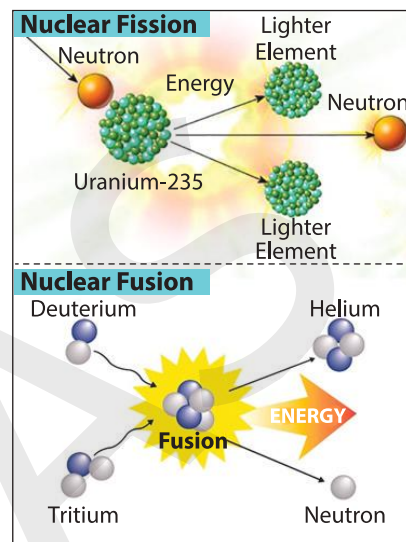


# NEWS TODAY

## ASSEMBLY OF THE LARGEST EVER THERMONUCLEAR FUSION REACTOR ITER BEGINS

- International Thermonuclear Experimental Reactor (ITER), situated in France, is an **experimental tokamak nuclear fusion reactor**.
- **Tokamak is a magnetic fusion device** designed to prove the feasibility of fusion as a large-scale and carbon-free source of energy based on the same principle that powers Sun and stars.
  - Nuclear fusion is a process when **two or more light atomic nuclei fuse to produce a heavier nucleus** and release tremendous amount of energy in process. It is the energy source of Sun and stars.
- **ITER has been designed to:**
  - Produce 500 MW of fusion power.
  - Demonstrate the integrated operation of **technologies for a fusion power plant**.
  - **Test tritium breeding**, as world supply of tritium (used with deuterium to fuel the fusion reaction) is not sufficient to cover the needs of future power plants.
  - Demonstrate the **safety characteristics of a fusion device**.
- **ITER members include** China, European Union, India, Japan, South Korea, Russia and US.
  - **India is responsible for delivery** of the cryostat, in-wall shielding, cooling water system, cryogenic system, ion-cyclotron RF heating system etc.
  - ITER-India, Institute for Plasma Research, Gandhinagar (Gujarat), will deliver the Indian contribution.



## FINANCE MINISTER LAUNCHES AN ONLINE DASHBOARD FOR NATIONAL INFRASTRUCTURE PIPELINE (NIP)

- Online dashboard is envisaged as a one stop solution for all stakeholders looking for **information on infrastructure projects in India**. It will help in:
  - Providing **visibility to the NIP**
  - **Financing with prospective investors**, domestic and foreign, able to access updated project level information.
  - **Monitoring and evaluation** of actual progress by the concerned ministries/departments.
- Dashboard is being **hosted on the India Investment Grid (IIG)**, an interactive online platform that showcases updated & real-time investment opportunities in the country.
  - IIG is an **initiative of Department for Promotion of Industry & Internal Trade** (Ministry of Commerce) and **Invest India** (national investment promotion and facilitation agency).
- NIP is a first-of-its-kind initiative to **provide world-class infrastructure across the country** and improve the quality of life for all citizens. It covers **both economic and social infrastructure projects**.
  - It is envisaged that **during the fiscals 2020 to 2025, a total capital expenditure projected at INR 111 lakh crore** to be invested in sectors such as energy (24%), roads (18%), urban (17%) and railways (12%).
  - **Investment share:** Centre (39%), states (40%) and private sector (21%)

## DEVELOPMENTAL ACTIVITIES IN ANDAMAN & NICOBAR (A&N) ISLANDS

- Various developmental initiatives taken by government:
  - **Submarine Optical Fibre Cable** connecting A&N Islands to mainland (Chennai). It will help A&N in getting cheaper & better connectivity and benefits of Digital India, especially in improving online education, tele-medicine, banking system etc.
  - **High Impact Projects** are being expanded in 12 islands of A&N. It includes enhancing capacity of Port Blair airport, Passenger Terminal in Swaraj Dweep, Shaheed Dweep and Long Island along with Water Aerodrom Infrastructure etc
  - **Port Led development** by proposing a transshipment port at Great Nicobar. It offers two geographical advantages:
    - Proximity to the busy east-west international shipping route.
    - Deep natural water depths that can accommodate the latest generation of mega-ships.
- **Significance of A&N**
  - **Strategic location:** It helps India to defend its vital stakes in Indian Ocean Region (IOR) and countering Chinese presence in IOR.
  - **Economically important:** These islands dominate Bay of Bengal which contains important sea lines of communication. More than 30% of the world's seaborne trade passes through this region.
  - Increased **importance in Indo-Pacific era** and a prominent role in **India's Act East policy**.

## MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE (MoEF& CC) INITIATIVES FOR MANAGING HUMAN ELEPHANT CONFLICT (HEC)

- HEC are driven by various factors such as **elephant density, human density, natural resource availability, extent of forest cover, crop-raiding and habitat disturbance** etc.
  - India has more than **60 % of Asian elephants (IUCN status: Endangered ) population** with Karnataka having the highest number of wild elephants.
- **Initiatives launched by MoEF& CC**
  - **Surakhsya, a National portal for collection of real time information** & also for managing HEC on a real time basis.
    - It will help to set the data collection protocols, data transmission pipelines and data visualization tools.
    - It will enable **preparation of Action Plans for mitigation of conflicts**.
  - Compendium on **Best practices of HEC Management**
    - **Plantation of fodder grass** to keep elephant herds confined to forest.
    - **Watch towers** to keep vigil over movement of elephant and to warn villagers.
    - **Alternate cropping with non-edible crops** like chilli, citrus, ginger, onion not consumed by elephants may deter elephants from raiding the crop fields
    - Forest Departments may consider **using CAMPA funds or funds from other sources** for legal acquisition of elephant corridor lands.

### Turf War

Between 2015 and 2018, the human-elephant conflict let to: **1,713** human deaths **373** elephant deaths

Highest number of human deaths in:

West Bengal **307** | Odisha **305**

Source: Ministry of Environment, Forest & Climate Change

# PRIME MINISTER (PM) EMPHASIZES EXTENSIVE USE OF INNOVATIVE TECHNOLOGIES FOR IMPROVING FORECAST AND WARNING SYSTEM

- Remarks were made during a meeting to review preparedness, of States like Assam, Kerala, Bihar etc , **to deal with monsoon and current flood situation in the country.**
  - Out of the total geographical area of 329 million hectares (mha), more than **40 mha is flood prone in India.**
- Issues with Flood forecasting and warning network**
  - Non-availability of close contour maps** and digital elevation models of flood prone areas to make reliable forecasts.
  - Very **few river basins have been covered with automatic sensors** for observations and communication of data.
  - Flood plain zoning regulations** have not been enacted most of the states.
  - Lack of inflow **forecasting systems for the reservoirs.**
- Steps taken in this direction**
  - Improved forecasting by Indian Meteorological Department** which has developed systems for issuing accurate warnings and generating real-time weather reports.
  - Integrated Flood Warning System for Mumbai** (IFLOWS-Mumbai), a Ministry of Earth Sciences initiative to provide early warning for flooding specially during high rainfall events and cyclones.
- To mitigate the issue, **PM emphasized better coordination** between all central and state agencies, **Extensive use of innovative technologies** and Resilient development and infrastructure projects.

Forecasts /Warnings relating to major Natural hazards are being provided by-

- India Meteorological Department (Cyclones, heavy rainfall/Floods, Deficiency in rainfall, earthquakes etc).
- Indian National Centre for Ocean Information Services (Tsunami).
- Central Water Commission of the Ministry of Jal Shakti (Floods).
- Geological Survey of India (Landslides).
- National Centre for Seismology, MOES: Earthquake
- Defense Research and Development Organization : Snow and Avalanches

## ALSO IN NEWS

<p><b>India-Canada Centre for Innovative Multidisciplinary Partnership to Accelerate Community Transformation and Sustainability (IC-IMPACTS)</b></p>	<ul style="list-style-type: none"> <li>It is a Canada-India Research Centre of Excellence and <b>aims to solve challenges facing both nations related to water, health, and infrastructure.</b></li> <li>Department of Science &amp; Technology has been working with IC-IMPACTS for research partnerships since 2013.</li> <li><b>Major focus areas of research cooperation under IC-IMPACT</b> - green buildings and smart cities, occupants survivability in buildings during fires, integrated water management &amp; safe and sustainable infrastructure; and water-borne and infectious diseases.</li> </ul>
<p><b>Himalayan Geothermal Springs</b></p>	<ul style="list-style-type: none"> <li>A recent research has found that Himalayan geothermal springs, which cover about 10,000 square km in the Garhwal region of Himalaya, show <b>a significant discharge of Carbon dioxide (CO2) rich water.</b> <ul style="list-style-type: none"> <li>CO2 is <b>sourced from metamorphic decarbonation</b> of carbonate rocks present in Himalayan core along with <b>magmatism</b> and <b>oxidation of graphite.</b></li> </ul> </li> <li>Geothermal Spring/hot spring is a spring produced by the <b>emergence of geothermally heated groundwater</b> that rises from the Earth's crust.</li> <li><b>Famous hot springs in India-</b> Panamik (Nubra valley), Kheer Ganga (Kullu), Yumthang (Sikkim).</li> </ul>
<p><b>Scientists find 77 new butterfly species in Matheran</b></p>	<ul style="list-style-type: none"> <li>Scientists from Bombay Natural History Society (BNHS) have found 140 rare species of butterflies, including 77 new ones, in <b>Matheran hill near Mumbai.</b></li> <li><b>BHNS is a wildlife research organization</b> (NGO) promoting the cause of nature conservation since 1883. <ul style="list-style-type: none"> <li>It strives to conserve nature through action based research, education and public awareness.</li> <li>It organizes and conducts nature trails and camps for the general public.</li> </ul> </li> </ul>
<p><b>Multidrug-resistant bacteria found in river Yamuna</b></p>	<ul style="list-style-type: none"> <li>Recent study by IIT Delhi has shown that Yamuna harboured some of <b>multidrug-resistant bacteria</b> that are listed <b>as critical by World Health Organisation (WHO).</b> <ul style="list-style-type: none"> <li>In 2017, WHO published the first list of antibiotic-resistant priority pathogens – bacteria that pose the greatest threat to human health.</li> </ul> </li> <li>It was found that <b>sewage was the main source of their entry</b> into the river.</li> <li>Impact of this bacteria: <ul style="list-style-type: none"> <li>It can pose a <b>serious threat to the health of the river water.</b></li> <li>There is a high possibility of the <b>spread of resistance to humans and animals.</b></li> </ul> </li> </ul>
<p><b>eSanjeevani</b></p>	<ul style="list-style-type: none"> <li>It is a <b>web-based comprehensive telemedicine solution</b> which extends the reach of specialized healthcare services to masses in both rural areas and isolated communities. <ul style="list-style-type: none"> <li>It has <b>enabled two types of telemedicine services</b> - Doctor-to-Doctor and Patient-to-Doctor Tele-consultations.</li> </ul> </li> <li>It aims to <b>make healthcare services</b> equitable by bridging the digital divide that exists between the urban vs. rural, rich vs. poor etc.</li> <li><b>Launched by:</b> Ministry of Health and Family Welfare.</li> </ul>
<p><b>Mount Sinabung Volcano</b></p>	<ul style="list-style-type: none"> <li>This volcano erupted recently. It is located on <b>Indonesia's Sumatra island.</b></li> <li>Indonesia is home to <b>about 130 active volcanoes</b> due to its position on the "Ring of Fire". <ul style="list-style-type: none"> <li><b>Ring of fire</b> is a belt of tectonic plate boundaries circling the Pacific Ocean where frequent seismic activity occurs.</li> </ul> </li> </ul>

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