



High-Value Agriculture in Southern and Eastern Africa

**Environment and Sustainable Issues for
horticultural sector**

Madagascar



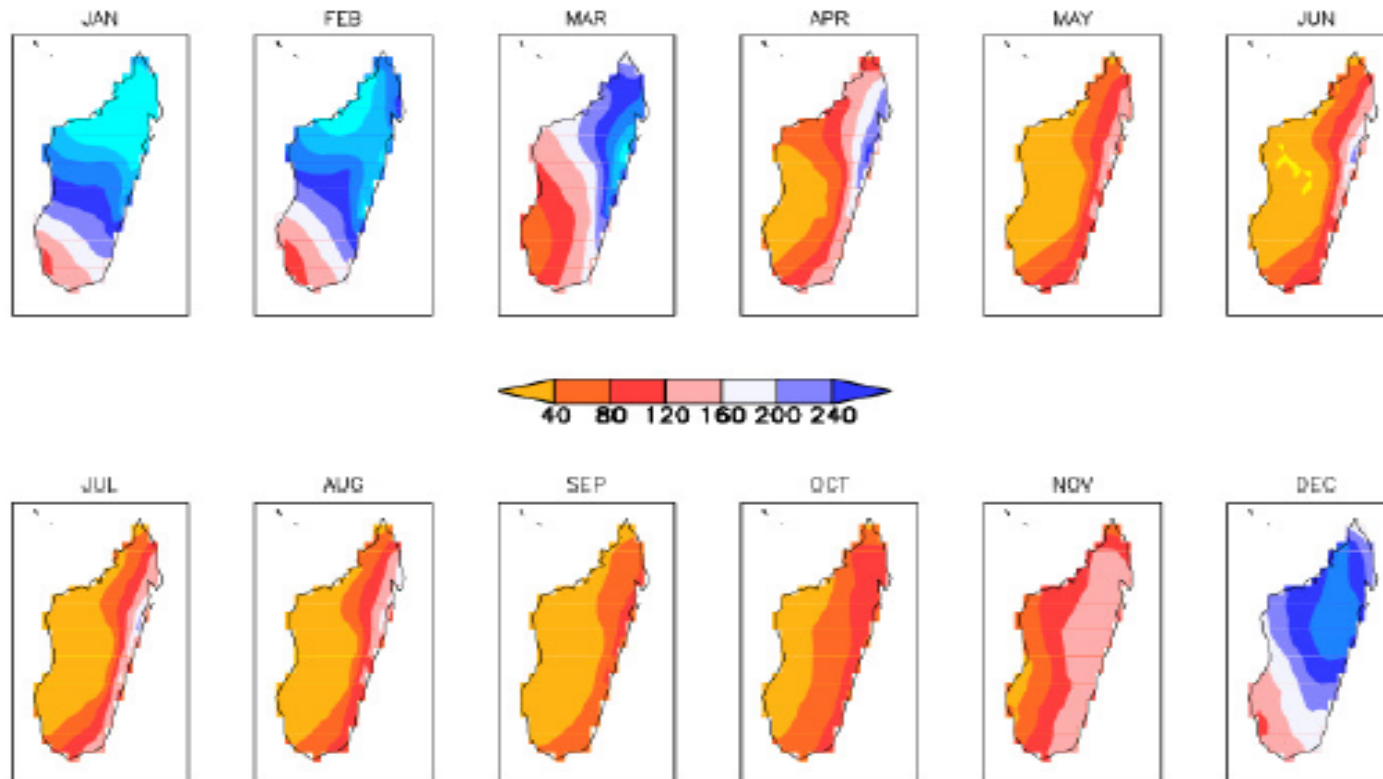
Outline

- 1. Present status on the environment and sustainable issue**
- 2. Management of the climate change**
- 3. On going strategy**



Present status on the environment and sustainable issue

Monthly mean rainfall distribution (mm month⁻¹) 1901-2000



Source : Climate Research Unit (Mitchell et al., 2004)



Horticulture and climate change

- **Increase in temperature with rainfall irregularity**
- **Frequent strong natural disasters (46 hazards in 36 years)**
 - **Change in cropping season and cropping systems**
 - **Change soil management practice**
 - **Increase on incidence of plant physiological disorders**
 - **Increase on public and political pressure on the use of resources**



Policy and National program

- **10 strategic documents for the last 10 years in coherence with the MDG (DSRP, MAP, SNGC, PNAE, PADR, LPDR, PNDR, SNS, PSA, PANA)**
- **PANA developed for climate change adaptation**
 - **Restore and/or construct irrigation system & related management**
 - **Intensify agricultural by farm machine, inputs, drought tolerant variety development, mulching, drip irrigation, ...**



Policy focusing on :

- **IEC for farmers about climate change**
- **Research focused on vulnerabilities and the impacts of climate changes**
- **Safety for the stakeholders on agriculture product**
- **Natural resources and natural disasters Impacts Management**



Universities and related research institutes

- **2 Universities :**
 - **Antananarivo with 5 colleges, including the Agronomy learning Agriculture and Environment**
 - **Toamasina for GRENE**
- **10 research institutions working on horticulture adaptation (CIRAD, IRD, FOFIFA, FIFAMANOR, AVRDC, CTHT, CTHA, CEFFEL, GSDM, CNRE)**



Present management of climate change impact on horticulture

- **Document for Monitoring & Evaluation climate change in the country in 2008**
- **Climate change adaptation workshop on 2010**
 - **Inform the stakeholders of agriculture about climate change**
 - **Review the “Adaptation Strategy in Agriculture Sector” document**
 - **Integrate this strategy in the PANA**



On going strategy

- **Launching fruit trees plantation by Ministry of Agriculture**
- **Promote improved climate resilient vegetable seeds and the use of organic inputs**
- **Promote Fruits and vegetable diets**
- **Increase efforts in the implementation of the Green Revolution.**
- **Increase agro-meteorological stations and enhance the research-action network for climate change observatories**
- **Support Land tenure program for sustainable investment for agriculture**