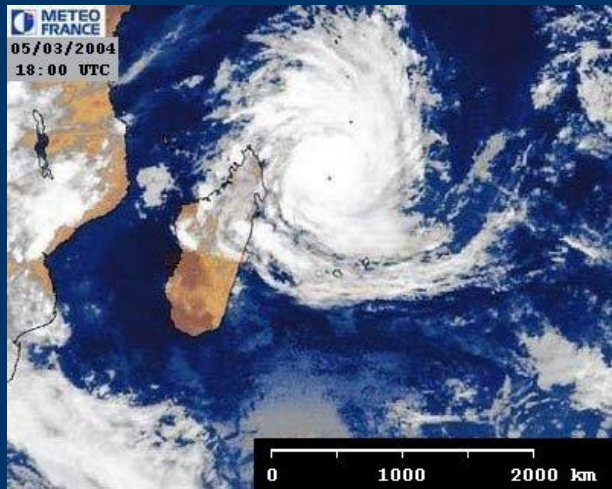




Significant reduction of damage through efficient early warning system

Small Island States Resilience Initiative
2°Workshop – Cancun may 21-23 2017



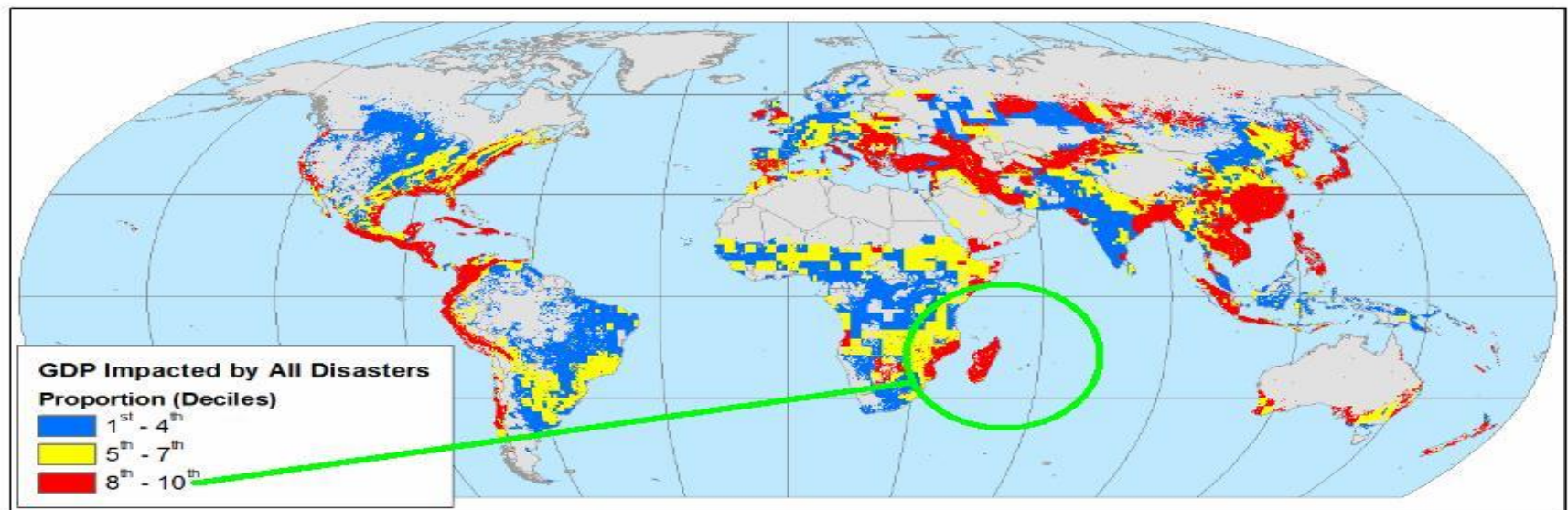
Presented by GBA RAZAKANAIVO Mamy
Head of CPGU Madagascar



Madagascar: A Hot-Spot Multi-Risk Country

- **13th country most exposed to cyclones**; most exposed country in Africa: 4-5 cyclones per year on average
- **3^o country vulnerable of climate change**
 - 1 major drought every 3-4 years (mainly in the south)
 - Trend of increasing cyclone intensity
 - Intensity of Stronger Rainfall during the rainy season,
 - dry season extended
- Average economic losses per disaster: **US\$100 million**

Government Efforts : A Change towards EWS and resilience



The Case of 2017 : cyclone and drought

Impact of cyclone Enawo

- 81 dead and 18 missing persons,
- 433,985 disaster victims/homeless
- 40520 damaged houses and 1500 damaged schools
- Economic losses : US \$ 415 million, about 4 percent of agricultural losses



Population affected of drought crisis 2016 (episodes of El Niño) :

- 665,000 : severe food insecurity
- 475,000 : moderately food insecurity,
- Total : 1,140,000 people in food condition insecurity

The spatial coverage of the multiple Hazard Alert System

- **Establishment of a specific warning system in order to prevent the risks associated with cyclones and floods**
- **inform / warn the targeted threatened population and ensure a structured response to emergencies**
- **A manual alert was developed to define guidelines for managing and implementing a population warning system before, during and after a cyclone phenomenon.**
- **The warning system set up consists of sound, visual and electronic signals.**

Visual Alert System : Use the Color flag (color code) according to the degree of danger and threat

- **The green alert (Warning notices)** is launched two (02) to five (05) days before the hazard. The population is encouraged to listen regularly to weather information, to reinforce the cover of their houses, to provide enough Stock of foodstuff
- **yellow alert (danger notices)** is reported 48 hours to 24 hours before the impact. Cyclone threatens the locality
- **The red alert (imminent danger)** is launched 12 hours before the impact. The cyclone threatens the locality in a short term, the population is asked to stop all activities,
- **The blue alert (vigilance)** is issued to warn the population that the phenomenon is moving away



Flood forecasting and warning system

- The system alerts the population on time and adopts the appropriate behaviors face to the flood
- The system reduce flood damage from automatic and rapid data transmission to alert the local authorities and the local population in a timely manner
- The system consists of
 - hydrometric equipment : used to measure the flow and water depth
 - Pluviometry equipment : precipitation rainfall
 - Central station



Sound warning (audible alert) and SMS system

- **Electric sirens for the headquarters of district**
- **Sirens crank for the communes**
- **SMS system for villages used**
 - **to disseminate information on risks and threats and also to collect data on damage and losses after the hazard.**
 - **The advancement of telecommunication technology has made it possible to use mobile telephony in rural and remote areas.(vulnerable areas do not have access to radio or television)**





Thank you for your attention



«The best way to protect yourself remains the anticipation»

«Our investment today is the guarantee of our security of tomorrow»

