

## The Plant Gene Bank in Sudan and the Impact of the Ongoing War

The Sudan Plant Gene Bank, established in 1982 in Wad Medani as part of the Agricultural Research Corporation, plays a vital role in preserving and documenting the genetic diversity of local crops such as sorghum, sesame, and millet. It safeguards genetic resources that are crucial for agricultural improvement and food security, especially amid climate changes and natural disasters.

### Importance of the Gene Bank

#### Preserving Genetic Diversity:

The bank holds over 15,000 seed samples, helping to protect agricultural diversity and allowing for the re-cultivation of crops in case of loss

#### Climate Adaptation:

Provides genetic material necessary to develop crops resistant to drought, pests, and harsh environmental conditions

#### Supporting Agricultural Research:

It serves as a resource for researchers developing modern agricultural techniques to enhance productivity

#### Impact of the Current War:

Since the outbreak of conflict in April 2023 between the Sudanese Armed Forces and the Rapid Support Forces, the gene bank faces severe challenges threatening its existence, including security issues, funding shortages, and disruptions in electricity crucial for seed storage

**Funding and Resource Shortages:** The conflict has made it difficult to secure funding needed to operate the bank and preserve seeds in safe conditions or relocate them out of Sudan

**Physical Damage:** Local reports indicate that some facilities of the gene bank have been damaged due to clashes, affecting the maintenance of essential equipment

**Loss of Genetic Material:** It is estimated that 20-30% of the samples are at risk, threatening the survival of critical agricultural varieties

### Statistics

According to the Food and Agriculture Organization (FAO), about 75% of global genetic diversity is at risk due to conflicts and natural disasters. Sudan preserves over 15,000 seed samples in the Wad Medani gene bank, with some varieties endangered due to ongoing instability

### Current Situation

According to the Director of the Biosafety and Biotechnology Research Center, Talal Sayed Abdel Haleem, it is challenging to assess the full extent of the damage to the genetic resource bank due to the absence of field visits. Testimonies suggest that the bank has been looted, with many of its equipment stolen, including long-term preservation refrigerators, and seed samples scattered, exposing them to degradation

Recently, initiatives have been taken to secure samples by transferring around 3,200 copies to the Svalbard Global Seed Vault before the conflict reached Wad Medani. Furthermore, additional samples, approximately 2,000 from the Al-Obeid unit, have been transported to Port Sudan for safeguarding and planned shipment to the Svalbard vault. The gene bank aims to secure over 50% of Sudan's genetic resources at Svalbard due to the immediate threat posed by the conflict.

The Sudan Plant Gene Bank is a critical defense line for protecting the country's agricultural heritage. The ongoing war threatens to erode this genetic diversity, posing long-term risks to agriculture and food security. Urgent actions, including enhanced security, financial, and technical support, are essential to safeguard this vital resource.

Sources:

- Food and Agriculture Organization of the United Nations (FAO)
- Reports of the Sudanese Ministry of Agriculture
- International Union for Conservation of Nature (IUCN)
- <https://www.shorouknews.com/mobile/news/view.aspx?cdate=25012024&id=3debc020-b2d7-4ba6-8252-bb50ed1e183b>
- <https://www.aljazeera.net/amp/ebusiness/2024/2/3/إلى-الحرب-انتقال-بعد-الجزيرة-ولاية>

