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Gene Bank to be established to ensure food security

It aims to ensure genetic resources and food security for future generations

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During a post-budget webinar held via video conferencing, Prime Minister Narendra Modi announced that a Gene Bank will be established to conserve the country's genetic resources. This initiative aims to ensure genetic resources and food security for future generations.

The webinar fosters collaboration among government, industry, academia, and citizens, encouraging discussions to help translate the transformative Budget announcements into effective outcomes. With a key focus on empowering citizens, strengthening the economy, and fostering innovation, the deliberations will aim at paving the way for sustainable and inclusive growth, leadership in technology and other sectors, and a skilled, healthy workforce working towards realising the goal of Viksit Bharat by 2047. The key themes of the webinar include investing in People, the Economy, and Innovation

A gene bank is a repository of genetic material, such as seeds, pollen or tissue samples, collected from different plant species in order to protect them from potential extinction and preserve vital varieties for future generations.

India's first gene bank was set up in 1996 by the Indian Council of Agricultural Research-National Bureau of Plant Genetic Resources (ICAR-NBPGR) in New Delhi. This bank is comprised of 12 regional stations across the country for the collection and storage of vital crop germplasms. These germplasms are the genetic constituents of plants or animals that is used in research, conservation and crop breeding.

As on January 15, 2025, the bank currently stores 0.47 million accessions (plant material stored and used for breeding) — according to the database maintained by ICAR-NBPGR. These include cereals (0.17 million accessions), millets (more than 60,600 accessions), legumes (over 69,200 accessions), oilseeds (more than 63,500 accessions) and vegetables (nearly 30,000 accessions).

The Ministry of Finance has announced the establishment of a second National GenBank in the 2025-26 budget to safeguard India’s agricultural biodiversity. This facility will house 10 lakh (1 million) germplasm lines, offering critical conservation support for both public and private sectors involved in genetic resource management.

India is recognized as a biodiversity-rich country with a wide variety of cultivated crop species and their wild relatives. With over 811 cultivated crop species and 902 crop wild relatives, the nation plays a pivotal role in preserving plant genetic resources (PGR), which are essential for agricultural resilience, food security, and combating the challenges posed by climate change. The existing National GenBank, led by ICAR-NBPGR, conserves over 4.7 lakh accessions and supports the global effort of PGR conservation through partnerships and distributions to researchers, breeders, and scientists.

The establishment of the second GenBank will strengthen India’s position as a leader in global biodiversity conservation. This new facility will not only safeguard India’s invaluable plant genetic resources but also support international biodiversity initiatives, especially for countries in SAARC and BRICS regions, offering conservation assistance to those lacking well-established PGR networks.

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