



ICRISAT

# Genebank



## Background

Established in 1972, ICRISAT's genebank in India is one of the largest and conserves over **129,000** germplasm accessions of **11 crops**:

Sorghum	Proso millet	Chickpea
Pearl millet	Barnyard millet	Pigeonpea
Finger millet	Kodo millet	Groundnut
Foxtail millet	Little millet	

This has been achieved through both acquisition and collection missions across **144** countries.

ICRISAT's genebank has contributed to and will continue to contribute to food security and achieving SDG 1 (No Poverty) and SDG 2 (Zero Hunger) in the drylands of Africa and Asia that sustain nearly **30%** of the global population.

ICRISAT has various opportunities for partners to help fund the genebank and in doing so directly contribute to the conservation of plant genetic diversity and its use in breeding new varieties of resilient crops. This plays a crucial role in food security as recognized by the Second Global Plan of Action for Plant Genetic Resources for Food and Agriculture.



## Genebank Functions

- Augmenting germplasm through collections and acquisitions
- Conservation of germplasm for the medium- and long-term storage
- Duplication of germplasm as a long-term insurance against the loss of biodiversity
- Characterization of germplasm for descriptor traits
- Evaluation of germplasm for desired breeding traits
- Regeneration of germplasm to make it available upon request
- Free distribution of germplasm to all stakeholders
- Knowledge sharing and capacity building of National Agricultural Research Systems.





ICRISAT has placed its germplasm collections under the auspices of the **Food and Agriculture Organization (FAO)** and is a signatory to the **International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA)**. This is to

ensure unrestricted access to Plant Genetic Resources (PGR) by stakeholders under a multilateral system. Our regional genebanks in Niamey-Niger, Bulawayo-Zimbabwe, and Nairobi-Kenya, facilitate easy access to regional and global crop diversity and act as active distribution hubs for sub-Saharan Africa.

The ICRISAT genebank in India hosts several landraces that have disappeared from their natural habitats Africa and Asia. It has repatriated over **55,000** accessions to nine national programs in Asia and Africa. Since its inception, the **ICRISAT genebank has supplied 1.565 million seed samples to researchers in 150 countries.**

The germplasm being conserved at ICRISAT's genebank comprises of nearly **81%** landraces, **17%** breeding lines/ advanced cultivars/genetic stocks and **2.23%** wild/weed relatives. The collection serves both as insurance against genetic erosion and as a source of tolerance genes for diseases and pests, environmental stresses, higher nutritional quality and traits related to yield for crop improvement.

ICRISAT's improved cultivars released for the benefit of Asian and African farming communities have their origins in the genetic resources contained in the genebank. More than **1200** varieties have been released globally in **81** countries either via direct selection from the germplasm or through using the germplasm conserved in ICRISAT genebank in breeding program.

The ICRISAT genebank is one of the few global genebanks to have crop core and minicore collections (with genotyping information) available on request.

The Nordic Gene Bank (in partnership with the Global Crop Diversity Trust) has invited ICRISAT to deposit its germplasm collections at the Svalbard Global Seed Vault. ICRISAT accepted and signed the Standard Deposit Agreement with the Royal Norwegian Ministry of Agriculture and Food in 2007.

The first consignment was sent to Svalbard in 2008 and the most recent in 2021. Out of the total **129,415** accessions conserved in the ICRISAT genebank, **117,713** accessions (91%) are currently safety-duplicated in the Svalbard Global Seed Vault.

**Percentage of ICRISAT genebank collections safety-duplicated in the Svalbard Global Seed Vault:**

