



Feed the Future Mozambique Improved Seeds for Better Agriculture (SEMEAR) Agreement No: AID-BFS-IO-17-00005

FY2019 4th Year of Project Implementation

2nd Quarter Report: January - March 2019

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2nd Quarter Report for FY19: January – March 2019

i. Project information

Project Duration: 5 years

Starting Date: October 2015

Life of project funding: Total project budget: US\$13 M

Geographic Focus: Nampula province (Angoche, Malema, Meconta, Monapo, Ribaué, Rapale, Murrupula, and Mogovolas districts), Zambézia province (Gurué, Alto Molocué and Mocuba districts), Manica province (Barué, Macate, Manica, and Sussundenga districts) and Tete province (Angónia, Tsangano, and Macanga districts).

Project Objectives:

1. Increase the production and supply of breeder, pre-basic, basic, and certified seeds of common bean, cowpea, groundnut, pigeon pea, sesame, and soybean in the major FtF ZOI and strengthen the national seed systems
2. Scale-up and enhance the adoption of improved varieties and best management practices in the FtF ZOI using participatory approaches
3. Enhance national policy dialogue on seed and fertilizer supply

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iii. Acronyms and Abbreviations

APROSE	<i>Associação pra a Promoção do Sector de Sementes</i> (Associations for the Promotion of the Seed Sector)
CBSG	Community-Based Seed Grower
CGIAR	Consultative Group on International Agricultural Research
COPAZA	<i>Cooperativa de Produtores da Alta-Zambézia</i> (Farmers Cooperative for High Zambézia)
CIAT	<i>Centro Internacional de Agricultura Tropical</i> (International Center for Tropical Agriculture)
CBO	Community-based Organization
CZNdt	<i>Centro Zonal Nordeste</i> (Northeast Zonal Center)
CZNrt	<i>Centro Zonal Noroeste</i> (Northwest Zonal Center)
CZC	<i>Centro Zonal Centro</i> (Centre Zonal Center)
DINAS	Direcção Nacional de Agricultura e Sicultura (National Directorate for Agriculture and Forestry)
DPA	<i>Direcção Provincial de Agricultura e Segurança Alimentar</i> (Provincial Directorate for Agriculture and Food Security)
FAs	Farmers' Associations
FAO	Food and Agriculture Organization of the United Nations
FNDS	<i>Fundo Nacional de Desenvolvimento Sustentável</i> (National Fund for Sustainable Development)
FtF ZOI	Feed-the-Future Zone of Influence
FtF – InovA	Feed the Future Innovations for Agriculture Activity
FtF STP	Feed the Future Seed Trade project
ICRISAT	International Centre for Research in the Semi-Arid Tropics
IIAM	<i>Instituto de Investigação Agrária de Moçambique</i> (Mozambique Agriculture Research Institute)
IITA	International Institute of Tropical Agriculture
InovAgro	Innovation in Agribusiness (Swiss-funded project)
MINAG	<i>Ministério da Agricultura e Segurança Alimentar</i> (Ministry of Agriculture and Food Security)
MITADER	<i>Ministério da Terra e Desenvolvimento Rural</i> (Land and Rural Development Ministry)
OYE	<i>Opportunities for Young Entrepreneurs</i> (funded by the MasterCard Foundation)

PAN	<i>Posto Agronómico de Nampula</i> (Nampula Agronomic Post)
SBS	<i>Sociedade de Beneficiamento de Sementes</i> (Seed Beneficiary Society)
QDS	Quality Declared Seeds
SDAE	<i>Serviço Distrital de Actividades Económicas</i> (Districtal Economic Activities Service)
SNV	<i>Dutch Development Organization</i>
SUSTENTA	<i>Projecto de Gestão Integrada de Agricultura e Recursos Naturais</i> (Project for Integrated Management of Agriculture and Natural Resources)
RAMA – BC	Resilient Agriculture and Marketing Activity – Beira Corridor
RAMA – NC	Resilient Agriculture and Marketing Activity – Nacala Corridor
TNS	TechnoServe Inc.
USAID	United States Agency for International Development

iv. Contributors and Acknowledgements

Contributors

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We commit ourselves to continually pursuit the implementation of project activities aiming at creating changes and improving the agricultural sector in Mozambique.

Thank you very much!

Carlos Malita

Nampula, April 2019

v. Executive Summary

SEMEAR is being implemented with the goal to achieve increased adoption and use of improved technologies for seeds and crop management practices to improve yields, income and food security of smallholder farmers in the Feed the Future Zone of Influence in Nampula, Zambézia, Tete and Manica provinces. The project is on its fourth implementation year thus, more attention is put in developing, enhancing and strengthening of partnerships and collaboration to achieve set goals.

The major activities conducted by the project during the second quarter were planting early generation seed fields, establishing demonstration plots, capacity building of partners, organizing field days and other promotional activities. In overall, 16.6 ha of breeder/pre-basic and 149 ha of basic seed of the six crops being promoted were planted by the project teams. The project expects to harvest 132 tons of early generation seeds from the 165 ha planted. This quantity of seed is estimated to plant 3,580 ha during the upcoming 2019/2020 cropping season.

SEMEAR supported partners to establish certified seed fields through the sale of basic seeds, supply of limited quantities of seeds for promotional and collaborative activities, technical advice and facilitation of seed field inspection by the Seed Inspection Unit. SEMEAR supplied 30.85 tons of basic seed to partners and this quantity of seeds is expected to plant 786.6 ha of land during the current season (2018/2019). This area is estimated to produce 700 tons of certified seeds which can plant 17,102 ha for grain during the next season (2019/2020). The total area planted by partners for certified seed with the seeds supplied by SEMEAR and seeds from their own seed sources, purchases from seed companies, agro-dealers etc. is 1,868 ha. It is expected that 1,846 tons of certified seed will be harvested from this area for planting an estimated 68,294 ha of grains during the next season. Ultimately, 34,531 grain producers are expected to benefit from the certified seeds that will be produced this season. These activities will contribute to improve accessibility of certified seeds by smallholder farmers for planting during the 2019/2020 growing season.

On scaling up and enhancing adoption of improved varieties and management practices, SEMEAR used participatory approaches through lead farmer model to establish 1,056 demonstration plots on 47.2 ha of land in collaboration with partners. On average, 48% of the demos were led by female farmers, although preferences to hosting common bean and cowpea demonstrations were higher among female farmers because these are food security crops and of major importance to women. Training sessions, field days and field visits were organized to improve the knowledge and skills of seed producers, farmers and other partners, to create awareness about improved seeds and crop production practices. Six hundred and eight-

seven people with 52% female participation were trained whereas, 665 people attended field days. Female targeted activities were conducted to increase women participation in project activities e.g., scheduling training sessions at times suitable for women, organizing more nutrition training sessions, supporting female farmers to host demonstrations by providing limited quantities of seeds and inputs such as fertilizer and inoculant. Policy makers at district, provincial and national levels including district administrators, provincial directors of agriculture, Governors and members of council of ministers attended some of the field days organized by the project. In addition, the project used as many communications means as possible to reach out varying audiences in the FtF ZOI where the project is being implemented. The use of radio programs showed significant impacts since farmers participate live in the “aired” radio programs interacting with the project technicians who respond to some of the farmers issues timely. The project website has also been an important and useful means of spreading out information regarding improved seeds and management practices.

Through seed production and distribution activities, partnerships, promotion and awareness creation activities, SEMEAR reached 20,045 beneficiary households during the second quarter; 19% of the households are new beneficiaries, whereas the rest are continuing beneficiaries. Furthermore, the project recorded 20,043 individuals who applied improved technology on their farms of which 8,529 individuals used improved varieties and 21,613 applied improved crop production practices.

The current reporting period has been negatively impacted with the unfortunate landfall of the Cyclone IDAI on 15th March 2019, which caused damages to infrastructures, seed multiplication and demonstration fields of partners and these of the project in Angónia, Manica and Tete provinces.

Data on other project indicators captured during the reporting period are discussed in the report.

Project Background

Smallholder agricultural production system in Mozambique is characterized by low productivity due to limited access to good quality seeds of improved and high-yielding varieties, low inputs use and poor crop management practices. The problem has been exacerbated by increasing weather risks that pose major threats to livelihoods and food security of millions of people. Changes in the rainfall patterns, more frequent droughts and intense floods and other weather phenomena such as the recent landfall of Cyclone IDAI across Mozambique, Zimbabwe and Malawi are having negative impacts on agricultural production. Against the backdrop of the many challenges facing smallholder farmers in the FtF ZOI in Mozambique, the SEMEAR project is making efforts to increase access to seeds of high-yielding resilient varieties and enhance dissemination of sustainable crop management options including appropriate planting time, planting density, integrated pest management and cropping systems to improve resilience to climate change and increase crop yields. The approach is through partnerships to accelerate adoption in the FtF ZOI in Manica, Nampula, Tete, and Zambézia provinces. SEMEAR activities focus on three main objectives: 1) increase the production and supply of breeder, pre-basic, basic, and certified seeds of common bean, cowpea, groundnut, pigeon pea, sesame, and soybean in the major FtF ZOI and strengthen the national seed systems; 2) scale-up and enhance the adoption of improved varieties and best management practices in the FtF ZOI using participatory approaches; and 3) enhance national policy dialogue on seeds and fertilizer supply.

SEMEAR is implemented by four consortium partners: IITA, *Instituto de Investigação Agrária de Moçambique* (IIAM), The International Center for Tropical Agriculture (CIAT), and The International Crops Research Institute for the Semi-Arid Tropics (ICRISAT). The project focuses on the six crops that are important for the livelihoods of smallholder farmers in terms of food security and income generation. IITA leads the consortium and each partner focuses on crops in which it has experience and a comparative advantage. IITA implements activities on cowpea, sesame, and soybean; CIAT focuses on common bean; ICRISAT works on groundnut and pigeon pea; and IIAM works on all six crops in specific agro-ecologies with high production potential. SEMEAR aims to increase accessibility for improved seeds from a business perspective, create awareness of and promote improved varieties, strengthen the capacity of farmers and stakeholders in improved crop production practices and seed business management, and provide policy advocacy to enable the seed and input sectors to grow. Partnership is key to achieving the project objectives; hence SEMEAR has established strong partnerships with relevant organizations including private sector seed and input companies and other for-profit companies, public institutions such as the Extension Services and National Directorates of the Ministry of

Agriculture and Food Security, technology transfer centers and higher educational institutions, non-governmental organizations (NGOs), farmers' associations, community-based organizations, and other donor-funded projects to effectively reach more beneficiary households. The consortium partners are responsible for the production and supply of adequate quantities of breeder, pre-basic, and basic seeds to facilitate the production of certified or QDS by seed companies, community-based seed producers, and other seed growers. SEMEAR places emphasis on motivating and encouraging both male and female farmers to buy certified seeds and inputs, identifying and training farmers who have the necessary resources and skills to engage in profitable seed production enterprises, facilitating seed field inspection and certification and linking seed producers to seed buyers, among many others. SEMEAR is in the fourth year of implementation and this report provides progress on project activities during the second quarter of FY2019 from January to March 2019.

1. Project Performance during the second quarter (January–March 2019)

The main activities conducted during the second quarter of FY19 include planting various classes of early generation seed which started from the first quarter and those for cowpea and sesame which began in the second quarter, continue establishing farmer participatory demonstrations plots, supervising day-to-day management of demonstrations fields, monitoring progress on crop establishment and development, weed and pest management, data collection from partners and beneficiaries, capacity building and organizing farmer field days. Details of activities conducted during the second quarter of FY19 are presented by objective in the sections below. On 15 and 16 March 2019, Cyclone Idai hit Sofala and Manica provinces and also had devastating effects on parts of Tete and Zambezia provinces. The strong winds and heavy rains damaged some of our early generation seed (EGS) and details of the destruction are provided in various sections of the report below.

Objective 1: Increase the production and supply of breeder, pre-basic, basic, and certified seeds in the major FtF ZOI and strengthen the national seed systems

2.1.1 Progress on breeders/pre-basic and basic seed production

During the second quarter, SEMEAR reviewed its EGS production over the last three years and agreed with USAID to adjust the targets for crops which have consistently not been able to meet their targets (i.e., common bean, groundnuts and pigeon pea) due to various reasons. For example, for common bean, the assumption was that EGS production would be conducted twice in a season with irrigation at IIAM stations but unfortunately, the facilities could not support this assumption. Hence, only one production

could be implemented; thus, the need to reduce the targets. However, the project will meet and consider realistic target revision.

Activities on EGS production for all six crops continued from the first quarter especially for soybean, groundnuts and pigeon pea; whereas planting common bean, cowpea and sesame started and ended in the second quarter. Other activities conducted after emergence and crop establishment include weeding, scouting for pests and diseases and chemical spraying where necessary.

Common bean

During the second quarter, 44 ha of early generation seed production fields were established: 3 ha of breeders' seed, 7 ha of pre-basic seed and 34 ha of basic seed. This figure adds to the area planted in the first quarter bringing the total area under common bean EGS to 54 ha (Table 1). All the EGS production was conducted in Angonia district. The varieties planted included the red mottled [CAL 143 (11 ha) and NUA 45 (23 ha)], red-speckled / sugar [Sugar 131 (9.5 ha) and VTTT923/10-3 (8.5 ha)] red kidney [AFR 703 (2 ha)].



Fig 1: Common bean basic seed production at Ulongue soon after planting

In the second quarter, the weather was unfavorable for common bean production. At planting the conditions were fair and emergence of the crop was fair (Fig 1). However, the month of January received rainfall in excess of 500 mm which coincided with flowering resulting in extreme defoliation and flower drop (Figure 2). Harvesting of the early planted crop started by end of second quarter and 10 ha of NUA45 were harvested by the end of March 2019. While the variety is generally early maturing, it is worth noting that the weather extremes highlighted above further hastened maturity as the crop was defoliated.



Fig 2: Common bean basic seed production at Ulongue after extensive flower drop due to excessively wet weather.

Furthermore, excessive rains during the month of March also caused rotting of pods since selective pod harvesting was not possible and this further reduced the expected yield. The harvested seed was threshed and lightly winnowed and will be graded when it is adequately dry.

Quality tests will be conducted and the seed will be made available to certified seed producers. The project was expecting 43.2 tons of seed to be harvested that can plant 617 ha; however, the full effects of excessive rainfall on yield is yet to be determined.

Table 1: SEMEAR FY19 early generation seed targets and area planted by the end of the second quarter (January-March 2019)

Crop	Breeder/pre-basic (ha)		Basic (ha)	
	Target	Planted	Target	Planted
Soybean	0.60	3	17.5	36
Common bean	13.5	10	85.0	44
Groundnut	5.1	3	46.3	40
Pigeon pea	0.05	0.2	4.3	7
Cowpea	0.30	0.4	10.0	15
Sesame	0.012	0.01	2.0	7
Total	19.56	16.61	165.1	149

Cowpea

Though land preparation for cowpea was conducted in the first quarter, planting occurred during the second quarter. Production of cowpea pre-basic and basic seeds is being conducted in Manica, Nampula and Zambezia provinces. About 0.4 ha cowpea pre-basic seed and 15 ha of basic seed were planted by the end of the second quarter (Table 1). The main field operations undertaken during this quarter were maintaining field sanitation through weeding, thinning, and pest and disease control. It is notable that cowpea fields require more stringent weeds, pest and disease control in order to obtain the expected yields. When chemicals treatments were necessary, the Environmental Monitoring and Mitigation Plan (EMMP) was strictly adhered to; including regular training, protection and disposal guidelines. Five cowpea varieties IT-16, IT-18, IT-1263, IT97K-390-2 and IT04K-573-1-1 were planted and promoted within the FTF ZOI. Although planting in most fields was between early January and end of February, most of the cowpea such as IT-16 planted earlier had matured and is being harvested by reporting time. Since harvesting has just commenced, exact yield figures will be given in the next quarter report. We expect to

complete harvesting of cowpea EGS fields by mid-May 2019 and estimate getting 12.3 tons of seed against a target of 8 tons which can plant 492 ha during the next cropping season

Groundnut and pigeon pea

During the second quarter, 5 ha of groundnut breeders' seed were planted adding to the 3 ha planted in the first quarter giving a total of 8 ha of five groundnut varieties of Mamane, CG7, Nametil, ICGV-SM 99568 and JL24 at Ulongue and Ntengo Umodzi. For pigeon pea, no additional planting occurred in the second quarter since the target was achieved when 0.2 ha was planted in the first quarter. This area included 0.1 ha of ICEAP 00557 variety at Ntengo Umodzi and 0.1 ha of ICEAP 00554 variety at Mutuali in Nampula Province. Twenty-three and 17 ha of groundnut basic seed were planted in the first and second quarters, respectively, totaling 40 ha (Table 1). For pigeon pea basic seed, 3 ha were planted in the first quarter and 4 ha were added in the second quarter making a total of 7 ha (Table 1). In total, 34.4 tons of groundnut and 5.76 tons of pigeon pea EGS are expected against 41 and 4.3 tons, respectively, and would plant 430 and 576 ha of fields, respectively during the next season.

Sesame

Planting of EGS of sesame began and ended in the second quarter. A total of 5 ha of sesame basic seed comprising of three popular sesame varieties: Rama, Linde and Nicaragua were planted in Namialo, Muriaze and Murrupula in Nampula province and 2 ha basic seed were also planted at Sussundenga in Manica province (Table 1). About 100 m² sesame pre-basic seed field was also planted in Namialo. Major activities conducted after emergence including weeding and pest control using chemical spray in accordance with the EMMP plan. Cyclone Idai destroyed the 2 ha sesame field in Manica province but despite this, we expect to meet the sesame production target. Harvesting is expected to begin around the beginning of May and we estimated to have about 3.5 tons of seed that can plant 1166 ha.

Soybean

The soybean EGS fields were planted in the first quarter of FY19 and most of the fields are located in Tete and Zambezia provinces with small areas in Manica and Nampula provinces. Varieties being multiplied are Sana, Wamini, Wima, Zamboane and TGx 1835-10E. In total, 3 ha and 36 ha of pre-basic and basic soybean seeds, respectively were established (Table 1). Soybean planted for basic seed production include 5.5 ha of Wamini and 8 ha of 10E (early maturing); 4.5 ha of Sana (medium maturing); 9.5 ha of Zamboane and 4.5 ha of Wima (late maturing). During the second quarter, the major activities on soybean were weeding, roguing of off-types, ridging, scouting for diseases and pests, and chemicals spraying to control soybean rust and bacterial blight diseases. Harvesting of the soybean fields are expected to begin

by the second week of April 2019 and it is estimated that 58.5 tons of seeds would be harvested that can cover 975 ha area for certified seed in the next cropping season.

In summary, all EGS fields were planted by the end of the second quarter. Cowpea and sesame were the last crops to be planted. For FY19 cropping season, 16.6 ha of breeder/pre-basic seeds fields were established against a target of 19.56 ha (Table 1), whereas a total of 149 ha of basic seed fields were planted against a target of 165.1 ha. This implies that, across the six crops, the area planted for breeder and pre-basic seed was 15% lower than target; whereas the basic seed target was 10 % below the target to ensure the seed target would be met in case of any adverse climatic effects and also to meet additional seed demand from seed producers. It is expected that the project would harvest 158 tons of early generation seeds from the 149 ha planted. The estimated quantity of EGS expected to be harvested will be able to plant 4,256 ha during the 2019/2020 cropping season.

2.1.2. Progress on certified seed production

The project faced significant challenges with meeting the certified seed targets which are not under the direct control of SEMEAR for all the crops except soybean. Though the certified seed production figures over the last three years increased, the specific targets were not met. It was clear that the project overestimated the capacity and motivation of SEMEAR partners to produce the targeted quantities of certified seeds apart from soybean. Through consultations during the second quarter, the project team and USAID decided to adjust the certified seed targets for FY2019 and FY2020 as the original targets are not realistic. Based on the performance in the last three years, the targets for the crops will be adjusted during a consortium meeting.

SEMEAR certified seed producing partners completed planting by the end of the second quarter. In addition to the basic seed supplied to partners, they were technically backstopped on planting, scouting, weed, pests and disease control and roguing through training and field visits. Backstopping activities will continue through harvesting, post-harvest handling and marketing of the produce.

Across the six crops, data on soybean certified seeds production is the most impressive in the current season. Over 1120 ha of soybean certified seed multiplication fields were established within the FtF ZOI by the second quarter based on the information collected through the efforts of SEMEAR project technicians (Table 2). This figure is 93% higher than the target area and indicates the growing interest in soybean seed production due to the high demand and profitability. Soybean certified seed production is done by individual farmers, seed companies, farmer associations and NGOs such as IDE and Technoserve.

Some partners multiplied H7 and H17, which are soybean varieties released in Mozambique and also Seed Co, Zimbabwe varieties in addition to EGS varieties SEMEAR produces. Like the soybean EGS, some certified soybean seeds fields of partners were near maturity stage by the end of the second quarter. SEMEAR supported more than 60 individual community-based seed growers, over 15 farmers' associations and about 10 seed companies to establish soybean certified seed and quality declared seed (QDS) fields. The project is presently working with the Seed Inspection Unit (SIU) on the inspection of the seed fields. SEMEAR arranged the inspection of about 72 ha of soybean fields of partners in February and March in Angonia, Tsangano and Gurué districts. Most of the soybean fields as well as those of the other crops will be inspected in the third quarter.

Cowpea and sesame certified seed production is on-going on several farmers and seed companies' fields on over 265 ha and 323 ha, respectively (Table 2). Information on cowpea area collected so far is 52% of the target, whereas that for sesame is 97% target. Seed production information is still being collected so the confirmed areas will be reported in the next quarter report. Most of the fields are located in Nampula province in the districts such as Malema, Meconta, Monapo and Ribbaue where the presence of Oruwera Seed Lda is outstanding in the promotion of legume and sesame seeds. Oruwera has maintained the production of two other cowpea varieties INIA 36 and INIA 73 on 4.5 ha in Ribbaue in Nampula province. Morias Comercial, a seed company, Wiwanana Orera, Watana and Acamir farmers' associations and individual seed growers are the main partners in the production of cowpea and sesame certified seed and QDS. As a way of capacity building, IITA provided Oruwera 10 kg of cowpea pre-basic seed of IT-16, IT-18 and IT-1263 to bulk for their future activities. The project provided technical support to partners in the areas of planting, weed, pest and disease control, roguing, seed inspection and training. The sesame varieties planted are mostly Linde, Rama and Nicaragua. SEMEAR worked with SIU to inspect 58 ha of cowpea and sesame in March 2019 and will continue with the inspection in the third quarter.

For common bean, SEMEAR partnered with a number of private seed companies, NGOs and individual farmers to produce certified seed. These partners such as Phoenix Seeds, SNV, Agricon, IDE and Dreamers' Group purchased in total, 8.5 tons of common bean basic seed from SEMEAR. In addition, individual farmers were engaged to produce certified seed as well. Thus, at least 121 ha of certified seed or QDS have been planted which is 24% of the target (Table 2). As with the other crops, the project provided technical support to partners on agronomy and other important production practices.

Most of the certified seeds of groundnut and pigeon pea were planted by individual farmers on their own fields but under the umbrella of farmers' associations. Some of the communities where certified seed or

QDS are being produced include Zidana, Ndudndu, Chiphole and Chiritse in Angónia district and Katete, Chiologaga, Kafuwa, Chincumba and Kachere in Macanga district. By the end of the quarter, 60 ha of groundnut certified seed fields were recorded across Nampula, Tete and Zambezia provinces representing 14% of the target (Table 2). More data will be collected in the next quarter. For pigeon pea, 35 ha of certified seed have been planted by Phoenix Seeds Ltd which constitutes 8.5% of the target (Table 2). All the producers were supported by the project team to apply good cultural practices including appropriate plant population and use of double row planting for groundnut in cases where planting is done on ridges.

Overall, the information gathered so far indicates that a total of 1,868 ha of certified seed fields have been planted by partners with support from the project across the six crops by the end of the second quarter. This area is about 32% below target and it is estimated that this area will produce 1,846 tons of certified seed at the end of the growing season. However, the estimated yield figure would likely decrease because of the impact of Cyclone IDAI which made landfall on 15 March causing death, injuries, destruction and damages along its path. For example, in Manica, SEMEAR lost 3 ha of common bean basic seed field which was washed away in flood waters and in Angonia, the incessant rains caused severe flower-drop which would likely reduce potential yields from the estimated 65 t (from 54 ha at 1.2 t/ha) to less than 10 t. Harvesting is on-going, so the final harvest figure is yet to be determined.

Table 2. Certified seeds planted by partners collaborating with SEMEAR within the FtF ZOI by the end of the second quarter of FY19 and the estimated yield.

Crop	Target (ha)	Planted (ha)	Estimated yield (tons)
Soybean	580	1120	1344
Cowpea	512	265	212
Sesame	333	323	162
Common bean	500	121	52
Groundnut	417	60	48
Pigeon pea	412	35	28
Total	2,754	1,868	1,846

Impact of Cyclone IDAI on seed production and infrastructure of partners and SEMEAR's response to recovery efforts

Unfortunately, seed multiplication fields and infrastructure of some partners in Manica, Tete and Zambézia were severely damaged or destroyed by Cyclone Idai which made landfall with strong winds and heavy rainfall on 15 March 2019. For example:

- Phoenix Seed Ltd lost 120 ha of OPV maize seed crop which was near harvest maturity. The plants lodged to the ground and cobs were soaked with water stimulating sprouting and decay. Several levels of damages also occurred to farm feeder roads, water pumps, irrigation pipes and storage sheds
- Klein Karoo Seeds had damages to the roof of its seed storage containers in Chimoio, lost 15 ha of pigeon pea seed field in Vanduzi and about 30 ha seed maize OPV was also lost due to excessive lodging and partly washed away by flood water
- Most SEMEAR demo plots with partners in Gondola, Macate, Sussundenga, Manica and Vanduzi in Manica province were affected by flood waters causing excessive lodging and destruction leading to cancellation of planned field days.

SEMEAR supported Cyclone Idai disaster recovery efforts by working closely with its partners to assess the level of damage and destruction to seed and grain production activities. The project contacted seed company partners for information on seed stock available for immediate supply to tender placed by FAO and other agencies dealing with disaster response. The information collected by SEMEAR was transmitted to the relevant agencies for follow up. For example, Phoenix seeds sold 116 tons of seeds: 42 tons of OPV maize; 22 tons of hybrid maize; 27 tons of common beans; 17.4 tons of cowpea; 4.3 tons of pigeon pea and 3.3 tons of sorghum to the disaster response team. Another partner, Companhia do Zembe responded to the tender supplying 120 tons of maize seed. Other partners including Oruwera Seed Lda, Agriserve, Semente Nzara Yaperera and Agro-Sikadzakoka also had various quantities of maize, cowpea, common bean, pigeon pea and groundnut seeds to respond to the orders from the emergency disaster relief efforts. SEMEAR also offered to donate 6 tons of cowpea, 10 tons of common bean and 1 ton of sesame seeds to affected farmers for replanting if necessary or for planting next season. These quantities of cowpea, common bean and sesame seeds can plant 240, 143 and 330 ha, respectively. Partners with irrigation facilities are also gearing up to conduct off-season seed multiplication to respond to the likely increase in seed demand next season.

2.1.3. Seed Distribution and Sales

Seeds are distributed starting in October for planting in November, December and January for the crops which are rainfed by almost all seed growers, contrary to few seed companies like Phoenix Seeds Ltd, Companhia do Zembe and a few community seed growers who possess irrigation facilities, they tend to make seed orders for planting after December. Following this trend, in the Second Quarter of FY19, SEMEAR supplied an extra 3.85 tons of basic seeds with most of it being basic seed of common beans, cowpeas and sesame that are also planted between January and March depending on the rain pattern in a specific year. A total of 30.85 tons of basic seeds (table 4) have been supplied to partners for certified seed multiplication in the current season. Soybeans continue to account for more than 50% of the seeds supplied to partners what is in line with the increasing demand of the crop. Another important trend in the current season is the increased demand for common bean mostly the variety NUA45 that is required in most of the food security tenders by non-Governmental Organization like FAO what triggered the quantities supplied of the crop and yet the project is receiving requests for common bean while this report was being developed. The revenues from seed sales will be reported in the next report when all payments and accounts are reconciled. Some quantities of seeds were used for the establishment of demonstration plots and other awareness creation activities, contribution to district and provincial government programs, as well as contribution to partnerships activities.

Table 3: Basic seed supplied to partners for certified seed production during the 2018/2019 growing season.

Crop	Quantity (tons)	Expected coverage (ha)	Partner
Soybean	17.94	411	Solidaridad, Phoenix Seeds, Companhia do Zembe, Sementes Nzara Yopera, Matuel Comercial, DPASA Nampula, SBS/COPAZA, Agri-Resources Multiconsultant Lda
Common bean	9.54	191	Matuel Comercial, Sementes Nzara Yopera, Investrago, iDe Moçambique, DPASA Sofala, SNV Lichinga, Phoenix Seeds, Solidaridad, SUSTENTA
Groundnut	0.90	15	INVXT, DPASA Nampula
Pigeon pea	0.38	34	Phoenix Seeds, DPASA Sofala
Cowpea	1.99	79.6	DPASA Sofala, DPASA Nampula, Seed growers Monapo, SUSTENTA
Sesame	0.14	46	SNV Lichinga, Matuel Comercial, Agri-source, DPASA Nampula, seed growers in Monapo, SUSTENTA
Total	30.85	786.6	

2.1.4. Seed Enterprise Development

SEMEAR continues to support small seed multiplication businesses in the farming communities within the FtF ZOI. Seed multiplication activities are implemented using a model that comprises of: (i) direct engagement/partnership with community-based stakeholders (associations and individual farmers) and private seed companies that receive basic seeds from SEMEEAR, and marketing them through a network of agro-dealers and retailers in the communities. The participation of community-based farmers in certified seed multiplication is also expected to open a new income opportunity which guarantees them premium prices and market access; (ii) capacity building and on-going extension support for seed producers to improve their technical, managerial and organizational competencies in various aspects of production and marketing. These would lead to increased productivity and profitability which can provide the necessary financial resources to enable them to finance future operations such as hiring tractor for land preparation, hiring extra labor and purchasing inputs.

The project is also in constant contacts with SDAEs to identify and develop local seed business initiatives leveraging from support of other projects operating in these districts. During the reporting period, a total of 9 seed growers have been engaged in line with this approach in Ribaué (3), Alto Molocué (4), Mocuba (2) who will produce approximately 10 tons certified seeds of sesame, cowpea and common beans, making more seeds available to farmers in these locations.

During the second quarter, SEMEAR trained individual farmers and farmers' associations in the farming communities in seed production, marketing and awareness creation activities such as establishing demonstration plots and seed multiplication. During this period, SEMEAR continued to sell basic seeds at subsidized prices to seed producers including seed companies, farmers' associations, individual community seed growers, and agro-dealers to support certified seed production. The project also continued to work with the Seed Inspection Unit to facilitate field inspection of community seed producers during the second quarter and more inspections will be conducted in the third quarters.

2.2. Component 2: Promote and scale-up the adoption of best crop management practices in the FtF ZOI using participatory approaches

2.2.1. On-farm demonstrations

Soybean, cowpea and sesame:

During the second quarter, the project in partnerships with farmers associations, seed companies, agro-dealers, the Technology Transfer Centers and the Extension Service (SDAE) and other donor-funded programs across the FtF ZOI continued to establish demonstration plots to create awareness. The

demonstration plots showcase available variety and technology options for better legume seed and grain production in the farming communities. Seed producers also use demos as marketing tools to create seed demand in the communities and decide on the varieties to grow. Many agro-ecology based cropping systems of numerous value chains ranging from the field to marketing are demonstrated to empower farmers with knowledge and skills on better production practices. Several technologies that include improved varieties of all six crops and improved crop production practices consisting of better agronomy such as best planting time, row spacing, planting density, use of *Bradyrhizobium* inoculant and P fertilization, double up legumes, cropping systems, weed control, pest and disease control, and rouging were promoted.

By the end of the second quarter, SEMEAR successfully established and monitored 236 on-farm soybean demonstration plots on 13.9 ha across Zambezia, Tete and Nampula provinces (Table 4). The number of demo plots is 18% higher than the target. Eighty-six demo plots constituting 37% were hosted by female farmers and the proportion is similar to that recorded last season. These demonstration fields are focal points of field days and training activities to maximize impact since the experiences and skills of fellow farmers are discussed during these events.

For cowpea, 185 demonstration plots were established during the second quarter in Manica, Nampula and Zambezia provinces on 20.9 ha (Table 4). Out of this number, 39% was hosted by female farmers. The focus of the cowpea demonstrations is on improved varieties, timely planting, use of inoculants, insect, pest and disease control. During this season, barely any field was infested with Alectra since the farmers pulled the weed before it flowered last season to decrease the seed bank in the soil and rotation was encouraged across all sites.

Sesame production technology and varieties were demonstrated this season on 161 fields (Table 4). There has been a notable increase in the number of female farmers who hosted sesame demonstration fields compared to the previous seasons. There were 89 female farmers who hosted sesame demonstration fields representing 55% of the demos. The increase could be attributed to the inclusion of sesame in preparation of different pastry foods and the growing popularity of sesame as an alternative crop to maize and other crops. Some of the technologies promoted were varieties suitability evaluation and best management practices which included appropriate planting time, pest control and row spacing.

Efforts to create awareness on improved bean varieties and best complementary management practices continued in the second quarter of FY19. Between January and March 2019, 43 new variety and associated

management practice demonstration plots were established in addition to the 81 that were established in the first quarter making a total of 124 on 4.96 ha area (Table 4). These demonstration plots were led by 63 female farmers (51%) and 61 male farmers in Tete, Manica and Zambezia provinces. A typical demonstration kit for each site included 1kg of seed of each of the four improved bean varieties and 1kg of basal fertilizer (23% N₂, 21% P₂O₅, 0% K₂ + 4% S). The pack was enough to cover a plot 10 m x 10 m for each variety. At each site the four improved bean varieties promoted were one sugar type (Sugar 131), two red-mottled (CAL 143 and NUA 45) and one black type (A222). The recommended spacing is 50 cm between rows and 10 cm between plants within the rows. For comparison, the lead farmers planted a variety from their own sources using improved management practices.

At the end of first quarter, the project supported iDE to conduct groundnut cropping systems demonstrations of around 70 demos and additional 130 demos were established in the second quarter. This brought number to 200 on the total area to 1.87 ha (Table 4). For pigeon pea, all demonstrations were planted during the second quarter. A total of 150 demos were established and these covered an area of 1.48 ha (Table 3). For the groundnut demos, 60% of the host farmers were females, whereas 53% of the pigeon pea demos were hosted by females.

Across crops and locations, 1056 demonstration plots were established on 47.2 ha of land by the end of the second quarter in collaboration with partners (Table 4). On average, 48% of the plots were managed or led by female farmers which is 8% higher than that for last season around the same time due to improvements in women participation in groundnut and pigeon pea demos.

Table 4 Demonstration plots established in the FtF ZOI during the First Quarter of FY18

Crop*	Male Demos	Females Demos	Total No.	Total Area (ha)
Soybean	150	86	236	13.9
Common bean	61	63	124	4.96
Groundnut	80	120	200	1.87
Pigeon pea	50	80	150	1.48
Cowpea	113	72	185	20.7
Sesame	72	89	161	4.3
Total	526	510	1056	47.2

2.2.2. Training and scaling up adoption

In the second quarter, several training sessions on seed production and general crop production practices were conducted for farmers, technicians, seed companies and research partners. Various subjects on all the six crops were covered and included agronomic practices for seed production, calculation of production cost, good legume management practices in the field, inoculant application, variety selection, input use and various themes on establishing demonstration plots. The training was conducted in several districts within the FTF ZOI and a total of 687 individuals were trained (Table 5). On average, 52% of the training participants were females compared with 41% during the same quarter last season indicating SEMEAR is making progress in encouraging women participation in project activities.

Student Training: Apart from farmers' training, SEMEAR in partnerships with the local universities is training 13 final year students (7 females) on six months internship program. These students are stationed across SEMEAR activity sites in Nampula, Tete and Zambezia provinces. They are engaged on activities such as establishing demonstration plots, farmers training, field days, data collection for SEMEAR indicators and other dissemination campaigns. The students have also selected activities of interest to them to use for their dissertations.

Table 5. Training sessions conducted across crops during the second quarter of FY19.

Province	Male	Females	Total No.
Manica	11	21	32
Nampula	24	32	56
Tete	48	61	109
Zambezia	244	246	490
Total	327	360	687

2.2.3. Field days, exchange visits, and meetings

Several field days and exchanges were organized across SEMEAR project districts in collaboration with partners during the second quarter. This quarter is the main period to showcase the technologies the project is promoting to improve productivity among smallholder farmers. The field days focused on farmers around demonstration plots and seed multiplication fields; however, policy makers at the district, provincial and national levels also participated in some of the field days and visits. For example, the

Governor of Nampula province attended a field day organized in Murrupula and highlighted the need for various partners producing seed to ensure that the quality is good and easily availability in the market in order to engage, empower and encourage farmers to use improved seed that would increase yield and improve their livelihoods. The Provincial Director of Agriculture for Zambezia visited our field at Namarripi and seeds out growers around the same location in Ewarelo, Magige and Namiepe. The IITA Deputy Director General for Research also visited SEMEAR activities in Angonia and emphasized the need to integrate climate smart options with the introduction of new varieties and management practices that are resilient to climate change. In Manica, IIAM organized a field day at Sussundenga Research Station on 14 March, a day before cyclone Idai made landfall which brought together SEMEAR partners to showcase pre-basic, basic and certified seed production and other soil fertility technologies. Some seed companies such as Companhia de Zembe, Pannar, Emília Comercial, farmers and students also attended the field day. Because of the devastating effect of Cyclone Idai, planned field days in Manica during the later part of March were not possible. In addition, SEMEAR distributed over 2,500 flyers/leaflets and pamphlets that contained information on improved legume production technologies of SEMEAR crops to create demand and awareness. Also, several oral presentations on SEMEAR technologies and varieties were delivered to groups from other organizations that collaborate with IITA in different locations. In general, 665 individuals participated in the field days with 37% females compared with the 34% female participation during the same period last year.

Table 6. Information on field days conducted during the second quarter of FY19 across crops and the four provinces within FtF ZOI.

District	No. Male	No. Female	Total No.
Manica	50	13	63
Nampula	168	52	220
Tete	48	37	85
Zambezia	155	142	297
Total	421	244	665

2.2.4. Gender Issues in SEMEAR Implementation

SEMEAR continues with its efforts to increase female participation in project activities by targeting women to host demo plots, for seed multiplication and for specific training sessions. During the second quarter, the project organized targeted training for women's groups and associations such as NOSARA, Associação de Mulheres de Namarripi, Associação de mulheres de Namirequele and Associação de Ana Gulamanha in Mocuba, Wiwanana Orera and Associação Acamir in Meconta. The training focused on crop management, seed production cost and record keeping. The female targeted activities contributed to increased female participation in project activities compared with the same period last year. For example, females hosted 40% of the demonstration plots in the second quarter of FY18 vs. 48% the same period in FY19; female participation in training was 40% in FY18 vs. 52% in FY19 and female participation in field days in FY18 was 34% vs 37% in FY19.

SEMEAR is preparing a report on gender analysis after completing a community survey and focus group discussions across the FTF ZOI. The objective of the study was to identify, understand and explain the gaps between male and female beneficiaries in the households and within project communities. It also examined the differences between male and female beneficiaries in terms of their roles, decision-making and access to resources, inputs, opportunities and service delivery as well as constraints with relevance to project implementation. The report will be submitted to USAID in the July 2019

2.2.5. Environmental Monitoring and Mitigation Plan (EMMP) Compliance

SEMEAR conducted all activities in accordance with the environmental monitoring and mitigation plan to avoid pollution, wastage and harm to staff, partners and other living organisms. Land preparation and planting were done along the contour to control erosion; hence minimize sediment movement downhill to water bodies. Where necessary, ridges were constructed to reduce the speed of surface water movement and to ensure enhanced infiltration. In instances where chemicals were used in controlling leaf beetles, caterpillars and other insect pests in the fields, the following measures were taken. Staff and partners were trained on chemical identification and proper application procedures that prevent contamination of the environment or poisoning of humans and animals. When using any chemicals, protective gear such as gumboots, overalls, masks, gloves and helmets were mandatory and using the right concentration and limited frequency of pesticide use. Only staff and farmers trained in safe use and handling of pesticides were recommended to conduct spraying activities. The project emphasized IPM including the use of rotation and intercropping systems to reduce weeds and pest infestations. All pesticide products procured are registered and approved by USEPA as detailed in the 2017 USAID Mozambique PERSUAP. The pesticides procured for use are also approved by the Mozambican authorities. The insecticides used during

the second quarter of FY19 include Cypermethrin and Imidacloprid to control aphids, thrips, pod borers, army worms, and other insects in the off-season seed multiplication fields. The project used Primophos-methyl for seed treatment in storage to prevent weevil attack especially in cowpea. For fungicides, the chemicals used in the second quarter include Triazoles, Strobilurin and Difenconazole to control fungi and bacterial diseases.

3. Communications and farmers' outreach

The project has kept a vivid and dynamic communication strategy that involves use of as many communications means as possible to reach out specific and as much audiences possible in the FtF ZOI provinces where the project is implementing its activities. From all communication means used, radio programs continue to show significant impacts since in some of the “aired programs” in Gurué and Angónia for example, farmers had a chance to enter live and make questions on specific issues they are interested in. Other mean of communication that has been used and showed greater impact is the website, despite 5 months with no relevant updates on the information, the project website is actual and receives many visitors interested in learning about specific issues and they through the website, they can fulfill their information needs and where a follow up is required, they e-mail directly to the Project Manager whom provides complementary support as needed.

In FY18, the project ordered promotional shirts (long sleeved) for distribution to partners and stakeholders in FY19. Attention will be made so that all District Directors for SDAEs and Administrators get one SEMEAR promotional shirt. Distribution will start in the third quarter of project implementation and we will request that all partners who receives a shirt wear it during the project annual meeting in September 2019.

4. Project Performance Indicators

Evidence from the project Monitoring, Evaluation and Learning (MEL) processes show that SEMEAR has successfully delivered the expected results for the Q2 of FY 2019. The project team continue to observe strong interests among private organizations and other development agencies in the initiatives of the project thus, creating and strengthening partnerships and collaboration in the implementation of activities aimed at achieving the goals of increased yields, incomes and food security in the FtF ZOI. During the period the project added six new partnerships to those established in Q1 to make a total of 26, most of which are for seed multiplication as well as field demonstrations and training. In most of the partnerships, the project delivered training to improve the capacities of stakeholders from various organizations, including seed companies, farmer-based organizations and input dealers (Table 7).

Table 7: Capacity development in the Second Quarter of FY2019

Indicator	Disaggregation	Target	Results	Annual Target
Partnerships (N)	Production	25	26	25
Beneficiary organizations (N)	<u>Type</u>			
	For-profit	11	14	17
	Producer	50	52	80
	Total	61	66	97
Individuals trained (N)	Farmers	2,140	2,439	3,395
	Extension	75	13	105
	Total	2,215	2,292	3,500
Individual beneficiaries (N)	<u>Type of individual</u>			
	Farmers	59,775	64,059	73,750
	People in government	225	273	2,250
	<u>Age</u>			
	15-29	19,800	20,530	24,750
	30+	40,200	43,602	50,250
	Total	70,000	64,132	75,000

SEMEAR has trained 2,292 individuals in agricultural sector productivity and food security improvement strategies. In all 64,132 individuals, representing approximately 21,377 households have benefited from various interventions of the SEMEAR in the first two quarters of FY2019. SEMEAR has facilitated access to good quality seeds of high yielding varieties of the promoted crops and complementary technologies making a total of 61,412 individuals who have applied improved technologies on an area of 94,000 ha.

About 32% of the beneficiary farmers are young, aged between 15 and 29 years, suggesting that SEMEAR is effectively delivering technologies to various demographic groups, it is rather interesting to note that 47% of the area assigned to improved technologies is owned by the youth. This indicates that young people in the project locations are likely to assign larger areas of land when they have adequate access. On the other hand, the youth will be more willing to invest significantly in the use of improved technologies when access is facilitated.

Table 8: Technology application in FY18

Indicator	Disaggregation	Target	Results	Annual Target
Farmers who apply technologies (N)	<u>Age</u>			
	15-29	19,800	19,665	24,750
	30+	40,200	41,747	50,250
	<u>Technology</u>			
	Crop genetics	18,000	29,213	22,500
	Cultural practices	42,000	32,199	52,500
	Total	60,000	61,412	75,000
Area under improved technologies (ha)	<u>Age</u>			
	15-29	30,030	32,865	34,650
	30+	60,970	61,525	70,350
	<u>Technology</u>			
	Crop genetics	43,333	44,638	50,000
	Cultural practices	47,667	49,752	55,000
	Total	91,000	94,390	105,000

The SEMEAR team has shown consistency in reaching out to female farmers and beneficiaries. Figure 4 shows that the interventions and implementation strategies ensure that at least 35% of the beneficiaries are females with up to 46 % for individuals trained. The situation is not the same for technology application as fewer females appear to apply technologies. This observation will be confirmed from the results of the third and fourth quarters. It is expected that the farmers will reap the benefits of the superior qualities of the applied technologies through increased yields, farm revenue and food availability although recent events have the potential to erode these potentials gains.

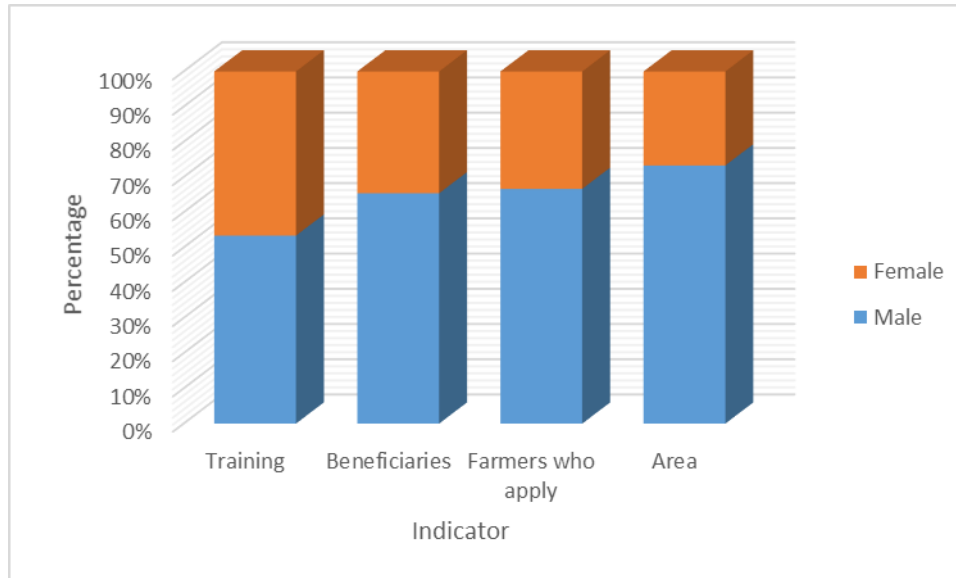


Figure 4: Distribution of beneficiaries by gender

5. Major Implementation Issues

- The landfall of Cyclone Idai in March 2019 destroyed seed multiplication fields of partners in Manica and parts of Angónia due to strong wind and excessive rainfall. This will likely lead to loss in productivity, but the yield loss will be determined after harvest.

6. Collaboration with other donor projects

Within the market systems framework implementation of the SEMEAR, the development of strong and efficient partnerships with communities, public and for-profit entities are of paramount importance but not less is important the need to form and strengthen collaboration with other donor “synergetic” initiatives that are implemented in the same locations and with these that their implementation go beyond the implementation of SEMEAR. Besides working directly with seed companies, communities and the government, the project participates actively in the USAID projects Coordination meetings and has direct synergetic activities implemented with the following USAID activities:

- i) With FtF Inova: SEMEAR participated in the development of the ToRs that will support APROSE operationalize a Seed Quality Award System in the FtF ZOI and in the country. The seed award is expected to trigger significant changes in the perceptions of quality that will in turn increase demand and use of improved seeds by farmers;
- ii) With both the RAMAs (Nacala and Beira Corridor): working towards the development of seed businesses combined with provision of mechanization services in Gurué, Zambézia province

and supply of inputs and establishment of demonstration fields in Manica and Tete provinces. RAMA-NC has closed and the intervention to support seed business development with Dreamers Group will be taken directly from SEMEAR and in Manica while RAMA-BC is wrapping up SEMEAR will capitalize on their intervention to continue with the establishment of demonstration fields for demand and awareness creation;

- iii) With SPEED+: working on the Task Force in the development of the ToRs for consultancy aimed in restructuring of USEBA to be a more effective entity that produces and distributes basic seeds on a sustainable manner;

Other collaborations outside the USAID “family” are with: (i) InovAgro/Swiss Funded; (ii) TechnoServe/Dutch (closed) SEMEAR supplies basic seeds and business services development to SBS/COPAZA farmers to multiply certified seeds in Zambézia and Manica provinces; (iii) FAO – in the dissemination of improved technologies through establishment of demonstration plots and organize joint field days; (iv) Solidaridad/Dutch – supply of basic seeds and business services development to seed producers engaged by Solidaridad in Zambézia and Tete provinces; (v) iDE Mozambique – in the development of seed business enterprises in the plateau of Tete (Angónia and Tsangano).

In the second quarter of project implementation, new other strategic collaborations have been established:

1. SUSTENTA – (World Bank funded, Governmental project implemented under the National Fund for Sustainable Development from the Ministry of Land, Environment and Rural Development). With SUSTENTA, 8 seed growers in Alto Molocué (Sr Mascarinho in Pictures 1 & 2 is one prominent PACE engaged and producing sesame, soybean and common bean certified seeds), Mocuba and Gilé have been engaged to produce certified seeds of sesame and common beans. SEMEAR supplied them with basic seeds, engaged the Seed Department for seed field inspection & certification while SUSTENTA will link seed growers with their network of farmers that are assisted by a PACE – Emerging Commercial Farmer. One PACE assists a maximum of 200 other small farmers with inputs and extension services;
2. With GrainPro Inc – for the development and implementation of post-harvest or post -production capacity development (training) program, practices and will be used to facilitate functional linkages between farmer and Agri Focus whom will be distributing the GrainPro patented ultra-hermetic Super Grain Bags (SGB) as an alternative to fumigants and grain protectants. A training program with duration of two seasons (until the end of SEMEAR) is being jointly developed. One training session already schedule for August 2019 in all the SEMEAR provinces.
3. Soybean Innovation Lab (SIL), the University of Illinois and Syngenta Foundation on Pan African Variety Trials, testing the adaptability of various soybean varieties (including these from

Mozambique). This will assist SEMEAR to compare local varieties with other available varieties on the continent to identify high yield varieties that could be registered and released in Mozambique. SEMEAR invited Phoenix Seed Ltd, a partner to participate in the testing for them to identify varieties of choice that can potentially be released and commercialized by Phoenix Seed Ltd;

4. University of Illinois – development and implementation of an extension service capacity development program focusing on Integrated Pest Management (IPM) practices. This training program focused in the development of the capacities of national Extension Agents and is led by a PhD student. The first working visit was held in November 2018 and training materials are already being developed for quick off session in August 2019 in Nampula, Gurué and Angónia;
5. Instituto Agrário de Marrere (Catholic Agriculture College in Nampula) – the project jointly with the Institute are exploring the possibilities of using project collaborators to support the lecturing (through seminars) on specific crop and GAP related issues to student enrolled under the new curriculum that is based in acquired competences. The Institute also wants to start an agriculture activity that can impact in the community its located.

7. Key Activities Planned for Next Quarter

- Monitoring seed multiplication fields and harvesting of pre-basic and basic seed
- Collect data on biomass, yield and grain samples from demonstration fields for analysis
- Establish common bean demonstration plots in Manica and Malema
- Monitor and backstop seeds producers
- Link seed producers to the Seed Inspection Units for inspection and certification of seeds
- Conduct stakeholder training sessions with both GrainPro and University of Illinois
- Organize and conduct field days
- Control pests and diseases in seed multiplication fields
- Collect data from partners and project beneficiaries

8. Evaluation / Assessment Update

Evaluations, Assessments, Studies and Audits	
Include any and all types of evaluations, financial or programmatic, internal or external.	
Completed: List evaluations, assessments, studies and/or audits held last year	Major Findings/Recommendations
All studies are on-going	
Planned: List evaluations, assessments, studies, and/or audits planned for next two quarters.	
1. Preparation of study report on mid-term adoption to assess the uptake of improved varieties, improved seeds, and other complementary technologies.	
2. Preparation of study report on gender analysis as part of monitoring, evaluation, and learning process	

9. Administrative Update

The process to fill the SEMEAR Communication Officer position is completed. A formal contract and engagement letter have been sent to the selected candidate and we expect her to be in the position on 10 May 2019.

10. Financial Information

During the second quarter of FY19, SEMEAR spent an estimated US\$601,680 on cost items indicated in Table 9. The information provided below comes from records of local expenditures in Nampula and the estimated expenses of partners. The official financial report will be submitted by IITA Headquarters. Since IITA hasn't transferred funds to partners for second quarter activities, report submitted by IITA HQ will not include expenditures of partners. Cost share contribution is not applicable to SEMEAR.

Table 9 – Estimated SEMEAR expenditures from 1 January 2019 to 31 March 2019.

Order	Cost Item	Description	US\$
1	Office cost, supplies	Include: security, rents, suppliers (electricity, water) stationary, and others	33,743
2	Field activities and suppliers	Include: land preparations, chemicals, materials, field day supplies, etc.)	77,264
3	Travels	Include: allowances (Per diem and accommodation) and tickets	32,847
4	Training and workshops	Include: farmer training, field days, project planning and review meetings, etc.	17,277
5	Personnel	Staff salaries, casual staff wages, taxes, and allowances	232,056
6	Consultancy Services	Include: hiring of enumerators and other consultants	77,942
7	Other direct costs	Including communications and minor purchases	36,147
Sub-Total			507,276
Overhead (18.61%)			94,404
Grand Total			601,680

11. Success Stories



SUCCESS STORY OF INCREASED USE OF CERTIFIED SEEDS OF IMPROVED VARIETIES IN THE COMMUNITIES



Sr. Mussa Ali, a farmer and entrepreneur from Mzerepani, Nacololo in Monapo district of Nampula province. Source: Carlos Malita, April 2019

Functional Seed Systems

A functional national seed systems consists of interchangeable relationships between the formal and informal seed systems. Its within this belief that the USAID Feed the Future Mozambique Improved Seeds for Better Agriculture (SEMEAR) supports the development of informal seed systems initiatives alongside with facilitating the necessary improvements on the capacities of the formal seed systems to work as the “pull factor” in achieving the goal of a sustainable and functional seed system.

Seeds locally produced for local farmers

Within the Market Systems framework of SEMEAR's seed business development strategy, small local seed multiplication initiatives are being developed in the project locations, these seed businesses are alleviating the burden of many smallholder farmers who benefit from the project's interventions, making the seeds of sesame and other crops timely-available at affordable prices to farmers in local communities. One example is what is happening in Monapo district of Nampula where members of a local community in Itoculo – Mezerpane, show satisfaction for seeds locally produced. Farmers say, they now don't need to travel to the village in search of "good seeds" as the seeds locally produced and sold by Sr Mussa, are of good quality, affordable and supplied at the right planting time... This was witnessed by Sr Mussa Ali, a seed farmer who in 2016/17 started with hosting a demonstration plot and later embarked into seed multiplication venture with the support of SEMEAR.

A born entrepreneur and farming animator

Sr Mussa Ali, is a local farmer who was born in the Village of Mzeripane (Nacololo Locality of Monapo district in the FtF ZOI of Nampula province. Sr Mussa is 45 years old, married and head of a household of six people whom depend on him for food and living.

Sr Mussa is member and animator of the Associação de Namarreco (with 28 member farmers) and treasurer of the Forum Namarreco which is comprised by other 12 member associations in total the Forum has 123 members of which 43 are women. Many members of the Associação de Namarreco are farming at the 6,000ha DUAT cashew plantation belonging to Matanuska. Sr Mussa believes that he was born to work with a passion to help others. That's why he became the Association animator, a person who advises farmers on Good Agricultural Practices and associativism.

From a demonstration plot to an enterprise

In the season 2016/17, Sr Mussa was engaged to establish a demonstration field with 80sqm, that was planted with improved varieties of pigeon pea, copwea and sesame compared with local recycled seed/crop. The project also supported Sr Mussa to plant a "pilot" seed multiplication field (1ha with sesame Lindi and another 1,25ha with pigeon pea ICEAP 00554), he harvested 700kg sesame and 350kg pigeon pea (it was bad pigeon pea season).

Resulting from his satisfaction from the harvest of the sesame crop and the income generated (Mzn50,000.00 appr US\$780.00), Sr Mussa decided to purchase another 8kg sesame foundation seeds at SEMEAR and planted in 2ha multiplication field, applied all good agriculture practices he learnt throughout the years while he was hosting demonstrations and the result in that season was another 700kg harvest from which 580kg he sold to IKURU at Mzn100.00/kg (making Mzn58,000.00 appr US\$906.25) and the remaining 120kg sold to local farmers at Mzn85/kg (making US\$ 159.00). In the season 2017/18, he secured a total revenue of Mzn68,200 appr US\$1,065.62) from an investment of US\$407.27 in production costs. Sr Mussa said this was the only time in his entire life as a farmer that he saw a lot of money at his hands.

A born entrepreneur and farming animator

Like Sr Mussa and many other farmers in Mzeripani, their cash crop was cotton of which was produced under a contract with SANAM – Sociedade Algodoeira de Nampula who provided farmers with cotton seeds, fertilizers and chemicals. Farmers were never happy with cotton prices and their yields were affecting their incomes significantly. Not all was lost until they witnessed the yields and income Sr Mussa secured from his sesame crop in the 2016/17 season. A few farmers started planting sesame thus, shifting from cotton to sesame. Other members of the association turned to buying sesame seeds from Sr Mussa since sesame prices always tempted them to sell all their harvest.

Seeds are more profitable than grain

Mussa got very impressed with the production and sales resulting from the two consecutive sesame seasons, together with the responses he secured from farmers when they visit the demonstration field established, Sr Mussa invested decided to invest in planting a big sesame seed multiplication field (5ha) in the current season. He procured basic seeds, chemicals and hired local service providers to prepare his land and in Feb/Mar 2019 he planted his third seed multiplication crop.

While working with SEMEAR, seed growers get capacity development in form of specific training activities in seed multiplication, the project facilitates field inspection and seed certification, jointly establishment of demonstration fields, hosting of field days through establishment of functional linkages with end market actors for the seeds locally produced. Recently, our project teams visited Sr Mussa who surprised them with information that he had started contacts with IKURU, ORUWERA, JNB Empreendimentos and AGRO-DALTON (private seed companies) whom will be visiting Sr Mussa fields for final discussions on the sell of his sesame certified seeds. Sr Mussa shows satisfaction with his business enterprise and wants secure the DUAT for his 40ha plot and increase the area of

seed production. He complains about delays he gets from mechanization service providers who do not honor their compromise even after being paid for land preparation, they always come late what compromises his planning.



Sr Mussa interacting with seed inspector Eng^a Judite while conducting field inspection to his 5h sesame multiplication.

PHOTO GALERY



Picture 1&2: SEMEAR collaborators meet Sr Mascarinho at his sesame seed multiplication and Sr Mascarinho posing for a photo on his soybean certified seed multiplication field.



Picture 3. Sr Mussa interacting with seed inspector Eng^a Judite while conducting field inspection to his 5h sesame multiplication.