FEED THE FUTURE
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Annual Progress Report: October 2019 - September 2020

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Produced by:
Land O'Lakes Venture37
4001 Lexington Ave N
Arden Hills, MN 55126
http://www.landolakesventure37.org/

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Image (cover page): , Macate district, Manica province, Sept 2020

ACRONYMS AND ABBREVIATIONS

BCC	Behavior Change Communications
CA	Conservation Agriculture
CSA	Climate Smart Agriculture
CBSP	Community Based Service Provider
DPASA	Provincial Directorates of Agriculture and Food Security
DPIC	Provincial Department of Industry and Commerce
FAO	Food and Agriculture Organization
FAW	Fall Armyworm
FTF	Feed the Future
FTs	Farmer Trainers
GBV	Gender Based Violence
Gm / CCS	Green manure / cover crops or mulch crops
GOM	Government of Mozambique
ICS	Institute of Social Communication
IDE	International Development Enterprises
IIAM	Agricultural Research Institute of Mozambique
IMPACTS	M & E platform used in RAMA-BC
ISPM	Superior Mozambique Polytechnic Institute
Inova	Agricultural Innovations (DAI)
IPM	Integrated Pest Control
K2	Klein Karoo Seed Company
MFF	Model Family Farm
M&E	Monitoring and Evaluation
MOU	Memorandum of Understanding
NGO	Non-Governmental Organizations
OFSP	Orange Fleshed Sweet Potato
OU	Observational Unit
RAMA-BC	Resilient Agricultural Markets Activity - Beira Corridor
RAMA- NC	Resilient Agricultural Markets activity - Nacala Corridor
SDAE	District Economic Activity Services
SEMEAR	FTF project focused on the adoption of improved seeds
TOR	Terms of Reference
TOT	Training of Trainers
UEM	University of Eduardo Mondlane
VSLA	Village Savings and Loans Association

PROJECT OVERVIEW

Activity date Start / End: 12 December 2016 - 11 December 2021

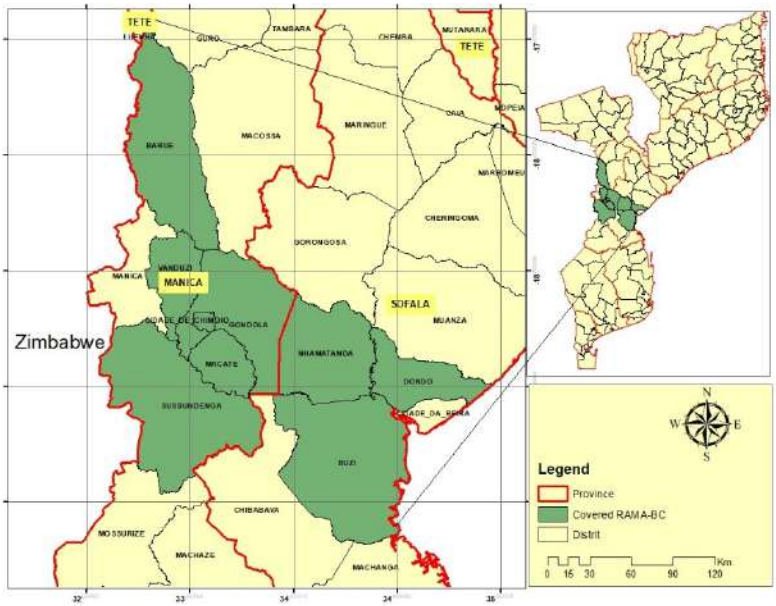
Implementation Partner: Land O'Lakes Venture37

Project Description: Since December 2016 - the five-year USAID Feed the Future and Resilient Agricultural Markets Activity - Beira Corridor (RAMA-BC) has supported local producers to increase agricultural productivity, profitability, and resilience. RAMA-BC aims to promote the adoption of sustainable and affordable agricultural technologies and practices through support for and facilitation of private sector engagement to test and develop profitable business models that deliver relevant information, consulting services, inputs, market links, and finance. The project currently operates in nine districts in Manica and Sofala provinces.

The program is focused on these core activity areas:

1) **Behavior Change Communication (BCC)** – development and rollout of a comprehensive BCC strategy, multi-media campaign and local promotion through private and civil society partners;
2) **Model Family Farms (MFF)** – demonstration of CSA/intercropping, technical assistance through a network of demonstration farms and on-farm trials of improved seed varieties;
3) **Sustainable Extension Services** – strengthening private extension services through model family farms, and local service providers, in coordination with public extension networks and research; and
4) **Strengthened Market Systems** – Linking seed suppliers to markets, technical assistance to private sector partners.

Geographic Coverage: RAMA-BC currently targets nine FTF districts in the Beira Corridor zone of influence; namely Gondola, Chimoio, Barué, Sussundenga, Vanduzi, Macate (Manica province); Nhamatanda, Buzi and Dondo (Sofala province). In addition to the expansion into Sofala, the project has also expanded into the Dombe administrative post of Sussundenga district since October 2019.



Map 1: Map of RAMA-BC coverage by district in Manica and Sofala provinces.

Photo 1: Ferry across Buzi river from Guara Guara, Feb 2020

EXECUTIVE SUMMARY

During this reporting period, October 2019 – September 2020, RAMA-BC began work in earnest into the new Cyclone Idai affected districts in Sofala Province and for the third successive season, has set up MFFs throughout the project area with private sector involvement.

Enhanced Resilience has further become prioritized as the project has responded to Cyclone Idai in Sofala province with multiplication of staple food improved, disease resistant varieties of cassava and Orange Fleshed Sweet Potato with 25 producers on 6.5ha. to provide planting material for 20,000 farmers in the coming season.

Diversification as part of the 'whole farm system' approach includes small livestock productivity. To address constraints in dry season feeding, the project acquired drought tolerant varieties of forage crop seed, lablab and velvet bean; and has engaged a regenerative agriculture/livestock consultant, who will begin work in November to develop the approach to enhance resiliency through livestock. .

RAMA-BC has established that intercropping maize with legumes improves soil health and productivity. For improved longer-term market sustainability building capacity locally is important with availability of the right types of legume seed through private sector agrodealer networks. Phoenix Seeds has begun marketing maize/intercrop seed kits through agrodealers, to encourage sales and adoption of intercrop combinations.

Partnerships with public and educational institutions fulfill a key advocacy role and expose decision makers to the practice of CSA. RAMA-BC has partnered with IIAM (Mozambique Agrarian Research Institute) and University of Eduardo Mondlane (UEM) to conduct research on the effect of intercropping on maize yield and on FAW (Fall Army Worm) control.

To avoid conglomerations of people in training, in the midst of a pandemic, RAMA-BC broadcast programs with Community Radio in the five radio districts, produced high quality short training videos for use in small, dispersed groups on Conservation Agriculture, botanical control of crop and storage pests and Savings Groups.

The project conducted and analyzed the 2019 mid-term evaluation survey. Results from this mid-term evaluation, detailed later in this report, show increased knowledge and application of Climate Smart Agriculture (CSA) among project participants. The annual MEL survey, just completed before this report, also confirm increases in knowledge and application, as well as, encouragingly, significant increases in yield[1] reported by project participants.

An overview – by component follows below:

Component 1. RAMA-BC conducted a total of 529 events in the reporting period, reaching a wide audience through radio programs and spots, community dialogue, and field days. COVID-19 prevention was part of RAMA-BC's outreach in April and May, with a series of prevention posters and tippy tap handwashing demo stations set-up throughout the project areas. Despite the disruption caused by COVID-19 on meetings, RAMA-BC worked diligently to ensure project participants received resources and were still made aware of the benefits of CSA, while taking into consideration appropriate precautions and safety measures. These efforts resulted with nearly 2,200 farmers taking part in 25 MFF field days, with an estimated 200,000 people listening to radio programs[2] on a wide variety of CSA related subjects.

[1] A 79% increase in yield to 1.83t/ha, over the baseline (1.02t/ha) which exceeds the target for Y4 (1.2t/ha)
[2] 15% of total population of districts, (INE, 2020 projections).

Ten videos were also produced by a local videographer on a variety of topics such as; control of storage pests, CSA and Savings Groups, nutrition, sweet potato multiplication and the spraying of jackbean extract to control FAW are in the final phase of production. These training videos will be compiled into a library on a flash drive and shared with partners and final year university students.

Component 2. Throughout the last year, RAMA-BC implemented 109 MFFs in Manica and Sofala provinces, where CSA techniques are being modeled and evaluated under farmers own conditions. 25 of these MFFs were set up by government partners and agricultural colleges. RAMA-BC is diversifying livelihoods, post Cyclone Idai, to increase climate resilience and adaptation; whilst reducing dependency on maize as the principal staple through the planting out of 6.5 hectares of two varieties of cassava - resistant to cassava mosaic disease (*Chinhembwe* and *Amarelinha* – released by IIAM (Mozambique Agrarian Research Institute); and 0.25 hectares[3] of five varieties of Orange Fleshed Sweet Potato (*Amelia, Delvia, Irene, Caromex* and *Rocha* – released by CIP (International Potato Centre). Twenty-five producers are now growing out the crops under irrigation, before the onset of the rainy season; and will redistribute 'bulked up' cuttings and planting material to a further 20,000 farmers in 2021.

Component 3. Engagement with five seed companies (Phoenix, K2, SeedCo, Easiseeds, Syngenta) , six universities, colleges and a training center - which included six Observation Units that demonstrate practical CSA to students - along with 11 student interns; five community radios, government SDAEs in six districts has helped to broaden the reach of CSA through other extension networks and actors. Through this cooperation the project has partnered with the University of Eduardo Mondlane on testing the efficacy of cover crops in repelling FAW. This research so far suggests that a combination of earlier planting and legume intercropping is a far more effective and accessible control method than conventional pesticides against FAW infestation for small holder farmers. UEM has also determined through their own research that jackbean seed extract is an effective control against FAW larvae.

IIAM has also partnered with RAMA-BC, directly measuring and monitoring yield and biomass[4] production results from 9 MFFs in Nhamatanda, Barue and Dondo districts and analyzing data collection from a further six MFFs in Gondola and Macate districts, the results are reported below and show an increase in yield and biomass production where CSA and intercropping was employed. This partnership will continue through next season, and more autonomy will be given to IIAM, so that their independence and objectivity is reinforced, which will raise the quality of the evidence gathered.

RAMA-BC has over the course of the last year trained nearly 6,000 people on CSA, of which 4,000 are new participants, reflecting the projects start-up in Sofala province.

Component 4. RAMA-BC has continued to partner with five seed companies, widely demonstrating the performance of their varieties through the network of MFFs, however the set of final field days, where the harvest would have been evaluated, was not held, because of COVID-19 restrictions.

Phoenix Seeds, one of the four seed company partners, conducted rotation trials with jackbean, to evaluate the impact on maize yield. RAMA-BC received some preliminary data from Phoenix and results will be analyzed and reported in the next quarterly report. Phoenix is putting the finishing touches to a training center which will be used to train producers and farmers. RAMA-BC has donated a projector to

[3] Transporting sweet potato vines for long distances to establish them successfully has proven to be a challenge; much of the material brought in on a 2-day trip from Zambezia didn't take well. RAMA-BC adopted a rapid production technique from CIP (and produced a training video), that will rapidly increase multiplication

[4] Biomass production has an impact on improving Soil Organic Matter content, which is a factor in soil health

support the center and will share the library of CSA training videos with Phoenix to use as an additional training resource.

Phoenix started marketing maize/intercrop 7kg composite seed kits through three agrodealers in three different districts. This initiative is being supported by a demo plots planted next to the agrodealer shops showing the intercrop configuration. These plots were planted two months before seed sales begin to convey a greater visual impact. Signage, package leaflet inserts and a radio advertisement on three local stations completed the promotional efforts.

The company PlantCatalyst®, whose agent is Phoenix Seeds has engaged RAMA-BC to distribute promotional samples of their organic foliar spray through agrodealers to expand their network and sales. Trials recently conducted by Phoenix of PlantCatalyst have shown impressive increases in yield.

RAMA-BC also facilitated a F2F volunteer expert training for seed company Klein Karroo on marketing strategies with agrodealers, from the CNFA volunteer .

RAMA-BC's BDS advisor has mapped agrodealer networks linked to the five main seed companies, profiling each agrodealer and identifying training needs. Tailored training was then concluded by the BDS.

RAMA-BC worked hard on gender and nutrition in the past year, forming 11 new groups (200 new members) in Sofala province and using the platform of 37 Savings Groups, with nearly 900 members, mobilized by 14 community animators, mostly women. These Savings Groups are helping to facilitate community-based entrepreneurship and access to improved inputs. In this initiative, $15,460 was loaned out to members to finance a diverse range of activities, both consumption and business related; over $28,000 was saved; 4 groups 'cashed out' nearly $6,000 at the end of their 'cycle'. These Savings Group platforms for gender and nutrition topics were engaged for training and interaction on Gender Based Violence, vegetable drying, and processing of jackbean.

IMPLEMENTATION OF ACTIVITIES

3.1 Component I: Behavior Change Communication

For this year, main activities carried out by the Communication for Behavior Change component were: Transmission of radio programs and spots, field days, distribution of posters, production of videos and community dialogues involving MMF groups. A total of 529 awareness events were held as shown in Table 1 below.

Table 1: Number and type of awareness events per district

	Types of awareness events					
District	**Radio programs**	**Community Dialogue**	**Field days**	**Radio Spots**	**Distribution of posters**	**N° of events**
Chimoio	10	26	2	2	5	45
Gondola		44	1		15	60
Barué	13	37	8	3	16	77
Macate		32	3		0	35
Sussundenga	8	46	4	4	26	88
Vanduzi		22	1		1	24
Nhamatanda	6	52	2	2	16	78
Dondo	8	21	0	1	9	39
Buzi	1	56	4		22	83
Total	**46**	**336**	**25**	**12**	**110**	**529**

In districts where RAMA-BC has contracts with radios (Chimoio, Sussundenga, Barué, Nhamatanda, Buzi and Dondo) 46 radio programs and 12 spots (a shorter version of a program) were carried out with the following themes: fire prevention and minimum tillage, the importance of Climate Smart Agriculture (CSA) and its principles, COVID-19 prevention messages (how and when to wash your hands and the correct use of face masks), impact testimonies from victims of uncontrolled burning, premature marriage, domestic violence, testimonies from survivors of domestic violence and prevention of storage pests in maize cobs and grain. These programs were broadcast in local languages and Portuguese for greater coverage.

RAMA-BC also held community dialogues facilitated by field facilitators on main themes of conservation agriculture: green manure, balanced and dietary diversification, according to local food availability and tippy-tap assembly, including demonstrations on installation of tippy-taps as a more accessible and effective method for hand washing in communities.

In addition to the awareness events held, RAMA-BC also produced and disseminated promotional materials, including posters to increase the visibility of MMFs and Observation Units. T-shirts and caps were also produced for project participants, the project team, and partners, as well as advertising materials with a new project logo for cars and motorcycles.

RAMA-BC distributed 110 sets of posters with three key messages about the correct use of face masks, how and when to wash hands. These posters were distributed in all project districts in key locations, such as meetings with small groups of producers, agrodealer stores, educational institutions, savings groups, community radio stations and other project partners, such as seed companies.

Photo 2: Posters distributed by RAMA-BC (1. When to wash hands, 2. How to wash hands, 3. Correct use of face masks)

RAMA-BC produced 10 videos to decentralize training for small groups of beneficiaries (producers, private sector, civil society and government) and reduce risk in the coronavirus pandemic, and also to broadcast on television and social media networks to reach more people with a consistent quality message, with the objective of increasing awareness and adoption. The 10 videos produced cover the following themes:

- Conservation agriculture and its principles;
- Experiments that show how CSA works (7 videos);
- Maize cob conservation methods with producer Matias Munzero;
- Formation and operation of Savings Groups.

A field day was also filmed where producers from the two provinces of Manica and Sofala were present. This footage was broadcasted on Televisao de Moçambique on the channel's 'Zero' program.

RAMA-BC carried out an awareness campaign on the use of the tippy-tap system and installed 140 tippy-taps in project communities to demonstrate an efficient, safe and accessible way to wash hands and prevent the spread of COVID-19. 730 people participated in this activity in Sofala (362 men and 368 women) and in Manica 597 people (332 men and 265 women). Following the installation of tippy-taps, it was observed that many people and shops were adopting the same system, setting up tippy taps as the technology spread, the RAMA-BC team documented this spread by taking photos.

3.2 Component II: Model Family Farms (MFFs)

RAMA-BC expanded its activities to the province of Sofala, to the districts of Dondo, Buzi and Nhamatanda, which were severely affected by Cyclone Idai, as a way of bringing Climate Smart Agricultural technologies to small producers. In this context, 36 Producer Trainers were identified and selected: of which 14 from Nhamatanda, 15 from Buzi and the remaining 7 from the Dondo district.

In the 2019/2020 campaign, RAMA-BC established a total of 109 Model Family Farms, of which 82 MMFs were established by the RAMA-BC team, 15 by SDAEs and 6 by Instituto Marere (implemented by students) and the remaining 6 implemented by interns. The table below illustrates how these MMFs are distributed by district. MFFs established in partnership with SDAE and students from Instituto Marere and interns from UniZambeze and IAC are part of the sustainability strategy for the dissemination of Climate Smart Agriculture technologies through partners.

Table 2: Number of MMFs established by RAMA-BC and partners in the 2019/2020 season

District	RAMA-BC	SDAE	Marera	UniZambeze	IAC	Nova Esperanca	Young Africa	Total
Sussundenga	13	2				1		15
Barue	9	4						13
Gondola	7	2						9
Chimoio	5			2				7
Vanduzi	7	3			2			12
Macate	5	3	6					14
Nhamatanda	14	1						15
Dondo	7						1	8
Buzi	15							15
Total	**82**	**15**	**6**	**2**	**2**	**1**	**1**	**109**

RAMA -BC had planned, during the 2019/2020 agricultural season, to hold two field days in established MMFs; the objective on the first field day is to compare crop growth, plant health and productive potential. The second field day is to evaluate crop yield, post-harvest techniques and cost and benefit analysis. In the current season, only 25 of the first set of field days with a total of 2,180 participants, 49.5% of whom are women, was held; the second set of field days were canceled in accordance with COVID-19 restrictions imposed by the President of the Republic of Mozambique. Due to the cancellation, it was not possible to

evaluate the yields from the MFFs, however the project was still able to measure the harvest from the annual survey done through IIAM data once field activities resumed.

Table 3: Number of field days and participants by District

District	No. of field days	Participants		
		Men	Women	Total
Sussundenga	4	237	223	460
Chimoio	2	63	30	93
Macate	3	140	135	275
Gondola	1	59	52	111
Barue	8	308	234	542
Vanduzi	1	74	42	116
Nhamatanda	2	92	75	167
Buzi	4	127	289	416
Total	**25**	**1,100**	**1,080**	**2,180**

Photo 3: MFF with Field facilitator, , and some Field Day participants, 6 March

The RAMA-BC project supported the diversification of livelihoods for farmers through the introduction of improved cassava varieties, resistant to the mosaic virus, and the multiplication of Orange Fleshed Sweet Potato (OFSP) in rice growing areas, in three districts of Sofala province (Nhamatanda , Dondo and Buzi) where the project is implementing its activities.

The project purchased 200,000x20 cm long cassava cuttings from a service provider, Moja Serviços, which purchased the planting material from 2 multipliers based in Xai Xai province of Gaza; after an inspection of the fields by an IIAM technician to certify the quality of the material and that it was free of mosaic and mealybugs. These improved cassava varieties (Chinhembue and Amarelinha) are resistant to mosaic and with a better yield potential, whilst Amarelinha is yellow fleshed – higher beta carotene content.

With the 200,000 cassava cuttings acquired by RAMA-BC and allocated to 25 producers for further multiplication, the cassava was initially established in an area of 3.7 ha with a spacing of 0.50m x 0.25m as

a way to ramp up out of season production and enable irrigation in a concentrated area. As the cassava established and began to grow out, the area of cassava was further expanded to 6.55ha with a definitive spacing of 1m x 1m. It is expected that by October 2020 the area will reach 8 ha of cassava for multiplication.

RAMA-BC will continue to support these multipliers with technical assistance, namely training on cassava agronomy and processing to add value. With this initiative RAMA-BC intends to benefit 20,000 Cyclone Idai affected households by the year 2021.

Photo 4: Cassava multiplication field by producer from Buzi district.

Photo 5: Farmer Trainer from Buzi district multiplying sweet potato vines by rooting

RAMA-BC, also in partnership with International Potato Centre (CIP), identified five varieties of OFSP (Amelia, Rocha, Irene, Delvia, Caromex), with a high beta-carotene content that are being multiplied by 6 multipliers in an area of 2,575m² in the districts of Dondo, Buzi and Nhamatanda in Sofala province.
These multipliers were trained in techniques for propagating sweet potato stems using the rooting method, which consists of cutting the stems to a size of 30 cm and joining them in bundles and then watering and covering with a tarpaulin for five days, as shown in the illustrations above.

RAMA-BC's resilience approach considers the agricultural as an integrated system, this includes small animal husbandry. Small animal species (for example, goats, pigs, and poultry) are an essential part of the production system. To allow for a more 'complete farm system' approach, RAMA-BC has identified 3 educational institutions and 42 small breeders of small stock (including 10 Farmer Trainers) for a pilot phase of integrating animals in a mixed farming system.

Initially, RAMA-BC had identified a consultant from Limpopo province, South Africa, , a livestock producer, who has pioneered innovative regenerative farming techniques that involve low-cost methods of feeding, and high intensity rotational grazing. but due to the COVID-19 pandemic and due to his health condition, he recommended his Zimbabwe based partner, , the Terms of Reference was accordingly reviewed, and this consultant is expected to visit in November.

RAMA-BC has purchased forage crop seed, 150kg mucuna pruriens and 200kg lablab purpureus, sufficient for about 25ha of forage crops, which is being distributed to livestock farmers, for planting after the first rainfall, since the greatest constraint to livestock production is the availability of feed in the dry period.

Photo 6: Farmer Trainer from Nhamatanda district planting a neem tree seedling in his field

RAMA-BC engaged one of its Farmer Trainers, , from Nhamatanda, to grow 2,200 neem tree seedlings, so far 235 neem seedlings have been distributed to members of the MFFs, Savings Groups and educational institutions, who have each received a seedling. It is expected that the rest of the seedlings will be supplied by the middle of next year, as a pest control resource, against insects like the FAW, elegant grasshopper and storage pests.

RAMA-BC carried out an exchange visit in the Barué district with Farmer Trainers in the province of Sofala and a team from the Gorongosa Restoration Project (GRP). This is a strategic partnership to promote the adoption of improved Climate Smart Agriculture techniques in Gorongosa district. Thirty-three Farmer Trainers from Sofala Province, three technicians and four Farmers Trainers from Gorongosa Restoration Project participated in the event, where they had the opportunity to visit the MFFs of Farmer Trainers and from Barué district, discussing various related aspects to Climate Smart Agriculture.

3.3 Component III: Sustainable Extension Services

During the first two quarters, in addition to the establishment of MMFs, RAMA-BC continued to focus on training farmers and other participants in the new districts of Buzi, Nhamatanda and Dondo, in Sofala province and in the ongoing districts in Manica province. (Chimoio, Gondola, Macate, Sussundenga, Vanduzi and Barué). Training on CSA was carried out, where topics such as plant spacing, improved seeds and intercropping advantages were discussed, with a total of 5,853 participants, of which 3,644 were women and 4,063 were new.

Table 4: Number of participants receiving training

District	New	Continuing	Total
Buzi	1,681	132	1813
Barue	329	408	737
Chimoio	176	246	422
Dondo	440	0	440
Gondola	263	318	581
Macate	234	129	363
Nhamatanda	553	428	981
Sussundenga	127	43	170
Vanduzi	260	86	346
Total	**4,063**	**1,790**	**5,853**

March 2020 ,Sussundenga ,Dombe ,Effect of partial shade improves pigeon pea growth under trees : Photo 7

Photo 8: Vigorous Jackbean growth intercropped with maize, MFF, Dombe, Sussundenga, Mar 2020

In order to create sustainable extension services, RAMA-BC established partnerships with universities / educational institutions that have been a critical part of helping the project to engage with youth to promote and raise awareness of CSA practices and to build capacity for future talent in agriculture. To this end, the project received a total of 11 interns: two from UniZambeze Manica, two from IAC, two from UEM, two from Marere, one from ADPP and two from Young Africa.

In addition to being responsible for Observation Units (OUs) – demo plots where intercropping practices and results can be observed, the interns from Marera and IAC set up four MMFs with producers where they provide technical assistance to these families; the main objective being to provide the interns with knowledge and experience in agricultural extension using Climate Smart Agriculture techniques.
Building on last season's positive practical experience, the project continues to assist four student interns from Marera College, in Macate district, who have established their own MFF, using Climate Smart Agriculture technology (as shown in Table 2 above).

Table 5: Interns seconded to RAMA-BC

Educational institution	Number	District	Task
UniZambeze	2	Chimoio	Monitor OU and assist MFFs
IAC (Agrarian Institute of Chimoio)	2	Vanduzi	Monitor OU and assist MFFs
UEM	2	Maputo	FAW research, assist MFFs
Marera College	2	Macate	Monitor OU and assist MFFs
ADPP	1	Nhamatanda	Monitor OU and assist MFFs
Young Africa	2	Dondo	Monitor OU and assist MFFs
Total	**11**		

RAMA-BC has been in partnership with the Eduardo Mondlane University (UEM) since the 2018/19 season, with a research project to measure the impact of intercropping and planting date on FAW infestation levels. In this 2019/20 harvest, the two interns from UEM have an experimental plot on Ecoteca's commercial farm; one is evaluating the effect of "different sowing dates for FAW control" and the other is evaluating the effect of "intercropping for FAW control in the family sector" in the districts of Macate, Sussundenga, Chimoio and Vanduzi. During the quarter, they monitored their field locations, collecting data on FAW and waiting for the maize harvest to measure productivity and assess the effects of various crops intercropped in FAW control. Below are the results of the studies carried out by UEM students in the 2019/2020 season:

- Intercropping of maize with legumes reduced the percentage of FAW infestation and severity in relation to the control. The intercropping of maize + jack beans showed a reduced percentage of infestation and severity, albeit similar to the effect intercropping maize + pigeon beans.
- Intercropping of maize with pulses increased the yield of maize grain in relation to the control and consequently decreased losses to FAW. The highest grain yield of maize was obtained in the intercropping of maize + jackbean and resulted in lower FAW related losses.
- The treatments of maize + pigeon pea and maize + jack beans tended to perform better in reducing infestation by FAW compared to other treatments.

Photo 9: Contrast of the damage observed in intercropping and in maize monoculture control.

of UEM met with RAMA-BC and communicated that UEM, in partnership with the Food and Agriculture Organization (FAO), is experimenting with the intercropping effect on the FAW. This is encouraging, as it shows how the RAMA-BC partnership with UEM fulfilled an important advocacy function, by raising the CSA approach technique to a national and Ministry of Agriculture level.
also reported that he experimented with the use of jack bean seed and leaf extract and found that they are an effective control of the FAW. This is interesting, as it is a safe biopesticide, acting as a stomach poison for chewing insects, while leaving beneficial insects untouched, in contrast to what would happen with a "contact" pesticide, which most farmers currently use. RAMA-BC has subsequently produced a technical brief on the use of jackbean to control FAW and is now using the technique with Farmer Trainers.

IIAM, the government Agricultural Research Institute, with which the project has partnered for two seasons, trained the RAMA-BC technical team from February 27 to 28, 2020 on how to collect qualitative and quantitative data on CSA, harvest and productivity measures. Fifteen members of the technical team and eight interns from RAMA-BC were present. The topics covered were: Conservation Agriculture principles; harvesting procedures; principal maize pests, diseases, and weeds; plot management; experience of introducing CSA in central Mozambique; difference between seasons, on -farm and collection of agronomic data.

Based on the agreement that the project has with IIAM for the analysis of maize yield and intercropping effects, IIAM presented a report of results of measurement of maize yield where it showed the following results:

In general, compared to the control (without an intercrop cover), the best result came from the maize/jackbean intercrop, which generated an increase of 29.1% (Nhamatanda), pigeon pea intercrop showed a 56.81% increase and lab-lab/maize 54.32% (Macate), maize/cowpeas showed a 59.5% increase (Barué) and 33.3% increase was shown from maize/lab–lab intercrop in Sussundenga.

Table 6: Average values of maize grain yield from treatments combined with different grain legumes in different districts of the province of Manica and Sofala season 2019/2020

District	Treatment	Productivity (kg ha -1)	In relationship to the control	
			Difference (kg ha -1)	*Increase (%)*
NHAMATANDA	Maize + Lab Lab	1292a **	129.6	11.1
	Maize + Pigeon pea	1435	272.6	23.5
	Maize + Jackbean	1501	338.6	29.1
	Control	1162.4	0	0
	LSD (5%)	**536.84**		
BARUE	Maize + Cowpea	1844	95	5.4
	Maize + Cowpea + F.Boer	2790	1041	59.5
	Control	1749	0	0.0
	LSD (0.05)	***1518.9***		
SUSSUNDENGA	Maize + Pigeon pea	2295	371.4	19.31
	Maize + Jackbean	2480	556.4	28.92
	Maize + lab lab	2559	635.4	33.03

	Control	1923.6	0	0
	LSD (5%)	***1856.8***		
GONDOLA	Maize + Pigeon pea	2336	256	12.31
	Maize + Jackbean	2177	97	4.66
	Control	2080	0	0
	LSD (5%)	*1630.2*		
MACATE	Maize + Lab Lab	1984	698.4	54.32
	Maize + Pigeon pea	2016[a]	730.4	56.81
	Maize + Jackbean	1607	321.4	25
	Control	1285.6	0	0
	LSD (5%)	**1003.4**		

**Means followed by the same letter on the line do not differ by the F test at 5% probability.

In the last quarter of the year, RAMA-BC setup two OUs at the Young Africa (Dondo) and ADPP (Nhamatanda) institutes with cassava to demonstrate the new improved varieties of cassava (Chinhembue and Amarelina) tolerance to African mosaic disease, better yield and dietary diversity for students at these institutes.

3.4 Component IV: Strengthened Market Systems

RAMA-BC has partnerships with SeedCo, Syngenta, Phoenix seed, Easiseeds, and K2 seed companies to promote their seeds in areas where they want to increase sales. RAMA-BC has engaged the private sector to promote the intercropping concept as an alternative to chemical fertilizers and to establish lasting links between seed companies and our participating farmers.

Photo 10: in front of Ismael agrodealer in Vanduzi with interop promotional sign

Phoenix Seed set up a trial and training center on their farm; in this initiative, intercrop crops (lablab, jackbean and pigeon pea) are being tested along with maize varieties in various treatments that Phoenix itself is interested in investigating. This test, in addition to providing useful data to inform Phoenix's own operations, will serve as a training site for Phoenix agrodealers and partners, who will be trained in the training center, located in a building that Phoenix is currently rehabilitating.

In the 2020/21 harvest, Phoenix, in partnership with RAMA-BC, is selling composite kits, where maize seed will be "packaged" along with pigeon pea, cowpea and jackbean. The project has identified three agrodealers Ismael Comercial in Vanduzi, Cantina 2001 in Sussundenga and Simão Januário in Barué who are working in partnership with Phoenix to raise the profile of this approach and sell these kits.

These agrodealers have already set up their demonstration fields next to their outlets in order to promote intercropping and visually demonstrate the practice and create demand for the kits. 108 kits have also been allocated to the agrodealer Ismael in Vanduzi.

Photo 11: Intercrop demo plot outside agrodealer in Barue

RAMA-BC facilitated promotion of Bridge-Consulting's Plant Catalyst product through other companies and agrodealers who are partners in the project. This product, a low application mineral leaf spray, has shown expressive results in other countries, increasing productivity by more than 40%. This product has also been tested in Mozambique with good results, increasing the absorption capacity of soil nutrients. K2, Phoenix, SeedCo, Easiseeds, Agroserv and , one of the Farmer Trainers (FTs) in the Sussundenga district, received Plant Catalyst product samples and application protocols to experiment and expand sales.

RAMA-BC held field days with the participation of partners SeedCo, Phoenix Seed and Klein Karoo to publicize their products and services.

Photo 12: SeedCo attending a field day held by RAMA-BC in Barué district

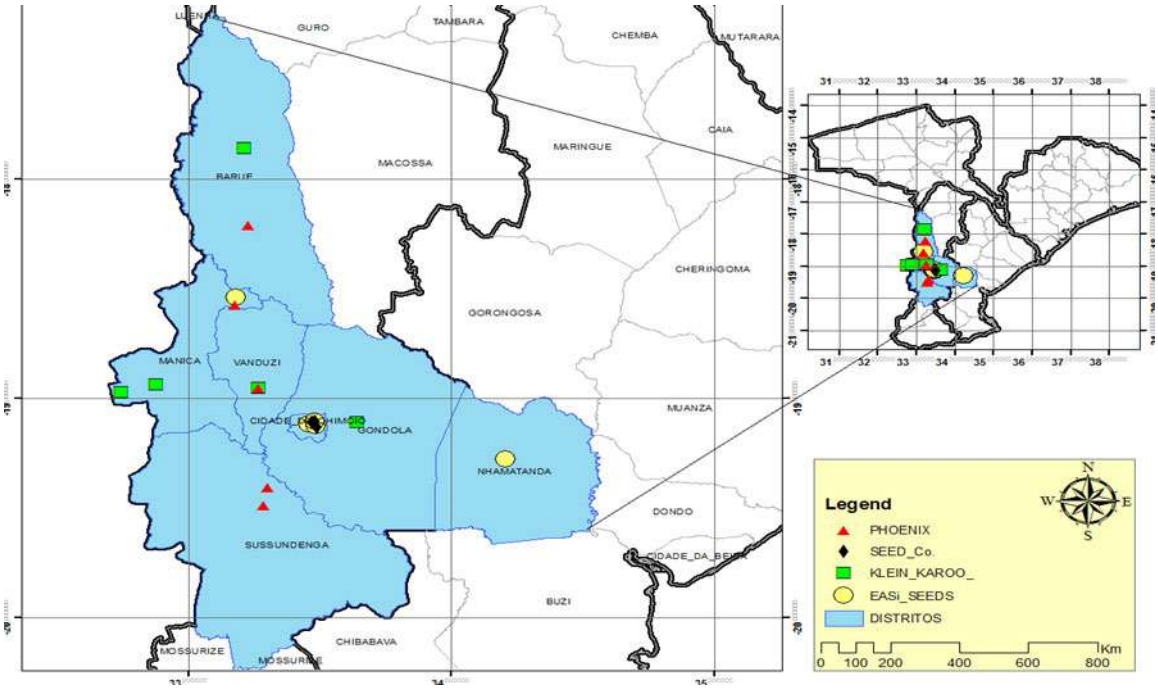
This year, RAMA-BC received a contribution from the private sector (SEED CO, Phoenix, Syngenta and Klein Karoo) equivalent to $5,941 in seed donations (1,545kg maize; 255kg cowpea; 223kg pigeon pea) for the establishment of MMFs. The following table shows the total amount contributed by each of the companies, not just seed, but field days and trials.

Table 7: Contributions from RAMA-BC partner companies

Company	*Contribution of partners (USD)*	*Evidence Source*
Klein Karoo	2,621.55	Photos of participation in field days and report
SEED CO	1,509.32	Photos of participation in field days and report
Syngenta	350.00	Delivery and invoice guide
Phoenix Seed	5,959.00	Delivery and invoice guide
TOTAL	**10,439.87**	Delivery and invoice guide

RAMA-BC partnered with Cultivating New Frontiers in Agriculture (CNFA) to leverage volunteer technical experts, under its F2F program, to assist partner companies in the project. This year, the two projects collaborated to develop a Terms of Reference for the recruitment of a volunteer to facilitate training in Post-COVID-19 Marketing Strategies for Klein Karoo. This training was carried out online, facilitated by volunteer for K2 agrodealers, where a total of 30 people participated (21 people from K2 and 9 staff from RAMA-BC).

RAMA-BC also mapped locations and profiles of 20 agrodealers linked to five seed companies (SeedCo, K2, Phoenix, Easiseeds and Syngenta) with which the project is partnering. This mapping served to inform the technical assistance needs. In this way, over-the-counter agents from the identified agrodealers were trained in terms of data recording, cash flow and marketing to agrodealers, totaling 36 people. Below is the location map of agrodealers working with the project.



Map 2: Map of Agrodealers linked to RAMA-BC partner companies by district in the provinces of Manica and Sofala.

RAMA-BC trained 370 members of VSLA groups, of which 70% are women, in basic business management and the advantages of connecting with the market, where they spoke of an initiative to create an "Input Fund". This process was facilitated in the groups of Bárue (Chindengue) and Dombe (Dárue) who are buying seed directly from seed companies. This "Input Fund" initiative, once understood, was highly acclaimed and well received by members, who started to list the needs in inputs for direct purchase.

3.5 Cross-cutting: Gender and Nutrition

This transversal component aims to promote gender equity and the transformation of attitudes, to contribute to improving diet and quality of life of rural communities, encouraging local initiatives and promoting sustainable resource management through participation in VSLA groups as a platform for small business development, and improved seed supply.

Activities that were carried out during the year included:

- Awareness-raising campaigns for a balanced diet based on seasonal food availability through culinary demonstrations (use of LabLab Canavalia leaves) for 1,450 participants (666 men and 784 women) in the districts of Barué, Gondola, Vanduzi, Nhamatanda and Buzi;

- Demonstrations of drying vegetables and fruits to promote the saving of surplus produce for times of scarcity and to improve nutrition in the districts of Gondola, Sussundenga and Chimoio (250 participants, 160 women and 90 men);

- Gender transformation (division of labor and women's rights under the law) discussion sessions in the districts of Gondola, Macate, Sussundenga, Barue, Vanduzi and Chimoio (379 participants, 119 men and 260 women);

- Lectures at ADPP and Young Africa educational institutions on family law, agrarian and gender-based violence using sessions of the Gender Manual, sessions were also held on domestic violence.

- RAMA-BC was invited by IBOSOMA (Igreja Bom Samaritano de Moçambique), a religious association that is part of an organization called ANAMED (Action for Natural Medicine), to participate in a training in natural medicine in the district of Gorongosa to acquire basic knowledge about health care. The concept combines traditional herbal medicine with modern medical practice, all based on science. It was a very interesting and rewarding training, this knowledge will help people in communities far from health centers. This training was attended by four people from RAMA-BC, the Gender Advisor and three producers from Gondola, Chimoio and Barué.

- RAMA-BC identified two people from the Barué district (and an anonymous woman) who recorded their testimonies on how they survived and overcame domestic violence, later broadcast on RAMA-BC partner radios.

- RAMA-BC conducted awareness campaigns on domestic violence and human rights laws. The project focused on law no. 29/2009 of article 20, which states that, "Who prevents the woman with whom he has family or love relationships from moving or contacting another person, retaining her in domestic or other space; is punished with one year's imprisonment and a corresponding fine ". Knowledge of this law is extremely important for everyone in society. This campaign was attended by 379 participants (119 men and 260 women) in the province of Manica and 285 participants (105 men and 180 women) in the province of Sofala.

- Creation of 11 new VSLA groups (six still in formation and five that started with their savings) with a total of 208 participants, of which 61% are women, in the new implementation area of RAMA-BC (Nhamatanda, Dondo and Dombe) and monitoring of VSLA groups underway in the province of Manica.

Photo 13: Tippy Tap in Buzi, 27 April 2020

RAMA-BC in the fourth quarter of this year provided training for gender, nutrition and VSLA animators with the aim of providing participants with knowledge about a participatory approach which includes building gender equality, diet diversification and knowledge of savings management and revolving credit. This training was carried out in the two provinces implementing the project, Sofala had 11 participants (8 animators and 3 technicians) and in Manica 25 participants (14 animators, 9 technicians and 1 intern).

The topics covered in the training were:

- PCR Methodology (Savings and Revolving Credit);
- Exercises from the project's gender manual: how to transform the family and the community;
- Debate on the history of Serafina (from the project's gender manual);
- Transform gender like the story of Maria (from the project's gender manual);
- Diversification of diet and cooking demonstration (from the project's nutrition manual).

Table 8: VSLA groups

District	Group's name	Social Fund Value (mt)	Accumulated savings amount (mt)	Loan Amount (mt)	No. of members		
					M	W	Total
Gondola	Khubhatana Nguenhacha	2,200	32,180	26,450	7	7	14
	Makomborero	2,040	63,870	19,200	0	15	15
	Khubatshirana	1,485	71,155	63,000	16	10	26
	Zanoroupenhpo	718	24,465	23,000	14	13	27
	Simukwai Chissunda	9,150	87,020	59,290	19	20	39

Vanduzi	Necubatana Pamberi	1,560	30,380	27,000	4	20	24
	Central Market	120	1,850	3,570	4	13	17
	Chandai nesimba	545	6,050	6,000	3	15	18
	Fadzamai	5,150	32,520	36,000	5	10	15
	God takes power	420	7,800	56,230	14	26	40
Chimoio	Kubatana	3,000	91,430	83,000	8	22	30
	Hombwe A	650	2,950	2,000	5	10	15
Barue	Kwayedza	4,100	65,550	0	14	12	26
	Mulombo dziva	260	11,800	10,730	8	7	15
	Kupedza	1,175	16,850	0	11	10	21
	Tapfuma	720	14,900	0	0	15	15
	Murombo diva	720	30,730	23,820	5	8	13
	Kubatsirana	15,000	221,460	9,550	17	19	36
Macate	Bodo	1,260	136,580	74,750	7	21	28
	Maconborero	765	35,000	30,000	22	21	43
	Matsassi -Mbaiana	585	39,580	37,000	0	15	15
	Macunza	1,580	146,720	0	20	43	63
	Ngorosa	1,540	36,645	34,690	19	13	32
	Tapenha	720	25,290	7,800	0	12	12
	Kufuonha ya muari	3,545	74,590	64,150	19	13	32
	Murini ndimanbo	1,300	11,640	11,600	7	14	21
Dombe	Tsaunatso Tent	10,250	43,805	22,600	10	8	18
	Thekeia weirima	6,300	19,170	10,500	7	5	12
	Rubhatsiro	9,120	83,140	65,200	9	10	19
	Cuban Panberi	700	6,000	6,000	7	5	12
	Rudho Kubathana	12,240	212,920	102,490	1	18	19
	Nhacha Dzamwari	11,440	142,585	123,680	2	21	23
Sussundenga	Nhanguzue	1,588	28,458	6,000	4	11	15
	Nhanguzue School	1,650	29,850	2,000	4	30	34
Nhamatanda	Kuziwakupona	780	22,350	2,400	9	13	22
	Kuzara mwakanaka	250	2,700	0	13	12	25
	Kphatana nzero	4,020	85,850	47,900	20	10	30
Total (mt)		118,646	1,995,833	1,097,600	334	547	881
US$		1,670	28,110	15,460			

Table 9: Savings groups who 'cashed out'

District	Name of group	Amount distributed (MT)	No. of members		
			M	W	Total
Macate	**Maconborero2**	57,675	13	12	25
	Maconborero	81,083	18	16	34
Chimoio	**Kubudirira kubatana**	226,162	5	32	37
Vanduzi	**Panberi ne kubatsirana**	48,037	5	19	24
Total		**412,957**	**41**	**79**	**120**
Total US$		**5,816**			

PLANNED ACTIVITIES FOR THE NEXT REPORTING PERIOD

RAMA-BC has planned the following activities for each component in the next quarter (October 2020-December 2020): Subject to C19 movement restrictions

4.1 Component I: Changing Communication Behavior:

- Broadcast radio programs in five radio districts with specific themes (news coverage in the communities, interviews, and testimonies)
- Radio programs on (nutrition, uncontrolled burning, debate on domestic violence)
- Finalize video production (cooking demonstration, insecticides);
- Promote videos already made about AC on television channels and other social media
- Use mobile video projectors to train more people in dispersed groups using completed videos

4.2 Component II: Model Family Farm:

- Increase multiplication areas for orange-fleshed sweet potato and cassava;
- Establishment of MMFs in all project implementation districts and OUs;
- Pest and weed control in cassava and maize crops using natural neem pesticides and jackbean.
- Distribute lablab and mucuna seed to livestock producers for improved forage production
- Visit of consultant to potential producers of small livestock to develop strategy.

4.3 Component III: Sustainable Extension services:

- Establish demonstration fields at the SDAEs and Technology Transfer Center in Barue
- Training of multipliers in techniques of rapid production of cassava;
- Training of cassava multiplier producers in processing, use of cassava derivatives, handling and use of waste;

4.4 Component IV: Strengthened market systems:

- Follow up and coach agrodealers;
- Linking savings groups to seed companies;
- Produce 250 signs using company logos (SeedCo, K2 Phoenix) to promote improved seed in MFFs
- Continue to strengthen partnerships and link with the market and promotion work, either via radio or via Demonstration Fields - MMFs;
- Connecting agrodealers to input fairs;
- Evaluate the seed market survey and draw conclusions for future programming.

4.5 Cross-cutting: Gender and Nutrition:

- Demonstrate cooking with locally available foods (on field days)
- Lecture on gender using exercises from the gender manual,
- Training on Gender, nutrition, and savings (animators, technicians, and partners)
- Assist and strengthen the existing savings groups for a good functioning and facilitate linkages with buyers of agricultural products
- Host Gorongosa project to Savings Group visit
- Share videos and technical material with Gorongosa project

LESSONS LEARNED

- **Exchange visit with Sofala producers in the Barué district**. As it was RAMA-BC's first agricultural campaign in Sofala province, it was important to bring the training of Sofala producers to Manica to motivate and drive the rapid adoption of CSA techniques.

- **CSA video**. The filming of the CSA video in phases proved to be effective, as it will be able to demonstrate and show all stages of the development of crops using CSA techniques, resulting in greater adoption.

- **COVID-19.** As mentioned in the Executive Summary, while having to work from home during the COVID-19 pandemic, the project had to rely more on implementing partners, such as RAMA-BC radio station partners to do recording sessions with project participants for BCC; UEM and IIAM measuring yield and FAW impact for data collection. It is empowering that partners now continue certain aspects of implementation on their own.

- **Multiplication of cassava by means of cuttings**. The use of mini cassava cuttings for multiplication is showing great promise, facilitating the diversification of livelihoods and resilience to climate change;

- **Tippy-tap assembly. Distribution of the tippy-tap system**, during the COVID-19 pandemic, awareness increased about the urgency of hand washing, as well as the search for an adequate solution, with rapid adoption. The tippy-tap saves water; 5 liters can last a whole day for a family with multiple hand washes. It is also very safe - minimizing manual contact by operating by foot.

- **Remote support during COVID-19**. Online training was shown to be effective in this period, as RAMA-BC facilitators had to adapt to the new working conditions due to COVID-19. RAMA-BC technicians were able to collect maize harvest samples and process data according to IIAM recommendations, while remaining safe, taking the recommended precautions for COVID-19. The project will also train smaller groups, facilitated by training videos being compiled by the project.

- **Jackbean as a pesticide**. the use of jackbean seed and leaf extract is an effective control of FAW. This is interesting, as it is a safe biopesticide, acting as a stomach poison for chewing insects, while leaving beneficial insects untouched, in contrast to what would happen with a "contact" pesticide, which most farmers currently use.

COLLABORATION WITH PROJECT ACTORS

Links with relevant GOM Ministries

The project continues to work with Government institutions: with IIAM (Measurement of performance of yield for validation of CSA techniques); Monitoring of project activities (SDAE); UEM (FAW tests for validation of techniques).

Links with other USAID projects

RAMA-BC's participated in an online meeting with the USAID-funded FAO project with the aim of sharing and coordinating results on the control of the FAW.

The project has communicated with the Gorongosa Project by email and conference call. Collaboration through training, field day participation and sharing of technical materials has occurred thus far. The Gorongosa Project is now discussing a possible training on technical preparation in CSA for the forthcoming season.

The project CoP had a conference call and shared materials and information with the consultant hired by the Inova project for their Mid-Term Evaluation.

MANAGEMENT AND ADMINISTRATION

Employees

A temporary driver was added; a new Finance and Administration assistant was added following the departure of . and , F&A assistants based in Maputo, who were partially supporting the project had their contracts terminated in August 2020 as the project representation in Maputo has been downsized due to the impending closure of the Mozambique Expansion of Rural Cattle and Dairy Opportunities (MERCADO) USDA funded project, next year. To ensure continuity with F&A, the national F&A manager, relocated to Chimoio from Maputo, where he will be based going forward and will serve both RAMA-BC and MERCADO projects, until MERCADO closes, from when he will devote his time 100% to RAMA-BC.

Adaptation Activity

The office was closed for two months (working from home) from April to June to prevent the spread of COVID-19. Good health and safety protocols in the office have allowed fieldwork to continue and staff to return to the office since early June. These measures include reorganizing office seats, temperature checks at office and vehicle entrances, limiting vehicle passengers and overnight stays in the field, and washing hands at filling stations at each end of the office.

The worsening security situation in the EN1 and EN6 regions, where 24 people died since August 2019 and the impact of the COVID-19 pandemic, meant that expansion plans to hire eight more employees as of September 2020 were suspended. The expansion of the project in current districts and others, such as Gorongosa, has also been postponed indefinitely. There have also been attacks around Dombe, in Sussundenga district. So far, these attacks have been isolated, but the situation will be carefully monitored by the project.

The limitation of the meetings caused the last MFF and OU set of field days to be canceled, where the harvest is evaluated in the MFFs, in the presence of partners and surrounding communities. This will inevitably reduce the number of project participants on field days; however, the overall number of project participants is not expected to decrease significantly, given the extra involvement with the improved distribution of cassava and OFSP. The depth of knowledge transfer will be compensated through the use of mobile projectors and newly produced training videos.

Monitoring and Evaluation

- FTFMS data entered into online database.
- Conclusion of the RAMA-BC Interim Evaluation in the previous and current districts;
- The RAMA-BC MEL plan was updated, submitted, and approved by USAID considering the update of the contract and the change in the Feed the Future indicators;
- Finished the data collection tools for adjustment based on new indicators and updated in the IMPACT system;

- The first draft of the Baseline Report for new RAMA-BC intervention areas has been completed (Nhamatanda, Dondo, Buzi and Dombe in Sussundenga);
- The annual survey of data collection of farmers has been completed, still more in the process of preparing a report. Annual indicator data already included in the indicator table in Annex 1.
- The collection of research data on the Seed Market System is finished;
- DevResult data entered in online system every quarter.

Key Findings from Midterm Evaluation *(conducted by project staff, using external enumerators, and finalized in October 2019)*

- **Major progress in knowledge and application of Climate Smart Agricultural practices.** Nearly all participants (85.9%) could describe at least one Climate Smart Agricultural practice, compared to 54.1% in the comparison group and 49% at baseline. The most common practices that they could recall were minimum tillage, intercropping with vegetables, permanent soil cover and correct crop spacing. A similar proportion of participant households (80.6%) applied at least one Climate Smart Agricultural practice; this is nearly double the 44% in the comparison area. The most common practices applied were timely application of inputs, green manure, and crop rotation.
- **Substantial differences in knowledge and application of Climate Smart Agricultural practices between Manica and Tete Provinces.** Tete farmers had higher knowledge of Climate Smart agricultural practices (96.3% in Tete compared to 81% in Manica), but Manica farmers had higher application (90.8% in Manica compared to 59.1% in Tete). The qualitative data did not provide reasons for this divide, but RAMA-BC technical experts believe that customary practices are more ingrained in farming in Tete than Manica, so it may take longer to change practices.
- **No difference in yield for treatment farmers.** Despite significant progress in application of improved techniques, adoption of these practices has not yet translated into reported[5] general increases in yield. Yields are about the same between the treatment and comparison farmers, with treatment yields slightly higher for maize (0.55 MT / ha compared to 0.49 MT / ha) and cowpea (0.25 MT / ha compared to 0.17 MT / ha) and slightly lower for soybean (0.26 MT / ha compared to 0.37 MT / ha) and pigeon pea (0.46 MT / ha compared to 0.66 MT / ha), and about the same for common bean and sesame. Yields were much lower than at baseline for both treatment and comparison, showing that the crop season measured in the midterm was much less favorable than the baseline. This may have been partly due to Cyclone Idai, which affected some of the project areas in Manica. These results may also be due to the fact that producers are unable to accurately estimate area and when asked about their production it ends up introducing error from the recall method, as they do not often have a concept of what a hectare actually is (10,000sq m). What frequently occurs is that the area is overestimated. When the area is overestimated, this will have an impact on the yield, reducing it proportionately. In following surveys, whilst farmers were still asked to recall their yield from a particular field, the actual area was measured, using a smartphone georeferencing digital app. This has helped to remove the error induced by inaccurate area measurement and has improved the yield estimate accuracy considerably.
- **Large incremental sales for treatment farmers.** Using difference in difference analysis to remove the non-project-related changes between baseline and midterm, there is a large increase in sales for treatment farmers for all target crops except cowpea.

[5]These are based on interviews and the recall method. The project has also conducted trials where actual yields were found to have increased by 85% across 24 MFFs when compared to 19 control sites in May 2019

The table shows that when removing the external factors in the incremental sales due to the differences in the season, the project has a large positive effect on sales for all crops except for cowpea.

Table 10. Incremental sales of treatment using difference in difference

Crop	Incremental sales in treatment	Incremental sales in comparison	Difference in difference
Maize	-$614,186	-$2,248,362	$1,634,176
Soybean	-$148,855	-$155,598	$6,744
Pigeon pea	-$98,742	-$339,560	$240,818
Sesame	-$51,983	-$524,452	$472,470
Common bean	-$136,404	-$220,744	$84,340
Cowpea	-$39,587	-$6,221	-$33,367

ANNEX 1: ANNUAL PERFORMANCE DATA TABLE (APDT)

Project **Mozambique Resilient Agriculture Markets Activity (RAMA) - Beira Corridor**

Start Date **December 12, 2016**

End Date **December 30, 2021**

#	Indicator	Unit	Disaggregation[6]			Baseline		Reporting Period Year 4 (10/19 - 9/20)		Life of Project 12/16 - 12/21		Comments
						Year	Actual	Target	Actual Y4	Target	Actual	
1	(EG.3.2-26) Value of sales of farmers and firms receiving USG assistance	USD	Total			2017	$ 688,141	$ 1,328,328.84	$2,674,114.54	$ 5,229,308.52	$4,683,577.34	This sales figure refers to the sales of small producers and companies in which RAMA-BC works. This result was found based on an annual survey of data collection from farmers for sales by producers through the sample of 355 (182 men and 173 women) and extrapolated to 16,256 who are producers participating in the project. For companies, an interview was conducted with partners with a sample of 5 companies. This indicator is well above the target established for fiscal year 2019/2020, due to the fact that this year there was a great demand for seeds caused by the
			Pigeon Peas	Total					$2,004			
				Smallholder	Male				$2,004			
					Female				$2,004			
					15-29				$1,333			
					30+				$2,674			
				Non-Smallholder	Male							
					Female							
					15-29							
					30+							
			Cow Peas	Total					$446			
				Smallholder	Male				$592			
					Female				$300			
					15-29				$611			
					30+				$281			
				Non-smallholder	Male							
					Female							
					15-29							
					30+							

[6]Indicators and disaggregates were updated and submitted to USAID in December 2019 to align with the new FTF Indicator handbook. Once approved, RAMA-BC will update data collection tools to collect the updated disaggregates and will report on them in the future reporting periods.

[6](EG.3.2-24) Number of individuals in the agriculture system who have applied improved management practices or technologies with USG assistance is a new indicator. The objectives of year 2 and 3 are individuals achieved with the indicator (EG.3.2-18) Number of hectares of land under improved technologies or management practices with USG assistance.

			Maize		Total				$379			damage related to Cyclone Idai that affected the areas of implementation of RAMA-BC and the COVID-19 pandemic that created demand to alleviate vulnerable populations in the recovery of their assets.
				Smallholder	Male				$473			
					Female				$285			
					15-29				$320			
					30+				$437			
				Non-smallholder	Male							
					Female							
					15-29							
					30+							
			Inputs: Seeds and Planting Materials		Total				$2,671,232.54			
				Firm Micro	Male				$2,671,232.54			
					Female				$0			
					15-29				$0			
					30+				$2,671,232.54			
				Firm - SME	Male							
					Female							
					15-29							
					30+							
				Firm Large	Male							
					Female							
					15-29							
					30+							
2	(EG.3-10,11,12) Yield of targeted agricultural commodities among program participants with USG assistance	MT / HA	Pigeon pea		Total	2017	0.39	0.48	0.33	0.5	0.33	This indicator reflects the yield of the metric tons of the RAMA-BC value chains. These data were obtained from the annual data collection survey of farmers with a sample of (Maize N = 53, Cowpeas N = 13 and Pigeon peas N = 12). Yields of pigeon pieces were relatively low compared to the baseline and FY4 targets.
				Smallholder	Male				0.34		0.34	
					Female				0.23		0.23	
					15-29				0.38		0.38	
					30+				0.31		0.31	
				Non-smallholder	Male							
					Female							
					15-29							
					30+							
			Cowpeas		Total	2017	0.37	0.39	0.45	0.42	0.45	
				Smallholder	Male				0.33		0.33	
					Female				0.56		0.56	
					15-29				0.51		0.51	
					30+				0.44		0.44	
				Non - smallholder	Male							
					Female							
					15-29							
					30+							
			Maize		Total	2017	1.02	1.2	1.83	1.5	1.83	
				smallholder	Male				1.99		1.99	
					Female				1.68		1.68	

					15-29				1.76		1.76	
					30+				1.84		1.84	
				Non - smallholder	Male							
					Female							
					15-29							
					30+							
3	Percentage of farmers that can accurately recite improved techniques and technologies	%			Total	2017	49%	85%	83%	87%	83%	This is the percentage of farmers who have managed to speak accurately at least four practices for improving Climate Smart Agriculture, based on annual Farmers Data Collection surveys with a sample of 355 farmers interviewed this year in all RAMA-BC Intervention districts .
			Fri		Male				89%		89%	
					Female				77%		77%	
			Age		15-29				83%		83%	
					30+				83%		83%	
4	(EG.3.2-24) Number of individuals in the agriculture system who have applied improved managemen t practices or technologies with USG assistance	#			Total	2017	0	10,965	15,684	24,600	15,684	The number of individuals who implemented at least one of the best practices in Climate Smart Agriculture was 15,684. This number was obtained from an annual Farmers Data Collection survey with a sample of 355 farmers (173 women and 182 men) and interview with partners with a sample of 5 partners (5 men and 0 women). This indicator is above the established target of 10,965, due to the fact that there was greater adherence by small producers in the adoption of the improved CSA technologies, even in the new areas of project implementation.
			Smallholder Producer		Male				7,357		7,357	
					Female				8,327		8,327	
					15-29							
					30+							
					Crop Genetics				23,324		23,324	
					Cultural practices				20,991		20,991	
					Pest & disease Management				29,190		29,190	
					Soil related fertility and conservation				23,607		23,607	
					Irrigation							
					Climate Adaptation				23,112		23,112	
					Climate Mitigation				24,031		24,031	
					Livestock management							
					Male							
					Female							
					15-29							
					30+							
					Crop Genetics							
					Cultural practices							
					Pest & disease Management							
					Soil related fertility and conservation							

			Non-smallholder producer	Irrigation							
				Ag water management non-irrigation							
				Climate Mitigation							
				Livestock management							
			People in government	Male							
				Female							
				15-29							
				30+							
				Marketing and distribution							
			People in private	Male				92		92	
				Female				0		0	
				15-29				0		0	
				30+				92		92	
				Marketing and distribution							
			People in Civil society	Male							
				Female							
				15-29							
				30+							
				Marketing and distribution							
5	(EG.3.2-28) Number of hectares under improved management practices or technologies that promote climate risk reduction and / or natural resources managemen	#		Total	2017	0	7,482	13,037	16,758	13,037	This indicator measures the number of hectares implementing risk reduction actions through Climate Smart Agriculture. This value was obtained through an annual survey in the Data Collection for Farmers with a sample of 355 farmers (173 women and 182 men) that were extrapolated to a total of 16,256 participants in the RAMA-BC project. This indicator has a result above the target due to the fact that producers are aware that using these technologies are able to help increase resilience and reduce the risks resulting from climate change.

	t with USG assistance									
6	(EG.3.2-25) Number of hectares under improved management practices or technologies with USG assistance.	#	Total	2017	0	18,963	15,213	42,474	15,213	The number of unique hectares with improved Climate Smart Agriculture technology was 15,213ha. This number was obtained from the annual Farmers Data Collection survey with a sample of 355 farmers (173 women and 182 men) who reported the adoption of at least one improved practice and were extrapolated to a total of 16,256 participating producers.
			Crop land – Male				7,360		7,360	
			Crop land – Female				7,853		7,853	
			Crop land – 15-29							
			Crop land – 30+							
			Crop land – Crop genetics				14,682		14,682	
			Crop land – cultural practices				14,918		14,918	
			Crop land – Pest and disease management				16,454		16,454	
			Crop land – Soil related fertility and conservation				14,195		14,195	
			Crop land – irrigation				N/A		N/A	
			Crop land – Ag water management non-irrigation				N/A		N/A	
			Crop land – climate mitigation				13,037		13,037	
			Crop land – Climate adaptation				14,056		14,056	
7	(EG.3.1-14) Value of new USG commitments and private sector investment leveraged by the USG to	USD	Total	2017	$ 0	$ 8,857	$ 10,439.87	$ 64,609	$ 53,559.89	This $ 10,439.87 reflects the contribution of RAMA-BC partners through some activities such as establishing MMFs, field days, establishing trials with consortia. This indicator has progressed above 100% in relation to the
			USG Commitment							
			Private sector partner leveraged							

	support food security and nutrition									annual target for year 4 for project.
8	Percentage increase in women's decision-making index over household decisions related to agriculture and income use	%	Total	2017	0%	25%	3%	30%	3%	This number represents a percentage increase in the women's decision-making index. This is an increase of 3%, in the baseline women have a decision power of 0.632 in relation to the annual survey which is 0.653. This increase is quite low in relation to the target for year 4 and in relation to the household survey carried out in the baseline assessment (0,745).
9	Number of events held for the awareness and market information campaign	#	Total	2017	0	473	529	1,654	1,237	The events mentioned here are radio programs on various topics related to Climate Smart and gender agriculture, radio announcements, community dialogues with MMF groups, field days, poster distribution and more. This indicator has progressed over 100% in relation to the annual targets.
10	(EG.3-2) Number of individuals participating in USG food security programs	#	Total	2017	0	12,900	6,709	28,894	18,703	6,709 are RAMA-BC participants through MMFs, CSA trainings, VSLA groups, people from partner companies and gender and nutrition activities. For this indicator, RAMA-BC reached 52% progress in relation to the annual target. This indicator is below the target set for the fiscal year 2019/2020 due to the COVID-19 pandemic that prevented some activities / training and consequently low participation of people for the project.
			New				4,797			
			Continuing				1,912			
			Male				2,805		9,018	
			Female				3,904		9,685	
			15-29				2,111			
			30+				4,598			
			People in Government				14		436	
			People in USG assisted firms				135		462	
			People in civil Society				175		1,548	
			Laborers							
			Producer: Smallholder				6,385		16,256	
			Producer: Non-smallholder							
			Producer Disaggregates not available							
		#	Total	2017	0	20	25	61	60	

11	Number of for-profit private enterprises, producer organizations, water user associations, women's groups, trade and business associations, and CBOs receiving USG food security-related organization development assistance			New				19		19	We worked with 19 new businesses this reporting period. RAMA-BC met + 100% of this target in relation to the annual target.
				Continuing				6		41		
			Type of organization	Private enterprise				19		60		
				Production tion organizations				0		0		
				Women's groups				0		0		
				CBOs				0		0		