

## SACHET: INDIA'S NEW EMERGENCY ALERT SYSTEM FOR CITIZENS

- SACHET (meaning “alert”) is an **Integrated Alert System** designed to deliver **disaster and emergency warnings** directly to mobile users in geo-targeted areas via SMS.
- **Institutional Framework**
  - Launched by the Department of Telecommunications (DoT)
  - Developed in collaboration with the National Disaster Management Authority (NDMA)
  - Aims to strengthen real-time disaster communication across India
- **Purpose and Scope**
  - Provides timely alerts during:
    - Natural disasters (cyclones, earthquakes, floods)
    - Man-made emergencies (gas leaks, chemical hazards, wars)
  - Ensures rapid dissemination of critical information to citizens
- **How the System Works?**
  - Uses cellular network towers to broadcast alerts
  - Works as a one-way communication system
  - Does not require internet connectivity
  - Can deliver messages to billions of users within seconds (if connected to network)
  - Alerts can be nationwide or location-specific
- **Coverage and Reach**
  - Operational across all 36 States and Union Territories
  - Has delivered over 134 billion SMS alerts
  - Supports communication in 19 Indian languages
- **Test Use in India**
  - Around 11:40 AM on May 2, 2026, smartphones across India emitted a loud alert sound with vibrations and a pop-up message titled “extremely severe alert”, as part of a nationwide test of the cell broadcast system.

- Similar systems are already used in countries like Japan for tsunami and disaster warnings.
- India's recent test marks one of the largest-scale implementations of this technology.
- **Significance**
  - Enhances disaster preparedness and response
    - Under the UN's "Early Warnings for All" initiative, which International Telecommunication Union (ITU) helps implement, cell broadcast is seen as a key tool to ensure people receive timely, accurate alerts.
  - Improves last-mile connectivity of emergency alerts
  - Builds a more resilient and responsive public communication system in India

### Cell Broadcast Technology: A Powerful Tool for Emergency Alerts

- Cell Broadcast is a communication method that enables authorities to send **short messages** simultaneously to multiple mobile phones within a specific geographic area.
- It can target either a large population or a limited set of users in a hazard-affected zone, ensuring precise and efficient dissemination of alerts.
- A major advantage of cell broadcast technology is its ability to **bypass network congestion**, allowing messages to be delivered instantly even during peak traffic conditions.
- It **does not rely on internet connectivity** and can be customised based on user preferences such as language, making it highly effective for mass communication.
- **Origin and Global Adoption**
  - Developed in the early 1990s by the European Telecommunications Standards Institute and first demonstrated in Paris in 1997, the technology has since been adopted globally.
  - Today, it is used by over 30 countries as a best practice for issuing timely warnings during natural disasters.

### 100% FDI IN INSURANCE SECTOR - A NEW PHASE OF LIBERALISATION

- In a major reform push, the Government of India has allowed 100% Foreign Direct Investment (FDI) in the insurance sector under the **automatic route**.
- This is notified through the Foreign Exchange Management (Non-debt Instruments) (2nd Amendment) Rules, 2026.
- This follows the enactment of the **Sabka Bima Sabki Raksha** (Amendment of Insurance Laws) Act, 2025, signalling deeper financial sector liberalisation and efforts to enhance insurance penetration.
  - FDI refers to investment made by a company or individual from one country into business interests located in another country.
  - In the insurance industry, FDI typically involves foreign insurers investing in or owning stakes in Indian insurance companies.
  - **FDI helps bring:**
    - Capital for business expansion
    - Advanced technology platforms
    - Global management practices
    - Product innovation and risk management expertise
- **Regulatory oversight:**
  - In India, insurance companies are regulated by the Insurance Regulatory and Development Authority of India (IRDAI).
  - IRDAI regulates insurers (licensing, solvency, governance and policyholder protection) and verifies compliance for entities receiving foreign investment.
- **FDI limit increase:**
  - **Purpose:** India has **gradually** increased foreign ownership limits for insurance companies, reflecting the government's efforts to attract investment while maintaining regulatory **stability**.

### Significance of the Reform:

- **Boost to insurance penetration:** India's insurance penetration remains low (~4% of GDP), and increased FDI can expand reach in rural and underserved areas, and promote financial inclusion.
- **Capital infusion and growth:** Enables insurers to raise long-term capital, improve solvency margins, and invest in infrastructure and innovation.
- **Technology and expertise transfer:** Entry of global players brings advanced underwriting practices, digital insurance models (InsurTech), and risk management capabilities.
- **Ease of Doing Business:** Automatic route reduces regulatory delays. Aligns with broader economic liberalisation policies.

### Challenges and Concerns:

- **Domestic industry competition:** Smaller Indian insurers may face pressure from large global firms.
- **Regulatory capacity:** IRDAI must strengthen supervision mechanisms, and risk monitoring of foreign-dominated entities.
- **Policyholder protection:** Ensuring that profit motives do not compromise claim settlement, and consumer rights.
- **Strategic concerns:** Excessive foreign control in financial sectors may raise economic sovereignty issues, and data security concerns.

### Conclusion:

- The move to allow 100% FDI in the insurance sector marks a significant step in India's financial sector reforms, aimed at boosting capital inflows, enhancing insurance penetration, and modernising the industry.
- However, its success will depend on robust regulation, balanced competition, and strong consumer safeguards, ensuring that **liberalisation** translates into **inclusive and sustainable**

## FIBER OPTIC DRONES



Recently, it was observed that the Hezbollah is using Fiber Optic Drones against Israel.

- Fiber optic drones are **specialized unmanned aerial vehicles (UAVs)** that integrate **fiber optic technology**.

### **Working of Fiber Optic Drones:**

- Fiber optic drones operate by using **optical fiber cables** instead of traditional wireless systems.
  - These are operated while **connected to the ground** through a **fiber optic tether**.
  - Unlike regular drones that rely on radio frequencies for communication and batteries for power, **these drones receive both data connectivity** and often **electrical power** through the
- **Advantages:**
    - **Real-time Data:** It operates at **near-zero latency transmission**, ideal for surveillance, targeting and network maintenance.
    - **Improved Coverage:** These can be operated in **GPS-denied, RF-jammed environments** like electronic warfare zones.
    - **High Security:** These drones carry optical fiber cables, ensuring the transmission of large data volumes with **minimal signal interference**.
    - **Reliable Transmission:** These drones provide **high-speed, reliable data transmission** over vast distances.

**Applications:** Military and Drone Warfare, Telecommunications and Infrastructure Maintenance, Emergency and Disaster Response.

### ATOMIC ENERGY REGULATORY BOARD



Government of India

## AERB

Atomic Energy Regulatory Board

• It is India's premier **regulatory authority** for **nuclear and radiation safety**.

- **Background:** It was **constituted on November 15, 1983**, by the President of India by exercising the powers **conferred by the Atomic Energy Act, 1962**.

The regulatory authority of AERB is derived from the rules and notifications promulgated under the **Atomic Energy Act and the Environment (Protection) Act, 1986**.

- **Objective:** To ensure the use of ionizing radiation and nuclear energy in India does not cause undue risk to the health of people and the environment.
- **Headquarters: Mumbai.**
- **Composition:**
  - It **comprises six members** of which **two are whole time members** including the chairman.
  - The other whole-time member is the executive director of the AERB Secretariat who is an ex-officio member of the Board.
  - The other four members are **eminent experts** from various disciplines relevant to the mandate of the board.
  - The Board shall be responsible to the **Atomic Energy Commission**.
- **Functions of AERB:**
  - **Develop safety policies** in nuclear, radiation and industrial safety areas for facilities under its purview.
  - **Develop Safety Codes, Guides and Standards** for siting, design, construction, commissioning, operation and decommissioning of different types of nuclear and radiation facilities.
  - It shall have authority to administer the **provisions of the Factories Act, 1948**, the industrial safety for the units of Department of Atomic Energy (DAE).

### WHAT IS THE SVAMITVA SCHEME?



- The Survey of Villages and Mapping with Improved Technology in Village Areas (SVAMITVA) is a central sector scheme of the Ministry of Panchayati Raj.
- It was **launched nationwide** on National Panchayati Raj Day, 24th April **2021**, after successful completion of the pilot phase of the scheme (2020-2021) in 9 states.
- It aims to **empower rural citizens with property cards**, enabling access to credit, dispute resolution, and better planning.
- It provides a **‘Record of Rights’** to village household owners with the **issuance of legal ownership cards (property cards/title deeds)** to the property owners by **mapping land parcels using drone technology**.
- The mapping shall be done across the country in a phased manner. It generates **high-resolution and accurate maps to confer ownership property rights**.
- The scheme seeks to achieve the following **objectives**:
  - To bring **financial stability** to the citizens in rural India by enabling them to **use their property as a financial asset for taking loans** and other financial benefits.
  - Creation of **accurate land records for rural planning**.
  - **Determination of property tax**, which would accrue to the Gram Panchayats (GPs) directly in States where it is devolved or else add to the State exchequer.
  - **Creation of survey infrastructure and GIS maps** that can be leveraged by any department for their use.
  - To support the preparation of a **better-quality Gram Panchayat Development Plan (GPDP)** by making **use of GIS maps**.
  - To **reduce property-related disputes** and legal cases.
- **Eligibility**: The applicant should have a property in a rural inhabited (Abadi) area.

- **Exclusions:** Agricultural lands are not covered under this scheme.
- **Implementing Agency:**
  - It is implemented by the **Survey of India (SoI)** with the **National Informatics Centre Services Inc. (NICSI)** as the **technology partner**.
  - **In the States, the Revenue Department/Land Records Department** will be the **Nodal Department** and shall carry out the scheme with the **support of the State Panchayati Raj Department**.

## SPINAL MUSCULAR ATROPHY



- It is a **rare and progressive neuromuscular disorder** that leads to muscle weakness and can cause life-threatening complications.
- It is a **debilitating genetic condition** which affects **motor neurons** that **control movement**, and leads to progressive muscle weakening.
- **Cause:** Most forms of SMA are caused by **mutations of the survival motor neuron 1 gene (SMN1)** on the fifth chromosome, resulting in insufficient expression levels of the SMN protein.

**Types of SMA:** There are five subtypes of SMA- **type 0, 1, 2, 3, 4**. Healthcare providers classify them **based on the age of onset**, as well as the severity and life expectancy.

### **Symptoms of Spinal Muscular Atrophy:**

- Its symptoms vary and may be mild or disabling, but **involve a weakness of the muscles that control movement**.
- The weakness in SMA tends to be more severe in the muscles that are close to the center of your body than in the muscles farther away from your body's center.
- **Treatment:** Unfortunately, **there isn't a cure for SMA**. Treatment for SMA mainly seeks to **manage symptoms** and prevent complications.

### GREAT HIMALAYAN NATIONAL PARK (GHP)



- It is a high-altitude national park located in **Kullu District of Himachal Pradesh**.
- Nestled in the far **Western Himalayas**, the park **comprises** four valleys: the **Tirthan Valley**, the **Sainj Valley**, the **Parvati Valley**, and the **Jiwa Nal Valley**.
- It is **surrounded by steep ridges and permanent snow** on its **northern, eastern, and southern**
- **Topography**: The park is a stunning mix of lush **coniferous forests, meadows, glaciers, and mountain peaks**.
- It was awarded **UNESCO World Heritage Site** status in 2014.
- **Flora**:
  - Vegetation grows in **well-defined altitude zones**, beginning with rather **open, subtropical forests at the lowest** valley bottoms, gradually grading to **mixed forests of horse chestnut, evergreen oak, spruce, and deodar**, then to rusty-leaved **kharsu oak, spruce, and fir** in the **upper temperate zone**.
  - **Further up** is a **subalpine zone** of **birches, stunted firs, and rhododendron** bushes, followed by the **higher alpine areas** where vegetation is reduced to **grasses, herbs, and low shrubs**, such as juniper.
- **Fauna**:
  - The park is home to 31 mammals, including the elusive **snow leopard**, the majestic **Himalayan brown bear**, and the vibrant **blue sheep, or bharal**.
  - Other notable residents include the **Himalayan tahr, musk deer, and serow**.
  - **Birdlife** in the park is equally diverse, with 209 species recorded, such as the **endangered western tragopan** and the impressive **lammergeiers**, alongside the **Himalayan griffon vulture** and golden eagle.