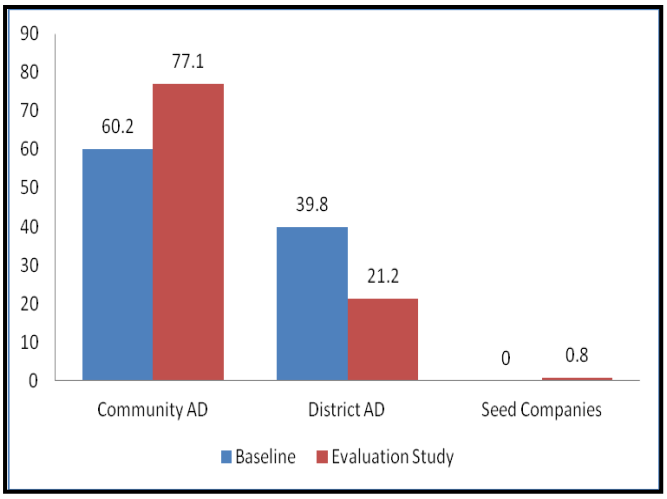

Figure 3: SOURCES OF INPUTS

For instance, results from quantitative survey showed that the agro-dealer model scored some positive developments with regard to availability and improving access to inputs. Figure 3 shows source of inputs at baseline and at the end of the project. In particular, the figure showed that

prominence of in-community agro-dealers as sources of inpts had increased from 60% at baseline to 77% at the time of the evaluation. During the same period, the proportion of growers sourcing inputs from district or town based agro-dealers declined from about 40% to 21%.

In terms of markets for vegetables, the surrounding local community was the main market by proportion of number of growers who sold on this market (note. There was no data on actual volumes sold). Nevertheless, the importance of the agro-dealer could not be underrated, as most of the growers (25%) who sold their produce in outside district market did so through the agro-dealer (Figure 4: Vegeteble Markets). Each of these market segments had tended to have different requiremets in terms of quality and type of produce traded, which a viable agro-dealer model needed to be aware of. Further, there was need to draw a distinction between vegetables grown mostly for home consumption and those grown mainly for sale. This emphasis would ensure that growers paid special attention when it came to producing for the market to ensure that growers produced the right produce.

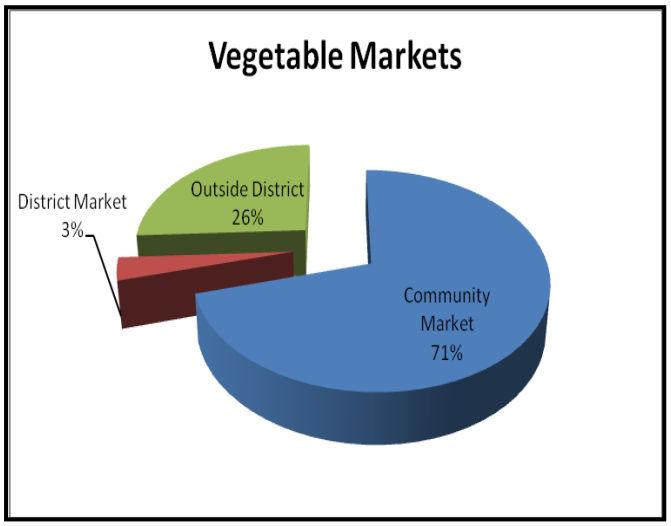

Figure 4: VEGETABLE MARKETS

Figures 5 and 6 show the main types of vegetables for home consumption and for sale ***based on percentage responses or number of observations for each crop expressed in percent***, respectively.

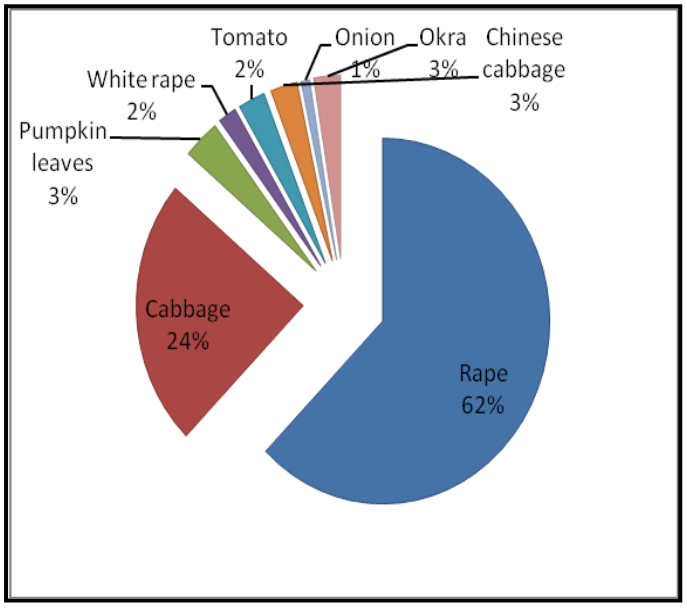

Figure 5: VEGGIES FOR HOME CONSUMPTION

In general, there was not much difference in terms of the type of vegetables produced both for home consumption and for sale- at least for the two main vegetables i.e. rape and cabbage. However, based on feedback from Spar Livingstone, there main preferred vegetables were egg plant, green pepper, butter nut, red pepper, yellow pepper and tomato. According to one agro-dealer from Kabuyu B, a lot of sensitization and training was required to change attitudes of growers from growing vegetables that they have traditionally grown to those required by the market. According to her, some noticeable positive behavioural change had already begun to emerge, as growers switched to more profitable type of vegetables.

Certainly, a lot of sensitization coupled with specialized training in market facilitation would be required to bring about a change of mindset for the majority of the growers. Lastly, for the up-stream markets such as Spar, the agro-dealer arrangement, though new to them, had helped to lower transaction costs by dealing with one agent as opposed to transacting with numerous vegetable producers, besides being assured of constant supply of fresh vegetables.

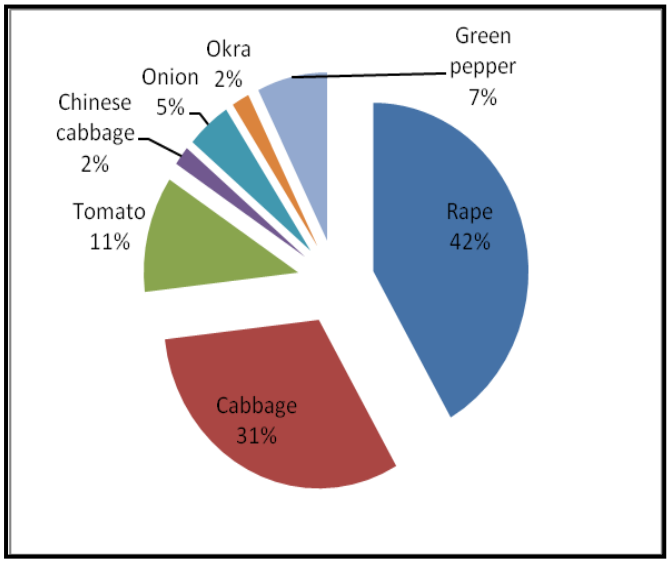

Figure 6: VEGGIES FOR SALE

6.2 Pros and Cons of Agro-dealer Model

Based on key informant interviews and FGDs conducted by the evaluation team, the following were identified as some of the benefits and challenges of the agro-dealer:

Growers

Advantages:

- Growers were able to plan better for their business because they received cash payment from the agro-dealer at once, as opposed to receiving cash sales at differently times as was usually the case with selling produce within the community.
- Losses on the part of the grower were significantly reduced because of availability of market through the agro-dealer. Growers were also able to pass on market related risks to agro-dealers
- Better prices for produce in upstream markets compared to prevailing prices locally (within the community or village)
- Agro-dealers provided a vital link within the value-chain both for input and output markets

Disadvantages:

- Mistrust – relatively high degree of mistrust between growers and agro-dealers especially in Kabuyu B Satellite were the model was already working. Mistrust arose from not sharing market and price information resulting in growers having a perception that the agro-dealer was exploiting them by offering much lower buying price.
- No evidence of supply- there were concerns among some growers stemming from the fact there was no evidence to show proof of supply between the agro-dealer and the grower every time the former collected produce for on-ward delivery to up-stream markets. In the case of a misdemeanour, there would be no recourse for the grower to recover the loss
- Agro-dealer not collecting produce on time due to weak coordination in some cases between growers and agro-dealer

- **Agro- dealer**

Advantages:

- Increased business opportunities
- Agro-dealer well positioned within the vegetable value chain- grower needed the agro-dealer for both inputs and output marketing to complete the business cycle
- Improved reputation within the community or village, as a result of the role performed by the agro-dealer

Disadvantages:

- Risk exposure- it was observed that under the current arrangement the agro-dealer was quite exposed to business risks arising from e.g. natural deterioration of the produce due to lack of transport or buyers in up-stream markets unwilling to take in more supplies at a particular time. While the growers were adequately covered upon delivery to the agro-dealer, the agro-dealer on the other hand, absorbed all the risks related to storage, handling, and transportation including marketing of the produce! *Further, while the evaluation team appreciated the fact that prior arrangements were usually made before actual supply (this was true with Spar Supermarket outlets in both Choma and Livingstone). Critical factors such as problems of transport sometimes made it difficult for an agro-dealer to effectively executive a delivery order on time. For example, one agro-dealer from Monde satellite area was forced to sell vegetables at relatively lower price at a public market because Spar Choma could not take in enough supplies, resulting in loses on the part of the agro-dealer. Choma Spar was buying a head of cabbage at K2,000 while the same head of cabbage was sold at less than K1,000 on the public market.*
- Agro-dealers faced serious constraints related to transporting fresh vegetables and some of those interviewed lacked adequate storage capacity, thereby seriously compromising the quality of the produce
- Agro-dealers linked to Spar had problems adhering to strict time delivery schedules agreed upon with the buyer due to unreliable transport and other factors. Transport was not usually available at the right time.
- Quality problems for produce supplied by women growers. Nagrey agro-dealer had since made alternative arrangements to bulk from male vegetable growers, besides bulking from women growers. According to this agro-dealer, produce from male vegetable growers was of better quality compared to produce from their female counterparts.
- Limited supply volumes of vegetables which tended to be erratic in some cases, especially during the cold season when the areas experienced frost. Also quality concerns due to plants not receiving enough water in the gardens.

- **Spar**

Advantages:

- Access to readily available supply of fresh vegetables within the district
- Flexible delivery/supply arrangements under the agro-dealer model (only a phone call away)

Disadvantages:

- The Outlet in Livingstone was concerned about inconsistencies in supply of vegetables by the agro-dealer especially during the cold season when the district experienced frost.

Notwithstanding the challenges encountered, the team was of the view that most of those challenges expressed by the key stakeholders in the value-chain could have been minimized through training tailored to the specific needs of growers and agro-dealers. *Further, while the evaluation team appreciated the deliberate attempt by the project to support underserved women and girls, over-emphasis on women tended to alienate potential men who had fairly mastered the art of growing vegetables over the years.* For instance, the project could have deliberately used some of these men as mentors or role models to facilitate cultural change and skills transfer among women growers. Furthermore, the team noted that while some women growers received training in vegetable production, albeit not well structured, agro-dealers did not receive any form of training or mentorship under the project. Yet they were expected to execute dealership functions like establishing and maintaining market linkages, and also act as change agents by realigning production to the requirements of the market. It was also observed that two of the agro-dealers interviewed did not quite understand how the agro-dealer model was supposed to operate. The team further noted that, apart from the market linkage with Spar, no other linkages were established in spite of enormous potential among hotels and lodges particularly for Kazungula district due to its proximity to Livingstone. Lastly, the team was of the view that the project should have facilitated a business interactive meeting for selected growers, agro-dealers and MAL. This interactive meeting was important to accord key players of the value-chain an opportunity to interact with potential buyers in up-stream output markets for them to acquaint themselves with the specific requirements of the business environment in which they operated.

7.0 ECONOMIC EFFECTS OF FROST

Both Kazungula and Kalomo districts experienced frost conditions in winter resulting from low minimum temperatures experienced during this period. In Kalomo, for instance, the evaluation team was informed that the intensity of frost that occurred in 2011 was worse than in 2012 and that areas within the district were affected differently. Further, different types of vegetables were also affected differently. Tomato, egg plant, green pepper and impwa, for instance, were more susceptible to frost attack than rape and cabbage. Incidentally, vegetables most susceptible to frost were the most demanded in up-stream markets.

Frost is a condition that exists when air temperature near the earth's surface drops below 0°C (Kalma et al., 1992). However, the temperature at which frost damage to crops occurs can be lower, depending on the crop species. Frost can have a direct and indirect negative impact on crop production. The direct effect is the partial or complete loss of leaf area leading to reduction in photosynthesis and yield. In addition, crop failure may lead to a decrease in next season's crop area planted (Morlon, 1989). According to Morlon, high production risk also leads to low investment in agriculture resulting in lower production in years with relatively good weather. Kalma et al (1992), observed that farmers could reduce or avoid damage due to frost by selecting appropriate plant

material, by careful site selection, by using appropriate cultural and management practices and by modifying the physical environment of the crop.

It was observed that the pre-implementation phase for the EVPC project did not adequately address the issue of frost in terms of its impact on vegetable growing and how the negative effects of frost could have been ameliorated. A detailed situation analysis prior to project implementation would have provided useful insights for the project.

In order to effectively appropriate the economic effects of frost a number of factors should be considered such as climate and crop production over a period of time. In addition, assessing economic effects of frost would require a specific study in order to appropriate its impact on e.g. food security, health and nutrition etc.

Consequently, the evaluation team looked at the impact of frost from a narrow view focusing on income loss stemming from possible loss of production. In the areas visited, the effects of frost were more pronounced during the period May to July when air temperatures dropped to near 0°C or below. Incidentally, this is the period when the project was mobilizing communities through sensitization and targeted stakeholder meetings. Further, since most small-scale farmers, including vegetable growers, did not normally keep up-to-date records on their farm activities, limited data existed on which to conduct credible income analysis. In addition, most project growers were just beginning to grasp the project concept and only two agro-dealers had executed deliveries to Spar once. Furthermore, a given year defined as from Jan-Dec, some growers scaled down production in winter in preference for the rainy season. Such growers were quite active in the market towards the end of the year.

Given the above, the evaluation team relied on recall to extract data from growers on their vegetable production using 2011 data. The data on which income analysis was computed, was collected from Bbilili, Mlilangu and Kanchele satellite areas. It should further be noted that the income analysis method was also constrained by limited data on sales for 2012, due partly to the timing of the evaluation. As a result, data for 2012 was based on estimated sales. A sample of the data from Bbilili is provided in Annex 11.2 based on a 3 lima vegetable plot (the shaded areas show the crops that were severely attacked by frost in 2012).

Based on this method, operating margins were computed for a given grower in each of the three satellite areas mentioned above. Direct loss in income arising from frost was expressed as a percentage of sales. Estimated losses ranged from 44% for a grower in Kanchele, 59.6% for a grower in Bbilili and 68.5% for a grower in Milangu satellite areas. Notwithstanding the fact that these figures were mere estimates at best, it was clear that going by the proportion of income loss, climate change (frost) posed a real challenge to the viability of vegetable business.

The extent of income loss depended as much on the mix or types of vegetables grown as on location of the garden plot within the district. For instance, evidence solicited from key informant interviews revealed that vegetables such as tomato, egg plant, green pepper, red pepper and impwa were more likely to be affected by frost compared to e.g. cabbage and rape. Sadly, most of the growers under the project did not have adequate information on the real impact of frost as well as mitigating factors.

Evidence from previous studies, however, tended to show that impact of frost could be reduced through a number of ways including farm management practices, species selection and irrigation or regular watering the field to increase soil temperature (Morlon, 1989).

Additionally, one of the key stakeholders from MAL proposed the need to package information on climate change, in particular the effects of frost conditions on crop production, and mainstreaming into development projects/programmes. This is an issue that Government through the MAL and other cooperating partners working in the area of climate change (e.g. UN REDD+, FAO) could actively pursue.

8.0 EVPC PROJECT CHALLENGES

Feedback from the key informant interviews and group discussions revealed that the future of the vegetable business among growers was quite bright. This level of optimism among growers was attributed to a number of factors. Firstly, establishment of reliable market linkages with especially Spar supermarket guaranteed producers of a ready market for their produce while locally based agro-dealers provided a ready supply of inputs. Secondly, improved knowledge among producers with regard to vegetable production through the training provided by the project and third, availability of local market within the village or community.

However, the future of the vegetable business faced a number of challenges:

Water- availability of water and technology for water harvesting was quite a challenge in many of the areas where interventions were implemented. For instance, some growers reported using buckets for harvesting water from wells, which (wells) dried up towards the end of the year. For instance, in Kabuyu B satellite area, an irrigation canal that had been constructed by MAL to supply water to 128 plots (about 600m^2 per plot) seemed to have somewhat ameliorated the problem of water. However, plots located far away from the canal still faced serious water access problems. Further, the evaluation team was privileged to interview a chairlady of the Area Development Committee (ADC) responsible for managing the irrigation canal and whether or not the ADC had plans to expand the canal. The team also learnt that each plot attracted an annual ground rent of K12,000 payable to the ADC. Nevertheless, the Chairlady informed the team that there were no such plans by the ADC to use monies collected from ground rent to extend the canal to service plots located away from the canal.

Market risk- a number of producers were quite apprehensive about the agro-dealer output market model in the event that the agro-dealers were not able to bulk buys the produce. There was, however, no evidence of such cases that the evaluation team came across.

Weather effects- the occurrence of frost that affected vegetables in the field in both districts was quite a serious issue and in some cases resulted in enormous crop losses.

Other challenges that affected the vegetable business included relatively low price for especially produce sold within the community (10%), low demand (12%) stiff competition due to limited market facilitation by the project and over flooding/supply of similar produce (16%), unreliable or lack of transport to deliver produce to market at the right time resulting in losses (22%) and relatively long distances covered by producers to market their produce within the community (21%).

9.0 CONCLUSIONS AND RECOMMENDATIONS

9.1 Concluding Remarks

Notwithstanding the short project duration and the fact that key stakeholders of the EVPC project were just beginning to conceptualize the goal and objectives of the project.

Findings of the evaluation study revealed that a number of positive outcomes were recorded by the project. Besides, there was a lot of enthusiasm exhibited especially among women growers and agro-dealers alike concerning the overall benefits of the EVPC project. Further, the long-term prospects of the vegetable business as a whole remained quite bright, partly due to the project strategy which hinged on a self-sustaining business model. In the past, a number of development projects have tended to falter because of over-dependence on hand-outs, which could not be sustained beyond the official duration of project assistance.

The success of the EVPC project could have exceeded expectations if most of the interventions that were planned under the project had been given enough take-off time. Ideally, the design of the project should have provided for at least two complete farming cycles which could have given the project team adequate time to mobilize the targeted communities and adequately prepare for project take-off. Adequate time was also needed for growers, agro-dealers and other key project stakeholders to understand and appreciate the project, its objectives and expected outcomes.

Further, the weak project's monitoring, reporting and control mechanisms that were put in place did help matters, as the required feedback on project progress and implementation status were not communicated on time. Additionally, weak coordination within the project structure and among key stakeholders reduced the potential for building synergies and viable linkages especially in terms of output marketing.

The short duration of the project did not give both the project team and stakeholders for a smooth phase-out strategy. For instance, women growers in Kanchele had no idea that the project had come to a close and looked quite surprised. Further, irrigation equipment that had been procured through facilitation by the project through agro-dealers was being distributed at the time of the evaluation. It was also evident that one of the agro-dealers who was to be the custodian of the equipment on behalf the growers had serious capacity problems.

Lastly, through interaction from stakeholders during the evaluation, it was evident that active stakeholder participation at project pre-implementation phase would have ensured better coordination during project execution. It was clear that in the absence of this, commitment from key stakeholders such as MAL tended to be quite low.

9.2 Recommendations

9.2.1 Pre-implementation phase:

- It was evident from the results of the evaluation that participation of key stakeholders, in particular MAL, during planning and design of the project was quite limited. This affected their participation and contribution towards the project during the implementation phase. In future, there would be need to actively involve all key stakeholders in order to secure their commitment and ensure continuity after phase-out.

- There was generally inadequate understanding and appreciation of the environment in which the project operated in with regard to issues of climate change vis-a-vis occurrence of frost among stakeholders. This could be attributed to inadequate situation analysis at project design. The evaluation team highly recommends in-depth detailed situation analysis to inform the project design.

9.2.2 Implementation phase

- Both timing and duration of the project gave teething problems not only to the project team but also to the direct beneficiaries of the interventions. Critical project activities such as community mobilization and beneficiary selection began at the time when growers should have been busy in their gardens and the project ended when interventions were just starting in earnest. In future, timing and duration of interventions should be well synchronized.

- Vegetable production, particularly non-indigenous vegetables, in the project areas have traditionally been grown by men. In recent years, most women in those areas have been introduced to vegetable production, especially for the market. In fact, one of the agro-dealers interviewed preferred bulking from men because the quality of their produce was better compared to their female counterparts. However, there was no coordinated attempt by the project to tap into men's skills to benefit the women growers. Future development interventions should have a component of a mentorship programme in order to tap local skills and promote diffusion of knowledge.

- Related to the above recommendation, was the issue of beneficiary targeting. While it was well appreciated that a good proportion of women in the targeted communities were underserved and hence needed support. Complete exclusion of men was counterproductive and tended to work against women empowerment- the very essence of the project. For development projects targeting women to enjoy high level of success, deliberate efforts must be made to bring men on board either as mentors or role models.

- Although the household was used as a unit for identifying and selecting women beneficiaries for the project, no specific interventions were implemented at that level. Yet, from the results of the current evaluation and other studies, power relations at the household level were critical for addressing some gender imbalances. In order to effectively address issues of gender imbalances and promote women empowerment at the household level, there would be need for future development initiatives to deliberately target households as well with specific interventions

9.2.3 Output Marketing

- The agro-dealer model was a cost-effective and self-sustaining business strategy for improving access not only to key inputs used in vegetable production but also to reliable up-stream markets for fresh vegetables with a guaranteed premium price. In addition, the agro-dealer business model facilitated easy access to critical market information by women growers essential for sound enterprise planning and quality improvements to meet the requirements of the up-stream markets. However, the team also recommended further strengthening of the capacity of both agro-dealers and growers in order to not only maintain existing market linkages but also facilitate establishment of new ones.

- Related to the above recommendation, was the need for further training and sensitization of vegetable growers in order to produce quality vegetables for the market

- Notwithstanding the benefits of the agro-dealer model, the current state of affairs tended to expose the agro-dealer to business risks while shielding the grower. Hence, there was need to minimize the agro-dealer's exposure to risk through some form of risk sharing mechanism between the agro-dealer and the growers.

9.2.4 Effects of Climate Change (frost)

- The negative effects of frost on vegetable production including the risk that frost conditions posed to maintaining market linkages through reliable supply of produce to up-stream markets could not be underestimated. Further, there would be need to mainstream climate change related information into crop production. Additionally, such information should be packaged and disseminated to all concerned parties and incorporated into e.g. the extension delivery system under MAL. Further, there was need to pursue viable local solutions for mitigating the negative impact of frost on vegetable production.

10.0 LESSONS LEARNT

- Project Design and Planning- adequate situation analysis would be required in future in order to understand and appreciate the environment in which development interventions are going to be implemented

- Active participation of all key stakeholders from the outset is critical to guarantee their commitment during implementation and phase-out

- Beneficiary targeting- while the evaluation team appreciated the need to support underserved women (and girls), there was need to fully understand the power play and other factors that affected both men and women. Otherwise, well intended development initiatives may work against the very essence of women empowerment.

- Project duration- experience from the EVPC project showed that the need to realistically set project duration should be based not only on available resources but also on what is attainable given the wide geographical area that the project covered.

- Agro-dealer Model – there was no doubt that the agro-dealer model which was self-sustaining was a more effective and viable way to empower the underserved womenfolk than a strategy based on handouts. However, more work will be required to further develop the model and also realistically appropriate risks and other factors that may affect its effectiveness.

11.0 ANNEXES

Annex 11.1 Summary of Project Results and Achievements

Activity	Result	Period	Major Achievement
Project Launch	Successfully conducted a stakeholder meeting with all key partners and launched the project linking with the ending of ZASP	March, 2012	Positive solicitations from key stakeholders (MAL, Agro dealers, Input suppliers -PANNAR, IDE, CROPSERVE, CROPSMINE) and pledged to support the project
	Facilitated recruitment/registration of farmers in all agro dealer catchment areas	April/May	480 female vegetable growers mobilized and registered by agro dealers in 8 catchment areas.
	Farmer sensitization meetings held	May/June	8 Sensitization meetings with female vegetable growers, respective agro dealers and agriculture camp officers conducted. All were willing to participate in the project. Attendance at 600 (500F, 100 M)
	Conducted a tracer study	June	Tracer study conducted on a sample of 120 vegetable growers.
	Revised project target	June/July	An additional 2 agro dealer catchment areas were included. Registration was concluded in July with an additional 120 farmers.
	Facilitated farmer training in production skills: 250 female and 19 male vegetable growers were trained by their Camp extension officers.	June/July	Farmers ordered and bought vegetable seeds to respond to market demands. The Agriculture extension officers trained farmers in specific production and management skills tailored towards producing quality vegetables
Facilitation of market linkages	Facilitated market linkages of Agro dealers to potential markets in Choma, Kalomo and Livingstone	June/July	A reliable and more profitable market was established for vegetables. Incidence of vegetable waste had reduced due to improved market options especially through the ADs
			Women had cash readily available at once which enhanced planning for the vegetable business.
	Facilitated Village Savings and Loan establishment: 16 VSLGs formed with a membership of 25 per group.	July	VSL increased access by women growers to cash to buy vegetable inputs.
	Grant Disbursement: Disbursed grants to all 10 agro dealers (2 females, 8 males) for irrigation equipment. All procured the irrigation equipment for hire to vegetable growers.	August	Vegetable growers now have access to easy and affordable irrigation services with possibility for increased hactarage and better quality vegetables.
	Facilitated linking of VSL groups to HODI	August	HODI committed to take up all EVPC formed groups.

Annex 11.2 Income Analysis – Sample

Name of Grower: Priscillah Chabinga Zetuka, Bbilili Catchment Area Year: 2011 (Grower did not experience frost attack in this year)		
Cabbage (50 lines): Inputs: seed- K440,000 (100gms); herbicide- K45,000; fertilizer- K420,000 Subtotal (inputs): K905,000 Subtotal (cost of sales): K3,000,000 Operating Margin = K2, 095,000	Tomato (1 lima): Inputs: seed- K180,000 (100gms); herbicide- K90,000; fertilizer- K420,000 Subtotal (inputs): K690,000 Subtotal (cost of sales): K3,500,000 Operating Margin = K2, 810,000	Green maize (1 lima): Inputs: seed- K70,000 (5kg); herbicide- nil; fertilizer- K420,000 Subtotal (inputs): K490,000 Subtotal (cost of sales): K2,500,000 Operating Margin = K2, 010,000
Green pepper (18 lines): Inputs: seed- K45,000 (25gms); herbicide- K90,000; fertilizer- manure + mulching Subtotal (inputs): K135,000 Subtotal (cost of sales): K250,000 Operating Margin = K117,000	Impwa (25 lines): Inputs: seed- K30,000 (25gms); herbicide- shared with pepper; fertilizer- shared with cabbage Subtotal (inputs): K30,000 ?? Subtotal (cost of sales): K300,000 Operating Margin = K270,000??	Egg plant (36 lines): Inputs: seed- K30,000 (25gms); herbicide & fertilizer shared with tomato Subtotal (inputs): K30,000?? Subtotal (cost of sales): K960,000 Operating Margin = K930,000??

Notes:

i) Grower maintained the same land size for each crop for 2012. ii) Shaded area shows crops affected by frost in 2012

Annex 11.3 Household Questionnaire

Enhancing Vegetable Production and Commercialization Project

August 2012

HOUSEHOLD QUESTIONNAIRE

SECTION 1: HOUSEHOLD LOCATION AND IDENTIFICATION DETAILS

002 District:

003 Camp & Code:

004 Questionnaire Number:

005 Name of Household Respondent:

007 Validation

Details	Enumerator	Supervisor
Name		
Date (DD/MM/YR)		

Agro Dealer Name……

1.0 Household Demographics and Background Characteristics

SN	**Questions**	Response Options (Type or indicate answer in response box)
1	Name of Beneficiary	
2	Name of Respondent	
	If respondent is not Beneficiary, state his/her relationship to Beneficiary?	1 = Spouse 2 = Child 3 = Other dependant ☐
3	Sex of Beneficiary	1 = Female 2 = Male ☐
4	Age of beneficiary	
5	Marital status of Beneficiary	1 =Married 2 = Widowed 3 = Separated 4 =Divorced 5 =Single ☐
6	Family Size	Male ☐ Female ☐ Total ☐ Below 5 yrs ☐ 5-17 yrs ☐ 18-25 yrs ☐ 26 yrs & above ☐
7	Highest education completed by Beneficiary	0 =Never been to school 1 =Primary 2 =Secondary 3 =Tertiary ☐

2.0 Household Income & Expenditure

SN	**Questions**	Response Options
7	State three **main** sources of **non-farm** income/cash for your household <u>in order of importance i.e. start with the most important source of income.</u>	1 = Petty Trade 2 = Formal Salary/wages 3 = Medium/large business 4 = Casual non-agriculture labour 5 = Remittance 6 = Brewing 7 = other (specify)…… ☐ ☐ ☐
8	State three main sources of **on-farm** income <u>in order of importance</u>	1 = Rainfed crop sale 2 = Casual Agriculture labour 3 = Livestock sales 4 = Vegetable sales 5 = Sale of sour/fresh milk 6 = Other (specify)…… ☐ ☐ ☐

9	Considering all your sources of income/cash to your household, what is your average monthly income (in ZMK)?	ZMK:……..
10	State the three main expenditure items in your household by size of expenditure i.e. starting with expenditure item where you spend more money	1 = Staple food 2 = Non- staple foods 3 = Household goods 4 = Health 5 = Agriculture inputs 6 = Education 7 = Other (specify):……
11	Who makes the final decision on household expenditure?	1 = Self (Beneficiary) 2 = Spouse (Husband) 3 = Joint decision-making 4 = Other

3.0 Vegetable production & Commercialization

SN	Questions	Response Options
12	State average land size available for vegetable production (in hectares)	_____ Ha
13	State the main reason (s) why your household is involved in vegetable production?	1 = For sale 2 = For household consumption 3 = Both for Sale & household consumption 4 = Other (specify): ……
14	State **three main** vegetables grown for consumption by your household?	1 _____ _ _ 2 _____ 3 _____
15	State three main vegetables grown by your household for sale	1 _____ 2 _____ 3 _____
16	State the main sources of farm inputs for your vegetable production	1 = In community Agro-dealers 2 = Agro-dealers from town/trading centre 3 = Seed Companies (Panner Seed, SeedCo) 4 = In Company Agents (stockists)

		5 = Other (Specify) ……
17	If answer to **Q13 =1 or 3**, where does your household sale your vegetables?	1 _____ 2 _____ 3 _____
18	What is the approximate distance from point of production to point of sale?	_____ Km
19	What mode of transaction does your household normally sale your vegetables?	1 = Cash sale 2 = Credit 3 = in kind 4 = Other (specify): …….
20	Have you received any training in vegetable production?	1 = Yes 2 = No 3 = Don't know
21	If answer to Q20=1, who provided the training in vegetable production?	1 _____ 2 _____ 3 _____
22	How would you rate the training that you received in vegetable production?	1 = Very good 2= Good 3 = Fair 4 = Poor
23	Have you received any training in post harvest technologies (e.g. storage & handling, grading etc)?	1 = Yes 2 = No 3 = Don't know
24	If answer to Q23=1, who provided the training?	1 _____ 2 _____ 3 _____
25	How would you rate the training that you received in post-harvest technologies?	1 = Very good 2= Good 3 = Fair 4 = Poor
26	What are the **major** challenges that your household face when marketing vegetables?	1 _____ _____

		2 _____ _____ 3 _____ _____
26	How do you ensure quality of vegetables is maintained from point of harvest to point of sale	…… …… ……

4.0 Sustainable Agricultural Practices/Conservation Agriculture

27. Which of the following farming/ land management practices is your household using for vegetable production?	28.When did you start using this technique (indicate year)	29.Average land size under the named agricultural practice (hectares)	30. Who introduced this technique to you?
1 Minimum Tillage (basins, furrows, ripping)			
2 Crop rotation			
3 Other:			
4 Other:			
5 Other:			
31 Is your household involved in organic farming e.g. growing vegetables without using inorganic fertilizers?	1 = Yes 2 = No 3 = Don't know		

5.0 Group Savings and Credit Schemes

32 Does your household head or member belong to a women group savings club?

1 = Yes 2 = No 3 = don't know

33 If answer to Q32= 1 or yes, what benefits have you derived for being a member of this group?

_____

_____

34 Has household head or any member accessed savings and credit facilities in the last 12 months?

1 = Yes 2 = No 3 = don't know

35 If answer to Q34=1 or yes, where did household access savings/credit facilities?

_____

36 For what purpose were the savings or credit facility used for?

_____

37 Has the credit facility been paid back? 1 = Yes 2 = No 3 = don't know

38 If not mentioned, has any member of the household accessed external funds for investment in vegetable production? If yes, how much was accessed? Has this been repaid?

……

39 What support services do you receive from MACO or other partners(IDE, ASNAPP,CETZAM) in vegetable production?

……

40.0 Provide comments that may be relevant to the project

……

ADDITIONAL INFORMATION: HOUSEHOLD DEMOGRAPHIC & BACKGROUND CHARACTERISTICS

041 Household and Farm Assets- Indicate number of Livestock owned					
041.1 Chickens	041.2 Goats	041.3 Sheep	041.4 Cattle	041.5 Pigs	041.6 Other (specify):

042 Household and Farm Assets- Farm & other assets- Indicate number owned								
042.1 Bicycle	042.2 Ox cart	042.3 Plough	042.4 Tractor	042.5 Radio	042.6 TV	042.7 Mobile Phone	042.8 Utility Vehicle (Van)	042.9 Other (specify)

END OF INTERVIEW

THANK YOU

Annex 11.4 List of People Consulted

LIST OF PEOPLE CONSULTED [KEY INFORMANT INTERVIEWS]

NAME	ORGANIZATION	POSITION	DISTRICT
Mrs Veronica Mushupa	Agro-dealer	Agro-dealer	Kazungula
Mr Mpezeni Moyo	Spar	Food & Veggies Supervisor	Livingstone
Mrs Dorcas Mulenga	MAL	DMDO	Livingstone
Mr Godfrey S Makala	MAL	DMDO	Livingstone
Mr Reddson	Agro-dealer	Agro-dealeer	Kalomo
Mrs Cynthia Nambao	MAL	DMDO	Kalomo
Mr Phiri Kalinda	MAL	Assistant DMDO	Kalomo
Mr Alfred Chibinga	Care/EVPC Project	Project Mgt Coordinator	Kalomo/Kazungula
Ms Florence Lushibashi	Care/EVPC Project	Development Coordinator	Kalomo/Kazungula
Mr Malvin Lisulo	Agro-dealer	Agro-dealer	Kazungula
Mr Stanely K Simatimbe	Agro-dealer	Agro-dealer	Kalomo