ICRISAT in Mali

Country overview

‘Mali is experiencing alarming levels of food insecurity. Over 1.8 million Malians are projected to be in high acute food insecurity in June–August 2022. This represents a 42% increase compared with the same period last year. Mali’s food crisis results from insecurity, intercommunity conflicts, disruption of socio-economic activities and insufficient rainfall, causing a deterioration in livelihoods.’

– Mali Humanitarian Response Plan 2022, FAO

The ICRISAT WCA regional hub has been at the forefront of implementing Agricultural Research for Development (AR4D) in partnership with the Institute of Rural Economy (IER). The partnership aims to improve the livelihoods and resilience of smallholder farmers in the Sudano-Sahelian climate risk zones of the country. It has seen success in the development of improved varieties of millet, sorghum and groundnut; and their cropping systems while linking farmers to markets.

Partnerships

ICRISAT’s counterpart institution in Mali is IER, which is the apex agricultural research institution in the country. ICRISAT also collaborates with a number of farmer organizations in Mali, such as Union locales des Producteurs de Céréales de Dioila (ULPC), AOPP, Union des Agriculteurs du cercle de Tominian (UACT), AMEDD, Faso Kaba, and Union Semencière des Coopératives de Production du Maïs de Dièdougou (USCPMD). ICRISAT also works closely with regional organizations including CORAF/WECARD, CILSS, AGRHYMET, AGRA and FARA.
Milestones

- ICRISAT and IER began collaboration 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.
  - 2000 – 2008: Developed hybrid parents that resulted 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 120% increase in yield for sorghum and millet (USAID)
  - 2003 – 2008: Desert Margins Program (DMP) addressed environmental issues of global importance, in particular safeguarding biodiversity combating land degradation and increasing carbon sequestration [Global Environment Facility (GEF)]
  - 2006 – 2009: Developed the aflatoxin risk early warning system for improving the nutrition, health and incomes of smallholder farmers in West Africa (Canadian International Development Agency)
  - 2014 – 2016: developed sorghum varieties with local adaptation and improved grain nutrient content using molecular breeding platform (NARS, BMZ).

Groundnut:
- 1996 – 2002: Groundnut stock was collected, characterized and conserved in the regional gene bank in Niamey under the 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, Kayes).
- 2015 – 2018: The USAID funded project ‘Increasing Groundnut Productivity for Smallholder Farmers in Ghana, Mali, and Nigeria’ further improved the production and productivity of groundnut thereby improving the 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, EU funded).
- Integrated Seed Sector Development in the Sahel (ISSD/Sahel): 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 the implementation of the WFP National Strategic Plan 2020-2024 in Mali.
- SERVIR West Africa 2 (SERVIR WA 2) funded by USAID over a period of five years.

Key Outcomes

Groundnut:
ICRISAT and its partners have registered 13 Open Pollinated Varieties (OPVs) and 7 hybrids in the national/regional catalogue in Mali in 2016.
In collaboration with IER, ICRISAT released several improved varieties such as Allasson, Yiriwa, Tiga, Nieta, 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.
USAID funded Africa RISING’s Large-scale Diffusion of Technologies for Millet and Sorghum Systems (ARDT_SMS) benefited 261,197 farmers (30% women) through 29,852 Farmer Field School facilitators. An economic analysis showed 60% higher grain yields.
Through the Tropical Legumes Project (TL I, II, III), Ten groundnut varieties were released in Mali.