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## Concerns Over DNA Technology Regulation Bill

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### Why in News

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According to the draft report of the **Parliamentary Standing Committee on Science and Technology**, the **DNA Technology (Use and Application) Regulation Bill, 2018** could be misused for **caste or community-based profiling**.

### Key Points

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- **Key Provisions:**
  - The Bill allows the use of the technology to establish the identity of persons in matters of **crime, parentage dispute, emigration or immigration and transplantation of human organs**.
  - It provides for establishment of **national and regional DNA data banks** and each databank will maintain **crime scene index, suspects' or undertrials' index and offenders' index** separately.
- **Background:**
  - A similar bill was passed in **Lok Sabha** in **2018** but could **not be passed in the Rajya Sabha**.
  - The 2019 Bill was referred to the **Parliamentary Standing Committee on Science and Technology, Environment and Forests** for examination.

- **Concerns Raised by the Committee:**

- **Misuse of Sensitive Information:**

- The **DNA profiles** can reveal **extremely sensitive information** of an individual such as family ancestry (pedigree), skin colour, behaviour, illness, health status and susceptibility to diseases.
- Access to such intrusive information can be misused to specifically target individuals and their families with their own genetic data.
- It could even be used to incorrectly **link a particular caste/community to criminal activities**.

- **Storage of DNA Profiles of Unconvicted Persons:**

- The Bill proposes to store DNA profiles of **suspects, undertrials, victims and their relatives** for future investigations.
- The Bill also provides that **DNA profiles for civil matters** will also be stored in the data banks, but **without a clear and separate index**.
- The committee has questioned the necessity for storage of such DNA profiles, pointing out that this **violates the fundamental right to privacy** and does not serve any public purpose.

- **Perfunctory Consent:**

- The Bill refers to consent in several provisions, but in each of those, a magistrate can easily **override consent**, thereby in effect, making consent perfunctory.
- There is also no guidance in the Bill on the grounds and reasons of when the magistrate can override consent.

- **Removal of DNA Profiles of Accused:**

- The Bill permits **retention of DNA** found at a crime scene in perpetuity, even if conviction of the offender has been overturned.
- The committee has recommended that independent scrutiny must be done of the proposals to **destroy biological samples and remove DNA profiles from the database**.

- **Absence of Robust Data Protections**

The committee has also called the Bill “premature” and questioned the **security of a huge number of DNA profiles** that will be placed with the **National DNA Data bank** and its regional centres.

- **Need of the Bill:**
  - DNA testing is currently being done on an **extremely limited scale in India**, with approximately 30-40 DNA experts in 15-18 laboratories undertaking less than 3,000 cases per year, which represent **2-3% of the total need**.
  - The standards of the DNA testing laboratories are not monitored or regulated, in absence of any proper regulation.
  - The Bill will enable **identification of missing children**.  
As per the **National Crime Records Bureau**, annually 1,00,000 children go missing.
  - The Bill will also help in identifying unidentified **deceased, including disaster victims** and **apprehend repeat offenders for heinous crimes such as rape and murder**.
  - Over the concerns of misuse it is being said that any and every blood sample collected by a clinical laboratory has the same potential for misuse.
- **Global Scenario Regarding DNA Profiling:**
  - According to US Interpol's **Global DNA Profiling Survey Results 2016**, as many as **69** countries have a national DNA database, including the USA, Canada and China.
    - The countries hold genetic information of at least 35,413,155 individuals.
    - Different countries have different regulations for collection, removal and retention of DNA samples.
  - **Declaration on Human Genetic Data**, which was adopted unanimously at **UNESCO's 32<sup>nd</sup> General Conference** on 16 October 2003, aims to ensure the respect of human dignity and protection of human rights and fundamental freedom in collection, processing, use and storage of human genetic data and biological samples.
- **Genome India Project (GIP):** Recently, the **Ministry of Science and Technology** also approved an ambitious gene-mapping project called the **Genome India Project (GIP)** which aims to sample and sequence 10,000 genomes in the first phase from across India, to arrive at **a representative Indian genome**.  
Gene Mapping is **different from DNA profiling** as DNA profiling uses small stretches of DNA to identify an individual while gene mapping involves sequencing the whole genome. Gene Mapping is done for scientific and medical uses while DNA profiling is done primarily for forensic and criminal investigation.

## Way Forward

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- Although DNA can be an important tool in solving crimes, using DNA effectively during criminal investigations requires **proper crime scene examination, trained and reliable policing, a trusted chain of custody of samples, reliable analysis, and proper use of expert evidence in court.** Thus, oversight of both laboratory quality assurance and crime scene examination need to be ensured. Also, keeping the civilian and criminal DNA Database separate is necessary.
- Prior adoption of a privacy or **data protection bill** would allow individuals some recourse if their rights were not protected. This is particularly important, especially following the Supreme Court's **Right to Privacy** judgment.
- The government also needs to do a **cost-benefit analysis** as creating large databases is often not a cost-effective way to solve more crimes, and limited resources must be targeted effectively.

**Source: TH**