



**Increasing Mitigation, Productivity and
Adaptation through Crop-Recovery Techniques
(IMPACT) II Project**



**End of Term Evaluation
Summary Report**

By
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September 2018

Disclaimer

This report was authored through the generous support provided to CARE Malawi and ADRA by The Office of U.S. Foreign Disaster Assistance (OFDA). The opinions expressed herein are those of the author and do not necessarily reflect the views of the donor, CARE Malawi, ADRA and their key stakeholders.

Recommended Citation

CARE Malawi and ADRA. 2018. Final Evaluation of the Increasing Mitigation, Productivity and Adaptation through Crop-Recovery Techniques (IMPACT) II Project. Lilongwe, Malawi.

Cover Photo

CARE Malawi and ADRA distributed relief seeds for rain-fed agriculture to smallholder farmers and seed multiplication groups from November to December 2017. In March 2018, the project distributed vines for orange flesh sweet potatoes (OFSP), maize and vegetable seeds, and treadle pumps for irrigation farming. The photo on the cover page was taken by CARE Malawi during one of the seed fairs conducted.

Summary of the Project

Project Name	Increasing Mitigation, Productivity and Adaptation through Crop-Recovery Techniques (IMPACT II) Agreement Number: AID-OFDA-G-7-00104 Funding: US\$1,125,519
Donor	USAID / OFDA
Implementers	CARE Malawi (Nsanje District) ADRA (Mulanje and Phalombe Districts)
Key Stakeholders	District Councils, Ministry of Agriculture, Irrigation and Water Development (MOAIWD), the Department of Disaster Management Affairs (DoDMA), Lead Farmers and Local Committees.
Beneficiary Households	26,400 households <ul style="list-style-type: none"> ▪ 9,400 households from phase I received technical and monitoring support from lead farmers trained by the project ▪ 9,500 households for rain-fed agriculture and 7,500 irrigation farming in phase II of the project
Project Goal	To help 26,400 poor, vulnerable and needy households recover their cropping capacity and agricultural-based livelihoods after El Niño episode experienced in the 2015/2016 agricultural season.
Project Activities	<ul style="list-style-type: none"> ▪ Seed vouchers and fairs for rain-fed agriculture ▪ Seed vouchers, fairs and treadle pumps for irrigation ▪ Postharvest management of crops ▪ Integrated Pest Management ▪ Capacity building of lead farmers and local committees
Reporting Period	August 2017-July 2018
Purpose of the Evaluation	To assess performance, relevance, impact, efficiency and effectiveness of the IMPACT II project at the conclusion of implementation

Acknowledgements

Thank you to many very helpful people who contributed their time, efforts and ideas to this evaluation. In particular, the author wishes to acknowledge the technical and logistical support provided by CARE Malawi and Adventist Development and Relief Agency (ADRA).

During the first week of August 2018, we visited 18 communities in Mulanje, Phalombe and Nsanje with a team of 10 research assistants and 1 data entry clerk for field work. Vehicle drivers took us to where the beneficiaries were. To all of you, for the time, patience and diligence you provided throughout the process, the author is deeply thankful.

Sincere gratitude should also go to local committees, lead farmers, community volunteers, households and key persons who responded to different questionnaires and gave valuable information for the evaluation.

To village volunteers and local guides who helped locate sampled households to participate in the household survey, the author says thank you.

List of Acronyms

ADD	Agricultural Development Division
ADRA	Adventist Development and Relief Agency
CAA	Climate Adaptation Agriculture
CARE	Cooperative for Assistance and Relief Everywhere
CBA	Community-Based Adaptation
CBTC	Community-Based Targeting Criteria
CSI	Coping Strategy Index
DADO	District Agriculture Development Office
DoDMA	Department of Disaster Management Affairs
DRR	Disaster Risk Reduction
FANTA	Food and Nutrition Technical Assistance Project
FAO	Food and Agriculture Organization
FAW	Fall Armyworms
FCS	Food Consumption Score
FEWSNET	Famine Early Warning Systems Network
GVH	Group Village Headman
HDDS	Household Dietary Diversity Score
IPC	Integrated Food Security Phase Classification
IPM	Integrated Pest Management
LDF	Local Development Fund
M&E	Monitoring and Evaluation
MEAL	Monitoring, Evaluation, Accountability and Learning
MGDS	Malawi Growth and Development Strategy (MGDS) III (2017-2022)
MOAIWD	Ministry of Agriculture, Irrigation and Water Development
MVAC	Malawi Vulnerability Assessment Committee
OFDA	Office of U.S. Foreign Disaster Assistance
OFSP	Orange Fresh Sweet Potato
PHM	Postharvest Management
PICS	Purdue Improved Crops Storage
PPS	Probability Proportionate to Size
SADC	Southern African Development Community
SDGs	Sustainable Development Goals (2015-2030)
SMG	Seed Multiplication Groups

SS	Subsectors
SVF	Seed Vouchers and Fairs
TA	Traditional Authority
TOT	Terms of Reference
USAID	United States Agency for International Development
VCPC	Village Civil Protection Committees
VDC	Village Development Committee
VNRMC	Village Natural Resources Management Committee
WFP	World Food Programme

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Executive Summary

In the 2015 / 2016 season, Malawi experienced severe floods and droughts that occurred as a result of El Nino weather conditions. The Malawi Vulnerability Assessment Committee (MVAC) -composed of the Government, UN agencies and NGOs- forecasted that a minimum of 6.5 million people, or 39 percent of the country's projected population of 16.8 million, would not be able to meet their annual food requirements during the 2016/2017 consumption period. Nsanje, Phalombe and Mulanje are some of the districts that were hit hardest. CARE Malawi implemented the IMPACT project from August 2016 through July 2017 to help the people from the three districts recover their agricultural-based livelihoods. After closure, USAID's OFDA provided a new grant of US\$1,125,519 for IMPACT to run from August 2017 to July 2018 in a bid to consolidate the gains achieved in the first phase and reach additional households affected by continued dry spells and the Fall Armyworms. CARE subcontracted ADRA (Adventist Development and Relief Agency), an international NGO with experience and presence on the ground, to implement activities of the second phase in Phalombe and Mulanje (as they had in Phase I). This evaluation aimed to assess the design, performance and impact of the second phase. It used mixed methods to collect quantitative and qualitative data from 476 beneficiary households, 14 key persons and 8 focus group discussions with lead farmers, women and men, local committees and non-beneficiaries. Training of research assistants and pre-testing of study tools were done to ensure quality of the data collected.

The name itself reflects the overall aim of this project: to enable poor and vulnerable households recover their agricultural-based livelihoods by providing seed aid through vouchers and fairs and strengthening their capacity on postharvest as well as pest and disease management. The table below shows the targets and achievements of the project.

Indicator	Baseline Status (Dec 2017)	Target	Source of Data	Achievements		Comments
				n	%	
Projected increase in number of months of food self-sufficiency due to distributed seed systems/ agricultural input for beneficiary households	4.5	6.5	Baseline and endline surveys	4	61.5%	Prolonged dry spells, floods and FAW have affected productivity of agriculture
Number of people benefitting from seed systems/ agricultural inputs, by sex	0	102,000 people including 50% women	Monitoring reports, final evaluation report	75,417 (36,098 m, 39,319 f)	73.9% (47.9 m; 52.1 f)	All the 17,000 households benefited from seed systems in phase II of the project. Some households had less than 6.5 people as planned

Projected increase in number of months of food self-sufficiency due to distributed agricultural irrigation equipment activities	2.1 months	4.1 months	Baseline and endline surveys	1 month	24.4%	Crops washed away by flash floods end of July 2018 in Nsanje. Water scarcity in rivers and an ongoing outbreak of FAW affected irrigation as well
Number of people trained in CBA, disaggregated by sex	0	420	Training records; attendance sheets	375 (219 m, 156 f)	89.3% (58.4 m; 41.6% f)	
Number of hectares irrigated	31.6	750	Winter Lead Farmer Reports; Endline survey to triangulate	314.65	42%	Scarcity of water affected irrigation farming as already mentioned
Number of people benefitting from irrigation activities, disaggregated by sex	0	7500; 60% women	Winter Lead Farmer Reports; Endline survey to triangulate	5000 (2858 females e.g. 57%)	66.7% (43% m, 57% f)	Data for Nsanje were not available during the time of field work
Number of households receiving technical support from lead farmers supported by the project, disaggregated by sex	0	26,400	Monitoring reports, final evaluation report	30,458 (12,606 m, 17,852f)	115.4% (41.4m, 58.6 f)	Each lead farmer reached out to at least 48 farmers on average
Estimated amount and percentage of post-harvest produce protected against diseases and pests	4,950kgs, or 5.29%	5,940kgs or 6.35%	Baseline and endline surveys; Project Performance Monitoring reports	43,150 kg	726.4%	8 famers used PICS bags and 282 applied actellic to maize in 50kg sacks. The rest (n=186) either did not harvest or had their maize stored unprotected.
Number and percentage of people trained by USAID/OFDA partners practising appropriate crop protection procedures, by sex	56.7%	76.7%	Baseline and endline surveys; Project Performance Monitoring reports	97.9%	127.6%	Farmers applied a mix of crop protection methods against FAW: pesticides, traditional concoctions and

						handpicking although many could not manage to cover the whole field.
Estimated number and percentage of hectares protected against diseases and pests	242 74.2%	302.5 92.8%	Baseline and endline surveys; Project Performance Monitoring reports	173.4 ha (Total = 439.9 ha; 39.4%)	57.3%	FAO helped government with pesticides. Litres provided were inadequate. Traditional methods promoted by IMPACT were laborious and required money to cover hectares of land. Farmers did not have the money.
Number of people directly trained in post-harvest management, disaggregated by sex	0	660	Training records & activity reports	631 lead farmers (377 m; 254 f)	95.6% (59.7m; 40.3 f)	IMPACT foresaw the need to address postharvest management (PHM) and trained the majority of lead farmers
Number of people trained by lead farmers in post-harvest management, disaggregated by sex	0	26,400	Lead farmer reports; Endline survey to triangulate	30,458 (12,606 m, 17,852 f)	115.4% (41.4% m; 58.6 f)	Trained lead farmers cascaded the training on PHM covering more farmers than planned
Number and percentage of people trained in pest control practices, by sex	0	660	Training records & activity reports	631 lead farmers (377 m; 254 f)	95.6%	Lead farmers trained in PHM also received training on pest control practices

The project time spent was at 100 percent in the first week of August 2018 (e.g. 12 out of the 12 months planned, August 2017 to July 2018) when this evaluation took place. All activities were fully completed. The table above with data from routine monitoring and internal evaluation by the project and household survey of beneficiary households as part of this evaluation show that IMPACT II project met or nearly met and in some cases surpassed its targets by the time of closure. The evaluation found that besides the 17,000 poor, vulnerable and needy households that benefited from rain-fed and irrigation seed vouchers and fairs, the project supported 9,400 farmers from the first phase through demonstrations by lead farmers on climate smart agriculture, postharvest management and

integrated pest management, making a total of 26,400. Most importantly, by the first week of August 2018 nearly all of the households (99.3%) surveyed were consuming two to three meals a day composed of at least five of the twelve food groups included in the questionnaire to measure household dietary diversity score (HDDS). Consumption as measured by food consumption score (FCS) was acceptable (defined as FCS of >35) for close to half of the households surveyed (45.4%). Before IMPACT (the first and second phases), the same households were the poorest and suffering from hunger almost every year including at harvesting time in years of above average rainfall. Months of food self-sufficiency recorded represent gains and positive changes the project has made in the targeted districts over the past two years.

In its design, IMPACT intended to increase months for food self-sufficiency from 4.5 recorded at baseline to 6.5 months for rain-fed agriculture and extend this period by 4.1 months through irrigation. Analysis of descriptive data from the household surveys showed that the project has sustained a 4-month period of self-food sufficiency (from April, the time of harvesting, to August). With these results, the evaluation concludes that the second phase has made more impact than the first because the agricultural year in which it has operated is one of the worst characterised by prolonged dry spells ever, floods when it rained and an outbreak of fall armyworms happening at the same time. For example, available data from the District Agriculture Office in Phalombe show that 7,063 hectares of the 42,300 planted with maize (17 percent) were attacked by FAW, affecting 12,311 farm families. Of these, 2,060 were from the 3,500 that benefited from rain-fed seed fairs in the district and the situation is similar in the other two districts. Comparatively, an evaluation for the first phase found self-food sufficiency of 3.5, but generally the weather conditions were much favourable; hence, deemed lower in terms of agricultural productivity.

The incremental impact attained from first to second phase is due to rain-fed agriculture and irrigation seed fairs which generally worked well, although there were some delays due to security concerns related to blood sucking in the districts. In a nutshell, the second phase distributed 33,500 kg of maize, sorghum, millet and legume seed to 9,500 households for rain-fed agriculture as planned. It also distributed 862kg of legume seed and 3,160 bundles of orange flesh sweet potatoes (OFSP) vines to 24 groups for multiplication and sharing (e.g. pass on the 'gift' program). The project also supported 7,500 irrigation farmers with maize and vegetable seed and 390 treadle pumps to succeed with their farming.

In this project poor rains did not only affect rain-fed agriculture, but also limited residual moisture for winter cropping and irrigation farming. Other challenges reported by project staff at various levels are delays in the disbursement of funds between quarters of the project due to internal procedures, prolonged procurement protocols, mobility problems as the project relied on hired vehicles and motorbikes from other projects, and turnover of field advisers and M&E staff already trained by the project, thereby creating the need to spend resources recruiting and orienting new ones.

Despite these bottlenecks, self-reports by farmers, agriculture staff, project field officers and various community volunteers cited several indicator of impacts for the CARE and

ADRA's IMPACT in the second phase besides sustenance of food self-sufficiency. These include 1) improved seed systems and availability of high yielding and early maturing varieties of crops, 2) restored agricultural-based livelihoods for farmers that lost their seed after El Nino, 3) reduced period of food dependency, 4) reduced use of negative coping strategies due to improved food sufficiency, 5) introduced Purdue Improved Crops Storage (PICS) bags as an effective low cost tool for minimizing postharvest losses, and 6) increased knowledge about low cost traditional methods for pest control and management.

Sustainability of the project is underpinned by the lead farmer approach as well as trainings of local farmers and committees. For example, by relying on lead farmers to train other farmers, the project has left 'fellow villagers' in the targeted communities to lead by example in trying new technologies. In addition, the trainings already done have put the necessary knowledge and skills in smallholder farmers which they will continue to use in future to revolutionize their agricultural-based livelihoods and economic wellbeing. These trainings have created a certain level of readiness, consciousness and awareness of disaster risks, postharvest losses as well as common pests and diseases in addition to enhancing indigenous knowledge about ways to reduce them or mitigate their impact. For example, as evidence of capacity in them VCPCs and VDCs have drafted community-based disaster preparedness plans detailing sustainable DRR measures for different kinds of disasters. VCPCs in some parts of Phalombe reported to have already started using the plans. In many instances, the development of DRR plans involved consultations with district DRR offices and dedication of time and energy. This commitment is necessary for continuation of activities of IMPACT. ADRA also remains in the same districts implementing other projects and will continue to work with these beneficiaries. The evaluation singles out food insecurity in the coming months as a threat to sustainability of activities and cropping capacity of farmers since the majority will likely consume their seed in the face of hunger after exhausting their food stocks.

Recommendations

CARE Malawi and ADRA

1. To help the vulnerable and poor households without seed, such as those targeted by IMPACT, recover fully from the effects of shocks and stresses, in future projects strengthen the design of seed aid interventions for rain-fed agriculture by increasing the amounts of maize seed to 5kg. Two kilograms of seed produces 10-12 fifty kg bags with good crop husbandry practices, fertile soils and hybrid seeds. This amount is not enough to take an average family of 6 people found in rural Malawi to the next harvest. There is need to include basal and top dressing fertilisers in the package that beneficiaries can apply alongside own compost manures to accelerate yields.

Concerning OFSP, there is need to distribute vines in October / November together with seeds for other crops to take advantage of the whole rainy season and accelerate impact. Farmers can then continue to cut, share and grow vines thereafter, during winter cropping.

2. In phase II, IMPACT tried to include portable solar pumps to increase food production through irrigation farming. The project rescinded the decision because the cost was prohibitive to serve the number of people targeted. It therefore resorted to distributing 390 money maker treadle pumps. While the treadle pumps are cheaper and easy to use, they require a lot of human energy to pump water particularly now that water sources are increasingly drying up. In future, subject to availability of funds CARE and ADRA should improve the efficiency and coverage of irrigation by adopting portable solar pumps that can draw up to 8000 cubic litres of water per hour with little effort.
3. In future projects, on capacity building start with project staff and local agriculture staff for easy mentorship, monitoring and follow up of lead farmers. In the second phase of IMPACT, lead farmers were oriented first e.g. before the local agriculture staff. In other words, while many of the local agriculture staff participated in IMPACT I, they needed orientation also at the very onset of the second phase before lead farmers were trained to make their work easier.
4. Improve efficiency on disbursement of funds to end gaps in the implementation of project activities. The first and third quarters of the IMPACT II project started a month late due to fund-transfer issues, according to interviews with project managers. There were delays in funding internally within ADRA that affected timely implementation of activities and created work pressure on the part of staff since they had still to strive and meet scheduled deadlines.
5. Improve routine M&E by addressing staffing constraints, providing on-job training and conducting quarterly review meetings as scheduled for planning purposes and to track problematic areas requiring action on time. CARE reduced the number of review meetings from 4 to 2 to catch up with time after delays in the commencement of first and third quarters. As already stated, for 1.5 months from September to mid of November in the first quarter implementation of activities was heavily affected by the travel ban that was instituted. Taken together, delays and limited implementation of project activities negated the need for the review meeting in this quarter as there was no substantial work done.

Government and its Development Partners e.g. WFP

1. Provide emergency general food distribution to the entire population during the lean period starting from November 2018-March 2019. Early planning of relief food is needed to ensure timely and well-coordinated intervention. Use the WFP's food basket– maize, legumes, vegetable oil, super cereal and super cereal plus- to provide nutrition and energy dense food to the affected population.
2. Complement food aid with distribution of seeds and agricultural tools before the start of the next cropping season, November 2018-March 2018, to boost agricultural productivity and complement efforts by NGOs working in the three districts.

3. Plan to run social cash transfer and work for fertilizer programs since they have proved to be the most preferred interventions and the best model for providing emergency humanitarian assistance to the vulnerable people. With cash, people can choose which basic supplies are right for their families, which is important for human dignity.

1.0 Introduction

With humanitarian aid from the Office of U.S. Foreign Disaster Assistance (OFDA), CARE Malawi has been implementing IMPACT II project from August 2017 to July 2018 to help 26,400 poor, vulnerable and needy households recover their agricultural-based livelihoods after El Niño episodes experienced in the 2015/2016 agricultural season. The project followed phase I that run from August 2016 to July 2017, supported by the same office. Both phases have been implemented in Nsanje, Phalombe and Mulanje in the southern region of the country. In the both phases, CARE sub granted funds to Adventist Development and Relief Agency (ADRA) to implement the project in Phalombe and Mulanje under Blantyre Agricultural Development Division (ADD). El Nino caused prolonged dry spells and floods that destroyed small livestock and crops in the three districts. Farmers lost their seeds and cropping capacity for the next season after crops were damaged. Besides this, Nsanje, Phalombe and Mulanje are affected by dry spells and floods even in normal agricultural years.

CARE Malawi provided seed aid through vouchers and fairs in both phases of IMPACT and implemented overarching activities in areas of Community-Based Adaptation (CBA) to climate change, integrated pest management and postharvest management to increase agricultural productivity and food security. Besides rain-fed agriculture, CARE Malawi has been providing seeds and treadle pumps to individual and groups of farmers for irrigation farming in the districts.

In keeping abreast with the need for monitoring, evaluation, accountability and learning (MEAL), CARE commissioned this evaluation to assess the relevance, effectiveness, efficiency, impact and sustainability of the second phase after 1 year of implementation. In addition, the evaluation aimed to enhance our understanding of the local context in which IMPACT was implemented and the situation of all planned activities at the end, while at the same time looking at the gains made for wider replication in future. Throughout the process, it gathered information on gender perspectives as it relates to power dynamics between men and women, decision making and participation at household and community levels.

The intended users of the evaluation are the donor (OFDA), project staff within CARE and ADRA, concerned district councils, the Department of Disaster Management Affairs (DoDMA) and various CSOs working in the areas of agriculture, livelihoods and disaster risk reduction in the districts.

Since 1998, as the organisation's name reflects CARE has been providing relief and humanitarian assistance to support development in Malawi. In line with this commitment, CARE continues to work with poor women, men, boys, girls, communities and institutions to help eradicate poverty. The mission is to make a contribution toward economic and social transformation, and unleash the power of the most vulnerable women and girls.

The remainder of this section describes how targeting of beneficiaries was done, seed vouchers and fairs and the lead farmer approach. Section 2 provides the goal and specific

objectives of this evaluation, while Section 3 outlines the design and mixed methods followed to collect the qualitative and quantitative data. Section 4 presents key results obtained and is subdivided based on the headings given in the Terms of References (TORs), Annex 1. Section 5 draws lessons from the interventions, and Section 6 summarises conclusions and recommendations for guiding programming of similar projects in future.

1.1 Targeting of Beneficiaries

Targeting and issues of inclusion in, and exclusion from, relief projects are often relevant to deliver services to those in need. CARE and ADRA used the community-based targeting criterion (CBTC) to identify the 26,400 beneficiaries with a broad spectrum of ‘vulnerability’. Following this criterion, phase II of IMPACT sensitized Village Development Committee (VDC) and Group Village Headmen (GVH) about the project and eligible beneficiaries to be targeted. The pre-registration targeting exercise was done by local agriculture staff (AEDCs), VCPC (Village Civil Protection Committee) and VDC members. CARE and ADRA verified, validated and registered beneficiaries that qualified only. Providing everyone who feels they need humanitarian assistance is simply not feasible given the limited resources available and would not be desirable as it would probably create dependency on external aid even among people who are capable of working or earning an income.

1.2 Seed Vouchers and Fairs

In this project, preparatory work for seed vouchers and fairs (SVF) involved conducting district, EPA and community level awareness meetings. Districts formed a task force that worked with CARE Malawi and planned SVFs, identified and discussed with local seed traders as well as designed and printed vouchers. Seed fairs took place on specific days and locations announced in advance by CARE and ADRA. Before commencement, CARE and ADRA trained seed traders on the voucher system and quality of services expected. A total of 9,500 deserving households received vouchers and redeemed seed for rain-fed agriculture from seed traders worth K11,000 (US\$15.3) between October and December 2017. In March 2018, IMPACT also provided vouchers to 7,500 farmers with land along the rivers to engage in irrigation farming (**Table 1**).

Table 1: A summary of SVF beneficiaries for the project

District	Rain-fed Agriculture			Irrigation			Rain-fed and Irrigation		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Nsanje	1450	1050	2500	1116	1384	2500	2566	2434	5000
Mulanje	1296	2204	3500	1049	951	2000	2345	3155	5500
Phalombe	1349	2151	3500	1093	1907	3000	2442	4058	6500
Total	4096	5406	9500	3258	4242	7500	7354	9648	17000
%	43%	57%	100%	43%	57%	100%	43%	57%	100%

2.0 Overall Goal of the Evaluation

The main purpose of this evaluation was to collect quantitative and qualitative data for assessing successes of the IMPACT II project in achieving its stated goal and objectives.

2.1 Specific Objectives

1. **Relevance:** To examine the validity and appropriateness of the project based on the needs and vulnerabilities of the target beneficiaries.
2. **Effectiveness:** To measure the extent (in terms of quantity, quality, equity and timeliness) to which project objectives were achieved.
3. **Efficiency:** To assess if the project used the least costly resources (financial, human, technical, material, and time - required to undertake activities) possible in order to achieve the desired results.
4. **Impact/Outcomes:** To assess intended and unintended changes that might be attributed to the project as defined in the project theory of change of result framework.
5. **Sustainability:** To assess the potential for continuity of outcomes, impact, activities and structures after phasing out of the project, particularly by examining if conditions for sustainability have been created.
6. **Coherence:** To assess the alignment of CARE Malawi's work to CARE International program strategy and ascertain the level of project's adherence to CARE Evaluation principles, standards and contribution to relevant CARE's global indicators.

3.0 Evaluation Approach, Design and Methodology

3.1 Approach

This evaluation was preceded by an inception meeting held in July 2018 at CARE Malawi country office to agree on the scope of work and data needs. The evaluator prepared an inception report detailing the methodology of the assignment and work plan to be followed, which received valuable input from the country office. The evaluation employed participatory and mixed methods, involving collection, analysis and triangulation of quantitative data from the household survey with input from key stakeholders (project staff, partners, communities and beneficiaries) to get an in-depth understanding of IMPACT; its design, implementation and impact. In each district, the household survey and qualitative assessment took place concurrently to get responses that were entirely independent and yet supportive of each other.

3.2 Sample Size Determination for the Household Survey

In this evaluation, the household survey collected data from a total of **476** households drawn from all the three districts. The sample size was calculated using a statistical formula for cross sectional intervention studies suggested in the USAID FANTA Sampling Guidelines by Robert Magnani (1997). This sample size implied engaging 3 percent of the entire beneficiary population of 17,000 households. Thus, in every 100 households, three

participated in the evaluation. **Annex 2** presents a step by step procedure of how the sample size was determined.

$$n = D \frac{[(Z\alpha + Z\beta)^2 \times (P_1(1-P_1) + P_2(1-P_2))]}{(P_2 - P_1)^2}$$

Where,

n = Statistically acceptable minimum sample size for the evaluation

D = Design effect (in this case D=2.0 considering that all the three districts are unique that increases the heterogeneity of the study population)

Z = The standard normal deviation ($Z\alpha$ is the Z-score at desired level of statistical significance [e.g. $Z\alpha=1.645$ at 95% confidence level] and $Z\beta$ is the Z-score at desired statistical power e.g. $Z\beta=0.842$ (for a $\beta = 0.20$ or power of 0.80 power)

P1 = The estimated level of the indicator measured at baseline

P2 = The expected level of the indicator at some future date (P2-P1) is the estimated change over time)

3.3 Sampling Procedure for the Household Survey

A multi-stage cluster sampling was used to select clusters and households for the study. In the first stage, the evaluation included all the three districts purposively since each one of them is unique and was expected to give different results. Simple random sampling was then used in the second stage to select 18 Group Village Headmen (GVHs) areas as clusters, relying on the list of provided by CARE Malawi as the sampling frame. The clusters were drawn from 8 Traditional Authorities (TAs), while respondents came from 44 villages selected at random from the clusters. In the third stage, the evaluator combined stratified and simple random sampling to select households from the sampled villages and ensure good representation of male and female beneficiaries. Probability proportionate to size (PPS) sampling was used to determine the number of TAs, clusters, villages and households for inclusion in each district, TA, GVH and village. Thus, more respondents came from Phalombe since it had the largest number of beneficiaries in the project (**Table 2**). CARE Malawi and ADRA field staff sensitized and fixed appointments with selected villages ahead of the time to minimize cases of absenteeism. **Annex 3** gives details of TAs, GVHs and villages that participated.

Table 2: Distribution of the sample size across districts

Sex	District			Total
	Mulanje	Nsanje	Phalombe	
Male	57	82	66	206
Female	96	59	115	270
Total	154	141	181	476
Targeted Beneficiaries	5,500	5,000	6,500	17,000

3.4 Recruitment of Enumerators

Given a sample size of 476 households and the need to provide time for lunch breaks and local travelling, the evaluation recruited 10 enumerators (6 male and 4 female) and divided them into 2 teams comprising of 4 enumerators each. One member of the team was assigned as the team leader in addition to the data collection duties that he/she was responsible for. Each team collected data from 40 households, giving a total of 80 questionnaires per day for all the 2 teams. One person administered at least 8 questionnaires per day in this regard.

3.5 Training of Enumerators

The training of enumerators took place in Lilongwe for three days from 26-28 July 2018. It oriented enumerators on the evaluation objectives, design and methodology to be followed, work performance expected, roles and responsibilities, and ethics in data collection. On the methodology, the training emphasized on how to seek consent, select respondents, and check quality and completeness of the data collected. As part of the training, the enumerators practised a few interviews through role plays to familiarise themselves with evaluation questions and clarify possible differences in understanding.

After training, the questionnaires were pre-tested in Lilongwe before field work to correct any major concerns with translation and terminology, and identify glitches in wording of the questions, lack of clarity, questions that were not clear enough and needed to be rephrased, and misleading questions. The results of the pre-test survey were analysed case by case to ascertain questions that worked and those that failed to attain the intended purpose. Minor changes were made to the questions and structure of the questionnaire. The pre-test sample was for learning purposes and not included in the actual evaluation sample. The questionnaires that the project adapted were those used at baseline to make comparisons of results easy. **Table 3** summarizes roles and responsibilities of the evaluator, enumerators, team leaders and the data entry clerk.

3.6 Methods for Qualitative Data Collection

Qualitative data were collected concurrently with the household survey to obtain responses that are quite independent of each other. The evaluation consulted 14 key persons, including project officers from CARE and ADRA, local agriculture staff, lead farmers and local leaders. It also conducted 8 focus group discussions with smallholder farmers, seed multiplication groups, VCPCs, VNRMCs and VDCs (**Annex 4**). Discussions centred on selected topics with planned questions, while allowing for interesting, new and unplanned follow-up questions to be asked as well. Each group comprised of 8-12 people selected for their first-hand information. In addition, the evaluation conducted simple observations of the situation on the ground e.g. visiting various sites such as strategies used to prevent and mitigate disasters, irrigation sites and fields for lead farmers to understand the post project situation of activities. Purposive sampling was used to select the aforesaid key persons and groups for interviews. Numbers of key persons and groups to be interviewed depended on data saturation e.g. a point where new opinions and viewpoints were not coming from the interviewees.

Table 3: Roles and responsibilities of the evaluation team members

Team Member	Number	Responsibilities
Evaluator	1	Reviewing project documents
		Revising and pre-testing evaluation tools
		Training / orienting enumerators and team leaders
		Overseeing, guiding and supervising enumerators
		Ensuring that the methodology is followed closely
		Facilitating de-briefing sessions with enumerators
		Conducting key informant interviews
		Data analysis and interpretation
		Report writing, oral presentation for validation, and submission
Enumerators	10	Administering household survey questionnaires
		Participating in debriefing sessions
Team Leaders (Selected from enumerators)	2	Ensuring that enumerators filled questionnaires accurately and completely.
		Telling teams which households to visit
		Assisting in administering household questionnaires
Data entry clerk	1	Data entry, cleaning and preliminary analysis

3.7 Field Work

Field work took place in all the three districts for 6 days from 31 July to 5 August 2018. The evaluation teams worked together in a single district and area at a time to easy supervision. In this regard, the evaluator made direct supervisory visits to teams and maintained regular contact with all team members during field work. CARE and ADRA staff also gave regular supervisory support to the data collection team in addition to mobilizing communities and fixing appointments with relevant key stakeholders as already stated. Supervision specifically involved ensuring that the survey methodology was followed closely, checking the completeness of questionnaires and organising evening wrap-up sessions with all the teams together to discuss any problems encountered and observations made.

3.8 Ethical Consideration

To remain ethical, all interviews were preceded by a brief introduction by interviewers about the purpose of the evaluation and seeking consent from the respondents. As part of enumeration, the interviewers provided respondents with full disclosure of what information was being gathered, its purpose and exactly how it would be used. Prior to administering the questionnaires, they informed respondents that participation was voluntary, highlighting on people's rights to refuse participation, skip questions they did not want to answer, and to discontinue their participation at any time. They assured them that there would be no consequences for exercising these rights. Each respondent was informed about the confidentiality of the information that they were required to provide. The interviewers were sensitive to gender issues, understood and respected vulnerabilities

and particular cultural practices. They were prepared to have their assumptions about the situation on the ground challenged. In addition, the interviewers were alert and they tried to identify most salient issues to the targeted communities and households. At all times, they abided by professional ethical conduct, such as neutrality, respect for respondent's dignity, culture and data verification, throughout the period of data collection. Written formal consent was deemed unnecessary because the respondents were from communities targeted by CARE Malawi and ADRA.

3.9 Data Entry and Analysis

Quantitative data from the household survey were entered and analysed in SPSS computer software package (version 20.0). Descriptive statistics, such as frequencies and percentages, were generated and used to describe the findings. In addition, cross tabulations were used to disaggregate the quantitative data by district, gender and project intervention. Graphs, tables and photographs were used to put illustrations in this report, where necessary. Qualitative data were analysed by field teams at the end of each day and upon completion of interviews in a particular area. The analysis was done manually through content analysis and reported as anecdotes (narrative summaries) to contextualize quantitative findings from the household survey.

4.0 Evaluation Results

4.1 Relevance of the Project

The evaluation found the second phase of IMPACT was relevant in the context of Nsanje, Mulanje and Phalombe. In the 2015/2016 agricultural season, Malawi suffered from combined effects of drought and floods due to El Niño, which the Famine Early Warning Systems Network (FEWSNET) and the Southern African Development Community (SADC) Agromet described as the worst in the past 35 years. Droughts and floods damaged standing crops and killed small livestock. There were heightened concerns about the cropping capability of rural farming families for the next season after farmers lost their seeds. The Malawi Vulnerability Assessment Committee (MVAC) -composed of the Government, UN agencies and NGOs- projected that over 6,692,114 people would suffer from hunger in the 2016-2017 consumption year across the country, representing 39% of the total national population. Mulanje, Nsanje and Phalombe contributed hugely to the problem, with 354,306, 236,028 and 244,297 people affected respectively. These figures represented 62, 84 and 65 percent of the rural population in the three districts respectively.

In response, CARE Malawi implemented phase one from August 2016 to July 2017 to improve the food security situation and help the affected people recover. This phase had two sub-sectors: improving agricultural productivity and food security, and irrigation. It trained 310 lead farmers and distributed rain-fed and winter cropping seeds through seed vouchers and fairs, benefiting a population of 19, 000 needy households. The country received above average rains that started on time in the 2016/2017 season in which the first phase operated. A few districts in the southern region still experienced dry spells in February 2017 that thwarted efforts by farmers to harvest adequate food. Mulanje, Nsanje and Phalombe were among these districts despite humanitarian aid they received from OFDA. The number of months with food self-sufficiency was 3.5 down from 3.6 at baseline, according to evaluation of this phase conducted in July 2017.

The MVAC report of the same month (July 2017), listed most of the districts in the southern region in phase 2 of the Integrated Food Security Phase Classification (IPC) (e.g. stressed). It defined phase 2 to mean that households had minimally adequate food consumption, but were unable to afford some essential non-food expenditures without engaging in irreversible coping strategies. Mulanje, Nsanje and Phalombe had 18, 25 and 15 percent of the population already in IPC phase 3 (crisis) respectively.

This situation prompted OFDA to provide additional humanitarian funds for phase two to run from August 2017 to July 2018 to consolidate and nurture the gains already achieved. A baseline study conducted for the second phase validated the extension and this evaluation found it useful and impactful as well. Box 1 compares key results for the baseline and endline studies.

Box 1

IMPACT II Project Baseline Study Findings

- 4.5 months of self-food sufficiency from rain-fed agriculture
- 20% of the households were growing 3 or more crops
- 34% of the farmers were trained by lead farmers in post-harvest management
- 60.4% of land was put under Climate Smart Agriculture (CSA) by the respondents
- More than 78% of the farmers reported practicing more than 3 CSA technologies
- 27.5% farmers received support from a lead farmer in the past month
- 11.2% respondents were food secure in the critical months of December to April
- A total of 807 acres were cultivated out of which 599 acres were protected from pest and diseases, representing 74.2% coverage
- 26.7% of the respondents had knowledge of at least 3 critical IPM practices.
- 41.7% of women participated in household financial decision-making
- 49.4% of women participated in decisions on what to grow in their fields
- 49.5 % of women participated in decisions on whether food produced is consumed or sold

IMPACT II Evaluation Findings

- 4 months of self-food sufficiency from rain-fed agriculture
- 62.2% of the households were growing 3 or more crops
- 90.8% of the farmers were trained by lead farmers in post-harvest management
- 99.8% of land was put under Climate Smart Agriculture (CSA) by the respondents
- 98.5% of the farmers reported practicing more than 3 CSA technologies
- 85.3% of the farmers received support from lead farmers in the last month
- 13.0% respondents were food secure in the critical months of December to April
- A total of 439.9 acres were cultivated out of which 173.4 acres were protected from pest and diseases, representing 39.4% coverage
- 85.9% of the respondents had knowledge of at least 3 critical IPM practices.
- 73.3% of women participated in household financial decision-making
- 75.0% of women participated in decisions on what to grow in their fields
- 80.2 % of women participated in decisions on whether food produced is consumed or sold

4.2 Effectiveness of the Project

Regarding effectiveness, the evaluation aimed to assess the extent (in terms of quantity, quality, equity and timeliness) to which the second phase of IMPACT has achieved its stated goal and objectives. IMPACT (phase I and II) was designed to increase mitigation, productivity and adaptation through crop-recovery techniques. In this phase, IMPACT had 4 overarching strategic objectives termed as subsectors (SS) to achieve this goal:

SS1: Improving Agricultural Production and Food Security

SS2: Seed System Security

SS3: Pests and Pesticides

SS4: Irrigation

4.2.1 SS1: Improving Agricultural Production and Food Security

Over the past one year, CARE Malawi and ADRA have improved the food security situation of 17,000 poor and vulnerable households, hosting at least 75,417 people (36,098 male and 39,319 female) in the three districts. By early August, nearly all the households surveyed (99.3%) were consuming two to three meals per day composed of five or more of the twelve food groups assessed¹. Consumption as measured by food consumption score (FCS)² was acceptable (defined as FCS of >35) for close to half of the households (45.4%), and 50.8% of them were in the borderline category (**Figure 2**). Before IMPACT, these households were the poorest and suffering from hunger almost every year including in times of above average rainfall. They were lacking food during lean months and even at the time of harvesting. Seed vouchers and fairs, and active involvement of lead farmers and local committees such as VCPCs and VNRCMs account for these successes. Interventions under Community-Based Adaptation (CBA) to climate change, and seed multiplication have also shown to be effective at revolutionizing agricultural based livelihoods of the affected people.

¹ To assess HDDS, respondents were asked to remember and mention all the foods (meals and snacks) that members of their households ate or drank on the day preceding the survey during the day and night at home, starting with the first food or drink of the morning. A total of 12 food groups as classified by USAID and the U.N. Food and Agriculture Organization (FAO) will be used, namely Cereals & cereal products; Roots & tubers; Vegetables; Fruits; Meat and meat products, Eggs; Fish; Legumes; Milk & milk products; Fats & oils; Sweets; and Honey and miscellaneous (e.g. condiments and beverages).

² For FCS, the household survey asked respondents the question, “In the past 7 days, how many days has your household consumed the following foods: Cereals, Tubers, Pulses, Vegetables, Fruits, Meats & Fish, Milk, Oil, Sugar and Condiments? Calculation of FCS was based on cut off points suggested by the World Food Programme.

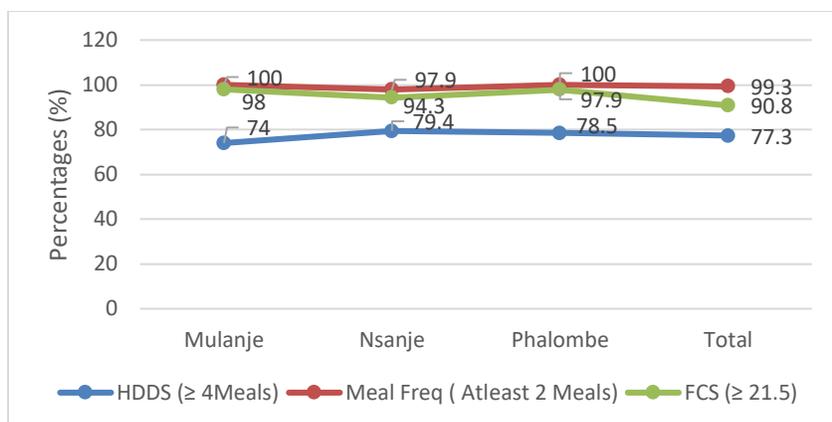


Figure 2: Meal frequency, HDDS and FCS for the sampled households (N=476)

4.2.1.1 Number of Months of Food Self-Sufficiency

On average, a household harvested 370 kg (7.4 bags of 50kg maize) mainly from the maize seed they received from IMPACT’s rain-fed seed vouchers and fairs. With families of at least 6 people, the maize was anticipated to end in August 2018, a period of 4 months after harvesting in April. A few households (7.1%) had maize, sorghum and millet stocks to take them from October to December 2018 (**Figure 3**). In its design, IMPACT planned to increase food self-sufficiency from 4 months recorded at baseline to 6 months e.g. an increase of 2 months from August to October by the end of the project. These results mean that IMPACT has not attained its target of increasing food self-sufficiency by 2 months. Arguably, CARE and ADRA should consider this result as better than that of the first phase, although the months of food self-sufficiency have not changed. Unlike in the first phase that experience above average rains, the second phase was problematic. Rains started late towards the end of December 2017, stopped and never came for the whole of January and resumed in the last week of February 2018 after most of the crops had already wilted and damaged heavily by fall armyworms (FAW). In December, Malawi declared a state of disaster in 20 districts affected by FAW (including the three districts targeted by IMPACT), and requested for support from the development partners to combat the pest. Nevertheless, despite best efforts taken pesticides provided by the government with support from FAO and traditional concoctions used were not enough to cover the affected hectares. The project was the one promoting traditional concoctions like washing powder and mixtures of Omo and ash or neem leaves. These methods are actually low cost in comparison to chemical pesticides and therefore suitable. However, while some of the ingredients for the mixtures were available locally such as ash and neem leaves, things like Omo and washing powder required money, which the majority of poor smallholder farmers targeted by the project lacked.

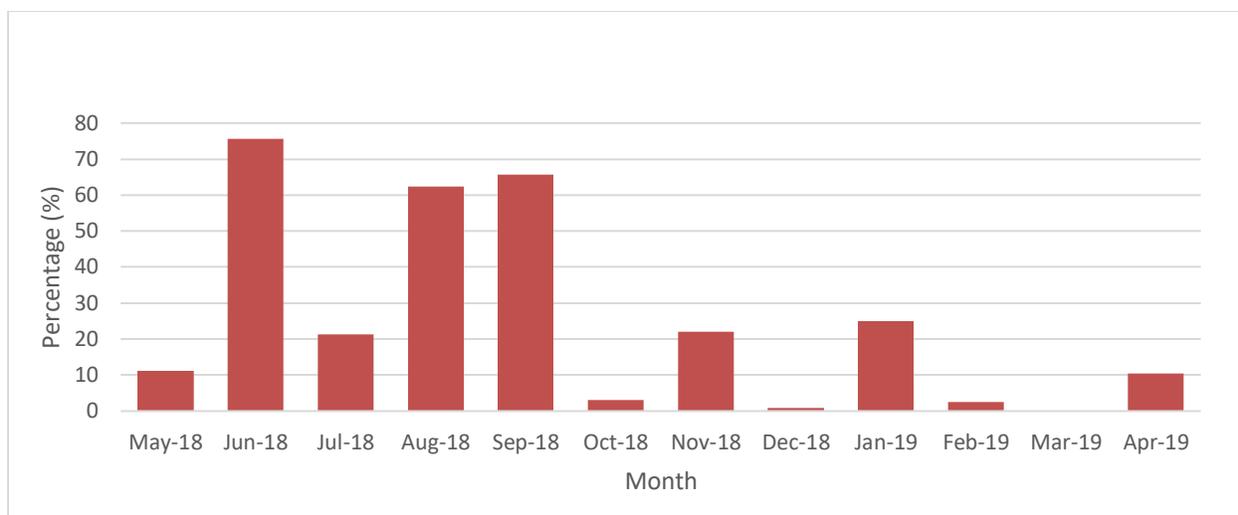


Figure 3 shows months when staple maize, sorghum and millet stocks for beneficiaries of rain-fed agriculture surveyed were projected to last.

4.2.1.2 Seed Vouchers and Fairs

By end of term in July 2018, IMPACT distributed 33,500 kg of seed through vouchers to 9,500 households for rain-fed agriculture as planned. Each voucher provided 2 kg of hybrid maize seed and 1 kg legume. At seed fairs, beneficiaries chose from a selection of DK, Kanyani and Pannar maize varieties, and legumes such as cowpeas, pigeon peas, groundnuts and soya. Besides these seeds, Mulanje received 7,000 grafted mango fruit tree seedlings, 2 per beneficiary and Nsanje an additional 2kg of either sorghum or millet to each of the 3,500 beneficiaries. Voucher were worth K11, 000 (US\$15.3) each, according to the information CARE and ADRA gave farmers, totalling to K104, 500,000 (US\$145,138.9) for rain-fed SVFs alone. **Table 4** disaggregates seed distributed.

Table 4: Beneficiaries who benefited from seed vouchers and fairs for rain-fed agriculture

District	Beneficiary			Vouchers Distributed				
	Target	Achieved (Disaggregated by Sex)			Maize (2 kg each)	Legume (1 kg each)	Sorghum or Millet (2 kg each)	Total (kg)
		Male	Female	Total				
Nsanje	2500	1450	1050	2500	5000	2500	5000	12500
Mulanje	3500	1296	2204	3500	7000	3500	0	10500
Phalombe	3500	1349	2151	3500	7000	3500	0	10500
Total	9500	4096	5406	9500	19000	9500	5000	33500
%		43%	57%					

4.2.1.3 Capacity Building of Lead Farmers and Local Committees

CARE and ADRA selected and oriented 310 new lead farmers in the second phase of IMPACT. The orientation focused on different areas of drought, climate smart agriculture (CSA), crop and postharvest management, group dynamics and gender integration. Lead farmers in turn used their fields of crops to cascade and demonstrate the trainings to 14,502 rain-fed and irrigation farmers, 6238 male and 8264 female. Between October and November 2017, the project also trained 375 VCPCs on Community-Based Adaptation (CBA) to climate change and engaged forest assistants from the Department of Forestry to train 182 members of VNRMC committees -89 men and 93 women- on agroforestry. Each of the trained VCPC and VNRMC developed action plans detailing activities to be implemented and monitored in their communities. One main action for the VCPCs and VNRMCs was the establishment of tree nurseries and woodlots, and many of them have implemented according to focus group discussions held. As an example, Mthiramanja VCPC in Mulanje raised 6,000 seedlings in 2017 and 10,000 in 2018 and shared them to different villages that have planted the seedlings.

As another evidence that the training was fruitful and has produced results, 5 sites for the VNRMCs in Mulanje, namely Thuchila, Likalawe, Chimwankhunda, Awali and Mulunguzi, have planted a total of 400 trees according to M&E records by the project. Most of the tree woodlots were young in communities visited by the evaluation team. However, the trees had already started preventing soil erosion and environmental degradation. Focus group discussions with project field staff and VNRMCs demonstrated commitment to plant more trees and optimism that in future they will help bar strong winds from damaging crops and people's houses. Besides tree planting, by the end of June 2018 VCPCs and VNRMCs mobilized communities to form village savings and loan (VSL) groups that have shown to be successful in boosting rural incomes.

The evaluation visited Tengani VSL group in Phalombe with a membership of 14 people (photo to the right). Locally known as *Banki Mkhonde* (vernacular *Chichewa* for a Village Bank), the group made K160, 000 (US\$222) through shares and dividends in the first cycle that run from September to March 2018. Members received K6, 000 – K40, 000 after sharing the money depending on their contribution. “I bought maize, employed casual labourers, and pay school fees



for my child. For me, I bought a she goat at K24, 000 that has an offspring now and a bag of fertilizer. I rented a wet (dambo) land at K10, 000 where I planted maize and used the rest of the money to buy iron sheets,” said women from the group, one after another. The group had contributed K60, 000 for the second cycle by July 2018.

4.2.2 SS2: Seed System Security

4.2.2.1 Seed Multiplication

In the second phase, IMPACT established 24 seed multiplication groups (SMG) to improve access and utilization of improved and hybrid seeds in the three districts. Each group consisted of 20 members, selected based on availability of land for multiplying the seed, group cohesion as well as willingness to participate and contribute labour for different agronomic activities. IMPACT engaged the Seed Services Unit at Bvumbwe Research Station and District Crops Officers from the Ministry of Agriculture to train 52 project staff and Agriculture Extension Officers as trainers of the groups. One session trained 18 participants from Nsanje that included 6 CARE project staff (2 female, 4 male) and 12 AEDOs (1 female, 11 male) from 15-17 November 2017 at Kukhala Motel in Nchalo (Chikwawa). Another session took place at Mango Lodge in Blantyre from 2-4 October, 2017 for Phalombe and Mulanje involving 28 people (10 female, 18 male) from ADRA Malawi.

After staff training, IMPACT finalized, verified and trained seed multiplication groups from 18-20 October 2017 in Mulanje and 28 November to 8 December 2017 in Nsanje. The training covered the following topics: an overview of the project; group dynamics and leadership; basics to seed production; seed multiplication for ground nuts, sweet potatoes, soya, sorghum, millet, pigeon peas and cow peas; seed certification and quality control processes; disease control and pest management; and post-harvest handling of crops. These trainings prepared individual farmers and groups on how to plan for agricultural activities and work together to implement them. IMPACT strived to ensure inclusion of women and men in seed multiplication activities as required by the CARE 2020 Strategy on gender mainstreaming. In this regard, above one quarter of staff (26.9%) and close to half (46.7%) of smallholder farmers in the seed multiplication groups were females (**Table 5**).

Table 5: Seed multiplication training for staff and groups

District	Training of Trainers (TOT)			Seed Multiplication Groups			
	Male	Female	Total	# of Groups	Male	Female	Total
Nsanje	15	3	18	10	132	108	240*
Mulanje	9	5	14	7	52	88	140
Phalombe	9	5	14	7	93	47	140
Total	33	13	46	24	277	243	520
Percent	71.7%	28.3%	100%		53.3%	46.7%	100%

*200 (20 per group) were SMG members and the other 40 (4 per group) were Village Development Committee and Village Agriculture Committee representatives

4.2.2.2 Seed Distribution and Multiplication

After training, the project distributed **862kg** of sorghum, millet and legume seed to the 24 groups for multiplication (**Table 6**). The groups agreed to pass on twice the amount of seed they received to new groups of farmers and store own seed for the coming season. The pass on intervention expected to benefit 48 new groups by the end of the project in July 2018. However, focus group and key informant

discussions conducted revealed that the project ended before groups seeds were passed on. One seed multiplication group visited is Tikondane from Namuthu village, GVH Kaledzera, T/A Nkhumba in Phalombe. The group harvested 250 kg (5 bags) of soy and stored it in PICS bags³ provided by ADRA, waiting for the selection of one new group to benefit. Local agriculture staff and community leaders were the ones to compose the new group.

“Our agreement was that we shall give the same amount of seed we received from the project [40kg] to two new groups upon realizing bumper harvests. The seed was high yielding and in a normal year we could have harvested more than 10 bags. Since we have only 5 bags the group will pass on 40 kg as agreed to one group and share 10 kg amongst members to use as seed in the coming agricultural season,” Said Ivy Moyowina, chairperson of the group.

Ivy Moyowina said most of the groups experienced poor crop germination and growth due to prolonged dry spells and, in rare cases where the seeds germinated, crops were attacked by fall army worms that frustrated efforts to pass on seeds.

Table 6: Seed distributed by the project for multiplication by groups of farmers

District	EPA	# of Groups	Seed Distribution
Nsanje	Magoti	3	Seed Distributed <ul style="list-style-type: none"> ▪ 50 kg ground nuts to 1 group ▪ 110 kg cow peas (IT-60 days) to 3 groups ▪ 50kg pigeon peas to 1 group ▪ 50kg sorghum (Pilira 1) and 50kg millet (Nyankhombo variety) to 4 groups ▪ Total: 310kg
	Mpatsa	3	
	Makhanga	4	
	Sub Total	10	
Mulanje	Nsikawanjala	3	Seed Distributed <ul style="list-style-type: none"> ▪ 80 kg soy to 2 groups (40kg per group) ▪ 200 kg ground nuts (CG 7) to 5 groups ▪ Total: 280 kg
	Thuchila	2	
	Kamwendo	2	
	Sub Total	7	
Phalombe	Kasongo	2	Seed Distributed <ul style="list-style-type: none"> ▪ 196 kg soy to all the 5 groups ▪ 76 kg ground nuts to the 2 groups ▪ Total: 272kg
	Tamani	2	
	Mpinda	1	
	Waruma	2	
	Sub Total	7	
	Total	24	862kg

³ Malawian smallholder farmers lose up to 25% of their grain yield after harvest due to insects, molds and aflatoxin that lead to perpetual food shortages and poverty. To help them overcome the problem, the USAID funded the activity to developed Purdue Improved Crops Storage (PICS) bags as an effective low cost tool to store the grain. These non-chemical bags, have a triple layer, hermetical seal, kill pests and create unfavorable conditions for molds and aflatoxin. IMPACT scaled up the technology in the targeted districts.

4.2.2.3 Distribution of Orange Flesh Sweet Potatoes (OFSP) Vines

By July 2018, IMPACT distributed 3,160 bundles of OFSP vines to seed multiplication groups as foundation seed. In Nsanje, the project provided 640 bundles of vines to 4 groups (160 bundles each), and 2,520 bundles in Mulanje and Phalombe e.g. 1,260 per district. Each of the 7 groups in the district received 180 bundles to multiply in this regard.

Winter cropping in Malawi usually begins towards the end of the rainy season in March or April. IMPACT distributed OFSP vines in March 2018 as well for the groups to plant in areas with adequate moisture. Most of the groups grew the vines in the maize gardens and reserved wet *dambo* land for maize and vegetables they received for irrigation farming.

Unfortunately, after planting no seed multiplication group had adequate residual moisture to sustain growth of OFSP following prolonged dry spells that occurred. Vines dried up in the field and, by July 2018, no planting materials were available. Farmers in the three districts usually grow local white and yellow varieties that are lacking in beta-carotene, a pre-cursor for vitamin A. Failure to multiply OFSP vines therefore simply means an end to this intervention.

OFSP fortifies itself by loading high levels of minerals and vitamins in its roots and leaves. It is rich in β -carotene, vitamins B and C, and iron. The varieties available in Malawi are Zonden and the newly released *Kaphulira*, *Kadyaubwelere*, *Anaakwanire*, *Chipika* and *Mathuthu*.

4.2.2.4 Satisfaction with Seed Vouchers and Fairs

The evaluation found that a large majority of beneficiary households were satisfied with seed vouchers and fairs (**Figure 4**). The project had a complaint-feedback mechanism through helpline, help desk and suggestion boxes. It received a few complaints by the communities at the very onset regarding the need to replace some beneficiaries on the list and the project resolved the problem amicably. Other complaints by lead farmers and agricultural extension staff related to poor germination of seeds also for rain-fed agriculture particularly in Nsanje.

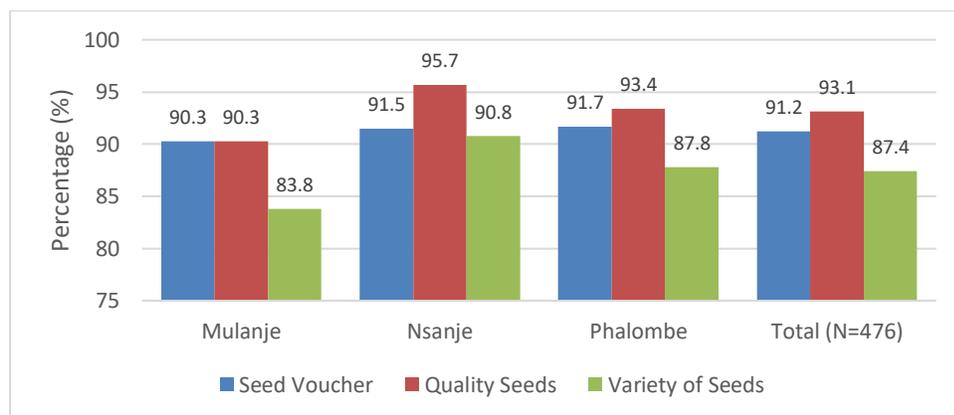


Figure 4: Proportion of beneficiary satisfied with seed vouchers and fairs program (N=476)

4.2.3 SS 3: Pests and Pesticides

One of the major interventions under IMPACT II project was ‘Pests and Pesticides’. The project foresaw the need to address pests that affect crops and yields for the majority of smallholder farmers. It trained 631 lead farmers (254 females and 377 males) in pest control out of the 660 people targeted, making a 95.6% achievement. The training proved relevant after crops were attacked by fall armyworms (FAW). Available data from District Agriculture Office show that in Phalombe 7,063 hectares of the 42,300 planted with maize (17 percent) were attacked by FAW, affecting 12,311 farm families. Of these, 2,060 were from the 3,500 farmers that benefited from IMPACT’s rain-fed seed fairs in the district.

The government through support from FAO distributed 1,080 liters of pesticides (Sulban, Detex, and Cypermethrin) to the affected farmers in the district to reduce the impact of the FAW attack. In its design, IMPACT did not plan to promote pesticides and, as such, it continued advising farmers to follow low cost traditional methods for pest management. Lead farmers were already trained on the use of these methods and they were the ones encouraging fellow farmers to adopt. These methods included the use of Neem, and Tephrosia (*Ombwe* in vernacular Chichewa), surf soap and pepper concoctions to kill FAW directly. The farmers also handpicked the FAW, applied sand to the maize tips to suffocate the worms, and used soup from small fish (mainly *usipa*) to attract ants that fed on the worms and their larvae. The effectiveness of the various local methods applied varied depending on the concentration of the mixtures and extent of use. Farmers used a mix of methods, although the majority struggled to cover large areas of land as they lacked money to purchase ingredients required e.g. small fish, soap and pepper.

In Mulanje, the District Agriculture Office reported that 12,008ha were affected by FAM of which 1,151ha were treated with pesticides (e.g. 9.6% coverage). A total of 7,741ha were also affected by dry spell of which 4,920ha wilted completely (63.6 percent), with Kamwendo EPA being the most affected. For Nsanje, the fall armyworm attacked 8,051ha and the sprayed area was 3,895 ha, making a 48.4% achievement. Mpatsa was the most affected in the district. **Table 7** shows the damage caused by FAW in Phalombe as of February 2018, according to the District Agriculture Office).

Table 7: Summary of FAW infestation and damage in Phalombe district

EPA	Affected Ha	Affected Households	Hectares Controlled	Quantity Of Pesticides Distributed & Sprayed (L)	Remarks
Mpinda	1278	3120	296	85	Moderately attacked
Kasongo	1154	1970	227	75	Moderately attacked
Waruma	1097	1340	143	80	Moderately attacked
Naminjiwa	1206	1721	321	90	Moderately attacked
Nkhulambe	1307	2485	451	80	Moderately attacked
Tamani	1021	1675	291	85	Moderately attacked
District	7063	12311	1732	495	Moderately attacked

4.2.4 SS4: Irrigation

Besides supporting rain-fed agriculture, IMPACT run seed vouchers and fairs for irrigation farming to boost agricultural production. Beneficiary targeting and preparatory activities took place in February 2018. The actual seed fairs in Mulanje were conducted from 12-16 March 2018 and, in Phalombe from 15-21 March 2018, attended by ADRA International staff and CARE Malawi. A total of 7,500 beneficiaries, 3,258 males and 4,242 females (57%), benefited in the three districts (**Table 8**). Farmers in Mulanje received 2kg maize seed, 2 bundles of OFSP (8kg) and 10g of vegetable seed (amaranthus or chinese) while their counterparts in Phalombe got 2kg maize seed, 1 bundle of OFSP vines (4kg) and 10g of vegetable seed. Mulanje had less irrigation farmers (n=2000) than Phalombe (n=3000); hence the variation in the number of OFSP vine bundles distributed. In Nsanje the winter seed fairs were conducted from 11-15 April 2018. The project also distributed 390 money maker treadle pumps to irrigation farmers, 130 for each district.

Table 8: A summary of beneficiaries for irrigation farming who received seed

District	Planned			Reached		
	Male	Female	Total	Male	Female	Total
Nsanje	1116	1384	2500	1116	1384	2,500
Mulanje	1049	951	2000	1049	951	2,000
Phalombe	1093	1907	3000	1093	1907	3,000
Total	3258	4242	7500	3258	4242	7,500
Percent	43%	57%	100%	43%	57%	100%

4.2.4.1 Impact of Irrigation Farming

Irrigation farming showed the potential to complement the produce from rain-fed agriculture particularly in Phalombe and Mulanje. By end of July 2018, farmers were already consuming vegetables from their gardens while the maize crop was growing. Self-reports projected a harvest of 2 fifty kg bags of maize to be consume in 1 month. Farmers cited scarcity of water as a major challenge faced. Fall armyworms had also already started attacking irrigation and winter crops in the districts. Due to limitations of wetlands along the rivers, OFSP that individual farmers received was planted upland in many cases to benefit from residual moisture. Like with seed multiplication groups, the vines dried up after planting. A few wetland gardens visited had some pockets of OFSP. In future projects, there is need to distribute OFSP vines in October or November together with seeds for other crops to take advantage of the whole rainy season and accelerate impact. Farmers can then continue to cut, share and grow vines thereafter, during winter cropping.

Conversely, in Nsanje unusual flash floods occurred in the third week of July as a result of continuous rains in the shire highlands that resulted in the rising of water levels in Ruo and Shire Rivers. The floods submerged and washed away people's crops. According to the District Agriculture Development Office (DADO), a total of 3256ha and 15129 farming families (8396 male, 6763 female) from **Makhanga, Mpatasa, Zunde** and **Nyachilenda** EPAs were affected. The destruction of crops means farmers should be supported again with seeds, fertilizers and pesticides to revamp their cropping capacity. **Annex 5** shows summary of area and farmers affected.



Above: Maize and vegetable crops grown by Tiyese irrigation club from Magololo village TA Kaledzera in Phalombe after receiving seed from IMPACT. Bathlomew Ligomeka in red T-shirt with Samson Wisikisi (left top picture) are members of this club that irrigates their land together, drawing water from Likulezi River. The club has 14 members and each one of them received 25kg basal and 25 kg top dressing fertilizer from the Local Development Fund (LDF) through the District Council as part of work for fertilizer program in May 2018. The left bottom picture shows Fall Armyworms that Gloria Banda of ADRA picked from the garden. Individual club members had already started applying pesticides and a mix of local methods to destroy them (FAW). After learning about irrigation and crop diversification from the project, clubs of farmers grew other crops in their gardens besides those they received from the project e.g. tomatoes, beans and pumpkin leaves.



Above: Sweet potatoes affected by flash floods in Mpatsa EPA. To the right: Maize and beans field submerged by floods at GVH Mpomba in Zunde EPA (Credit: DADO)

4.3 Project Efficiency

The assessment of efficiency focused on whether resources were used well to achieve the desired results. Analysis of financial data showed that the second phase of IMPACT had an efficient use of monetary, material and human resources. All the necessary key staff (e.g. project managers, M&E officer and field staff) met the qualifications set for particular positions and carried out duties to the best of their ability, with dedication and notable effectiveness in the face of busy working schedules. The project minimized the number of field staff as much as possible and relied on lead farmers, local agriculture extension staff and communities to do most of the work on the ground, which enabled it to stay within the allocated budget as agreed upon with the donor. The US\$1,125,519 funding was adequate for the entire project as planned, with the annual cost per beneficiary of US\$66.2. Every effort was made to reduce spending and no abuse of funds was reported. The evaluation found that CARE and ADRA followed sound administrative procedures and strict measures to comply with donor financial requirements. It also found that coordination, cooperation and communication among stakeholders were satisfactory, evidenced by joint implementation, reviews and monitoring of project activities.

Box 2

Anti-corruption routines followed by the IMPACT II Project

- i. Signing of contracts by ADRA before sub granting of funds, and declaration to observe ‘Zero tolerance to corruption’
- ii. Transparency in delivery of services at different levels
- iii. Accountability achieved by regularising technical and financial reporting
- iv. Good practice in administration, underpinned by clear internal procedures
- v. Shared learning, through capacity building of finance staff and ongoing mentorship to ensure compliance
- vi. Spot checking by finance departments e.g. i) making calls to verify signed lists of participants after implementation of activities and ii) field visits to cross check if certain activities really took place.

3.4 Project Impact (Intended and Unintended)

By July 2018, CARE Malawi and ADRA recorded the following impact after implementing various activities in the three districts:

Intended Impact(s)	Unintended Impact
<ol style="list-style-type: none"> 1. Improved seed systems and availability of high yielding and early maturing varieties of crops achieved through seed vouchers and fairs, and seed multiplication groups, particularly those multiplying legumes. 2. Restored agricultural-based livelihoods by providing farmers with seed to engage in crop production. 3. Sustained number of months with self-food sufficiency for smallholder farmers that had initially no seed. 4. Strengthened capacity of lead farmers, agriculture extension staff, VCPCs and VNRMCs in different areas of drought and climate responsive agriculture. 5. An increase in the number of smallholder farmers adopting CBA technologies. 6. Reduced period of food dependency due to improved food self-sufficiency. 7. Reduced use of negative coping strategies. 8. Introduced PICS bags for storing legumes and grains to minimize postharvest losses. 9. Invigorated indigenous knowledge about low- cost traditional methods for pest management 	<ol style="list-style-type: none"> 1. Lower achievement under integrated pest management (IPM) for reasons already given e.g. inadequacy of pesticides, inability by farmers to purchase own pesticides to complement government's efforts and, in the same vein, lack of money to purchase some of the ingredients for making enough traditional mixtures to upscale destruction of FAW as promoted by IMPACT. 2. Low adoption of PICS bags for storing legumes and grains. After receiving training, smallholder farmers were supposed to buy PICS bags on their own. However, only 8 of the 476 farmers interviewed (1.7%) managed to do so. The rest considered them expensive at K900 (US\$1.25) for a 50kg bag and K1,500 for a 100kg size (US\$2.1) compared to ordinary ones, which cost K100-K150, meaning they could buy 9-10 bags with same money for a single PICS bag. In addition, local supply is limited being newly introduced; for example, in the districts targeted by IMPACT Agora outlets located in the main trading centres are the only retail stores where farmers can buy these bags while ordinary ones are available everywhere, even in village markets. In addition farmers did not realize bumper harvests to store for a longer period of time, which arguably negated the need for PICS bags. These bags can store grains and legumes safely for eight to 12 months without the

	<p>produce being damaged by insects. There is no use of excessive chemicals as is the case with ordinary bags. CARE and ADRA have distributed some PICS bags to seed multiplication groups for the storage of legumes through which the majority of farmers will learn about their effectiveness, which is likely to increase adoption in future.</p> <p>3. Failure of the pass on program. OFSP vines were provided in March (at the onset of winter and irrigation farming) as planned. However, unexpectedly for the 2017/2018 agricultural season rains had already stopped and left inadequate moisture in the soil. Growth failed and by July 2018 farmers had no planting materials for the coming season.</p> <p>4. Although IMPACT has met and surpassed a number of expectations, the process was challenging characterized by work overload and pressure. IMPACT was extremely fortunate in the devotion showed by its team in this regard. Staff were obliged to work very long hours at times, spend weekends at work and cut back on holidays.</p>
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4.5 Alignment to CARE International Program Strategy

The CARE 2020 Program Strategy sets out what CARE Malawi will do –humanitarian action, long-term development, and multiplying impact; and how it will do it- strengthening gender equality and women’s voice, promoting dialogue and inclusive governance, and increasing resilience. The strategy includes targets for supporting people from the most vulnerable and excluded communities to overcome poverty and social injustice. Aligning itself to the Strategy, IMPACT has embraced humanitarian action to provide agricultural recovery assistance through the seed aid program for individual and groups of farmers who lost their seeds after El Nino in the 2015/2016 season. The project has strengthened community resilience to disasters by promoting traditional methods to the adaptation of climate change as a matter of preparing communities to prevent and mitigate impacts of harsh weather conditions on agricultural production.

Other activities rolled out to reduce poverty and food insecurity are integrated pest management and postharvest management of crops. On Gender, IMPACT made deliberate efforts to include women, both staff and beneficiaries, in different activities including capacity building to enable them participate with competence. These efforts trickled down to village level committees, such as the VCPCs and VNRMCs, which are composed of both male and female members. Not surprisingly, at household level the evaluation found close or more than three quarters of women participating in decision making regarding crops to grow, selling of the farm produce and utilization of income realized. Joint decision and consultations helped families to make effective use of their land and food they produced, according to interviews with women.

Situation analysis studies by CARE and ADRA before starting working in the three districts exposed gender inequalities that cross cut and perpetuate food insecurity. These studies found that women and children dominated in farming. Paradoxically, when food is scarce culturally / invariably women and children not only eat last, but leftovers or totally forgo meals in favour of men who are seen as heads of families and decision makers. Men dictate what to grow and how much of the produce to sale.

In Mulanje, the aforesaid studies found that men were most likely to be employed by the surrounding tea estates, leaving food production for their own households done entirely by women and children. In Phalombe and Nsanje, men were migrating to Mozambique during lean months (November-February) to do piece work (locally known as *ganyu* in vernacular Chichewa). Women remained behind with children amidst hunger.

Through community sensitization and various capacity building meetings, CARE and ADRA reiterated on tackling underlying causes of gender inequalities – social norms, attitudes, beliefs and traditions- to achieve meaningful agricultural transformation and development in the districts. This evaluation found positive changes and clear evidence of power balance in decision making on farming between men and women as a result of these efforts (**Figures 5 and 6**).

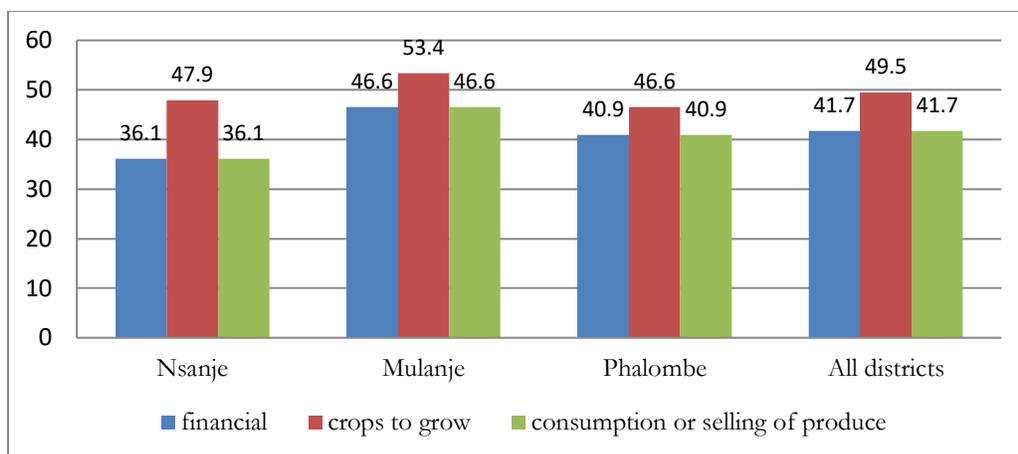


Figure 5: Proportion of women making household decisions at baseline (December 2017)

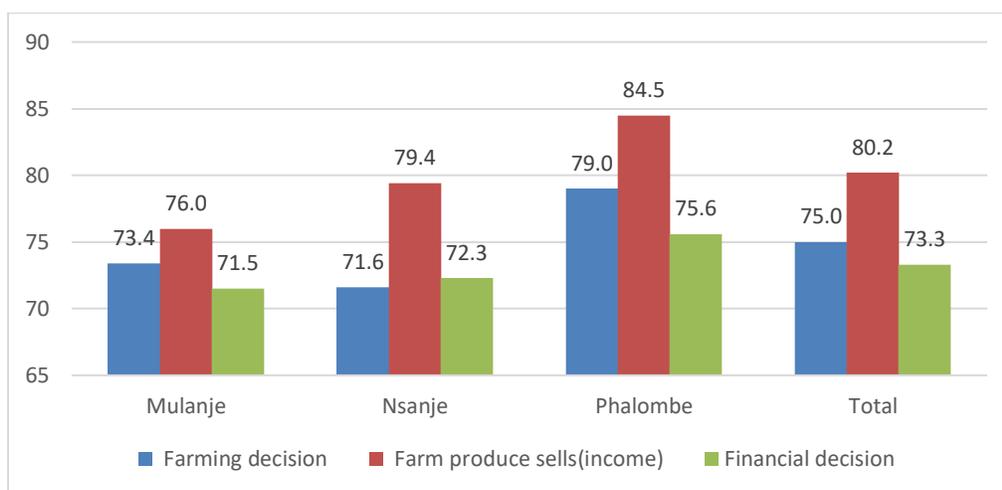


Figure 6: Proportion of women making household decisions at endline (August 2018)

“My husband always go to the neighbouring Mozambique to do piece work (*ganyu*) for food. However, this has never worked well for us since it is done at the expense of our own fields. For example, he brings home 1 bag of maize that we consume in three weeks with a family of 10 people, including relatives, and he goes back. We have been a food insecurity household for years. This year, after receiving seeds and agricultural education from the project [IMPACT] I suggested to my husband that we should both stay in our home village and work hard in both rain-fed agriculture and irrigation farming the way we do when we go for *ganyu*”. As I am taking, we have harvested 8 bags of maize and had it been the rains were favourable the yield could be more. Besides this, we are eating vegetables from garden (*dimba*) and selling some to buy other basic needs for our family.” said the 37 year-old Magret Howa from GVH Tamani, TA Jenala in Phalombe.

According to Howa and other women involved in focus group discussions, agricultural messages by the projects emphasized on working together to maximize labour, productivity and benefits. Education on postharvest management (PHM) and integrated pest management (IPM) targeted women in particular and emphasized on reserving and protecting food harvested against pests for future use. Culturally, women are the ones responsible for cooking and taking care of the household. By virtue of this role, they become more helpless and concerned when they have no food to feed their homes than men.

In cognizance of this, besides the aforesaid interventions IMPACT has empowered women like Mwale and others with knowledge on how they can contribute towards household decision making on agriculture and food utilization through dissemination of gender messages. The project involved communities to perform role plays and dramas before the commencement of particular activities. Men were involved in the plays and dramas to castigate and disgust themselves for gender inequalities and power imbalances they perpetuate. As a result, the project has recorded positive behavioural and gender changes as already illustrated by **Figures 5 and 6** above.

Concerning coherence, by following the CARE 2020 Program Strategy IMPACT provided relief assistance in line with organizational, donor and national policies. Policies of relevance include the National Disaster Risk Management Policy (2015-2020), the Malawi Growth and Development Strategy (MGDS) III (2017-2022), a major guiding framework for achieving food security and attaining the nation's Vision 2020 of taking the country from poverty to prosperity, and Sustainable Development Goals (2015-2030) for transforming our world, in particular Goals 1 (no poverty), 2 (zero hunger), 3 (good health and well-being) and 5 (gender equality).



Above: John Grabowski (far right), the OFDA Regional Advisor, visited the project in Mulanje on 27th November 2017. He was accompanied by CARE's and ADRA's Emergency Team. Grabowski and other visitors talked to lead farmers, smallholder farmers VNRMCs and VCPCs, and senior agricultural extension staff. They were impressed with the activities and pace of progression.

4.6 Achieving Sustainability in the IMPACT Project

By design, IMPACT II project was inherently about sustainability and scalability of activities. The evaluation looked at sustainability as a measure of whether the interventions and benefits were likely to continue after closure in July 2018 particularly by examining if conditions for continuity were created. The results showed that active involvement of communities and local structures, and capacity building at various levels were the main pillars of sustainability of the project.

Active involvement of local communities and structures

Local participation is a critical factor in humanitarian work. From the very beginning, CARE involved ADRA, which has a long time experience of working in the southern part of the country, to implement IMPACT in Mulanje and Phalombe. The evaluation found ADRA continuing to run other projects and taking on board activities initiated by IMPACT. Besides this, CARE and ADRA have engaged and institutionalized project activities in daily routine service provision of local agriculture extension staff, lead farmers and various village committees. In all the districts, local farmers and committees demonstrated an understanding of IMPACT's goals and commitment to continue implementing them in future.

Capacity building work

In this project, local capacity building was the main and core area of focus. By July 2018, the project trained lead farmers, seed multiplication groups, VDCs, VCPCs and VNRMCs that stepped down the training to local masses in the three districts. In this regard, the trainings have left the necessary knowledge and skills in the people which they will continue using in future to revolutionize their agricultural-based livelihoods. In particular, the evaluation found that trainings on climate smart agriculture and disaster risk reduction have created a certain level of readiness, consciousness and awareness of disaster risks in addition to enhancing indigenous knowledge about ways to reduce them or mitigate their impact. For example, as evidence of capacity in them VCPCs and VDCs have drafted community-based disaster preparedness plans detailing sustainable DRR measures they will be using in their communities to manage sudden shocks and stresses. In many instances, the development of DRR plans involved consultations with district DRR offices and dedication of time and energy. This commitment is necessary for continuation of activities of IMPACT. Existence of these local structures and committees are indicative of efforts CARE and ADRA to put in place an exit strategy to help sustain activities initiated.

5.0 Lessons Learned

The lead farmer concept is very effective in widening coverage and impact

Through IMPACT, CARE Malawi and ADRA have trained 310 new lead farmers to demonstrate modern methods of farming that take cognizance of the environment and issues of climate change. The lead farmers are well known successful farmers, selected by the communities themselves and local agricultural extension officers. Own recognition by communities means the selected lead farmers were better positioned to educate fellow farmers. The model has enabled IMPACT farmers to see for themselves improvements in agricultural productivity on the fields of lead farmers. By July 2018, 14,502 rain-fed and irrigation farmers, 6238 male and 8264 female, applied climate smart agriculture (CSA) techniques on their own land. Each lead farmer reached out to at least 48 farmers in this regard. By relying on lead farmers to train other farmers, the project has left ‘fellow villagers’ in the targeted communities to lead by example in trying new technologies. In the household survey of this evaluation, 90.1% (n=429) of the farmers rated training provided by lead farmers to them as very good and successful. In future projects, there is need to replicate the approach to widen successes and the impact. **Figure 7** is a bar graph plotted from IMPACT I and II evaluation samples to confirm that the practicing of CSA technologies is high in the districts. One must bear in mind that smallholder farmers do not practice these technologies in isolation. For example, while few farmers reported contour ridges, zero tillage and pit planting in both phases of IMPACT, they did other CSA technologies. For IMPACT II, 98.5% of the farmers reported practicing more than 3 CSA technologies and the benefits they have seen in the face of a difficult agricultural year. Thus, they considered the productivity and yield to be better than if these technologies were not used.

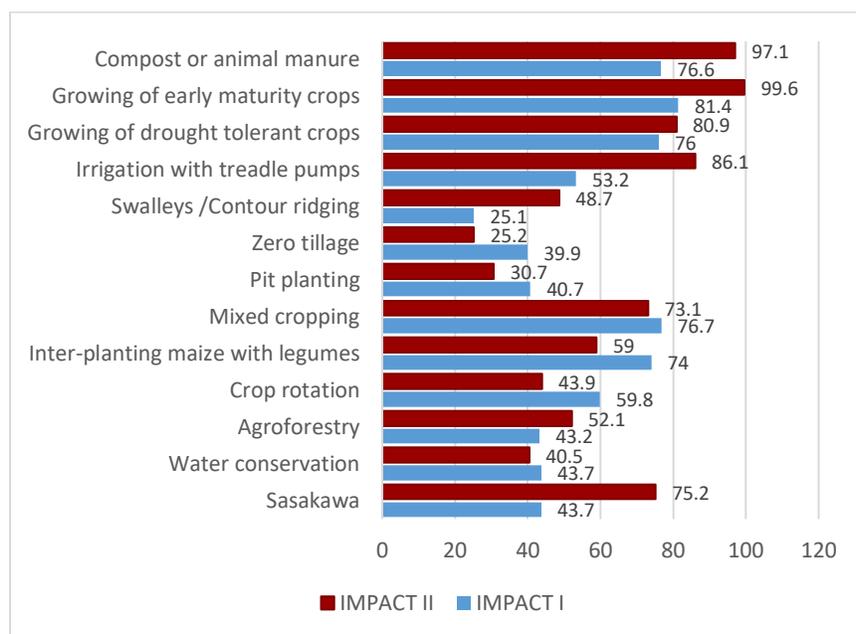


Figure 7: Proportion of households that practiced CSA (N=476)



Above: Left - A storm drain constructed by people from GVH Kaledzera in Phalombe as part of implementing their CBA plans to prevent running water from Tengani hill washing ridges away. To the right: Tamani VCPC group that is doing similar work in consultation with Phalombe District DRR office.

Restoring the environment and strengthening community resilience to withstand sudden shocks is the most viable way of revitalizing agricultural productivity in drought and flood prone areas

Nsanje, Mulanje and Phalombe are some of the worst disaster-affected by disasters in the country. Since 2010 the MVAC has been listing these districts as food insecure either in IPC phase 2 (stressed), phase 3 (crisis) or phase 4 (catastrophe). The problems are compounded by environmental degradation and weak community resiliency to diagnose, prepare and withstand shocks and disasters. The evaluation found that the majority of people have been relying on selling charcoal and firewood to earn a living in hard times; damaging the environment further. Through IMPACT, CARE and ADRA have learned that restoring the environment and strengthening community resilience to withstand sudden disasters are the most viable ways of invigorating agricultural potential in these districts. Activities of relevance by the project that have already started showing benefits are tree planting, conservation agriculture, construction of contour ridges across the slope, the use of compost and green manure and promotion of mixed cropping.

Seed vouchers and fairs have helped both smallholder farmers and traders

Considering that Nsanje, Mulanje and Phalombe have suffered consecutive years of below average rains that has resulted in the majority of farming households losing their cropping capability, IMPACT provided seed vouchers and fairs to revolutionize seed systems. Thus, vouchers and fairs have improved access of farmers to seeds and varieties that are locally available and of their choice, which is important for human dignity. Seed aid through vouchers and fairs has also enabled markets to function better and provided agro-traders with an outlet for their seed.

A multi- sectorial approach is very important in addressing complex agricultural and food security problems

Over the past 2 years of IMPACT's implementation, CARE and ADRA have learned that successful promotion of agriculture, seed systems and food security requires a process of cross sectional collaboration across stakeholders and districts. Such success also depends on strong leadership and identification of clear roles to enable players with different expertise, knowledge and focus work together in a synergistic manner. The need for effective coordination and communication were particularly evident because CARE and ADRA were in different districts with varying vulnerabilities and ecological requirements for crops. As an example, in phase I the project did not involve some of the key stakeholders such as the forest department. In phase II, it included them in both planning and implementation of CBA to climate change, and they proved to work very well in mentoring the VNRMCs and VCPCs. Based on this lesson, there is need in future to involve as many key stakeholders as possible, which work with famers directly at village level, to leverage efforts and resources.

6.0 Major Challenges Faced

The following are the key challenges that affected smooth implementation, and limited the performance of the second phase of IMPACT in the past one year of its implementation:

- 1. Poor rains, droughts and fall armyworms:** The 2017/2018 in which the project worked is one of the worst in recent decades characterized by erratic rains, prolonged dry spells and fall armyworms that together affected agricultural productivity for individual and groups of farmers. Although several seed multiplication groups have realised some legume produce from which they have kept seed, the quality is poor. Lack of water at critical stage of maturity affected pod and grain filling.
- 2. Staff security:** CARE, ADRA and UN Agencies instituted a temporary travel ban to all project areas in Mulanje, Phalombe and part of Nsanje following reported cases of bloodsucking, which affected timely preparation and implementation of certain activities. The ban run from 25 September 2017 for Mulanje and Phalombe and later extended to Nsanje on 4th October 2017 and was uplifted mid of November 2017. For this reason, the baseline study took place from December 2017 through February 2018, several months after the project started in August 2017. Similarly, seed fairs for rain-fed agriculture were behind schedule by the time the ban was lifted, with actual implementation taking place from 16 November to 11 December 2017. As a consequence, there were some delays in planting particularly in some areas that received the first rains in October and first weeks of November.
- 3. Delays in the procurement and distribution of sweet potato vines for seed multiplication groups** e.g. the vines were meant to be multiplied under rain-fed but were distributed in March 2018 and be planted for winter cropping. As already mentioned, while this time coincided with the onset of winter cropping the 2017/2018 agricultural season was different, characterized by low residual moisture to support crops following poor rains and

prolonged dry spells that occurred. The vines failed to grow thereby affecting progress of this intervention.

- 4. Delays in the disbursement of funds** between quarters of the project due to internal procedures and processes. For example, the first and third quarters delayed by a month that in turn reduced and changed the time for implementation of activities. Initial training of lead farmers and staff were some of the affected activities. The reductions in time of implementing activities created work overload on the part of staff and resulted in shifts and postponement of quarterly review meetings.
- 5. Lack of market studies** as part of needs assessment for the project. As a result, budget prices for basic seeds for legumes were too low compared to actual prices during the time of purchase that exerted pressure on the budget.
- 6. Staff resignation:** A Field Advisor resigned in Nsanje in December 2017 and the M&E Officer in Mulanje also left in February 2018 that necessitated additional expenditure of resources to recruit new staff and affected progress as the recruited staff had to be oriented and needed time to catch up.
- 7. Mobility problems for field staff and local structures.**
 - i. The project relied on hiring vehicles for implementation and monitoring of activities. One vehicle hired for each district was inadequate to carry out all planned activities on time considering that some of the areas are in far-flung areas of the districts. For example, out of the 7 GVHs that benefited from rain-fed seed fairs in Nsanje 4 are beyond Mwabvi Game Reserve (e.g. Kanyimbi, Macheke, Kawa and Kamanga) in hard to reach hilly areas. Although the project borrowed motorbikes internally to ease the problem, most of them were too old and had frequent breakdowns and therefore unreliable. Implementation of activities was in particular most affected during the rainy season.
 - ii. Lack of transport for lead farmers, VCPCs and VNRMs to reach out easily to communities and individual farmers with messages of Community-Based Adaptation (CBA) to climate change, integrated pest management (IPM) and post-harvest management of crops. The project had no budget to procure bicycles, although it entrusted them to be in the forefront of reaching out to communities.
- 8. Inadequate material support for VCPCs and VNRMs on tree planting activities.** After training on Community Based Adaptation to Climate Change, most of the VCPCs opted for tree planting as one of their key activities. By CBA design, communities ought to mobilize required resources for the tree planting activity. In contrast, many groups could not afford on their own and still relied on the project to provide material support such as seed, polythene tubes, wheelbarrows, hoes and watering despite that the budget was limited. Thus, IMPACT budgeted and provided support for only seed and tubes for nursery establishment.

- 9. Unmet demand for visibility materials (T-shirts) for new lead farmers, trained VCPC members and seed multiplication group members from all the 3 districts:** As part of motivation and to be identified easily during delivery of their duties, VCPC members and lead farmers have been requesting for visibility materials like T-shirts, khaki waistcoats and caps. The project planned for a few T-shirts for lead farmers, but not for VCPCs and seed multiplication groups. Providing such materials to these groups required a large budget looking at numbers of people involved.

7.0 Recommendations

CARE Malawi and ADRA

1. To help the vulnerable and poor households without seed, such as those targeted by IMPACT, recover fully from the effects of shocks and stresses, in future projects strengthen the design of seed aid interventions for rain-fed agriculture by increasing the amounts of maize seed to 5kg. Two kilograms of seed produces 10-12 fifty kg bags with good crop husbandry practices, fertile soils and hybrid seeds. This amount is not enough to take an average family of 6 people found in rural Malawi to the next harvest. There is need to include basal and top dressing fertilisers in the package that beneficiaries can apply alongside own compost manures to accelerate yields.

Concerning OFSP, there is need to distribute vines in October or November together with seed for other crops to take advantage of the whole rainy season and accelerate impact. Farmers can then continue to cut, share and grow vines thereafter, during winter cropping.

2. In phase II, IMPACT tried to include portable solar pumps to increase food production through irrigation farming. The project rescinded the decision because the cost was prohibitive to serve the number of people targeted. It therefore resorted to distributing 390 money maker treadle pumps. While the treadle pumps are cheaper and easy to use, they require a lot of human energy to pump water particularly now that water sources are increasingly drying up. In future, subject to availability of funds CARE and ADRA should improve the efficiency and coverage of irrigation by adopting portable solar pumps that can draw up to 8000 cubic litres of water per hour with little effort.
3. In future projects, on capacity building start with project staff and local agriculture staff for easy mentorship, monitoring and follow up of lead farmers. In the second phase of IMPACT, lead farmers were oriented first e.g. before the local agriculture staff. In other words, while many of the local agriculture staff participated in IMPACT I, they needed orientation also at the very onset of the second phase before lead farmers were trained to make their work easier.
4. Improve efficiency on disbursement of funds to end gaps in the implementation of project activities. The first and third quarters of the IMPACT II project started a month late due to fund-transfer issues, according to interviews with project managers. There were delays in

funding internally within ADRA that affected timely implementation of activities and created work pressure on the part of staff since they had still to strive and meet scheduled deadlines.

5. Improve routine M&E by addressing staffing constraints, providing on-job training and conducting quarterly review meetings as scheduled for planning purposes and to track problematic areas requiring action on time. CARE reduced the number of review meetings from 4 to 2 to catch up with time after delays in the commencement of the first and third quarter. As already stated, for 1.5 months from September to mid of November in the first quarter implementation of activities was heavily affected by the travel ban that was instituted. Taken together, delays and limited implementation of project activities negated the need for the review meeting in this quarter as there was no substantial work done.

Government and its Development Partners e.g. WFP

1. Provide emergency general food distribution to the entire population during the lean period starting from November 2018-March 2019. Early planning of relief food is needed to ensure timely and well-coordinated intervention. Use the WFP's food basket– maize, legumes, vegetable oil, super cereal and super cereal plus- to provide nutrition and energy dense food to the affected population.
2. Complement food aid with distribution of seeds and agricultural tools before the start of the next cropping season, November 2018-March 2018, to boost agricultural productivity and complement efforts by NGOs working in the three districts.
3. Plan to run social cash transfer and work for fertilizer programs since they have proved to be the most preferred interventions and the best model for providing emergency humanitarian assistance to the vulnerable people. With cash, people can choose which basic supplies are right for their families, which is important for human dignity.