



National Gene Bank

Why in News

Recently, the **Union Minister for Agriculture and Farmers Welfare** inaugurated the **world's second-largest refurbished state-of-the-art National Gene Bank** at the [National Bureau of Plant Genetic Resources \(NBPGR\)](#).

- **Gene Banks** are a type of biorepository which preserve genetic material. A **collection of seed plants, tissue cultures etc.**
 - A gene is the **basic physical and functional unit of heredity**. Genes are made up of [Deoxyribonucleic Acid \(DNA\)](#).

National Bureau of Plant Genetic Resources (NBPGR)

- It is a **nodal organisation for management of plant genetic resources** in India and functions under the control of [Indian Council of Agricultural Research \(ICAR\)](#).
- It is **conserving seed germplasm** for long-term conservation (at -20°C) in its **National Genebank (NGB)**.
- It **plans, organizes, conducts and coordinates exploration and collection** of indigenous and exotic **plant genetic resources**. It is **headquartered in New Delhi** and has 10 regional stations.

Key Points

- **About:**
 - The **National Gene Bank** was established in the year 1996 to preserve the seeds of **Plant Genetic Resources (PGR)** for future generations, and has the capacity to preserve about one million germplasm in the form of seeds.
 - **Germplasm is living tissue** from which **new plants can be grown**.
 - **NBPGR** is meeting the **need of in-situ and ex-situ germplasm conservation** through Delhi Headquarters and 10 regional stations in the country.
 - In **situ and ex situ conservation focuses** on the **maintenance of species diversity** within or away from their natural habitats, respectively.
- **Significance:**
 - Presently, it is protecting **4.52 lakh accessions, of which 2.7 lakh are Indian germplasm** and the rest have been imported from other countries.
 - An **accession** is a **single, collected variety or varieties of a wild plant, a landrace or a plant variety** that has been produced by **selective breeding**,

more commonly known as a cultivar.

▪ **Functioning:**

- The **NGB has four kinds of facilities**, namely, **Seed Genebank (- 18°C)**, **Cryogenebank (-170°C to -196°C)**, **In vitro Genebank (25°C)** and **Field Genebank**, to cater to long-term as well as medium-term conservation.
- It stores different crop groups such as **cereals, millets, medicinal and aromatic plants and narcotics, etc.**

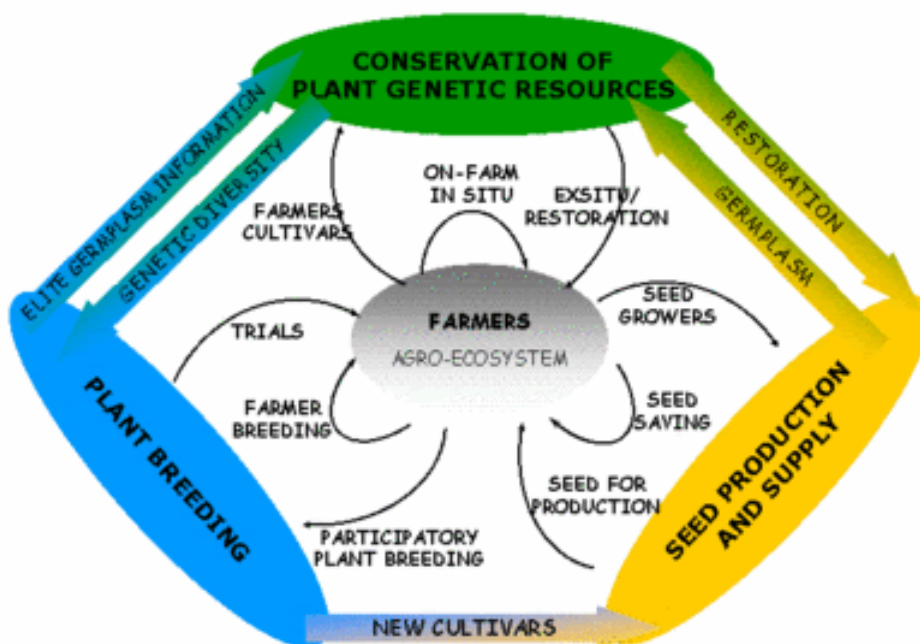
▪ **Other Facilities:**

- The **Svalbard Global Seed Vault** in Norway houses the **world's largest collection of seeds.**
- **India's seed vault** is at Chang La (Ladakh) in the Himalayas.
- **National Animal Gene Bank**, established at the National Bureau of Animal Genetic Resources (NBAGR - Karnal, Haryana), has the objective of conserving the indigenous livestock biodiversity.

- NBAGR is one of the [Indian Council of Agricultural Research \(ICAR\)](#) institutes.

Plant Genetic Resources

- They are the **biological basis of food security** and, directly or indirectly, support the livelihoods of every person on Earth.
- They have been defined as the **genetic material of plants, which is of value as a resource for present and future generations of people.**
- They are any **plant materials, such as seeds, fruits, cuttings, pollen, and other organs and tissues** from which plants can be grown.
- They have an **important role to play to ensure food security.** They have been the foundation for the development of agriculture ever since it started 10,000 years ago.



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