

## Questioning the safety of Aadhaar

(Governance), GS Paper 2

### Why in news?

- After issuing an advisory asking **people to refrain from sharing photocopies of their Aadhaar Card**, the Unique Identification Development Authority of India (UIDAI) opted to withdraw the notification.
- It stated that the action was to avert any possibility of ‘misinterpretation’ of the (withdrawn) press release, asking people to exercise “normal prudence” in using/sharing their Aadhaar numbers.

### What did the UIDAI advisory say?

- The withdrawn notice had suggested holders **use a masked Aadhaar card instead of the conventional photocopy**, adding that the document must not be downloaded from a cybercafé or public computer and if done for some reason, must be permanently deleted from the system.
- **‘Masked Aadhaar’ veils the first eight digits of the twelve-digit ID with ‘XXXX’ characters.**
- The notice informed that only entities possessing a ‘User Licence’ are permitted to seek Aadhaar for authentication purposes. Private entities like hotels or film halls cannot collect or keep copies of the identification document.

### What does the law say?

- The Aadhaar (Targeted Delivery of Financial and Other Subsidies Benefits and Services) Act, 2016 makes it clear that **Aadhaar authentication is necessary for availing subsidies, benefits and services that are financed from the Consolidated Fund of India.**
- In the absence of Aadhaar, the individual is to be offered an alternate and viable means of identification to ensure she/he is not deprived of the same.
- Separately, **Aadhaar has been described as a preferred KYC (Know Your Customer) document** but not mandatory for opening bank accounts, acquiring a new SIM or school admissions.
- The regulator does not receive or collect the holder’s bank, investment or insurance details. Additionally, the Aadhaar Act **forbids sharing Core Biometric Information** (such as finger print, iris scan, among other biometric attributes) for any purpose other than Aadhaar number generation and authentication.
- The Act makes it clear that confidentiality needs to be maintained and the authenticated information cannot be used for anything other than the specified purpose. More importantly, **no Aadhaar number (or enclosed personal information) collected from the holder can be published, displayed or posted publicly.**
- Identity information or authentication records would only be liable to be produced pursuant to an order of the High Court or Supreme Court, or by someone of the Secretary rank or above in the interest of national security.

### Is identity theft via Aadhaar possible?

- As per the National Payment Corporation of India’s (NPCI) data, ₹6.48 crore worth of financial frauds through 8,739 transactions involving 2,391 unique users took place in FY 2021-22.
- Since the inception of the UID project, institutions and organisations have endowed greater focus on linking their databases with Aadhaar numbers, including for bank accounts especially in light of the compulsory linkage for direct benefit transfer schemes.
- The NPCI’s Aadhaar Payments Bridge (APB) and the Aadhaar Enabled Payment System (AEPS) facilitate direct benefit transfer (DBT) and allow individuals to use Aadhaar for payments. This requires bank accounts to be linked to Aadhaar.
- In 2017, researchers at the Centre for Internet and Society (CIS) acquired information of various beneficiaries of such social security and employment schemes such as their Aadhaar numbers, bank account details, job card status, mobile number etc.
- The same year, the UIDAI in response to an RTI stated that more than 200 central and State government websites publicly displayed details of some Aadhaar beneficiaries such as their names and addresses.
- Both were made possible by the lack of robust encryption. This data could be potentially used to fraudulently link the rightful beneficiary’s Aadhaar with a distinct bank account, embezzling the beneficiary by impersonation, made possible by the sizeable identity documents available.

### What are some of the structural problems that the UIDAI faces?

#### Aadhaar Data Vault:

- The **Aadhaar Data Vault** is where all numbers collected by authentication agencies are centrally stored.
- Its objective is to provide a dedicated facility for the agencies to access details only on a need-to-know basis.
- Comptroller and Auditor General of India's (CAG) latest report stipulated that UIDAI neither specified any encryption algorithm (as of October 2020) to secure the same nor a mechanism to illustrate that the entities were adhering to appropriate procedures. It relied solely on audit reports provided to them by the entities themselves.

#### **Issue with biometric authentication:**

- Further, UIDAI's unstable record with biometric authentication has not helped it with de-duplication efforts, the process that ensures that each Aadhaar Number generated is unique.
- The CAG's reported stated that apart from the issue of multiple Aadhaars to the same resident, there have been instances of the same biometric data being accorded to multiple residents.
- As per UIDAI's Tech Centre, nearly 4.75 lakh duplicate Aadhaar numbers were cancelled as of November 2019. The regulator relies on Automated Biometric Identification Systems for taking corrective actions.
- The CAG concluded it was "not effective enough" in detecting the leakages and plugging them. Biometric authentications can be a cause of worry, especially for disabled and senior citizens with both the iris and fingerprints dilapidating.
- Though the UIDAI has assured that no one would be deprived of any benefits due to biometric authentication failures, the absence of an efficient technology could serve as poignant premise for frauds to make use of their 'databases'.

#### **Huge data:**

- Also, what essentially needs to be remembered is that UIDAI is dealing with the world's second most populous country. As of March 2021, it had generated 129.04 crore Aadhaar numbers which covers 94% of the projected population.

#### **Conclusion**

- The CAG concluded it was "not effective enough" in detecting the leakages and plugging them.
- Though the UIDAI has assured that no one would be deprived of any benefits due to biometric authentication failures.
- The absence of an efficient technology could serve as poignant premise for frauds to make use of their 'databases'.

## **World Summit of Information Society (WSIS) 2022** **(International Institution), GS Paper II**

#### **Why in news?**

- Recently, Minister of State for Communications, attended the opening ceremony of World Summit of Information Society (WSIS) 2022.

#### **About WSIS:**

- WSIS is being **organized by International Telecommunications Unions (ITU)** at its **headquarter in Geneva, Switzerland** from 30th May to 3rd June, 2022.
- It's beginning of 4 days event where India will showcase its telecom prowess during multilateral & bilateral engagements.

#### **India's focus on digital development:**

- In India, Digital inclusion is at the heart of financial inclusion and inclusive economic development.
- The government is putting conscious and consistent efforts to provide reliable ICT infrastructure in this endeavor.
- Over six hundred villages are being connected on Optical Fibre cable, with nearly 175,000 already connected. Villages left out of 4G connectivity are being covered through Universal Service Obligation Fund (USOF).

- Given the difficulty in laying optical fibre networks in hilly and mountainous terrains, focus is on the use of technologies that can accelerate development and bridge this divide, like using E band wireless carriers, LEO and MEO satellite connectivity among others.

#### **New technologies for bridging digital divide:**

- Affordable broadband accessibility is the essence of digital inclusion.
- Developing **5G test bed, indigenous 4G and 5G stack**, development of **Indian 5G standards and setting up of 6G innovation forum** are the initiatives to reduce cost, facilitate faster 5G spread in rural area and eliminate dependency on specific vendor.

#### **Low mobility Large Coverage Standard:**

- The Telecom Standards Development Society of India, India's Standards Development Organisation, along with IITs have developed the Low mobility Large Coverage Standard (earlier called 5Gi) using a new waveform that enables 5G towers to cover wider areas in rural and remote areas.
- These standards were among the first 5G standards, which have been approved by the ITU and have also become part of Globally harmonized 3GPP Release 17 standards.
- These will be immensely helpful for countries with similar geographical spread. India is poised to play a leadership role in global digital revolution.

#### **India & ITU:**

- The participation comes with India contesting the re-election to the ITU Council, for the term 2023-2026.
- India has been a member of ITU, since 1869 and has been continuously participating, actively in the works, and activities of the Union.

## **NTPC's Biodiversity Policy for conservation and restoration of biodiversity** **(Environment), GS Paper 3**

#### **Why in news?**

- Recently, National Thermal Power Corporation Limited (NTPC Ltd.) released renewed Biodiversity Policy 2022, an integral part of NTPC's Environmental Policy.

#### **Background:**

- NTPC was the first PSU to issue Biodiversity Policy in 2018. In the same year, NTPC became a member of the India Business & Biodiversity Initiative (IBBI).

#### **Objectives:**

- It has issued renewed Biodiversity Policy 2022 to establish a comprehensive vision and guiding principle for conservation, restoration, and enhancement of biodiversity.
- Its objectives are **aligned with environmental and sustainability policies**.
- Moreover, the policy is also designed to support all the professionals of the NTPC Group to help them contribute toward the achievement of the targets set in this field.

#### **Scope:**

- NTPC will further strengthen its current efforts to achieve a 'no net loss' of biodiversity at all of its currently operating sites and ensure there is a net positive balance wherever applicable.
- It aims to **mainstream the concept of biodiversity across NTPC's value chain and adopt a precautionary approach for sustainable management of biodiversity** in all the decision-making processes to ensure the Earth's variety of life in and around the business units of NTPC.
- The policy also aims to adopt systematic consideration of local threats to biodiversity beyond the company's business activities.

### **Collaborative efforts for biodiversity conservation:**

- As part of its capacity building, NTPC is **raising awareness among local communities**, employees, and its associates across the supply chain about biodiversity through project-specific and national level trainings in collaboration with experts.
- NTPC is also collaborating with local communities, organizations, regulatory agencies and research institutes of national/international repute in the field of biodiversity.
- Further, NTPC will be adhering to legal compliances with respect to biodiversity by complying with rules and regulations related to the environment, forest, wildlife, coastal zone, and green cover during planning and execution of its projects.
- In a major initiative undertaken by NTPC, it has signed a **five-year agreement with Andhra Pradesh Forest Department for conservation of Olive Ridley Turtles** in the coastline of Andhra Pradesh.

## **ASTRA Mk I Beyond Visual Range Air to Air Missile System**

**(Internal Security), GS Paper 3**

### **Why in news?**

- The **Ministry of Defence**, signed a contract with **Bharat Dynamics Limited (BDL)** for supply of **ASTRA MK-I Beyond Visual Range (BVR)** Air to Air Missile (AAM) and associated equipment for the Indian Air Force & Indian Navy at a cost of Rs 2,971 crore under Buy (Indian-IDD) category.

### **Astra Project:**

- The missile has been designed and developed by the Defence Research and Development Organisation (DRDO) for deployment on fighter jets such as **Sukhoi-30 MKI** and **Tejas** of the IAF and **Mig-29K** of the Navy.
- The Astra project was officially launched in the early 2000s, and the development of the Mk-1 version was complete around 2017.
- More than 50 private and public industries, including the IAF and Hindustan Aeronautics Limited (HAL), have contributed in building the Astra systems.

### **Capability:**

- **Air to Air missile with BVR capability** provides large Stand Off Ranges to own fighter aircraft which can neutralise the adversary aircraft without exposing itself to adversary Air Defence measures, thereby gaining & sustaining superiority of the Air Space.
- BVR missiles are capable of engaging beyond the range of 20 nautical miles (37 km).
- The Astra Mk-1 has a range of around 110 km. The Mk-2 with a range over 150 km is under development while the Mk-3 with a longer range is being envisaged. One more version of Astra, with a range smaller than Mk-1's, too is under development.

### **Strategic significance:**

- AAMs with BVR capability provide large stand-off ranges to aircraft so that they can neutralise adversary airborne assets without exposing themselves to adversary air defence measures.
- Stand-off range means the missile is launched at a distance far enough to allow the attacking side to evade defensive fire from the target.
- Astra is technologically and economically superior to many imported missile systems. The missile can travel at speeds more than four times that of sound and can reach a maximum altitude of 20 km.
- The missile is integrated on the Sukhoi 30 MKI and will be integrated with other fighter aircraft in a phased manner, including Tejas. The Navy will integrate it on MiG 29K fighter aircraft on its aircraft carriers.

### **Transfer of Technology:**

- The purchase will be under the **Buy (Indian-IDD) category of defence acquisition**- or procurement from an Indian vendor of defence products that have been "indigenously designed, developed and manufactured" with a minimum of 50 per cent indigenous content (on the basis of cost).
- The **Transfer of Technology from DRDO to BDL** for production of ASTRA MK-I missile and all associated systems has been completed and production at BDL is in progress.

**Way Forward:**

- It will also create opportunities for several MSMEs in aerospace technology for a period of at least 25 years.
- The project essentially embodies the spirit of '**Aatmanirbhar Bharat**' and will help facilitate realising the country's journey towards self-reliance in Air to Air Missiles.