

# UNCTAD Workshop on advancing satellite-based crop monitoring to increase resilience in the face of global food insecurity



## **Situation of crop monitoring in Mali**



### **Malian Team**

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# Presentation plan

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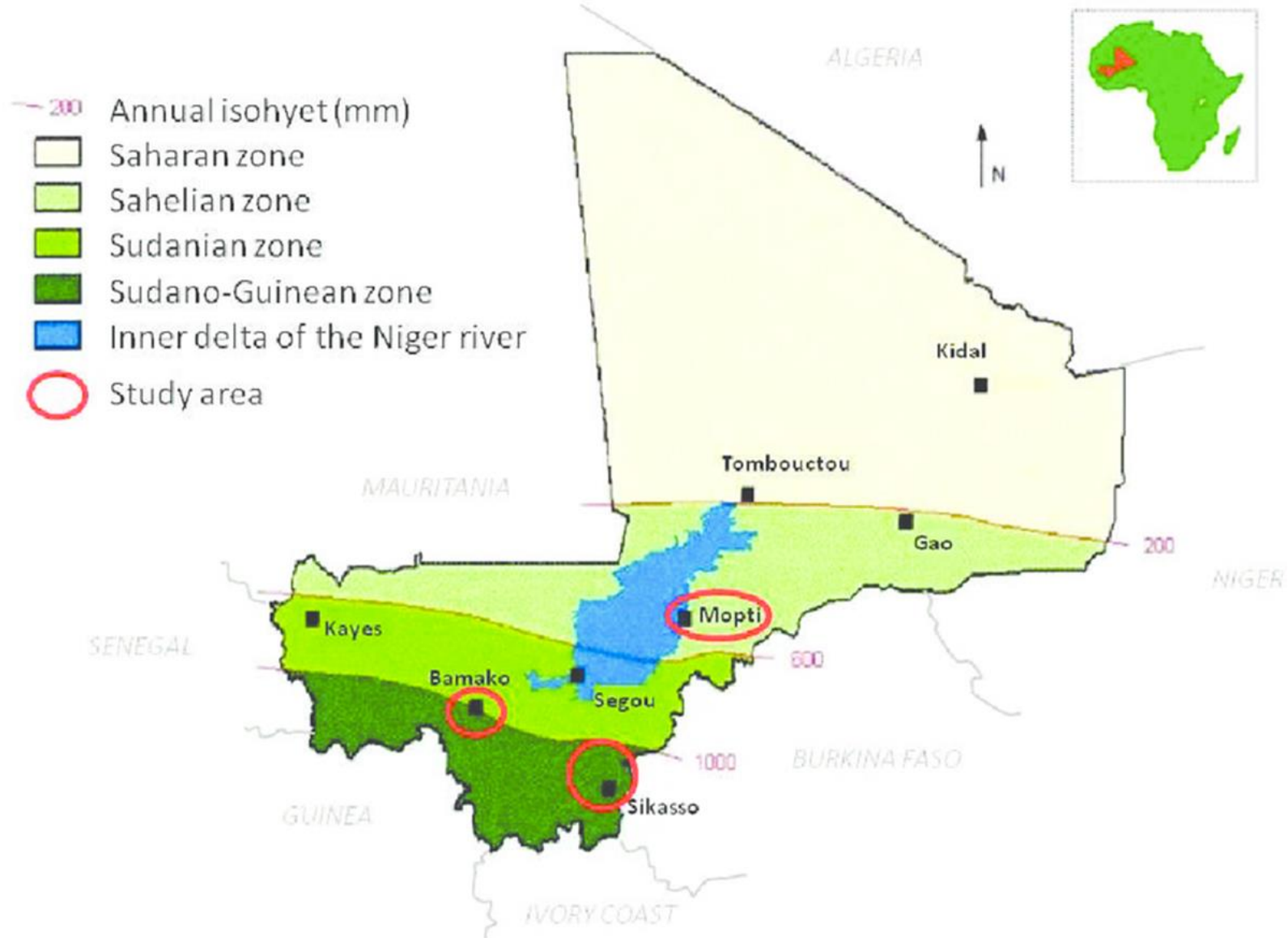
- ❖ **Introduction**
- ❖ **Objective**
- ❖ **Methodology**
- ❖ **Results**



# 1. Introduction

- Mali is a semi-arid, landlocked, agrarian, low-income country with a rapidly growing population.
- Population, estimated at 20 million in 2022, is very young with a median age of 16 years and growing at an average rate of 3% (GOM). It is estimated more than 30 million in 2025.
- Agriculture (including livestock) provides 36 to 40% of Gross Domestic Product (GDP) (CPS/SDR, 2022).
- Rainfall is irregular, poorly distributed, low and declining.
- Rain Saison in agriculture zone ranges from 03 to 06 month from north to south.

## 2. Climatic zones in Mali



# Mains crops (CPS/SDR, 2022)



34% corn



Millet 20%

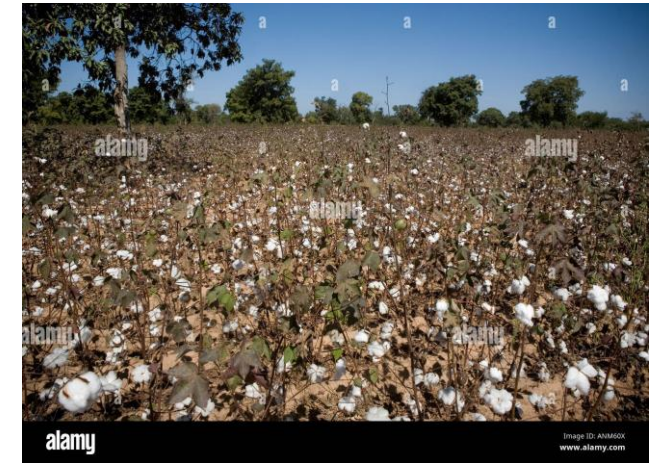


Sorghum 15%



30% Rice

The main cash crop  
is Cotton





### 3. Objective

The objective of this work was to collect information on the current status of crop monitoring in Mali

### 4. Méthodologie

Existing documents on the subject has been collected and used;

Exchanges has been done with resources persons from key structures involved in the field;

Information has been also collected on internet.

# 5. Results



Crop monitoring in Mali is based on policy and technical services

## 5.1. Crop monitoring policy:

The policy documents include:

- Agricultural Development Policy (PDA),
- Agricultural Orientation Law (LOA),
- Higher Council of Agriculture, chaired by the President of the Republic,
- Executive Committee of Agriculture, chaired by the Prime Minister,
- Statistical Sub-Committee of agriculture,

The main objectives of these policies are:

- Promotion of sustainable, modern and competitive agriculture primarily based on small scale farm and recognized and secure Professional Agricultural Organizations (OPA).
- Promotion of agricultural entrepreneurship,
- Production of agricultural balance sheet and planning.
- Assessment and validation of statical reports



## 5.2. Technical Services of crop Monitoring

- Météo-Mali,
- National Direction of Agriculture (DNA),
- World Food Programme (PAM),
- Plant Protection agency (OPV), office of Niger(ON), rice office of Segou,
- Office of Upper Valley of Niger (OHVN),
- Malian Company for Textile Development (CMDT),
- Planning and statistics service of the Ministry of Agriculture,
- National Direction of Productions and Animals Industries (DNPIA),

## 5.2.1. Mali-Meteo :



- *Multidisciplinary team*

Multidisciplinary Working team for Meteorological Assistance is composed by: Meteorologists, agrometeorologist, agronomists, soil scientists, agricultural supervision and extension agents, crop defence specialists, communication Specialists.

The team is in charge to collect and process data and produce information on: climate issue, weather forecasting, agroclimatology issues, agronomic issues (choice of varieties, cultivation techniques, soil, etc.); plant diseases and pests, and information dissemination

The team has been implemented during droughts periods of 1970s in order to improve decision-making in farm operations, to reduce risks associated to negative climatic effects.

- ***Technical extension agents***

At local level they collect data and information and send it's to higher administrative level where its are processed and /or analysed or overlay on other data like satellite data to monitor crops state and evolution.

### ***5.2.2. National Direction of Agriculture (DNA):***

Technical extension agents at local level collect data on crop development and other information related to crop monitoring during production period.

The collected data and information are processed and used to advice farmer and improve decision-making.

## 5.2.5. Planning and Statistics service (CPS) of the Ministry of agriculture

The CPS collects and process data and information on:

- crop types, production and yields, sown and replanted areas, areas that have received inputs, areas under pure cultivation, crops association, different types of irrigation and their yield, the lost areas by flooding, drought, insecurity, fires, etc.

**Agricultural Conjuncture Survey** (EAC) and General Agricultural Census (RGA) carried out each year and each decade respectively constitute a strong basis for monitoring crops in Mali

### 5.2.3. World Food Programme (WFP):

Since 2020, it relies on representative of:

- The Ministry of Agriculture, Agricultural Research, Universities and Meteorological Services to analyse crop dynamics in areas with difficult access.
- Google engine and sentinel2 images and a script are used in this context. The dynamics are evaluated in comparison with a reference year.
- The results are used decision for decision-making for food security

## 5.2.4. Plant Protection agency (OPV)

OPV reports on the phytosanitary situation. At local level, extension agents collect data and information on:

- phytosanitary status of crops. Infested, treated and lost superficies are estimated.
- Activities of locusts, grasshoppers, beetles, lepidoptera, seed-eating birds, rodents, fruit flies, diseases and weeds, aphids, *Locris rubra*, pests of stored foodstuffs and pests are monitored.
- Others protection services are CMDT, OHVN, Rice office of Segou

## 5.2.6. National Direction of Industrial and Animal Production (DNPIA)

- It has agents at local level who collect information on the condition of pastures and fodder crops.
- In collaboration with universities, research and technical services related to the theme, DNPIA collects and processes data on the state of fodder in the country's pastoral and agro-pastoral zones at the end of each rainfall season.
- It also estimates the availability of livestock feed for each year.



### **5.2.7. Agricultural Market Observatory service:**

It collects and analyses data and disseminates information on agricultural products. It produces documents on prices, availability, supply and demand.

## **6. Crop monitoring documents:**

The National Meteorological Agency of Mali produces a climate newsletter that provides information on:

- Climate characteristics;
- Beginning and end of the production seasons;
- and different periods of intervention;
- Floods and drought periods.

- This information is accessible on national television channels, national and local radio stations, on Internet and on digital files that actors of agricultural share;
- Advice is also provided on varieties to be used for the season;
- Each service, produces reports in its field of intervention, the use of which makes it possible to improve political, financial and technical decision-making.

## 7. Perspectives

- Introduction of drones in crop monitoring
- Training of agents on the use of drones in crop monitoring

## 8. constraints:

- Lack of financial and human resources;
- Lack of data at national level;
- Insecurity;
- Lack of consistency between budget process and seasonality of interventions.

## 9. Conclusion

- crop monitoring is done in Mali.
- It is very important in this context of climate change, insecurity in Mali and for food security.
- However, resources are insufficient and the methods used need improvement.

**Thank you for your kind  
attention !**