



HORTI-SEMPRE
Smart Solutions
for Smart Agriculture

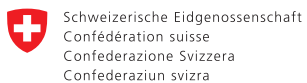


VOICES *of* CHANGE

2021



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PRODUCERS COMBINE AGRICULTURAL PRODUCTION PRACTICES WITH A BUSINESS VISION AND THE DREAM OF A MORE DIGNIFIED FUTURE

The Horti-Sempre Project seeks to improve the livelihoods of local small-scale horticultural producers by enabling access to relevant products and services that aid in their increased capacity to produce and compete in the market.

Horti-Sempre is a market systems development project, designed to make the horticulture sector in Northern Mozambique more competitive against local and/or foreign (mainly South African) imports through better quality products, increased productivity and more seasonal smallholder vegetable production.

At the same time, we seek to contribute to transforming the agriculture sector towards more sustainability, by building capacities of relevant system actors and developing inclusive, resource efficient and resilient agricultural systems, which strengthen natural processes and ecosystems.

In that sense we aim to contribute to strengthen the multiple dimensions of sustainability in agricultural systems and seek to find innovative solutions which build on synergies between different dimensions and/or reduce trade-offs.

Regula Chávez-Malgiaritta
Country Director Mozambique

SUPPLIERS OF
QUALITY PRODUCTS

TECHNICAL
ASSISTANCE
SERVICES

COMMUNITY
AND FARM IRRIGATION
SOLUTIONS

AGRICULTURAL INPUT
SUPPLIERS, AND
IMPROVED DOMESTIC SEEDS

TECHNOLOGY TRANSFER
SERVICES AND ACTIVITIES
ORIENTED TOWARDS WOMEN
ECONOMIC EMPOWERMENT



SYSTEMIC CHANGE

IMPROVING THE HORTICULTURAL SECTOR IN NORTHERN MOZAMBIQUE

The Horti-Sempre Project interventions aim to create changes that will benefit their target beneficiaries beyond the project period. Programmes are therefore designed to provide systemic and sustainable change.

The project assumes the Market System Development (MSD) approach, taking a role of articulating and facilitating interventions, where the actors of the system assume a leading role to energize the market for products, services, and inputs. The project concentrates its efforts on strengthening the management and human resources capacities of public and private actors in the horticultural sector market system and fosters their articulation, so that their business models are viable, replicated, scaled up and sustainable over time.

At the level of small-scale horticultural producers, the aim is to improve the conditions of access, adoption and application of good agricultural practices in their production processes, in order to improve the productivity and competitiveness of their products in the markets. Likewise, they are induced to have a business and market vision, promoting small and medium-scale economic ventures based on profitability and benefit analysis. The project considers in all its interventions the gender perspective, where it is recognized that women and men have different needs and priorities, face different constraints, have different ambitions and contribute differently to development, but also, need different support to be able to participate in activities and business development.

Ricardo Alem

Project Manager Horti-Sempre

1

DEVELOPMENT OF AGRICULTURAL INPUT SUPPLIERS, AND IMPROVED DOMESTIC SEEDS



Horti-Sempre facilitates the commercial interaction of the leading distributors and suppliers of open-pollinated varieties and hybrid varieties of vegetable seeds. This results in the availability of inputs to last-mile local agro-dealers and producers.

Through this intervention, agricultural distributors such as Proma Comercial and Casa de Agricultor have extended their stores to several districts of Cabo Delgado province. The cities of Pemba and Montepuez, for instance, gained these suppliers' outlets for the first time in 2020.

Smaller agro-dealer stores have also flourished and existing ones have been strengthened, as in the case of Akila-Agro in the town of Ribaué and Helder Comercial Lda. in the administrative post of Namiconha. There has been an increasing adoption of improved varieties available in agricultural input stores and distributors.

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The tomato - an important vegetable of high economic value

For my urban vegetable garden, I have been using hybrid seeds thanks to the recommendations of the Horti-Sempre Project. I purchased 1,000 seedlings of the Rafano tomato variety with the expectation of producing 8,000 kg of tomatoes during the summer and supplying them to clients that I have formalised contracts within Nampula City. I hope with this production to have an income of 320,000 meticaís. Elizete d'Alva, customer and producer in the community of Natikiri, District of Nampula.



The increasing presence of small agro-dealer shops fosters the adoption of improved varieties of vegetable seeds.



My contribution to sustainable agriculture

I managed to expand my business more than I had ever expected. I could even hire three more people for my shop, and to attend our “Consultório Agrícola” – CoA, who now make an income for their families - two of them are women. It makes me proud to not only contribute to more sustainable agriculture in Mozambique but also to give a better life to a lot of people in rural areas. Promise Sabau Waize, owner Proma Ccomercial Lda. agro-input shop.



2

DEVELOPMENT OF TECHNOLOGY TRANSFER SERVICES AND ACTIVITIES ORIENTED TOWARDS WOMEN ECONOMIC EMPOWERMENT



Various activities were carried out in the inputs and practices component, including technical assistance, production data surveys, field days, and greenhouse construction, and training on soil disinfection, pest management, seedling production in trays and seedbeds, substrate preparation, selection, and classification of vegetables and good agriculture practices (GAP). As part of ongoing measures to address these issues, capacity-building programmes were facilitated and executed in order to technically prepare the target groups, which included female groups.

Incubation fields were established where small-scale commercial farmers were trained on hands-on GAP, integrated pest management, and cropping processes - from seedling production through to harvesting and marketing of onion, cabbage, tomatoes, and peppers. The production process of quality seedlings using disinfected seedbeds has proven to be a great technique to increase production for the producers who apply it.

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Drip irrigation - adaptable to any farmable slope

We have learned to use quality seeds, produce quality seedlings, and cultivate using good agriculture practices. The new production techniques we received through facilitated practical training, have benefited our association members and fellow neighbours in improving production. The 3,000-litre water tank we built with Horti-Sempre has transformed our irrigation as it helps us use drip irrigation. We no longer have to continuously run the diesel water pump to water our crops. We save fuel and use the same amount over a longer period. Afai Moroma, producer in the community of Unidade, District of Montepuez, Cabo Delgado.



Horti-Sempre facilitates my production growth to another level

Through Horti-Sempre support, I was trained and started to make my own substrate. This reduced my seedling production costs as previously I depended only on a commercial substrate, which is expensive and prevented me from mass production. With my own homemade substrate, the seedlings are more affordable to others, and I can produce and sell more of them. Gildo Silvano, producer in the community of Nanlia, District of Metuge, Cabo Delgado.



Three million improved seedlings were produced in 12 seedling nurseries with the potential of producing an average of 75,000kg of onion and 1,250,000kg of fresh vegetables.

CONSTRUCTION AND REHABILITATION OF SHADE NETS FOR GREENHOUSE PRODUCTION



Healthy, good quality seedlings contribute to improved horticulture production in the intervention areas. Horti-Sempre facilitated the construction and/or rehabilitation of greenhouses – shade nets in Nampula and Cabo Delgado for the production of seedlings and horticulture produce.

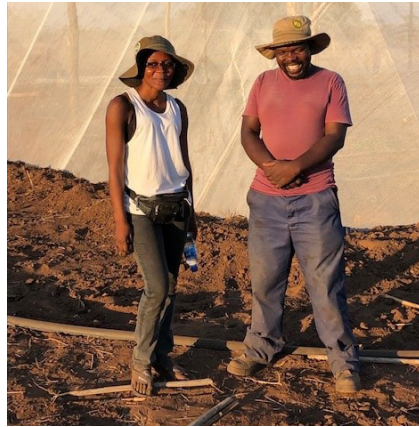
The owners and local teams of each of the structures were trained on the entire construction process to build local-level capacity. A permanent pool of technicians with knowledge of construction and rehabilitation of shade nets ensures the continuation and anchoring of the activities.





Changing the face of construction

I am grateful to have received training on greenhouse construction and production. From experience, I am now able to train other people to pass on the knowledge. To date, I have supported the construction of three greenhouses, with the largest one being a 22mX44m structure. Involving women in the process has demystified the activity and removed the barrier as a male-dominated activity. My mother helped me build my own greenhouse and this encouraged me to involve more women in the constructions. Gildo Silvano, producer and trainer in the community of Nanlia, District of Metuge, Cabo Delgado.



The project changed my life

It took us only nine days of continuous hard work from dawn to dusk to complete the construction from scratch. Now I can produce vegetables, in particular tomatoes, all year round. Words cannot express how I feel, and I will live to it to make sure that this same investment gives birth to an additional greenhouse. I am looking forward to the installation of the processing shed at the farm, which will scale up my capacity to clean, grade and store purchased produce from other farmers around. André and Victoria Jentara, producer in the community of Mirate, District of Montepuez, Cabo Delgado.

A new passion for greenhouses

I participated in the construction of the greenhouse from scratch. I learned a lot of technical and practical activities, and as a woman, I proved that I could do it. During the working process I saw the benefits, and now I'm passionate about the greenhouse. We water less, there are fewer pests and diseases, we harvest more per unit area, and the quality of the produce is much better when compared with the production outside the greenhouse. Modesta Alifa, producer and operator of the Farm Base company in the community of Rio Montepuez, Cabo Delgado.



Six shade net greenhouses of different sizes were constructed with Horti-Sempre co-financing.

3

DEVELOPMENT OF TECHNICAL ASSISTANCE SERVICES



Horti-Sempre facilitated the creation and roll-out of a complete package of theoretical and practical horticultural production lessons. Agricultural Technical Institutes were using the material consisting of 7 modules with a combined syllabus of 224 credit hours for Training-of-Trainers (TOT). TOT was imparted to lecturers from three Universities and ten Agricultural Institutes from Nampula and Cabo Delgado provinces.

The institutes have a combined dispatch of over 500 technicians per year and have demonstrated the implementation of the modules at their institutions. They have also imparted short courses to communities to improve the level of GAP understanding of small-scale farmers in their region.

The approach of using agricultural institutions is of strategic importance as it ensures the build-up of a pool of skilled technical officers for the dissemination of the acquired knowledge through college graduates.

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Signing language in the classroom at “Ebenezer”

I can communicate with my teachers and other students and I feel very comfortable among my classmates. I have learned how to build a greenhouse from start to finish and I look forward to the experience of also producing in a greenhouse.

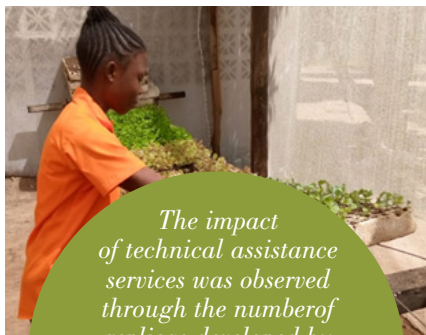
Malita Batista Afonso, a deaf, first-year student at Ebenezer Agricultural institute, Rapale District, Nampula.



They call me “the repotting queen”.

I have this nickname because I’m in charge of the seedlings production at the institute. I never imagined that the seedlings could be produced in movable containers and it was through the knowledge transferred that, I’m now producing seedlings of the Chibili tomato variety in trays.

Muanita Pedro, student, recently integrated with the agro-livestock course at the Polytechnic Institute of Nacuxa, Nacala- Porto District, Nampula.



The impact of technical assistance services was observed through the number of replicas developed by graduates from trained groups of farmers and lecturers of the three universities and ten agricultural institutes.



I’m very satisfied and grateful for the way the teachers manage the training content.

The theoretical lessons in Integrated Management of Cabbage helped a lot in my understanding of the techniques to be used to produce in my 600 m2 plot on a staggered basis and throughout the year. My district has the optimal agroecological conditions for the successful production of this crop and I must take advantage of the opportunity that demand is growing more and more.

Francelino Eusebio, final-year student of the course of Agro-livestock at the Agrarian Institute of Ribáuè, Nampula.



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Our 90 students are our future field technicians and enterprising producers who will improve the productive base of our country.

The production of tomatoes in our greenhouses, produced from seedlings in trays, showed us that it is necessary to do the replication of tomato production with greater intensity. Thus, the students acquire theoretical and practical knowledge for their future implementation post-training.

Ali Aluna, teacher, Polytechnic Institute Mártir Cipriano in the community of Nacuxa, Nacala District, Nampula.



I'm very satisfied and grateful for the way the teachers manage the training content.

The theoretical lessons in Integrated Management of Tomato helped a lot in my understanding of the techniques to be used. On my 400 m² plot, I applied the knowledge acquired and I have already harvested three times, in total more than 1,800 kg of tomatoes.

Antonio João, final-year student of the course of Agro-livestock at the Polytechnic Institute of Nacuxa, Nacala-Porto District, Nampula.

In charge of intensive crops at the Agrarian Institut of Ribáuè

The topics I learned during the course on “improving integrated vegetable production” have greatly helped me to better understand the physiology of the different crops and the good agricultural practices to be applied to achieve intensive commercial vegetable production throughout the year. I now have a plot with 1,000 lettuce seedlings, where I am learning how to produce short-cycle crops and how to create my own records to document and control production costs and recorded income from sales.

Isaquina Riquicho, final-year student of the course of Agro-livestock at the Agrarian Institute of Ribáuè, Nampula.



FIELD EXCHANGE VISITS – FARMER-TO-FARMER



To ensure the sustainability of the technical assistance, Horti-Sempre promoted the exchange of experience among farmers. They are responsible for facilitating training in their fields for associations or during field days.

These measures ensure that the farmers adopt good agricultural practices and are teaching other farmers, who in turn will replicate and continue the process. With a limited number of extension workers in the region, this initiative has contributed to the expansion of knowledge on good agricultural practices.



The game changer 1st of October 2020

On this day, I facilitated the demonstration of many techniques. These I will continue to use in my day-to-day activities, including the preparation of nursery beds, sowing, transplanting, harvesting, curing, grading through selection and classification, packaging and storage of onions. Postharvest knowledge training has strengthened our traditional techniques and I will keep the bulk of my 2020 onion harvest well conserved in my two storage sheds until the prices are most favourable.

Andrisse Martins, producer in the community of Impaca in the District of Balama, Cabo Delgado.



The Green Association – an inspiration for re-investing

I was highly motivated by what I saw from the women at Associação Verde de Nacololo. Never had I imagined that a group of women could be so successful and independent. The visit gave me the courage to copy what the other women were doing and I am currently producing beetroot, tomato, okra, cabbages and cucumbers on elevated beds with manure and fertiliser. I started small, but I intend to re-invest and continue producing.
Veronica Juliano, farmer of the “Rio Ponte” farmer group.

Solar-powered water pumps for an eco-friendly irrigation system

I learned that as women, we could make a difference and even lead a farmer group. We can now produce good quality seedlings using Good Agriculture Practices. We learned how to work better together as a group at transplanting, watering, manuring and weeding and the result is very encouraging. We have applied what we saw at “Associação Verde de Nacololo”, producing in elevated beds, making insect traps to monitor pests, trellising tomatoes and cucumbers, making our own organic manure through composting. We hope to get a solar pump with the income of our sales, as it is hard work watering our vegetable field manually with buckets.
Muanacha Nemane and her mother-in-law Agora Antonio, part of the “Moagem” farmer group.



4

DEVELOPMENT OF COMMUNITY AND FARM IRRIGATION SOLUTIONS



Horti-Sempre facilitated the construction and rehabilitation of several low-cost irrigation systems for horticulture farmers, contributing to an increase in the area under irrigation in the Nacala corridor. To foster inherent ownership of the irrigation investments, there was a minimum co-financing obligation of 30% from each of the groups of farmers.

The interventions are divided into two groups; construction of surface dams and the promotion of low-cost replicable irrigation solutions that can easily be adopted and reproduced by other farmers.

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Defying intense heat

I decided to go against the odds and invested in tomato production during an unusual time of the year and season. Using a basic gravitational irrigation system, I became the first tomato producer on 5,000 m², defying the intense October heat. I was convinced and motivated to set up the simple irrigation system after participating in the irrigation fair facilitated by Horti-Sempre. By the end of December, I harvested 2,300 kg of an expected minimum quantity of 10,000kg. Amarchante Pastola, producer in the community of Matharia, District of Ribáuè, Nampula.



A total of 19 different systems were established, with harnessing capacity of over 31,5 million liters of water.

A different perception

The drip irrigation installed for watering the crops combined with the solar-powered water pump changed my perception about the new innovative technologies.

I connected the solar-powered pump to the reservoir in the morning. By the end of the day, the system had watered the whole greenhouse sufficiently, and I disconnected the portable hand-held pump and carried it back home. I therefore saved immensely on fuel and labour for watering. I have no marketing costs as clients come to buy the produce at the greenhouse and the farmgate price is good. I sell 1 kg of tomatoes at 110 Meticaís and just this morning my son sold 100 kg of tomatoes. The next plan is to expand the greenhouse and continue using hybrid seed varieties. I particularly like the Kilele hybrid tomato variety, as its productivity is high. Rajabo Alifa, producer in the community of Nicuapa, Montepuez District, Cabo Delgado.



5

DEVELOPMENT OF SUPPLIERS OF QUALITY PRODUCTS



Horti-Sempre embarked on facilitating activities that helped to add value through grading and innovative packaging, thereby creating demand for packaging material. 2020 saw the concrete materialisation of private sector response in making packaging material available in the network of agricultural input outlets.

Selection, classification and packaging of horticultural produce

Training in vegetable grading through selection and classification - including the use of wooden boxes - increased the level of presentation and value of the products, hence putting adopters in a more competitive position for selling their products, compared to non-practicing farmers.

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The new way of packaging

The grading table and the packaging in net-mesh bags has brought a new dynamic to how I market onions. Previously, I used to sell my onions in bulky bags of over 100kg for the same price as I'm now selling four 10kg sorted bags. I now store and bag my onions correctly and sell them at a good price without depending on intermediaries.

I have also been renting the grading table to other farmers in my community. The consumer market has so far welcomed the mesh-net bags and I see a bright future.

Andrisse Martins, producer in the community of Impaca, District of Balama, Cabo Delgado.



Better marketing

I used wooden boxes for packaging after grading. I used selection and classification processing procedures and graded the tomatoes according to the level of maturity (ripe, half-ripe and green); and classifying first and second grades of each of the products. This grading increased the competitiveness of my tomato production and I conquered the local market in Ribaué, including institutions, restaurants and individuals. Amarchante Pastola, producer in the community of Matharia, District of Ribaué, Nampula.





Nursery establishment



Greenhouse construction





Swisscontact

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HORTI-SEMPRE PROJECT

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