Focus – Africa 4th Stakeholder Workshop
Climate user – Centric Optimised Services for Southern Africa

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1. In Mozambique, agriculture is a national priority and is a source of income to more than 70% of the population.

2. Furthermore, the Agriculture sector holds great potential due to Mozambique’s unused arable land amounting to 36 million hectares in addition to favorable agro-ecological conditions.

   - One major challenge to food security in the country is vulnerability to extreme weather shocks and fluctuations in international food prices.

The impacts of these can be mitigated by accessing to timely information about global food production and market.
Key notes and understanding the gaps

1. As Mozambique, most developing countries fail to build their own agricultural monitoring systems due to the costs of setting up and operating these systems, as well as the **technical knowledge they require**.

2. Farmers and policy makers are over-dependent on information provided by third parties, making decisions and taking risks based on potentially **out-of-date or incomplete information**.

3. Rural smallholder farmers are usually those most heavily **affected by reductions in agricultural production or abnormal food price fluctuations**.

There was need of an agricultural monitoring system, which could help estimate domestic and global agricultural production and provide early warnings about shortages or gluts.
The crop-monitoring system that uses both satellite-based remote sensing to monitor four major categories of 32 indicators – CropWatch agroclimatic indicators (CWAIs), arable land-use intensity indicators, agronomic indicators and crop-production indicators – on global, regional, national and sub-national levels, or any interest of areas.

As of 2018, CropWatch was launched in Mozambique in collaboration with the Universidade Católica de Moçambique (UCM) through the Ministry of Agriculture and Rural Development.
Collaborative data collection activities

Main tools: Survey 123, ODK, GVG, UAVs and Questionnaires
Mozambique National Cropland Map at 10m resolution for 2017-2019

Overall Accuracy: 83.8%.

Customization of CropWatch system for Mozambique

1. 10m National Cropland Map

2. National Boundaries Map (CENACARTA)

3. National Agroecological Zones Map (MADER)

4. Phenology of major crops (MADER)

5. Insut Information
A customized CropWatch cloud (IN PORTUGUESE) platform provides crop-condition monitoring on the National, Provincial, district and Administrative unites...
Several Remote Sensing-based information (i.e., Precipitation, temperature, NDVI, vegetation condition index, etc...) can be accessed by anyone, anywhere at anytime.
74% of the farmers interviewed in Tete and 83% of those interviewed in Gaza reported that land preparation and sowing was challenging (Realizada com muitas dificuldades or Realizada com algumas dificuldades e/ou atrasos) mostly due by the lack of Utensílios agrícolas.
In June 2018, Mozambique officially integrated National Agro-Meteorological monitoring results from CropWatch on provinces and districts.
Disaster impacts assessment (Response to cyclone Idai-2019)

How long did crops survive from floods caused by Cyclone Idai in Mozambique detected with multi-satellite data

José Botana, Miao Zhang, Bingfang Wu, Hongwei Zheng, Mohsen Nabi, Ning Zhang, Abdelrazek Elavar, Puyou Tian, José Marques da Silva, Anaclita Botão, Ali Aminzadeh, Terence Darlington Munro, Nana Yan

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Remote Sensing of Environment
A dedicated page on the CropWatch Cloud Webpage for Mozambique Crop conditions and disaster updates for 2023 and desaster’s Updates in Portuguese language
Collaborative Crop conditions and desaster’s Updates in Portuguese language

...the outputs
Challenges and Opportunities

- Need constant training of technicians on digital platforms use;
- Need to disseminate information to smallholder farmers in real time on weather forecast and risk alerts;
- Use of high precision satellite images with resolution up to 1m^2;
- Use of many platforms such as community radio, SMS, USSD with agroclimate and market price.

MADER informs that for southern region of country, sowing should start on the 20th of October, using short cycle varieties.

On second period JFM the risk for floods are very high....
OBRIGADO
Khanimambo