

Genome India Database

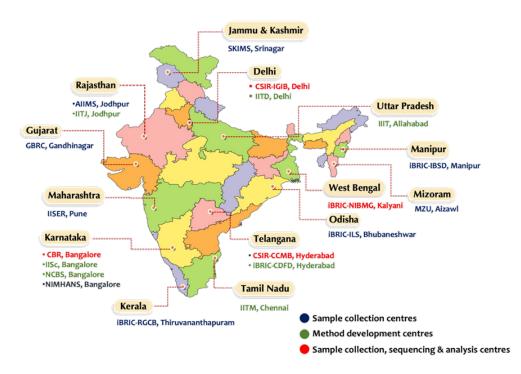
Why in News?

Recently, India has completed the 'Genome India' database'.

- Aim To create a robust and comprehensive database of India's genetic diversity.
- Housed at Indian Biological Data Centre (IBDC), Haryana.
- Indian Genomic Data Set It is the entire collection of <u>10,000 Whole Genome</u> <u>Sequencing (WGS) samples</u> accessible to researchers across within India and globally.

A **genome** is the complete set of genetic information in living organisms, which is stored in long molecules of DNA called Chromosomes.

- Catalog of genetic variations The samples come from diverse Indian populations and provide a rich genetic diversity.
- It represents <u>83 population groups or about 2%</u> of the country's 4,600 population groups as a database.



- Analysis The genomes estimate around <u>27 million low-frequency</u> (or relatively rare) <u>variants</u>, 7 million of them not found in similar reference databases around the world.
- Certain population groups show higher frequencies or different versions of the same gene.

- **Data privacy** The database isn't classified by the names of castes or tribes but it is *numerically coded*.
- Researchers must send a proposal to access the data.
- **Significance** It holds the potential <u>targeted clinical interventions</u> and advancing precision medicine for better healthcare.

In Biotech, India now ranks 12th *globally and* 3rd *in the Asia-Pacific region.*

References

- 1. The Hindu 10,000 Human Genomes Database
- 2. PIB India's Genomic Revolution

