



República de Moçambique

**Ministério da Agricultura e
Desenvolvimento Rural**

Climate Smart Agriculture in Mozambique

**(Initiatives, programmes and
priorities)**



Lusaka, February 2020



Table of Contents



- 1. Introduction**
- 2. Objective**
- 3. On-going Actions**
- 4. Priorities**

MOÇAMBIQUE CRIANDO RIQUEZA



I. Introduction



Critical farmer's problems

Mozambique:

- Climate change and variability (floods and drought);
- Low productivity (Low use of improved inputs, Low level of mechanization, etc);
- Heavy deforestation for timbers and traditional agriculture;
- Lack of agro-processing and conservation (High level of post-harvest losses);
- Increased attack by pest and diseases;
- The traditional production systems are not resilient.



Source: DW/Carlos Matsinhe, 2016.



Source: Jornal A Verdade, 2019 (Beira).

What the GOM is doing to change this scenario

- The overall development policy of the country (PQG) sets the main broad priorities for the agriculture sector; a sector has a wide strategic plan (PEDSA),
- fully aligned with 5 years government plan (PQG) and with the CAADP priorities, details the sector objectives and broad targets, while an investment plan (PNISA), translates these objectives into specific programs, indicators and budgets.
- Finally, a set of complementary policies, deal with cross-cutting issues, including a standalone strategy for gender in agriculture and also a strategy for irrigation and fertilization and rural, development.
- This consistent and well-articulated policy framework may be soon be substantially modified by a new draft law on agriculture and FNS, now under discussion.
- Mozambique is fulfilling the CAADP commitment of allocating from this 5 years government programme 10% of the national budget to agriculture, but most of the budgeted funds will be spent on emergency services (rather than on CSA)



I. Introduction



- Climate changes increase the existing vulnerability on:
 - Agrarian production and productivity;
 - National food and nutrition security; and
 - Livelihoods of rural families.
- Climate Smart Agriculture (CSA) is the key for success.
 - **BUT the level of adoption of CSA technologies is currently low.**



II. Objective of this presentation



✓ To share the actions taken in Mozambique on Climate Smart Agriculture initiatives, programmes and priorities.

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III. On-going Actions



- Action plan-2015-2020, on agriculture adaptation climate change approved and partially implemented due to lack of resources;
- Through FAO support were implemented the following actions:
 - (i) Elaborated the FFS curriculum with a focus on adapting to climate change;
 - (ii) Facilitators trained (extension officers and smallholder farmers) on CSA practices;
- Through Trilateral Cooperation (Mozambique, Brazil & Japan):
 - (i) Development of Conservation Agriculture initiatives in the Northern of Mozambique;
 - (ii) Development of the Agrarian Extension Data Collection and Analysis System Platform (SIRADE);



III. On-going Actions



- Through IFAD support the following actions were implemented :
 - (i) Promotion of multipurpose wells (including the irrigation system for vegetable production);
 - (ii) Promotion and training in food supplementation (for animals) for long periods without rain.



1 On-going Actions

- Through CLUSA the Promotion of Conservation Agriculture project (PROMAC) is taking place in Manica and Zambezia provinces
- 4 Years from 2018-2023
- Funded by USAID
- Partnerships: Public and private Extension, ECOTECA (Private)

2 Training on the use of ripper in CA carried out by Private Sector through PROMAC





3. Last 10 years Actions



- **Research and extension** activities were carried out on production systems in CASI under the scope of SIMLESA (funded by ACIAR from 2010-2019), APPSA (WB from 2016-2019) mechanisation and different partners: for more visit: <https://simlesa.cimmyt.org> and <https://t.co/aVnw792RXb>
 - (i) Improvement of yields and productivity of Maize and legumes;
 - (ii) Improvement in performance and reduction of farmer (particularly female and young) physical effort (drudgery).

SIMLESA TARGETED 100,000 HH AND APPSA 10,000;

LOCATIONS: MANICA, ANGONIA, GORONGOSA,
SUSSUNDENGA

SIMLESA HIGHLIGHTS

Cropping Systems (Sussundenga and Gorongosa (R4 & R7, low potential areas yield increase in 6 years of CASI practices)- SIMLESA)	Maize grain yield (kg/ha)	% increase
Conventional practice	1 497 ^a	0.0
CA jab planter	1 784 ^b	19.2
CA small basins	1 789 ^b	19.5
CA basins maize-cowpea intercrop	1 802 ^b	20.4
CA basins maize-cowpea rotation	2 063 ^c	37.8

Input costs, maize yield, and gross margins for conventional and small tractors (APPSA-MEC)

Costs and returns	Conventional	improved ridges and furrows	mechanized CA on raised beds	mechanized CA on raised beds with cross ties
Seed	87.30	87.30	73.33	73.33
NPK	96	96	96	96
Urea	48	48	48	48
Labor ridges	55.3	55.3	0	0
Hand weeding	35	0	0	0
Herbicide	0	12.7	12.7	12.7
Tractor	0	0	79.94	79.94
Total variable costs	321.6	299.3	309.97	309.97
Yield (kg/ha)	2276	3994	3265	3685
Prices (US\$/kg)	0.11	0.11	0.11	0.11
Gross return (US\$/ha)	250.36	439.34	359.15	405.35
Gross margin (US\$/ha)	-71.24	140.04	49.18	95.38



4. Future outlook



- Operationalization of the existing CSA platform to continue work from the positive past results (APPSA, SIMLESA) ;
- Adjust the current Agricultural Adaptation Climate Change Action Plan for the next 5 - 10 years;
- Mobilization of CAADP-XP4 funds for the implementation of the following **NEW** projects:
 - (i) Smallholder Resilience Enhancement Project in the Districts of Nhamatanda, Manica and Tsangano in Mozambique;***
 - (ii) Crop Livestock Integration for Climate Smart Transformation of Agriculture in Mozambique;***

Crosscutting activities, methods and outputs Communication observed from the two projects

Communication products will include:

1. Evidence of the synergies and benefits from the intensification of crop-livestock households at the farm and community levels.
2. Simple heuristics and rules of thumb for farmers, IIAM, DNEA and agribusinesses
3. Digital applications to support decision making in smallholder crop-livestock systems, and agribusinesses.
4. Policy briefs for local, regional (provincial) and National NGOs.
5. Lessons from implemented activities and their merits towards successful use of crop-livestock for sustainable intensification across the multiple dimension of sustainable intensification i.e. productivity, environmental, economic, human and social

Capacity Building needed for IIAM and Extension services

1. IIAM, DNEA and ILRI provide training on farming systems thinking for the management of crop-livestock systems.
2. DNEA and IIAM will provide training on the use of the developed applications, this is, the gross margin and profit calculators, feed calendars, feed gap calculators, early warning systems, and climate application tools
3. DNEA, IIAM and ILRI will deliver animal feeding and husbandry training..
4. Training will be provided on herbicide resistance in conservation agriculture systems (CSA).
5. Training will delivered on equity in crop-livestock systems.

The need for strong Monitoring and evaluation

Activities:

1. Conduct participatory research on measurable and actionable sustainable intensification indicators and metrics with CLI-Mate stakeholders, i.e. farmers, IIAM and DNEA, agribusinesses, local and regional governance, and policy.
2. Develop and test a monitoring and evaluation tool (SI-M&E E-Tool) with CLI-Mate stakeholders in partnership with the Africa RISING team that developed the Sustainable Intensification Framework.
3. Develop an effective knowledge management to ensure project outputs are findable, accessible and available as Open Access to the international public

The need for strong Monitoring and evaluation

4. Agreement on data sharing principles, and data sharing protocols in place to warrant that data will be available and evidence produced.
5. A digital data collection tool for agreed minimum datasets and weather records at experimental sites will be developed based on the previous tools produced for the SIMLESA Program.

Targeted regions and Research sites

- Angonia (R10),
- Sussundenga (R4),
- Manica (R4 and 10),
- Nhamatanda (R4), Tsangano (R10),
- Gurue (R7) Marara (R3) as continuation of the activities conducted during the MOREP II project, Crop-Livestock), Namacurra (R3),
- Mopeia and Morrumbala (R7) (where APPSA is working),
- Malema (R7)
- Montepuez (R7)
- Inharrime, Magude, Chokwe (R1, 2 & 3)

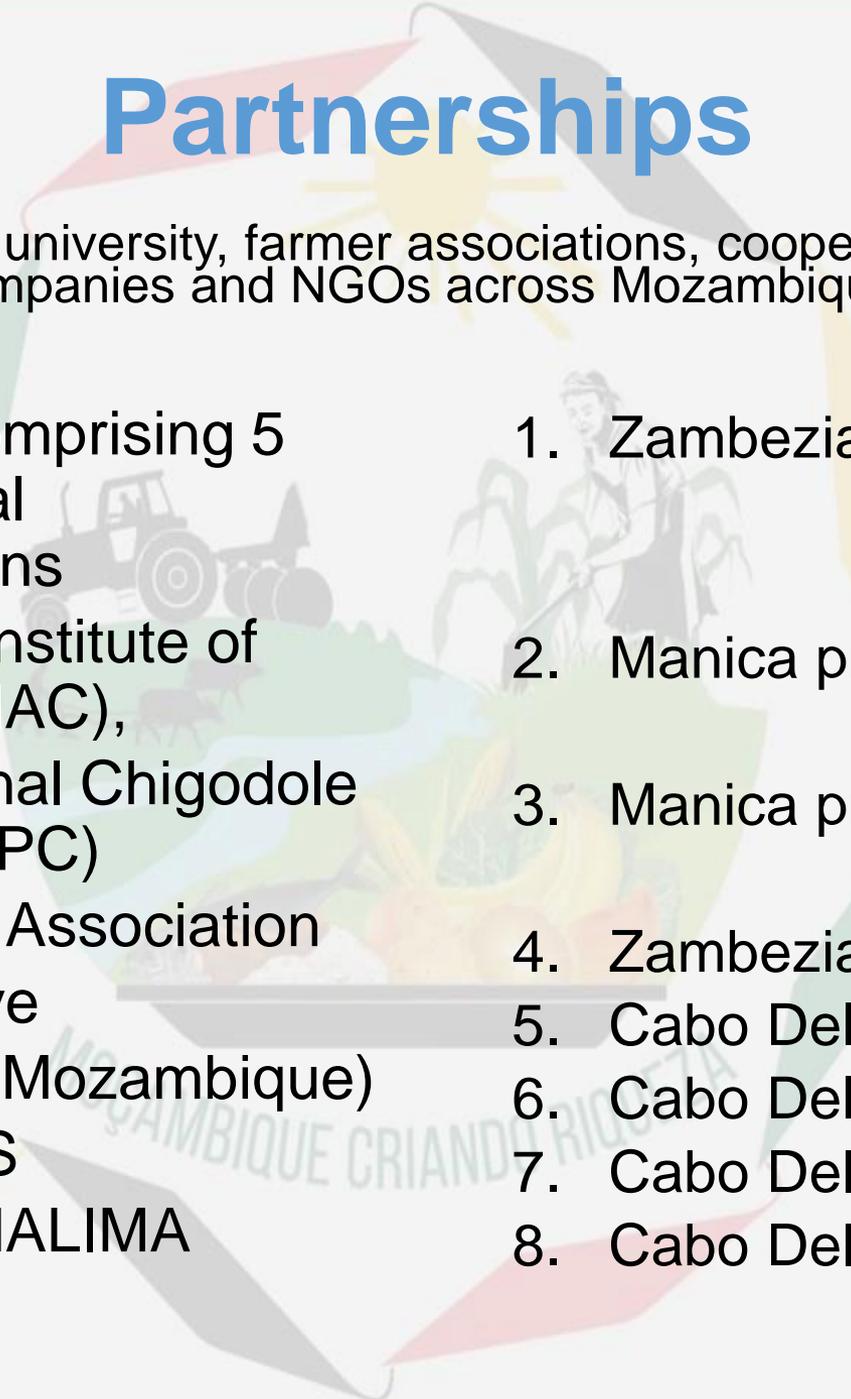
Partnerships

Collaborating university, farmer associations, cooperatives, seed companies and NGOs across Mozambique

- | | |
|---|----------------------|
| 1. Agriculture and markets (AGRIMERC-ODS) | 1. Manica province |
| 2. Manica Farmers Union (UCAMA) | 2. Manica province |
| 3. Higher Polytechnic Institute (ISPM) | 3. Manica province |
| 4. Phoenix seed company, Ltd. | 4. Manica province |
| 5. Oruwera seed company | 5. Nampula province |
| 6. Alta Zambezia Producers Cooperative (COPAZA) | 6. Zambezia province |
| 7. Total Land Care (Mozambique) | 7. Tete province |

Partnerships

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|---|--------------------------|
| 1. FOPAL comprising 5 agricultural associations | 1. Zambezia province |
| 2. Agrarian Institute of Chimoio (IAC), | 2. Manica province |
| 3. Professional Chigodole Institute (IPC) | 3. Manica province |
| 4. Namaritu Association | 4. Zambezia province |
| 5. Tecnoserve | 5. Cabo Delgado province |
| 6. Helvetas (Mozambique) | 6. Cabo Delgado province |
| 7. Olipa ODS | 7. Cabo Delgado province |
| 8. SNV DEMALIMA | 8. Cabo Delgado Province |

Partnerships

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- The background of the slide features a large, semi-transparent watermark of the Mozambique National Coat of Arms. The coat of arms is shield-shaped with a sun at the top, a tractor and a person in the middle, and a fish and a person at the bottom. Below the shield is a banner with the text 'MOÇAMBIQUE CRIANDO RIQUEZA'.
1. UEM
 2. Nandza Magude
 3. Olima agronegocios
 4. Bayer
 5. IAV
 6. Prosul
1. Maputo, Gaza and Inhambane provinces
 2. Maputo province
 3. Cabo Delgado province
 4. Cabo Delgado province
 5. Manica and Sofala provinces
 6. Gaza and Inhambane



“MOÇAMBIQUE NO AUMENTO DA PRODUÇÃO E PRODUTIVIDADE E RUMO A FOME ZERO”