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Current affairs summary for prelims

31 July, 2024

Equivalence Report by PARAKH

Context: *PARAKH (Performance Assessment, Review, and Analysis of Knowledge for Holistic Development), a standard-setting body under NCERT, has submitted an 'equivalence' report to the Ministry of Education with recommendations for achieving consistency across various school boards in the country.*

Equivalence Across Boards

- **Definition**: Equivalence aims to achieve consistent educational standards across diverse school boards.
- **Current State:** Differences in curriculum, exams, and board structures result in varying perceptions of board quality.
- **Boards Included:** 69 boards, including State boards, CBSE, ICSE, NIOS, technical, vocational, Sanskrit, and madrasa boards.
- **Objective**: Not uniformity, but ensuring standardized facilities and benchmarks for all learners.

PARAKH's Recommendations

Assessment:

- Class 9, 10, and 11 performance will contribute to Class 12 results (15% Class 9, 20% Class 10, 25% Class 11, 40% Class 12).
- Use of credits for subjects, online courses, and holistic activities.
- Development of a cumulative Class 12 report card.

Professional Paper Setters:

- Create and train a cadre of teachers for standardized question paper preparation.
- Develop question banks and blueprints for question papers for classes 9, 10, 11, and 12.

Administration:

- Finalize school affiliation guidelines.
- Conduct periodic school reviews; limit affiliations to a maximum of three years.
- Empower boards to recognize and act against unrecognized institutions.

Anti-Cheating Measures:

- Develop mechanisms to prevent cheating.
- Implement secure handling protocols for exam papers.
- Explore digital assessments.

Curriculum:

- Incorporate digital literacy, including coding and cybersecurity.
- Adhere to the National Curriculum Framework for School Education.

Infrastructure:

- Ensure basic facilities such as toilets, internet, libraries, labs, and ramps.

Process of Recommendations

- **Assessment**: Evaluated 32 boards (excluding Sanskrit, madrasas, and technical boards) on administration, curriculum, assessment, inclusiveness, and infrastructure.
- **Analysis**: Reviewed two years of question papers and used a detailed questionnaire.
- **Consultation**: Held meetings with school boards to finalize recommendations.

What is PARAKH?

- **Proposal**: PARAKH is the benchmark assessment framework proposed by NEP 2020.
- **Function**: It will serve as a standard-setting body for student assessment and evaluation across all school boards, shifting away from rote learning.
- **Mandate**: PARAKH aims to unify school boards across States and Union Territories on a common platform.
- **Initial Steps:** A workshop will facilitate stakeholder interaction to develop a fair and equitable assessment system.
- **Objective**: Establish a unified framework to enable smooth transitions for students between different boards or regions by aligning curriculum standards, grading systems, and evaluation methodologies.

Criticality of Fast Breeder Reactor

Context*: The Atomic Energy Regulatory Board (AERB) has approved the "First Approach to Criticality" for the 500 MWe Prototype Fast Breeder Reactor (PFBR) in Kalpakkam, Tamil Nadu.*

- **Critical Milestone:** Includes loading fuel into the reactor core and starting "Low Power Physics Experiments."
- **Review Process:** Approval followed a phased core loading review, including the insertion of control and blanket sub-assemblies, under AERB's strict supervision.
- **Safety Review:** A thorough multi-tier safety review was conducted, with regular inspections and oversight by a resident site observer team.
- **Final Stage:** Fuel sub-assemblies will be introduced into the reactor core, leading to a sustained nuclear fission chain reaction (criticality) and subsequent low power physics experiments.
- **Significance:** The authorization marks a major step toward operationalizing the 500 MWe Prototype Fast Breeder Reactor (PFBR) in Kalpakkam, a key part of India's nuclear power program.

Understanding Criticality in Nuclear Reactors

Definition of Criticality:

- When a nuclear reactor is operating normally and producing essential electricity, it is said to be in a state of "criticality."
- Despite the term's connotations, criticality indicates safe and normal reactor operation.

Terminology:

- **Supercriticality**: A state where the reactor produces more neutrons than it loses, allowing for increased power production.
- **Subcriticality**: A state where neutron and power production decrease, often used during maintenance or refueling.

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Nuclear Reactor Operation:

- **Fuel Rods:** Uranium fuel rods contain pellets of fissionable material, which split atoms to release neutrons and energy.
- **Fission Process:** Splitting uranium nuclei releases neutrons that continue the reaction, generating heat and radiation.

Control of Criticality:

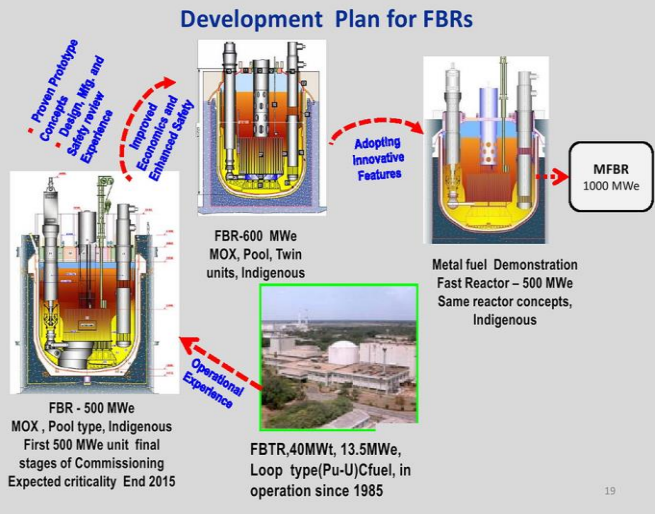
- **Control Rods:** Neutron-absorbing control rods (made of elements like cadmium, boron, or hafnium) regulate neutron production.
- **Adjustment**: Control rods are adjusted to maintain the balance of neutrons, thus controlling the reactor's power output.
- **Malfunction Response:** In case of malfunction, control rods can be rapidly inserted to absorb excess neutrons and shut down the reaction.

Safety and Structure:

- **Containment**: Reactors are housed in thick metal-reinforced concrete domes to contain high heat and radiation.
- **Energy Conversion:** The heat from fission is used to produce steam, which drives generators to produce electricity.

Operational States:

- **Supercritical State:** Temporarily used at start-up to increase neutron population and power output.
- **Critical State:** Achieved for steady and balanced power production.
- **Subcritical State:** Used for controlled reductions in neutron and power production.



Land Slides in India

Context: *Massive landslides hit several hilly areas in Kerala's Wayanad district early on July 30, 2024, leaving hundreds of people feared trapped.*

What is a Landslide?

- A landslide is a geological event involving the sudden and rapid movement of rock, soil, or debris down a slope due to gravity.

Characteristics of Landslide-Prone Areas

- Steep terrain such as hilly or mountainous regions.
- Presence of joints and fissures in the land.
- Loosely-packed or weathered material.
- Areas affected by wildfires.
- Regions modified by human activities like deforestation or construction.
- River-stream channels.
- Areas with heavy surface runoff or high water saturation.

Causes of Landslides

Natural Causes:

- **Heavy Rainfall:** Increases pore water pressure and soil weight, leading to saturation.
- **Erosion**: Removes cohesive elements, making the area more prone to landslides.
- **Earthquakes**: Ground shaking causes instability in rocks and soil.
- **Volcanic Eruptions:** Ash and debris add weight, and seismic activity triggers instability.

Anthropogenic Causes:

- **Deforestation**: Removes vegetation that stabilizes soil and prevents landslides.
- **Encroachment**: Increased construction in landslide-prone areas raises landslide risks.
- **Uncontrolled Excavation:** Activities like mining and quarrying destabilize slopes.
- **Climate Change:** Alters precipitation patterns and increases extreme weather events, leading to more frequent and severe landslides.

Types of Landslides

- **Falls**: Collapse of material from cliffs or steep slopes that falls and collects at the base.
- **Topples**: Falling mass rotates and moves around a point near the base.
- **Slides**: Movement along a distinct zone of weakness separating the moving material from more stable material.
  - **Rotational Slide:** Movement is rotational about an axis parallel to the ground surface.
  - **Translational Slide:** Movement occurs along a planar surface with little rotation.
- **Flows**: Movement of material down a slope in a fluid-like manner.
  - **Mud Flow:** Movement of wet material with sand, silt, and clay particles.
  - **Debris Flow:** Loose soils, rocks, and organic matter combine with water to form a slurry that flows down a slope.
  - **Rock Flow/Rock Avalanches:** Flow of rock material downslope.

Impacts of Landslides

- Loss of human and animal lives.
- Damage to infrastructure and properties such as homes and roads.
- Burial or washing away of agricultural land, affecting agriculture.

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- Displacement of local communities.
- Blockage of transportation routes, causing disruptions.
- Alteration of natural landscapes, affecting ecosystems and water courses.

➢ **Landslide-Prone Areas in India**

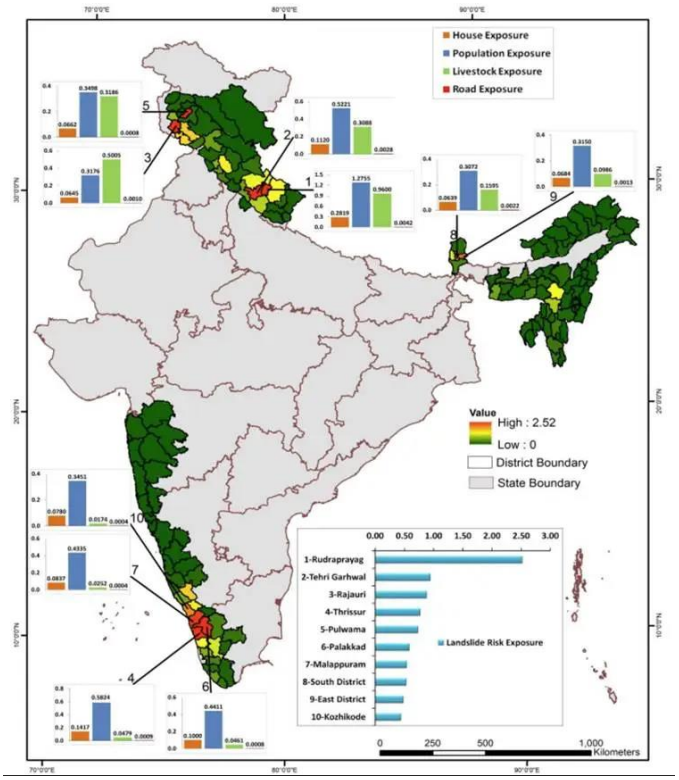
- India is one of the top five landslide-prone countries globally.
- Approximately 12.6% of India's land area is prone to landslides (excluding snow-covered areas).

➢ **Distribution**:

- 66.5% in the North-Western Himalayas.
- 18.8% in the North-Eastern Himalayas.
- 14.7% in the Western Ghats.

➢ **Major Landslide-Prone Areas:**

- Northeastern Region (50% of total landslide-prone areas in India).
- Uttarakhand, Himachal Pradesh, Jammu & Kashmir along the Himalayas.
- Maharashtra, Goa, Karnataka, Kerala, Tamil Nadu along the Western Ghats.
- Araku region in Andhra Pradesh along the Eastern Ghats.



NEWS IN BETWEEN THE LINES

National Human Rights Commission

Recently, the National Human Rights Commission issued notices to the Centre and Delhi government in connection with the incident in which three IAS aspirants drowned in the flooded basement library of a coaching centre in Delhi.

About National Human Rights Commission:

- The National Human Rights Commission is a **statutory body.**
- It was established on **October 12, 1993**, in accordance with the **Paris Principles**.
- It is responsible for reviewing and addressing human rights **violations** and making recommendations for their protection and promotion.
- It is mandated to protect human rights as "**rights related to life**, **liberty** and **dignity** of an individual guaranteed by the **constitution** and **courts** of our country".
- It is a multi-member body including a **chairman**, **four members** and **four ex-officio members.**
- The **chairman and members serve for a five-year** term or until they reach the **age of 70,** whichever comes first.

Central Water Commission

Recently, the Central Water Commission has been honoured with the GEEF Global WaterTech Award under the category 'Water Department of the Year' at the prestigious Global Water Tech Summit -2024 in New Delhi.

About Central Water Commission:

- The Central Water Commission (CWC) is a **government body.**
- It was **established in 1945 under the Ministry of Jal Shakti, by the Government on the advice of Dr. B.R. Ambedkar.**
- It is responsible for the **development**, **conservation** and **management of water resources** throughout India.
- It is divided into three wings including **River Management Wing** (RM), **Design and Research Wing (D&R**), and **Water Planning** and **Projects Wing (WP&P**).
- Each wing is placed under the charge of a full-time Member with the status of Ex-Officio Additional Secretary to the Government of India.
- It is headed by a **Chairman who is also the Ex-Officio Secretary** to the Government of India.
- Its headquarter is located in **New Delhi**.

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Personality in News

Udham Singh

The Haryana government has declared holiday today on 31st of July for all classes in all government and private schools in the state in view of Shaheed Udham Singh Martyrdom Day.

Udham Singh (26 December 1899 – 31 July 1940)

- Udham Singh, an Indian revolutionary and also **known as Shaheed-i-Azam** Sardar Udham Singh, was born in Sunam, Punjab.
- He was profoundly **influenced by the Jallianwala Bagh Massacre on 13th April 1919.**
- He was greatly **inspired by Bhagat Singh** and his ideology.

Contributions:

- In **1924,** he **joined the Ghadar Party** to organize overseas Indians with the aim of overthrowing British colonial rule.
- In **1927**, while returning to India with associates and weapons to carry out revolutionary activities, Udham Singh was **arrested for illegal possession of firearms** and sentenced to five years in prison.
- On **13th March 1940**, **he shot Michael O'Dwyer** at a meeting of the East India Association and the Royal Central Asian Society at **Caxton Hall, London.**
- O'Dwyer was the former Lieutenant Governor of Punjab and his assassination was a response to the Jallianwala Bagh Massacre.
- Udham Singh was sentenced to death for this act and was hanged on **31st July 1940 at Pentonville Prison in London.**

Ethical Values: Patriotism, Courage, Integrity, etc.

Place in News

Vietnam

Prime Minister of Vietnam, Pham Minh Chinh, is on a significant three-day state visit to India, accompanied by a high-level delegation of ministers, deputy ministers, and business leaders.

Vietnam (Capital: Hanoi)

Location: Vietnam is a country located in Southeast Asia on the eastern edge of the Indochina peninsula.

Boundaries:

- Vietnam shares its land borders with **Laos** and **Cambodia** (West) and **China** (North).
- It shares maritime borders with Thailand through the **Gulf of Thailand**, and the **Philippines**, **Indonesia** and **Malaysia** through the **South China Sea**.

Physical Features:

- The highest point in Vietnam is **Fan Si Pan**, also known as Phan Xi Păng.
- Vietnam's major rivers include the **Red River** (flows through Hanoi), the **Mekong River** (forms the Mekong Delta), **the Ma River**, the **Perfume River** (flows through Hue) and the **Tach Dai River**.
- Vietnam is rich in minerals including **coal**, **bauxite**, **tin**, **copper**, **gold** and **limestone**.

Membership:

Vietnam is a member of several international organizations, including the **United Nations** (UN), **World Trade Organization** (WTO), **Association of Southeast Asian Nations** (ASEAN), **Asia-Pacific Economic Cooperation** (APEC), **International Monetary Fund** (IMF), **World Bank** and **International Labour Organization** (ILO).

POINTS TO PONDER

- Which day is recognized as International Tiger Day each year? **– 29 July**
- Which Southeast Asian country recently issued a special stamp featuring Lord Rama of Ayodhya? **– Laos**
- Who is the first Indian woman to win an Olympic medal in shooting with a bronze in Paris? **– Manu Bhaker**
- Which country recently won its first Women's Asia Cup title? **– Sri Lanka**
- What is the primary goal of the Integrated Disease Surveillance Programme (IDSP)? **– To strengthen and maintain a decentralized laboratory-based IT-enabled disease surveillance system**