Genome India Database

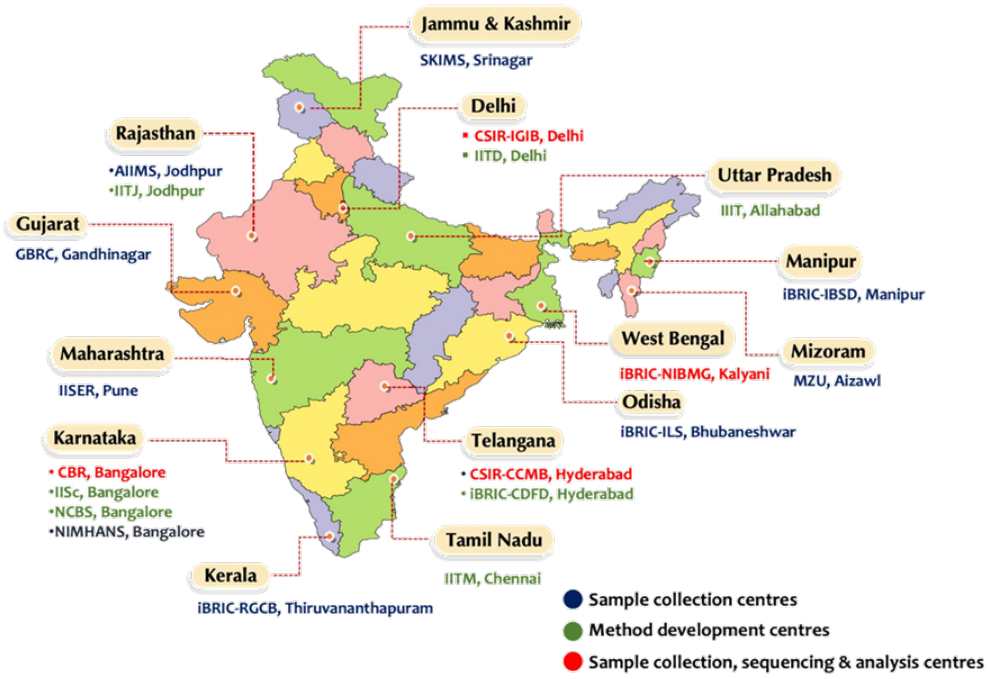
Why in News?

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 ***10,000 Whole Genome Sequencing (WGS) samples*** 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 *83 population groups or about 2%* of the country's 4,600 population groups as a database.



- **Analysis** – The genomes estimate around *27 million low-frequency* (or relatively rare) *variants,* 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 *targeted clinical interventions* 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

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