3. Coronavirus & Digital Solutions

Prelims Level: Science & Technology

Mains Level: GS-III Science and Technology - developments and their applications and effects in everyday life Achievements of Indians in Science & Technology; indigenization of technology and developing New Technology

Context:

- Recently, Prime Minister Narendra Modi had asked people to share technology-driven solutions for coronavirus. MyGov, the nation's citizen engagement platform, invited innovative solutions, Bioinformatics, datasets and Apps for diagnosis that can be leveraged for strengthening the fight against covid-19.

Digital Solutions for combating COVID-19:

- Various nations are prodding the industries and academic institutions to look into digital space for solutions to combat the coronavirus pandemic.
- The European Commission has called for startups and SMEs with innovative solutions to tackle Coronavirus outbreak
- Software experts and individuals are contributing their ideas through social media spaces like twitter and facebook.
- On its way for crowdsourcing of ideas, mygov.in has invited innovative solutions from the citizens.

Technologies used in tacking COVID-19:

- **Using Data Visualization:**
  - ✓ Throughout the world, datasets from various sources are used for data visualization.
  - ✓ This includes open source datasets.
  - ✓ Helps in tracking, surveillance and monitoring of the progress.
- **Using GPS:**
  - ✓ GPS aided locationing is used for finding the nearest medical facilities
  - ✓ The data can also be used for tracing the travel route of affected persons.
- **Telemedicine:**
  - ✓ Using internet and the available Artificial Intelligence, the governments and the private players can provide online diagnosis
  - ✓ This can reduce the pressure on existing healthcare facilities
  - ✓ It can also avoid human interference and thereby reducing the spread.

- **Teleconferencing:**
  - ✓ Recently, PM Narendra Modi used Teleconferencing to interact with SAARC leaders on combating the COVID-19.
  - ✓ Such methods shall be used by leaders and professionals to reduce human to human contacts.

- **Smartphones and Apps:**
  - ✓ Apps can be used to track patients post-treatment - it can be used to track their future travels, and their contacts.
  - ✓ This helps in monitoring of patients for re-emergence of the infection.
  - ✓ Smart Devices like smart watches, which can monitor body temperature can be used for monitoring patients.

- **Internet and Social media:**
  - ✓ Internet has made way for the workers from certain sectors to work from home
  - ✓ Internet and social media giving real-time information about the global happenings, reduce the fear among the people and also help in spreading awareness about the infection.

- **E- Commerce platform:**
  - ✓ This helps to reduce social interaction without affecting the daily life of the people.
  - ✓ With options like no contact delivery, online platforms provide essentials like masks, sanitizers to the people at their doorsteps.

- **Digital transactions:**
  - ✓ Recently, RBI governor Shaktikanta Das, asked the customers to use digital banking facilities as far as possible.
  - ✓ According to a research by Centre for Scientific and Industrial Research (CSIR) and Institute of Genomics and Integrative Biology (IGIB), an average Indian currency note roughly has Eukaryotic species such as fungi (70%), bacterial populations (9%) and viruses (<1%).

Measures taken by Governments:

- The Singapore government has used digital datasets to identify the infected persons and persons who are prone to potential risk.
- Taiwan being technology positive has effectively controlled the spread using the technology.

- China uses Online diagnosis services, digital maps of qualified clinics, social media awareness programmes and e-commerce platforms to control the outbreak.
- India harnessed the power of the telecom sector, by using the Caller tunes as medium to spread awareness about COVID-19.

Technology and Concerns for India:

- Unlike Singapore and Taiwan, India's population is much larger and is spread over a wide area
- India doesn't have uniform data collection in place
- Digital illiteracy is much larger in India, particularly among the COVID vulnerable old age populations.
- The internet infrastructure though robust may have difficulties due to increased traffic in case of large numbers of self-quarantines.
- Indian government has to largely depend on private players for digital technologies like testing kits.
- There is a fear among the citizens that the disease surveillance datasets used by the government can be used for other political motives like NPR and CAA as well.
  - ✓ Disease surveillance is dependent on real-time, good quality data that can be shared to support analysis, modelling and forecasting.
  - ✓ India needs a decentralised mode of data collection and surveillance to tackle COVID-19 efficiently. Data used for surveillance purposes should respect the privacy of the individuals concerned. It requires a mutual Government - citizen trust, to tackle the pandemics effectively.