



ICRISAT in

Mali



Country Overview

The Republic of Mali, a landlocked country in West Africa, is the eighth-largest country in Africa with an area of over **1,240,000 square kilometers** (480,000 sq mi). Mali's key industry is agriculture. The population of Mali is approximately **21.9 million**.

The humanitarian context in Mali remains marked by a complex crisis that derives from a volatile security situation, exacerbated by structural vulnerabilities, socio-economic challenges, and climate change. By 2024, an estimated 1.3 million people will be acutely food insecure.

– *Mali Humanitarian Response Plan 2024, FAO*

The ICRISAT West and Central Africa (WCA) regional hub has been at the forefront of implementing agricultural research for development in partnership with the Mali Institute of Rural Economy (IER). The partnership works to improve the livelihoods and resilience of smallholder farmers in the Sudano-Sahelian climate risk zones of the country. It has succeeded in developing improved millet, sorghum, and groundnut varieties and their cropping systems



Partnerships

In addition to the IER, which is the apex agricultural research institution in the country, ICRISAT collaborates with a number of farmer organizations in Mali, such as the Union locales des Producteurs de Céréales de Dioila (ULPC), Association des organisations professionnelles paysannes (AOPP), Union des Agriculteurs du cercle de Tominian (UACT), Association Malienne d'Eveil au Développement Durable (AMEDD), Faso Kaba, and Union Semencière des Coopératives de Production du Maïs de Diédougou (USCPMD). ICRISAT also works closely with regional organizations, including the West and Central African Council for Agricultural Research (CORAF/WECARD), Permanent Interstate Committee for Drought Control in the Sahel (CILSS), Alliance for a Green Revolution in Africa (AGRA) and Forum for Agricultural Research in Africa (FARA).



ICRISAT

INTERNATIONAL CROPS RESEARCH
INSTITUTE FOR THE SEMI-ARID TROPICS



Milestones

ICRISAT and IER began collaborating in 1979 with the establishment of the ICRISAT-Mali bilateral program for research on sorghum and millet, with the support of **USAID**.

IER and ICRISAT have collaborated to develop groundnut, sorghum, and pearl millet value chains in the country under various projects.

- **1995 – 2000, 2004 – 2007:** Molecular markers were identified in sorghum for resistance to *Striga* weed.
- **2000 – 2008:** Developed hybrid parents, resulting in the first Guinean-race sorghum hybrids for national and regional testing. (**Rockefeller Foundation**)
- **2002 – 2004:** IER and ICRISAT promoted fertilizer micro-dosing technology in target regions that resulted in a **120%** increase in yield for sorghum and millet. (**USAID**)
- **2003 – 2008:** The Desert Margins Program (DMP) addressed environmental issues of global importance, particularly safeguarding biodiversity, combating land degradation, and increasing carbon sequestration. (**Global Environment Facility**)
- **2006 – 2009:** Developed the aflatoxin risk early warning system for improving smallholder farmers' nutrition, health, and incomes in West Africa. (**Canadian International Development Agency**)
- **2014 – 2016:** Developed sorghum varieties with local adaptation and improved grain nutrient content using the molecular breeding platform. [**NARS, German Federal Ministry for Economic Cooperation and Development (BMZ)**].

Groundnut:

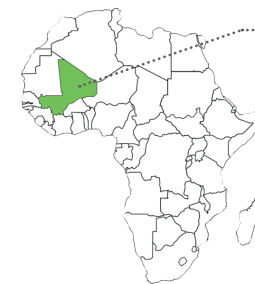
- **1996 – 2002:** Groundnut stock was collected, characterized, and conserved in the regional gene bank in Niamey under The West Africa Groundnut Germplasm Project (**Common Fund for Commodities**) in collaboration with ICRISAT. Four groundnut varieties have been registered.
- **2003 – 2007:** The West African Groundnut Seed Project (CFC) supported interventions to empower farmers to breed new groundnut varieties in Mali's main groundnut basins (Dioila, Kolokani, Kita, and Kayes).
- **2015 – 2018:** The **USAID**-funded project 'Increasing Groundnut Productivity for Smallholder Farmers in Ghana, Mali, and Nigeria' further improved groundnut production and productivity, thereby improving farmers' incomes.

Ongoing Projects

- Africa Research in Sustainable Intensification for the Next Generation (Africa RISING, funded by **USAID**).
- Improving Crop Productivity and Climate Resilience for Food and Nutrition Security in Mali (2020-2024, funded by the **European Union**).
- Integrated Seed Sector Development in the Sahel (ISSD/ Sahel) is a four-year project (2020-2024) funded by the **Embassy of the Kingdom of the Netherlands**.
- Collaborative project between the World Food Program (WFP) and ICRISAT for implementing the WFP National Strategic Plan 2020-2024 in Mali.
- **SERVIR West Africa 2 (SERVIR WA 2)** funded by **USAID** for five years.



Key Outcomes



- **56** improved sorghum varieties
- **07** improved pearl millet varieties
- **20** improved groundnut varieties

Groundnut:

- ICRISAT and its partners registered 13 Open Pollinated Varieties (OPVs) and 7 hybrids in Mali's national/regional catalog in 2016.
- In collaboration with IER, ICRISAT released several improved varieties, such as Alasson, Yiriwa, Tiga, Nieta, and Tiga, which produce a yield advantage of at least 20% over local varieties.
- In 2019, 25 motorized shelling machines were distributed to groundnut farmers to reduce drudgery and labor costs associated with shelling.

Sorghum:

- Dual-purpose sorghum varieties (Grinkan, Tiandougou, Tiandougou coura and Ségifa) offer better options for Mali farmers by producing both grain for food and fodder for livestock.
- **Enhancing Crop Productivity and Climate Resilience for Food and Nutrition Security (UE-APSAN-Mali):** A total of 37 new varieties of sorghum, millet, groundnut, and cowpea were promoted through 300 producer-run demonstrations.
- **Africa RISING's Large-scale Diffusion of Technologies for Millet and Sorghum Systems (ARDT_SMS) funded by USAID** benefited **261,197 farmers (30% women)** through **29,852** farmer field school facilitators. An economic analysis showed **60%** higher grain yields.
- The **Tropical Legumes Project (TL I, II, and III)** released ten groundnut varieties in Mali.