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AGRA Grant Narrative Report
Grant No: 2020 MZ 003

Project Title: Combating Covid-19 Effects by a Rapid Response Enabling Resilience, Access to Seed of Cassava and Sweet Potato in Mozambique

Partnership for Inclusive Agricultural Transformation in Africa (PIATA)

FINAL REPORT, SETMBER 1, 2020 TO MARCH 31, 2022

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I. BACKGROUND

The Combating the Effects of Covid-19 for a Rapid Response Project Enabling Resilience, Access to Cassava and Sweet Potato Seed in Mozambique is being implemented in four districts of the Nacala Corridor, namely Monapo, Meconta, Ribáuè and Malema. The objective of project was to contribute for improvement of food security and livelihoods for small farmers and their families through extension services, inputs and market linkages.

The activities were implemented through a network of seed multipliers, who are Community Agribusiness Entrepreneurs (CAE) and researchers. The CAEs also known as Village Based-Advisor are farmers who were trained in the previous project (Otumiha) implemented by AENA. These CAEs were involved in the cassava cuttings and sweet potato vines collection, rapid multiplication and delivery of planting material to the smallholder farmers. The CAEs were establishing demonstrations to promote cassava and sweet potato varieties. From the fourth quarter of 2020 to the first quarter of 2022, the project reached a total of 12,684 beneficiaries (4,451 women).

The project identified and trained 353 multipliers (216 women) in Good Agricultural Practices (GAP) to multiplicate vegetative material (cassava cuttings and sweet potato vines). The project involved 20 Aggregators (15 women) to aggregate vegetative material (cassava cuttings and sweet potato vines) which was purchased and allocated to the multipliers. In the process of acquiring vegetative material for multiplication, 1,447 cuttings sellers (591 women) were involved.

During the project implementation, 397 ha were established (142 ha of sweet potato and 255 ha of cassava) with the following purpose: (i) 152 ha for multiplication (11 sweet potato vines and 73 ha of cassava cuttings); (ii) 303 ha for production (178 ha of cassava and 125 ha of sweet potato); (iii) 10 ha for maintenance (4 ha of cassava cuttings and 6 ha of sweet potato vines). The project facilitate for production of 589 MT of vegetative material (383.3 MT of cassava cuttings and 205.9 MT of sweet potato vines), which benefited 9,790 smallholder farmers (3,265 women).

The project promoted 216 extension and learning events (7 demonstrations of good practices, 9 Agricultural shows, 185 demonstrations plots and 15 field discussion sessions), which reached 706 participants (262 women). During the implementation period, there were several learned lessons; however, we highlight one that is: (i) the existence of a market for the commercialization of cassava (Angoche, Moma, Ilha de Mozambique and Nacala), facilitated the producers of Malema to adopt the cassava crop. Regarding to challenges, the lack of regular rains for the establishment of multiplication fields: as a project implementation strategy, the process of implanting the fields in places with water availability for irrigation of the fields, and lack of certified material for local multiplication: as an implementation strategy to overcome the problem of lack of material, the project acquired certified material in other districts in compliance with IIAM's plant health recommendations.

In this quarter, the project carried out the following activities:

2.1 Number of new out growers identified and recruited.

✓	**Target:** 250 Multipliers	**Achieved:** 353	(144%)

The project identified and trained 353 Multipliers (216 women) on GAP for the multiplication of vegetative material (cassava cuttings and sweet potato vines) in four districts namely: Malema, Monapo, Ribáuè and Meconta.

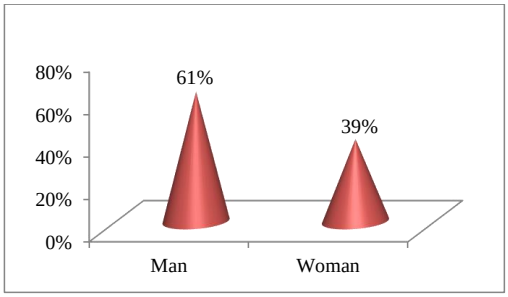

Figure 1. Percentage of Multipliers by gender.

The project involved the CAEs who were selected and trained by the Otumiha project as multipliers and they were responsible to establish fields of vegetative material and disseminate good practices to smallhoder farmers in their communities.

Table 1: Number of multipliers identified and engaged.

Province	District	Global Sex		Total
		Man	Woman	
Nampula	Malema	70	38	**108**
	Monapo	67	43	**110**
	Ribáuè	79	36	**115**
	Corrane-Meconta	0	20	**20**
Total		**216**	**137**	**353**

The involvement of CAEs in the multiplication of vegetative material constitutes a strategy that guarantees the assistance of the small farmers who benefit from the multiplied material. CAEs are trained and community-based agents, this will allow each farmer beneficiary of the improved material to have technical assistance during the establishment of their production field, ensuring the transmission of good agronomic practices from farmer to farmer in different communities where the CAEs meet. With this strategy, it is hoped to reach as many smallholder farmers as possible in the districts of Malema, Ribáuè, Meconta and Monapo, minimizing the poor access to new production technologies by small farmers.

2.2 Area (Ha) under cassava cuttings Production

Target: 150 Ha	**Achieved:** 397 Ha	(265%)

The project facilitated the establishment of 397 hectares (142 ha of sweet potato and 255 ha of cassava), with the following purpose: (i) 84 ha for multiplication (11 ha of sweet potato vines and 73 ha of cassava cuttings); (ii) 303 ha of production (178 ha of cassava and 125 ha of sweet potato); (iii) 10 ha for maintenance (4 ha of cassava cuttings and 6 ha of sweet potato).

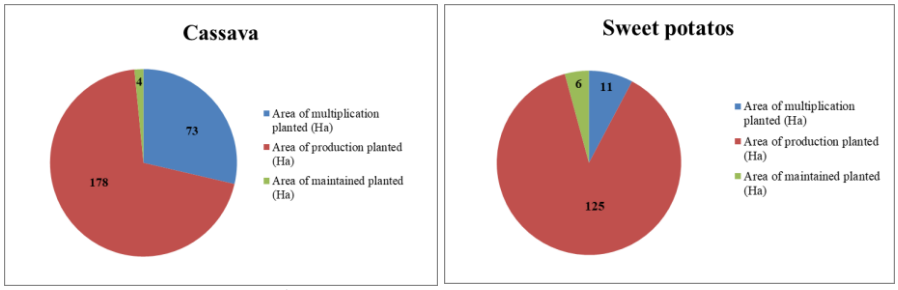

Figure 2. Number of hectares (multiplication, production and maintained planted)

In general, there was a greater loss of multiplied material (cassava cuttings and sweet potato vines), due to several factors such as lack of rain to establish production fields, lack of conditions for the conservation of the multiplied material and theft of multiplied material in conservation sites. Hence, for the small farmers who received the sweet potato vines produced in the multiplication fields, they continued with the multiplication in order to increase their quantity.

Table: 3. Number of hectares under material production and multiplication

Culture	Area of multiplication planted (Ha)	Area of production planted (Ha)	Area of maintained planted (Ha)	Total
Cassava	73	178	4	**255**
Sweet potatos	11	125	6	**142**
Total	**84**	**303**	**10**	**397**

The introduction of maintenance fields will contribute to increasing the availability and use of vegetative material (sweet potato vines and cassava cuttings of improved varieties), minimizing the problems of material losses that are recorded, due to the low conservation capacity. for the next campaign after harvest. With the material maintenance strategy, it is expected that the multiplication process of improved varieties can continue and that this material reaches a greater number of small farmers with a view to increasing production areas, which will result in increased production and productivity.

2.3 Quantity (MT) of improved seeds of focus crops produced by enterprises supported by AGRA

✓ **Target:** 483 MT	**Achieved:** 589	(121.9%)

The project supported the process of harvesting and distribution of the material to the smallholder farmers. Since the beginning of the process of establishing the multiplication and production fields, 589 MT of vegetative material was cultivated (383.3 MT of cassava cuttings and 205.9 MT of sweet potato vines), which benefited 9,790 small farmers (3,265 women).

Table 4. Quantity (MT) of improved seeds produced.

Province	Districts	Q1/2022		Total (MT)	Cumulative		Total (MT)
		Sweet pot.	Cassava		Sweet pot.	Cassava	
Nampula	Malema	41	16	57	74	16	90
	Ribáuè	43	37	80	66	139	205
	Monapo	42	41	83	67	217	284
	Meconta	9,8	10	19,8	0,2	11,3	12
Total		**135,8**	**104**	**239,8**	**205,9**	**383,3**	**589**

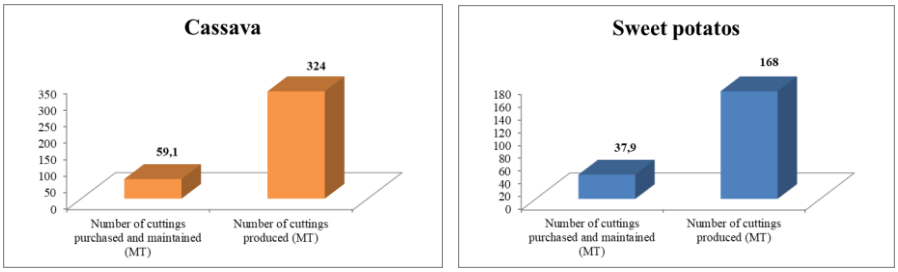

Figure 3. Quantity (MT) of improved seeds produced

The scarcity of quality material in the communities makes the small farmer resort to local varieties with low productivity and which can often be harmful to human health when consumed. With the introduction of plant material of improved varieties, the CAEs started the multiplication process, as a way of increasing the amount of material received. With the increase in demand for the improved material, the small farmers benefiting from the multiplied material also established their multiplication fields, in order to increase their production areas using improved varieties. The beneficiaries, in addition to increasing their production areas, also registered an increase in the productivity of cassava and sweet potato crops.

2.4 Quantity of seed distributed to beneficiaries

✓ **Target:** 483 MT	**Achieved:** 294	(61%)

The process of harvesting and measuring the yield of sweet potato and cassava crops has not yet started, and a survey was made of the vegetative material to be harvested, as well as the number of beneficiaries who will receive. However, this quarter the project facilitated the distribution of 14 MT of material (6 MT of sweet potato stems and 8 MT of cassava cuttings). In cumulative terms, 294 MT of material (238 MT of cassava cuttings and 56 MT of sweet-potato vines) were distributed to 3282 beneficiaries (901 women).

Table 5: Quantity of material distributed.

Province	Districts	Q1/2022		Total (MT)	Cumulative		Total (MT)
		Sweet pot.	Cassava		Sweet pot.	Cassava	
Nampula	Malema	2	0	**2**	24	0	24
	Ribáuè	1,8	3	**4,8**	13	60	73
	Monapo	2	3,7	**5,7**	19	176,7	196
	Meconta	0,2	1,3	**1,5**	0,2	1,3	2
Total		**6**	**8**	**14**	**56**	**238**	**294**

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With the increase in material improved in communities through multiplication, it is expected that there will be a significant increase in the yield of cassava and sweet potato crops, as a result of the access and use of productive varieties. It is also expected that a greater number of small farmers will be able to improve their income through the commercialization of cassava and sweet potato, as well as cassava cuttings and sweet potato branches, thus contributing to the improvement of the nutritional situation of families and the community in general, by the consumption of products of greater nutritional value.

2.5 Number of extension services events completed

✓ **Target:** 150 **Achieved:** 216 (144%)

In the reporting period (Q1, 2022) the project promoted 7 field events involving multipliers, AENA technicians, SDAE technicians and smallholder who are live close to the fields. In these 7 events, promothere was an increase in the cumulative data registered in this year of 2022, which became 216 events, with a total of 706 participants, 262 women and 444 men. Some promoted extension events are:

- Demonstration of good practices for the production of cassava and sweet potato;
- Harvesting and measuring yields of cassava and sweet potato crops;
- Training in good agronomic practices on root and tuber production;
- Promotion of field visits.

Table 6. Number of participants of extension services events completed.

Extension services events completed	Q1/2022	Cumulative	Number of participants		
			Man	Women	Total

Demonstrations	1	7	20	20	**40**
Agricultural shows	1	9	132	101	**233**
Demonstrations plots	3	185	277	126	**403**
Field visit	2	15	15	15	**30**
Total	**7**	**216**	**444**	**262**	**706**

Figure 1: Image on the left illustrating the monitoring visit and on the right a balance sheet meeting with the multipliers in the Ribáuè district.

2.6 Number of participants participating in AGRA supported extension services.

✓ **Target:** 10074	**Achieved:** 12684	(126%)

In this quarter, the project engaged 6060 beneficiaries (2122 women), where:

- 353 Multipliers (216 women);
- 20 Aggregators (15 women);
- 643 Participants (229 women) of the extension services events:
- 377 Beneficiaries (117 women) received Maize seed and Fertilizer by AGRA;
- 6060 Beneficiaries (3265 women) received cassava cuttings and sweet potato vines;
- 7 Beneficiaries (2 women) receiving seed by Bayer Company (Maize);
- 1447 Cuttings sellers (591 women);
- 47 new VBAs (16 women) were engaged.

In cumulative terms, the project engaged 12684 beneficiaries (4451 women).

Table 7: Total number of project beneficiaries.

Beneficiaries	Q4/2021	Cumulative

	Man	Women	Total	Women	Man	Total
Multipliers	0	0	**0**	216	137	**353**
Aggregators	0	0	**0**	15	5	**20**
Beneficiaries receiving seed by AGRA (Maize and Fertilizer)	0	0	**0**	117	260	**377**
Beneficiaries receiving seed (cassava & sweet-ptatoes cuttings)	3938	2122	**6060**	3265	6525	**9790**
VBAs	0	0	**0**	16	31	**47**
Beneficiaries receiving seed by Bayer Company (Maize)	0	0	**0**	2	5	**7**
Participants of the extension services events	0	0	**0**	229	414	**643**
Cuttings sellers	0	0	**0**	591	856	**1447**
Total	**3938**	**2122**	**6060**	**4451**	**8233**	**12684**

Note:

It should be noted that as the process of harvesting and measuring income has not yet started, of the 6060 new registered beneficiaries, only 777 people received the multiplied vegetative material, while the rest are waiting for harvest and produce measurement.

2.7 Leverages

In the extension, the leverages were:

- **Inputs from private sector for demo plots.**

During the project implementation period, 377 CAEs (117 women) were engaged through training and technical assistance during the establishment of demonstration fields (CDRs of two maize varieties: ZM523 and PRIS601).

Table 8. Benefits from private sector to the project beneficiaries in kind.

Province	Districts	Nr of Beneficiaries					Quantity					
		Q1/2022		Cumulative			Maize (kg)	Cost (USD/kg)	Fertil (kg)	Cost (USD/kg)	Total (kg)	Total (USD)
		Man	Women	Man	Women	Total						
Nampula	Malema	0	0	231	99	330	200	500	100	78	300	578
	Ribáuè	0	0	19	14	33	100	250	100	78	200	328
	Monapo	0	0	10	4	14	50	125	50	39	100	164
Total		**0**	**0**	**260**	**117**	**377**	**350**	**875**	**250**	**196**	**600**	**1071**

III. III. ACHIEVEMENTS

	Total cumulative	Achiv Q1	Total (cumulative to date)	Total project target	Achievement (%)
NRF: Number of new Out growers identified and recruited	353	0	353	250	141%
Sweet potato	216	0	216	150	144%
Cassava	137	0	137	100	137%
NRF: Quantity of seed purchased for multiplication	98.3	0	98.3	87	113%
Sweet potato	37.9	0	37.9	37	102%
Cassava	60.4	0	60.4	50	120.8%
NRF: Area (Ha) under seed Production	128	34	162	150	108%
Sweet potato	51	26	77	75	102,6%
Cassava	77	8	85	75	113%
NRF: 9. Quantity (MT) of improved seeds of focus crops produced by enterprises supported by AGRA	315	274	589	483	121.9%
Sweet potato	80	125,9	205,9	183	112,5%
Cassava	235	148,3	383,3	300	127,8%
NRF: Quantity of seed distributed to beneficiaries	280	14	294	483	60.9%
Sweet potato	50	6	56	183	30,6%
Cassava	230	8	238	300	79,3%
NRF: Number of beneficiaries receiving seed	2 505	777	3282	8 250	39,8%
Sweet potato	1 125	765	1890	3 750	50,4%
Cassava	1 380	12	1 380	4 500	30,9%
NRF: 17. Number of extension services events completed	209	7	216	559	38,6%
NRF: 18. Number of participants participating in AGRA supported extension services	6 624	6 060	12 684	10 074	125,9%
NRF: 73. Value (USD) of new public and private sector investment in the agriculture sector leveraged by AGRA implementation	-	1071	1071	-	-

IV. Challenges in carrying out the project activities – New Directions

The major challenge faced was:

1. Restricted access roads, due to the passage of the tropical depression, this situation affects the circulation of technicians to guarantee effective assistance to the beneficiaries: as an exit strategy, the project promotes planning based on meteorological information and the conditions of the hydrographic basins;
2. **Difficulties in adopting the cassava crop by farmers in Malema district:** as an exit strategy, some producers were identified to establish demonstration fields for the promoted cassava varieties;
3. Difficulties in preserving material produced in the multiplication fields (sweet potato vines and cassava cuttings): the strategy was to look for wet places to conserve the material;
4. **Lack of certified material for local multiplication:** as an implementation strategy to overcome the problem of lack of material, the project acquired certified material in other districts in compliance with IIAM's plant health recommendations.

V. Learned lessons

1. The existence of a market for the commercialization of cassava (Angoche, Moma, Ilha de Mozambique and Nacala), facilitated the producers of Malema to adopt the cassava crop;
2. The selection of appropriate varieties with desired agricultural characteristics is the top priority for seed production for any crop;
3. The observance of agro-ecological conditions in the process of establishing seed multiplication fields is essential for plant development;
4. Cassava and sweet potato crops are considered resilient crops. However, sweet-potato, due to its function of serving as a strategic food security and nutrition crop, is used as an alternative source for obtaining nutrients;
5. Malema district has potential in the cultivation of cereals and vegetables, most small producers prefer to produce vegetables instead of crops such as cassava and sweet potatoes. However, the material has been allocated in some regions with water scarcity and the practice of horticulture is difficult due to the lack of water for irrigation;
6. The availability and access of improved seed through rapid multiplication will contribute to the increase in sweet potato production areas, contributing to greater availability of nutrients for families.