

Genome India Initiative

April 16, 2020

Why in news?

The Biotechnology Department (DBT) aims to study almost 20,000 Indian genomes in a two-phase experiment over the next five years to develop diagnostic tests that can be extended to cancer.

What is this initiative?

- The first phase involves the sequencing of the entire genomes of almost **10,000 Indians** from across the country and capturing India's biological diversity.
- DBT will capture data from more than 10,000 people over the next three years and link them to its bio banks and biorepository.
- The genomes of **10,000 "diseased persons"** would be sequenced in the next phase.
- Data on human sequencing would be accessible to researchers through a proposed **National Biological Data Centre** envisaged in **Biological Data Storage, Access and Sharing Policy**.
- Ever since the human genome was first sequenced in 2003, it opened a fresh perspective on the link between disease and the unique genetic make-up of each individual.
- The produced data would be available for study to researchers everywhere.



- As the genetic environment varies throughout the globe, genetic data must be exchanged to gain more insights from research and support the purpose of optimizing patient outcomes.
- The initiative will aim to make **predictive diagnostic**

markers available for some priority diseases such as cancer and other rare and genetic disorders

- Nearly 10,000 diseases – including cystic fibrosis, thalassemia are known to be the result of a single gene malfunctioning.
- The initiative will **pave the way to classify genes and genetic variations for common diseases, to treat Mendelian disorders** and to allow the precise medicine environment to be transformed in India.