



Genome India Project Approved

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Why in News

The **Department of Biotechnology** under the **Ministry of Science and Technology** has cleared the **Genome India Project**.

- It is a **gene-mapping project** involving 20 leading institutions including the **Indian Institute of Science (IISc)** in Bengaluru and a few **Indian Institute of Technology (IITs)**.
- The project is said to be among the most significant of its kind in the world because of its scale and the diversity it would bring to genetic studies.

Key Points

- The first stage of the project will look at samples of 10,000 persons from all over the country to form a grid that will enable the development of a **reference genome**.
- The **Centre for Brain Research**, which is an **autonomous institute in the IISc, Bengaluru**, will serve as the **nodal point** of the project.
- **Significance:**
 - The diverse genetic pool of India will be mapped and it will help in making personalised medicine. Today, the goal of personalized medicine is to utilize information about a person's genes, including his or her nucleotide sequence, to make drugs better and safer.
 - It will be a hard task considering the population diversity and the disease burden of complex disorders like diabetes, mental health, etc but once the genetic basis is ready it will be possible and easy to take action before the onset of a disease.
 - Mapping of India's genetic landscape is critical for next-generation medicine, agriculture and for biodiversity management.
- The Government of India got inspiration from the **Human Genome Project**.

Human Genome Project

- It was an **international research effort** to determine the **sequence of the human genome** and identify the genes that it contains.
- It was a 13-year-long, publicly funded project **that ended in 2003**.
- The HGP has revealed that there are probably about **20,500 human genes**. This information can be thought of as the basic set of inheritable "instructions" for the development and function of a human being.

Source: IE