

CLIMATE SMART AGRICULTURE OVERVIEW (LOCAL)

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MAURITIUS

SOME EXAMPLES OF CHANGES (NATIONAL):

- 2007: Heavy swell of sea causing **killer waves** in Republic of Mauritius
- 2009: **Drought** in Mauritius affecting crop and livestock sector
 - 40% drop in sugar production
 - MSIRI introduced Tomato Calora variety
- 29 March 2013: **Torrential rainfall** (2 hours) in Port Louis- 11 deaths
- 2015: Negative growth of 4% for the first semester (agricultural, sylviculture, fisheries)
vs Sugarcane (positive growth of 1%)

INTRODUCTION-

CLIMATE SMART AGRICULTURE

- FAO (2010): CSA sustainably increases productivity, resilience (**adaptation**), reduces or removes Greenhouse Gases (GHGs) (**mitigation**) and enhances the achievement of national food security and development goals (**development**)

- CSA: TRIPLE WIN



The three pillars that are intertwined in Climate-Smart Agriculture (FAO, 2013)

INTRODUCTION-

CLIMATE SMART AGRICULTURE

- CSA promotes best practices such as: crop rotation, mulching, integrated crop-livestock management, conservation agriculture, improved grazing and improved water management, intercropping, improved seeds and fertilizer management practices

CLIMATE SMART AGRICULTURE

- **CSA**: Indispensable tool for food security in Mauritius
- **Smart** measures: improved use of manure and 40% reduction in use of inorganic fertiliser



28% reduction in greenhouse gas emissions between 1990 and 2009 (World Bank, 2009).

PAST PROJECT/RESEARCH ON CSA

- **Resilience** of food security systems in Africa in the face of a changing climate, along with the challenges involved in estimating sustainable solutions for **climate-smart crop protection** (Facknath, 2009b, 2011; Facknath and Wright, 2010).
- ‘The impact of climate change on agriculture in the Republic of Mauritius’ (Jönsson & Madeleine, 2011) Case study: Tomato
- Overview of impact of CC on non-sugar sector in Mauritius and strategies for adaptation (Atawoo, 2011)-FAREI

PAST PROJECT/RESEARCH ON CC/CSA

- National Dialogue to increase awareness about climate change and its impact on Mauritian agriculture and to propose and discuss stakeholders' coping and adaptation strategies (June 2010) (FANRPAN-Mauritius Node)
- Prognosis made by MSIRI via the usage of the Agricultural Production Systems Simulator (APSIM) Biophysical model
- CC adaptation measures for Mauritian agriculture: Stakeholders' perspective (Brizmohun, Hardowar 2011).

PAST PROJECT/RESEARCH

- In 2013, a project entitled ‘A Situational Analysis of Climate Change Adaptation and Mitigation for Agriculture in Mauritius’ (Brizmohun et al, 2013)
- Comprehensive Scoping Study of Climate Smart Agriculture Policies (FANRPAN 2014)

ADAPTIVE AND CSA MEASURES PRACTISED BY MAURITIAN FARMERS:

- Conservation Agriculture: Soil conservation, soil and nutrient management.
- Water harvesting.
- Crop diversification.
- Intercropping and Mixed Cropping.
- Improved seeds.
- Improved feeds.

ADAPTIVE AND CSA MEASURES PRACTISED BY FARMERS:

- Irrigation system.
- New Technologies.
- Shifting Planting Seasons.
- Biological control of pests.
- Use of traditional knowledge.

EXAMPLES OF CSA PRODUCTION SYSTEMS



Fallowing at La Ferme, Bambois



EXAMPLES OF CSA PRODUCTION SYSTEMS: MIXED CROPPING, MULCHING



ADAPTATION STRATEGY

EXAMPLES OF CSA PRODUCTION SYSTEMS: CONSERVATION AGRICULTURE-SOIL AND NUTRIENT MANAGEMENT



Use of leguminous crop (beans) at Beaux Songes

MITIGATION STRATEGY

EXAMPLES OF CSA PRODUCTION SYSTEMS: WATER HARVESTING (EASTERN REGION)



EXAMPLES OF CSA PRODUCTION SYSTEMS: ADOPTING NEW VARIETIES OF ONIONS



EXAMPLES OF CSA PRODUCTION SYSTEMS

Drip Irrigation



OTHER CSA PRODUCTION SYSTEMS

- Changing time of crop harvests
- Improved seeds (use early maturing and drought tolerant vars by FAREI)
- Use of indigenous knowledge (neem extract against pests/ the use of wine, pineapple juice and brown sugar for controlling fruit flies in creepers)
- Use of vermicomposting to improve soil organic matter