Impacts of Climate Change on Achieving the Goal of Rice Self-Sufficiency in Africa

&

Possible Solutions

10th CARD General Meeting
Antananarivo, Madagascar

RAMILISON Harifidy J.

Former "Senior Regional Advisor/ CARD"
Former Minister of Agriculture and Livestock
Madagascar

Rice and climate change(CC)

Can we achieve rice self-sufficiency in Africa
in an unstable climate?

Rice self-sufficiency:
a strategic imperative for Africa

- Africa imports rice massively despite high potential
- CARD Phase 2 target: 56 million tonnes of paddy
- But Rice is both affected and contributes to CC
- Rice: a staple food for nearly 4 billion people and a pillar of food security in many countries
- Without climate resilience, self-sufficiency will remain a theoretical goal

What the climate is changing in concrete terms in the fields

1 Agronomy: reduction of yields

- Reduced flower fertility during flowering due to temperature increases and abortion with temperature drop
- Heat stress with extreme temperature changes that can affect the growth and development of rice plants
- High temperatures also affect pollination

2 Hydroclimatological variations: water stress

- Prolonged drought ➡ dehydration ➡ loss of yields, or even total production
- Flooding ➡ prolonged submersion ➡ Loss of production

- Significant drop in temperature

  Main impacts on rice cultivation:

  → - High mortality at bloom
  - Heading abortion
  - ...

What the climate is changing in concrete terms in the fields

3 Degradation of Soils

- Sea level rise and coastal floodin g ➡ Soil salinization or increase in soil salinity
- Erosion : Losses of organic matter reduce soil fertility
- Rising temperatures ➡ Structural Soil Modification ➡ nutrient depletion

4 Modification of the cropping calendars

- Seasonal shift: complexity % short-cycle varieties
- Slow adaptation % to CC ➡ Production losses due to climatic hazards: late rains + early cyclones
- **Existing Early Warning System but low responsiveness of producers, insufficiently supervised**

Possible Solutions

Strengthen research and development of CC-adapted varieties and ensure their dissemination

- Identification of needs (PVS) based on awareness of the reality of the impacts of CC on productivity (climatic vulnerability of ecosystems, etc.)
- Broad communication at the level of the productive base, POs, Agricultural Federations and Cooperatives, Chambers of Agriculture: results, technical and social conditions and itineraries, modalities of access to basic and certified seeds, ...
- ……
  ……

Building climate-resilient infrastructure

01

Disseminate and enforce climate and environmental standards

02

Dams and hydro-agricultural structures

03

Access to ,rural roads for and product evacuation

04

Storage Stores/Seed Banks

05

Secure nurseries (in greenhouses, with solar pumping, etc.)

06

Post-harvest chain adapted to CC (drying, preservation, shelling, buildings),...

07

.....

Popularizing climate-smart agricultural techniques (CSA) depending on the context)

1. Zero Tillage, Methods of LAE....

2. Organic farming,...

3. Mulching, Crop rotation, Agro-eco...

Optimizing and operationalizing early warning systems (contextual)

Mobilizing CC-related resources (GCF, ASAP/IFAD, etc.)

Prioritising favourable ecologies for sustainable rice production

Setting up a strategic stock regulatory system involving POs and Cooperatives, MFIs and Trade Agents

CARD
Coalition for African Rice Development
Coalition pour le Développement de la Riziculture en Afrique

THANK YOU FOR YOUR KIND ATTENTION!

10th CARD Generalmeeting
Antananarivo, Madagascar