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## Current Affairs - 01 August 2025

### INDIA-U.S. TIES FACE STRATEGIC STRAIN

- The Indian government was left reeling after U.S. President Donald Trump launched a scathing 12-hour tirade targeting India's trade policies and strategic choices.
- Trump announced a 25% tariff hike and an additional "penalty" for India's trade with Russia, effective August 1.
- American experts now question India's global ambitions, calling them delusional and hinting at strategic asymmetry in the partnership.
- This shift reflects a broader ideological divide, where **nationalism in both countries fuels suspicion and unpredictability**.
- America's internal split between 'America First' sceptics and India optimists mirrors the larger tension: India's assertive global image clashes with the U.S.'s traditional discomfort with power projection by rising nations, even allies.
- As India transitions from a developmental narrative to a power-seeking one, the bilateral relationship faces a critical test of resilience and mutual understanding.

### **Growing Skepticism and Structural Tensions in India-U.S. Relations**

- A rising group of U.S. sceptics has begun to question India's trajectory, pointing to concerns over its perceived illiberal turn and assertive foreign policy under PM Modi.
- India's "India First" approach **maintains strategic autonomy** and includes **assertive military responses to terrorism**—something that makes the U.S., especially under Trump, uneasy due to fears of nuclear escalation.
- The U.S. prides itself on managing relationships with rival nations independently, but it is less comfortable when partners like India do the same.
- Washington remains critical of India's strong ties with Russia and Iran, while expecting Delhi not to challenge its engagement with Pakistan.
- Additionally, protectionist policies aimed at boosting India's domestic manufacturing have strained economic ties, with the U.S. frustrated by limited access to Indian markets.



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### Trump-Pakistan Bonhomie Deepens India's Worries

- What further irked New Delhi was Trump's announcement of a new trade deal with Pakistan, including collaboration on developing the country's supposed oil reserves.
- The U.S.-Pakistan reset, culminating in Trump hosting Pakistan Army Chief Asim Munir at the White House, has deeply unsettled Indian officials.
- **India Suspects Underlying Motives**
  - Indian analysts believe Trump's outburst may be driven by two factors.
  - First, his negotiating style—known for aggressive tariff impositions to gain leverage—mirrors past tactics with China.
  - Second, India's public rebuttal of Trump's claim that he could broker peace between India and Pakistan likely embarrassed him.

### Strategic Gains at Risk

- Indian diplomats fear that Trump's rhetoric could reverse two decades of strategic progress in India-U.S. ties.
- From sanctions post-Pokhran tests to the historic Indo-U.S. nuclear deal, and the elevation of defence cooperation and the Quad, both countries have come a long way.
- However, India suspects that its ties with Russia and Iran, combined with Pakistan's recent outreach to Trump's inner circle—particularly in the cryptocurrency sector—have soured relations.

### Conclusion

India is cautiously assessing Trump's statements and their implications. Experts advise a restrained, calculated diplomatic response.

The challenge lies in three areas: maintaining strategic autonomy while balancing U.S. pressure, rebuilding access to Trump's close advisors, and repairing long-term trust damaged by recent events. As the geopolitical landscape shifts, India must re-evaluate its engagement strategy with a volatile yet important partner.

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### GREEN TECHNOLOGIES - WHY THE WORLD NEEDS IT FOR A SUSTAINABLE FUTURE

- The world is racing to meet its climate commitments amid the growing urgency of energy self-sufficiency, carbon emission reduction, and geopolitical uncertainty.
- While green technologies like **silicon photovoltaics** and **green hydrogen** have catalysed a global energy transition, they are no longer sufficient in their current forms.
- The future demands not just more renewable deployment, but smarter, more **efficient, diverse, and scalable green technologies** that better serve a resource-constrained world.

#### Limitations of Current Green Technologies

- **Silicon Photovoltaics: Dominant Yet Inefficient**
  - Invented in 1954 by Bell Labs, **silicon photovoltaics (PV)** have become the backbone of renewable energy worldwide. However, their limitations are becoming apparent:
    - Typical **efficiencies range from 15% to 21%**, with lower actual field performance.
    - **Land-use intensity** is high due to low energy conversion rates; a doubling of efficiency could halve the land required.
    - Over 80% of silicon solar panels come from China, raising strategic and supply chain concerns.
  - India, with ~6 GW of production capacity, is expanding its silicon PV output, but must also prepare to leapfrog toward **next-generation solar technologies** like gallium arsenide thin-film cells, which have demonstrated up to **47% efficiency** in labs.
- **The “Green” in Green Hydrogen is Relative**
  - **Green hydrogen**, produced by electrolysis using renewable energy, is a promising clean fuel. However, it suffers from key drawbacks:
    - **Energy inefficiency:** Electrolysis consumes more energy than the energy value of the hydrogen it produces.



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- **Storage and transportation challenges** due to hydrogen's low density and leakage issues.
- **Conversion losses** in creating and later separating hydrogen from green ammonia or methanol.
- Therefore, while green hydrogen is technically clean, its **overall lifecycle efficiency is poor**, especially when powered by low-efficiency PV systems.

### Rethinking Fuel Production and CO<sub>2</sub> Utilisation

- To overcome these hurdles, researchers are exploring **Artificial Photosynthesis (APS)**, mimicking plant-based CO<sub>2</sub> recycling to produce fuels like **green methanol and green ammonia** directly from sunlight, water, and atmospheric gases.
- While APS is currently confined to lab research, it represents a **breakthrough pathway** for truly sustainable fuel production.
- Meanwhile, **Europe is pushing ahead with Renewable Fuels of Non-Biological Origin (RFNBOs)**, which avoid biomass and use pure renewable inputs.
- India, too, must pivot toward such futuristic innovations to reduce its **85% dependence on imported energy**, which includes oil, coal, and natural gas.

### Policy and Investment Implications

- Governments must now shift from deployment to **diversified innovation**. India's energy roadmap should include:
    - **Increased R&D spending** on next-gen energy systems
    - **Public-private partnerships** to accelerate commercialisation
    - Strategic support for **deep-tech innovations** like APS and RFNBO
    - **Redesign of subsidies** and incentives to favour higher efficiency, land-saving, and lifecycle-optimised technologies
  - As **geopolitical instability** threatens global supply chains, energy independence through innovation is no longer optional; it is urgent and essential.
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### LANGUAGE AND DIVISION OF STATES

- At the time of Independence in 1947, India inherited a complex administrative setup shaped by British colonial rule.
- The British governed India through two parallel systems — direct control in provinces and indirect control over 565 princely states.
- The boundaries drawn were dictated largely by administrative convenience rather than cultural or linguistic coherence.

#### **Four-Part Division under the 1950 Constitution**

- When the Constitution came into effect on January 26, 1950, India was described as a “Union of States,” comprising 28 states grouped into four categories:
- **Part A States:** These included nine former British governor’s provinces like Bombay, Madras, and Uttar Pradesh, each with an elected legislature and a governor.
- **Part B States:** Comprising eight former princely states or their groupings, these were governed by an elected legislature and a rajpramukh (a governor-like figure), and included states like Hyderabad, Jammu & Kashmir, and Rajasthan.
- **Part C States:** Ten territories including both former Chief Commissioners’ provinces and some princely states were placed under the direct control of the President through a Chief Commissioner. Examples: Delhi, Himachal Pradesh, and Manipur.
- **Part D State:** The sole territory under this category was the Andaman and Nicobar Islands, administered by a Lieutenant Governor appointed by the President.

#### **Language Was Not the Sole Criterion for State Reorganisation**

- In its December 1953 resolution in Parliament while setting up the **States Reorganisation Commission (SRC)**, the Centre emphasized that although language and



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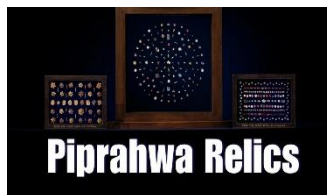
culture reflect a shared way of life in a region, **factors such as national unity, security, and administrative, financial, and economic viability were equally critical.**

- The final SRC report echoed this balanced approach, stating that relying solely on language or culture was neither possible nor desirable for state reorganisation.
  - Despite strong movements for Marathi- and Gujarati-speaking states, the SRC recommended a bilingual Bombay state covering vast linguistic diversity.
  - Similarly, it advised against dividing Punjab's Punjabi- and Hindi-speaking areas.
- During the 1956 debate on the State Reorganisation Bill, Nehru rejected the idea of "unilingualism" as the foundation of India's federal structure.

### Linguistic Reorganisation: A Story of Unity, Not Division

- When India undertook the reorganisation of states on linguistic lines, several Western observers predicted it would lead to fragmentation and eventual collapse.
- Many thought this "profusion of tongues" would fuel secessionist impulses and create internal disunity.
- However, India's experience defied these fears — linguistic states, rather than dividing the country, became tools for integration and administrative efficiency.

### PIPRAHWA RELICS



- These are associated with the mortal remains of **Lord Buddha.**
  - **Key Features:** The Piprahwa Relics, which include bone fragments, soapstone and crystal caskets, a sandstone coffer, and offerings such as gold ornaments and gemstones. An **inscription in Brahmi script** on one of the caskets confirms these as relics of the Buddha, **deposited by the Sakya clan.**
- **Discovered by:** In 1898, **William Claxton Peppé**, an English estate manager and engineer, during an excavation found a stupa at Piprahwa, just south of Lumbini believed to be the birthplace of Lord Buddha.



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- The British crown claimed Peppé's find under the 1878 Indian Treasure Trove Act, and the bone and ash fragments were gifted by the British to King Chulalongkorn of Siam, now Thailand.
- The majorities of these relics were transferred to the **Indian Museum, Kolkata, in 1899.**
- These are **classified as 'AA' antiquities** under Indian law, prohibiting their removal or sale.

### UN WOMEN



- It is the United Nations (UN) entity dedicated to **gender equality and the empowerment of women.**
- It was **created in July 2010** by the UN General Assembly.
- **The main roles of UN Women are:**
  - To **support inter-governmental bodies**, such as the Commission on the **Status of Women**, in their formulation of policies, **global standards**, and norms.
  - To help member **states implement these standards**, standing ready to provide suitable technical and financial support to those countries that request it, and to forge effective partnerships with civil society.
  - To lead and **coordinate the UN system's work on gender equality** as well as promote accountability, including through regular monitoring of system-wide progress.
- It works globally to make the vision of the **Sustainable Development Goals (SDG's)** a reality for women and girls and stands behind women's equal participation in all aspects of life.
- Within countries that request its assistance, **UN Women works with government and non-governmental partners** to help them put in place the policies, laws, services, and resources that women require to move towards equality.



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- **Grant-making Funds:** UN Women provides grants to fuel innovative, high-impact programmes by government agencies and civil society groups through two funds—the Fund for Gender Equality and the UN Trust Fund to End Violence against Women.
- **Commission on the Status of Women (CSW):** A global **policy-making body**, the CSW is a functional commission of the United Nations Economic and Social Council (ECOSOC), dedicated exclusively to **gender equality and the advancement of women**.
- It **maintains the UN Secretary-General's database on violence against women**, which tracks measures to end violence taken by UN Member States and UN organizations.

### INS HIMGIRI



- It is the **third ship of Nilgiri Class (Project 17A)** and the first of the class built at Garden Reach Shipbuilders & Engineers (GRSE).
- It is a **reincarnation of the erstwhile INS Himgiri**, a Leander-class frigate, that was decommissioned on 06 May 2005 after 30 years of glorious service to the nation.
- It is **designed by the Warship Design Bureau (WDB)** and overseen by the Warship Overseeing Team (Kolkata).
- **Features of INS Himgiri**
  - P17A ships are fitted with an **advanced weapon and sensor suite** compared to the P17 (Shivalik) class.
  - These ships are configured with **Combined Diesel or Gas (CODOG) propulsion plants**, comprising a diesel engine and gas turbine, that drives a Controllable Pitch Propeller (CPP) on each shaft, and a state-of-the-art Integrated Platform Management System (IPMS).
  - The weapon suite comprises **supersonic Surface-to-Surface missile system**, Medium-Range Surface to Air Missile system, **rapid-fire Close-in Weapon Systems**.
  - It has indigenous content of 75%, which has involved over 200 MSMEs at GRSE.



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- P17A frigates reflect a generational leap in indigenous ship design, stealth, survivability, and combat capability.
- **Significance:** Delivery of Himgiri showcases the design, ship construction and engineering prowess of the nation, and reflects Indian Navy's unrelenting focus on Aatmanirbharta in both ship design and shipbuilding.

### KEY FACTS ABOUT SABARMATI RIVER



- It is a **monsoon-fed, west-flowing river**.
  - It **originates** in the **Aravalli Mountain Range** in the Udaipur district of the northern Indian state of **Rajasthan**.
  - The river is also **called Wakal in its initial course**.
  - The river **flows** in a southwesterly direction **across Rajasthan and Gujarat**.
  - It finally **empties into the Gulf of Khambhat of the Arabian Sea**.
- It is about **371 km** in length. **In Gujarat**, the river extends to a length of about **323 km**, while in **Rajasthan** the river has a length of about **48 km**.
- The Sabarmati basin extends over an area of **21,674 sq.km** with a maximum length and width of **300 km** and **150 km**.
- The **basin is bounded by Aravalli hills** on the north and north-east, by the **Rann of Kutch** on the west, and by the **Gulf of Khambhat** on the south.
- The major part of the basin is covered with **agriculture**, accounting for **68% of the total area**.
- The **banks** of the Sabarmati River **have Indian cities like Ahmedabad and Gandhinagar**.
- It **flows north-south through Ahmedabad**, bisecting the city into its western and eastern halves.
- **Major Tributaries:** **Wakal River, Harnav River, Hathmati River, Watrak River, and Madhumati**.