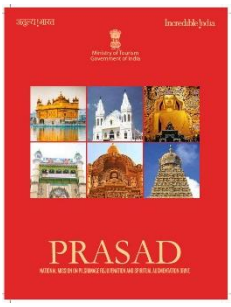
Current Affairs - 06 February 2025

PRASHAD SCHEME



Recently, a Parliamentary committee has asked the government to develop a "clear-cut Standard Operating Procedure (SOP)" and obtain prior clearances and approvals from relevant authorities for timely completion of projects in the Spiritual Tourism Circuits under the PRASHAD scheme.

- **Pilgrimage Rejuvenation and Spirituality Augmentation Drive** (PRASAD) scheme was launched by the Ministry of Tourism **in 2014.**
- It is an initiative that aimed at **transforming the cultural preservation** and spiritual travelling across identified pilgrimage destinations.

Objectives:

- **Upgrading and maintaining** the strength of the **infrastructure of pilgrimage** destinations that includes the roads, water supply, sanitation and waste management system
- **Improving the travel conditions** for the travelers by improving the connectivity through road, rail and airways
- **Starting conservation projects** that help in preserving and conserving the pilgrimage sites of cultural and spiritual significance
- **Advocating the cultural, religious and spiritual significance** of pilgrimage sites attracting domestic and international tourists
- **Creating opportunities for the local communities** through skill development and livelihood generation programmes that relate with pilgrimage tourism
- **Adopting sustainable development practices** that promote eco-friendly tourism

Key Components:

- Infrastructure Development
- Upgrading roads
- Connectivity Enhancement
- Pilgrim Experience Augmentation

Funding: It is funded on a **100% public funding model** for eligible project components. Additionally, the scheme incorporates voluntary contributions through Corporate Social Responsibility (**CSR**) initiatives and Public-Private Partnerships (**PPP**).

STORY OF NAVIC - CRUCIAL INDIGENOUS SATNAV SYSTEM

India's NVS-02 navigation satellite partially failed on February 2 due to engine non-firing, marking another setback for the **Indian Regional Navigation Satellite System (IRNSS)**, or NavIC.

Failures in IRNSS Satellites

- **Atomic Clock Malfunctions (2016 Onward)**
  - Failures reported in rubidium atomic clocks used in IRNSS and ESA's Galileo GNSS.
    - Each IRNSS satellite has three atomic clocks.
    - In July 2016, ISRO confirmed all clocks on IRNSS-1A had stopped working.
  - Despite this, ISRO stated the navigation system's overall performance remained unaffected.
  - Clocks in IRNSS-1C, 1D, 1E, and 1G also developed issues over time.
- **Satellite Launch and Deployment Failures**
  - IRNSS-1H, launched in 2017 to replace IRNSS-1A, failed as its heat shield did not detach.
  - The latest satellite, IRNSS-1K (NVS-02), suffered an engine failure in 2025, leaving it in a sub-optimal orbit.

- **Overall Impact**
    - Out of 11 IRNSS satellites launched, six have faced failures, affecting India's indigenous navigation system.

Current Operational Status of NavIC Satellites

- ISRO's 2023-24 annual report says that following the launch of NVS-01 on May 28, 2023, five NavIC satellites are operational – IRNSS-1B, 1C, 1F, and 1I, and NVS-01 (IRNSS-1J).
- However, according to some estimates, 1C is only partially operational due to the presence of the old series of atomic clocks that were reported to be malfunctioning.
- **Satellite Generations and Clock Issues**
    - First-generation IRNSS satellites (1H and 1I) carried modified European clocks.
    - Next-generation satellites (NVS-01 and NVS-02) use a mix of indigenous and foreign clocks.
    - NVS-02 (IRNSS-1K) failed due to an engine malfunction.

Importance of the NavIC System for India

- **Key Services Provided by NavIC**
    - **Standard Positioning Service (SPS):** For general and commercial use.
    - **Restricted Service (RS):** For defense forces.
    - Offers **positioning accuracy better than 20 meters** across India and up to 1,500 km around it, with dual-frequency capabilities in L5 and S band.
- **Strategic Importance for Defense**
    - NavIC ensures **reliable positioning data** critical for defense applications, unlike global systems such as GPS, which have military-encrypted services primarily for US and allied forces.
    - Global navigation systems (GPS, GLONASS, Galileo, Beidou, QZSS) are mainly developed for military use, and NavIC provides India with independent and secure navigation.

- **Commercial and Consumer Adoption**
  - For NavIC to become widespread, ISRO plans to partner with commercial service providers, including **mobile phone** and **vehicle manufacturers**.
  - Qualcomm, a mobile chipmaker, agreed to incorporate NavIC support in some chipsets in December 2023.

Future Plans for Expansion

- ISRO intends to launch **three more second-generation satellites** (NVS-03, 04, 05) to enhance the NavIC system and ensure continuity of services, despite setbacks like the NVS-02 engine failure.

STRYKER INFANTRY COMBAT VEHICLES

Amid the upcoming visit of Indian Prime Minister to Washington DC, several defence deals in the pipeline are in focus, among them the deal for co-production of Stryker infantry combat vehicles.

- Stryker is a family of **eight-wheel-drive combat vehicles** built for the **US Army.**
- It was **jointly developed by** General Dynamics Land Systems (GDLS), **Canada** and the General Dynamics Land Systems Division in the **United States.**
- It was the **first new military vehicle inducted into US Army** service **since the Abrams tank** in the 1980s.
- The Stryker family includes **various configurations** such as **Infantry Carrier Vehicle** (ICV), **Mobile Gun System** (MGS), **medical evacuation vehicle,** fire support vehicle, anti-tank guided missile carrier, and reconnaissance vehicle, among others.
- These vehicles are valued for their **speed and flexibility**, particularly in **urban warfare** and quick response scenarios.
- Stryker can be **transported** on the ground **using trucks or by air on C-17** and **C-130 aircraft** already in the Indian Air Force fleet.

Key features:

- **Armament**: Equipped with a 30 mm cannon and a 105 mm mobile gun
- **Hull Construction:** V-hull made of high-hardness steel with an additional layer of ceramic tile armor for enhanced protection
- **Crew and Capacity:** Operated by a two-person crew and can carry a nine-man infantry squad
- **Range:** 483 kilometers
- **Top Speed:** Approximately 100 km/h.

EXERCISE EKUVERIN

Recently, the 13th edition of joint military exercise 'Ekuverin' between the Indian Army and the Maldives National Defence Force has commenced.

It is a **bilateral annual military exercise,** conducted **alternatively** in **India and Maldives** since 2009.

- **Ekuverin means 'Friends'** in Dhivehi language.

- It is aimed at **enhancing interoperability** in **counter insurgency** and counter terrorism operations, and carry out joint humanitarian assistance and disaster relief operations.
- It is being conducted in **Maldives this year.** In 2023, it was conducted at Chaubatia in Uttarakhand.
- Both nations have very **close and friendly relations** in economic, cultural and military cooperation. 'Ex. Ekuverin' will assist in further bolstering these ties between the two nations.

Other exercise between India and Maldives:

- **Exercise Ekatha** is an annual exercise conducted **between the navies** of India and Maldives.

SHIFT IN INDIA'S SCIENCE POLICY - FROM STATE CONTROL TO PRIVATE INNOVATION

- India has historically placed high importance on science and technology. Initially, state-led institutions dominated the landscape.
- **Private organisations**, such as Tata Institute of Fundamental Research (TIFR) or Bhabha Atomic Research Centre (BARC), were brought under the fold of the government, yielding successes like the 1974 nuclear test.
- Over time, there has been **a shift towards a more comprehensive approach**, incorporating **private firms and universities** into the innovation ecosystem.

The Need for Intellectual Capacity in Private Firms:

- **Innovation** requires intellectual capabilities in people and firms, not just in government organizations.
- Comprehensive national power and GDP growth depend on private sector involvement in research and development (**R&D**).
- **Examples** from the US and France illustrate successful private sector integration into public-funded research.

Lessons from Global Models:

- **United States:**
  - NASA contracts 80% of its budget to private firms and universities.
  - The Jet Propulsion Laboratory (JPL) was created at Caltech and later funded by NASA.
- **China:** Private AI research teams, like **DeepSeek**, emerged from algorithmic trading backgrounds, demonstrating the spillover effect of private R&D.
- **France:** Defence research is primarily conducted in private defence firms with government funding.

Challenges in Implementation:

- Unlike procurement of tangible goods, R&D funding requires **adaptive auditing mechanisms**.
- **Need for legal reforms**, strategic public finance planning, and institutional restructuring.
- **Balancing risk and accountability** in contracting private firms for scientific research.

Conclusion:

- **2025** is poised to be a **turning point** in India's science policy.
- The country is embracing the idea of **shifting public money into private universities and firms** that produce cutting-edge research. The taxpayer gets more value for their money as a result.
- When a private firm is working in an area, it will try to do the research well, because it also has **a direct interest in the knowledge sought to be produced**.
- However, the challenge lies in developing **effective implementation frameworks** to maximize innovation and societal gains.

RANIKHET DISEASE

Suspected highly virulent Ranikhet disease is said to have caused the death of nearly 1.5 lakh chickens in Eluru, Guntur, Prakasam, and the twin Godavari districts in Andhra Pradesh recently.

- It is a **highly contagious viral disease** that **affects birds,** particularly **poultry** such as chickens, turkeys, and ducks.
- It is caused by infections with virulent **Avian avulavirus 1 (AAvV-1)**, commonly known as **Newcastle disease virus (NDV)** and designated as **avian paramyxovirus-1** (APMV-1).
- It attacks the **respiratory, nervous and digestive systems** of birds.
- It causes **production drops/fertility problems.**

- Morbidity is usually high, and **mortality varies from 50 to 100 percent.**
- It is a **minor zoonosis** (disease of animals that can also infect humans) and can cause **conjunctivitis in humans**, but the condition is generally **very mild and self-limiting.**

Transmission:

- **Direct contact with secretions**, especially faeces, from infected birds
- **Contaminated feed, water**, implements, premises, human clothing, etc.
- Newcastle disease viruses can **survive for several weeks in the environment**, especially in cool weather.

Symptoms:

- The symptoms vary according to the age of the affected birds.
- The first symptoms usually observed in young birds are **sneezing, gasping, and often droopiness.** It is in this stage of the disease that the manifestations rather closely resemble those of infections bronchitis.
- Within a short time after the appearance of respiratory symptoms, **deaths occur in a flock in quick succession** and in increasing numbers from day to day.

Treatment:

- At present there is **no effective treatment.**
- **Proper housing and general good care** are indicated in an effort to shorten the duration and severity of the infection.

FORT WILLIAM

Fort William in Kolkata, the headquarters of the Eastern Army Command, has been renamed Vijay Durg recently.

- It was built by the British in **1773** and was named after **King William III of England.**
- It is located on the **eastern bank of the river Hooghly** in Kolkata, West Bengal.
- Today, it is the **property of the Indian Army.** It also serves as the **headquarters of the Eastern Command.**

History:

- The **original fort** was **built by the English East India Company** in 1696.
- Initially, it comprised **wings** and **an inner bastion where prisoners were hauled,** which is why it was known as **'the black hole of Calcutta'.**
- **In 1756, Siraj-ud-Daulah,** the Nawab of Bengal, attacked the fort and captured it.
- **After the fall of Siraj-ud-Daulah in the Battle of Plassey**, the fort was demolished.
- Thereafter, **Robert Clive began constructing a new fort.** The fort was **completed in 1773** and stands as present-day Fort William.

Architecture:

- The fort is **octagonal in shape** and has an imposing structure made out of **brick and mortar.**
- It is spread over 70.9 acres and is embellished with hundreds of arched windows that overlook lush green gardens.
- Meticulous stonework adorns the surface of the building.