Today's Prelims Topics

Dollar Index

Context

The Indian rupee hit a historic low of **87.29 per dollar**, triggering concerns over rising **imported inflation and trade deficit**. The decline follows a sharp **1.24% rise in the Dollar Index (DXY).**

About Dollar Index

- **Dollar Index (DXY)** is a measure of the value of the U.S. dollar relative to a basket of foreign currencies.
- **Basket of Currencies:** DXY compares the U.S. dollar against six major currencies:
  - **Euro (EUR)** – 57.6% (highest weight)
  - **Japanese Yen (JPY)** – 13.6%
  - **British Pound (GBP)** – 11.9%
  - **Canadian Dollar (CAD)** – 9.1%
  - **Swedish Krona (SEK)** – 4.2%
  - **Swiss Franc (CHF)** – 3.6%
- **Base Year and Calculation:** It was established in **1973**, shortly after the Bretton Woods Agreement was dissolved with a base value of **100**.
- **Factors Influencing DXY:**
  - **Monetary Policy:** U.S. Federal Reserve interest rate changes.
  - **Economic Indicators**: GDP growth, employment rates, inflation.
  - **Global Events**: Wars, recessions or financial crises impact the index.

Reasons Behind Rupee Depreciation

- **Strengthening Dollar Index & Trade War Concerns:**
  - The **Dollar Index (DXY) surged** after the U.S. President **imposed 25% tariffs** on imports from **Canada, Mexico, and China**, escalating fears of a **global trade war**.
- **Capital Outflows 💰:**
  - Since **October 2024**, **Foreign Institutional Investors (FII) have sold $11 billion** worth of Indian assets.
  - This capital outflow **reduces forex reserves** and weakens INR.
- **Widening Trade Deficit 📉:**
  - India's **trade deficit reached $188 billion** in FY25 (so far), up **18% from FY24**.
  - Higher trade deficit increases **demand for dollars**, putting downward pressure on INR.
- **Robust U.S. Economic Data & Rising Interest Rates:**
  - **Strong U.S. job data** and expectations of **higher Federal Reserve interest rates** have made the U.S. **Treasury yields more attractive** to investors.

Economic Impact of Rupee Depreciation

- **Negative Impact:**
  - Higher Imported Inflation 📈
  - Higher Loan Servicing Costs for Indian Companies 💰
  - Capital Flight & Lower FDI Inflows 📉
- **Positive Impact:**
  - **Boost to Export-Oriented Sectors 💼 -** A weaker INR makes **Indian exports cheaper** globally, benefiting sectors like **IT, pharmaceuticals, and textiles**.

- **Higher Remittance Value 🌍:** Indians working abroad **benefit from a weaker rupee**, as **remittances fetch more INR**, supporting domestic consumption.

Source:

- The Hindu - rupee breaches 87 against dollar

How will the govt. produce the required fuel ethanol?

Context

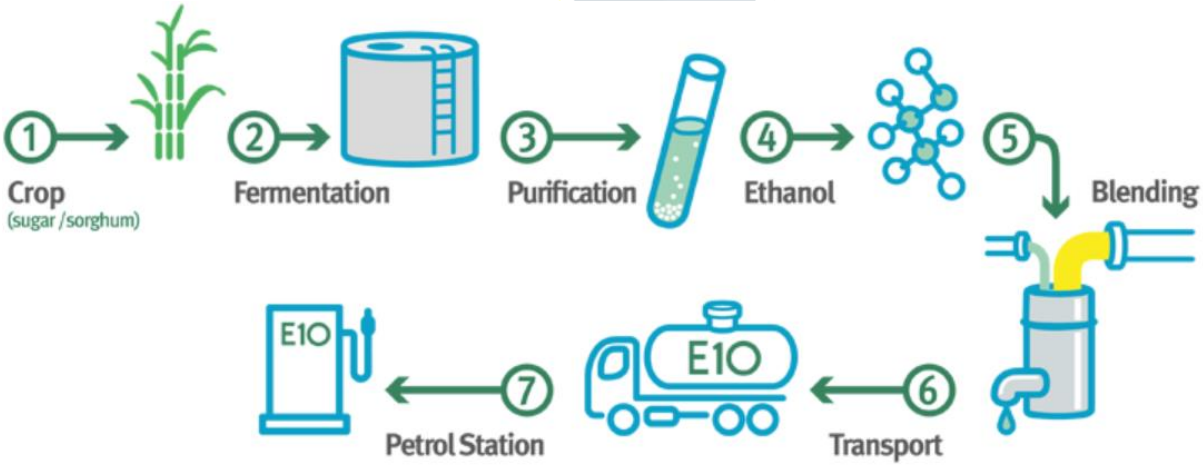
India is set to achieve **20% ethanol blending** with petrol within the next two months—**a year ahead of schedule**. This requires the production of **1,100 crore litres of fuel ethanol annually**.

Sources of Ethanol Production

- The required **1,100 crore litres of fuel ethanol** will come from multiple sources:
  - **Sugar and High-Grade Molasses** – 400 crore litres
  - **Food Corporation of India (FCI) Rice** – 110 crore litres
  - **Broken Rice** – Small contribution
  - **Maize** – 350-400 crore litres

Role of Maize in Ethanol Production

- India was producing little ethanol from maize before 2020. Now, maize is expected to contribute nearly 400 crore litres.
- Grain-based distilleries and dual-feed sugar distilleries (which can use maize in the off-season) are being developed.
- **Growth in Maize Production:**
  - Since 2020-21, **maize production has increased by 6 million tonnes**.
  - In **2024-25** maize production is estimated at **42 million tonnes**., Out of this **9 million tonnes will be used for ethanol** production.



About Maize

- **Growing Conditions:**
  - It is primarily a rainfed Kharif crop grown in regions with **semi-arid conditions (25 - 75 cm rainfall).**
  - It cannot be cultivated in areas with more than 100 cm of rainfall.
  - It grows best in well-drained, fertile soil.
  - Maize requires consistent moisture throughout its growing season but it is highly sensitive to **water logging.**
- In India, maize is grown **in both the rainy (kharif) and winter (rabi) season.**
  - Kharif maize - 83% of maize area, while rabi maize- 17% maize area.
- **Top Maize Producing Countries:** USA, China & Brazil (India -6th).
- **Top Maize producing states in India:** Karnataka, Madhya Pradesh, Maharashtra, Rajasthan & UP.

Source: The Hindu - Required fuel ethanol

Trump Administration's Move to Shut Down USAID

Context

The US administration has pushed to **pause foreign aid, remove key officials and cut funding** of the United States Agency for International Development.

About United States Agency of International Development (USAID)

- **USAID is the lead international humanitarian and development arm of the US government**.
- It funds **NGOs, foreign governments, international organizations and other US agencies** for programs related to:
    - Poverty alleviation, Education,Healthcare, Infrastructure, Democracy Building etc.
- It has played a key role in **spreading US influence abroad.**
- **USAID's Top Recipients in FY2023:** Ukraine, Ethiopia, Jordan, Democratic Republic of Congo, Somalia.

History of USAID

- **Origins in Cold War Geopolitics:**
    - US has used **international aid as a foreign policy tool since WWII.**
    - **Marshall Plan (post-WWII)** – Provided economic aid to Europe to **prevent the spread of communism**.
    - During the **Cold War**, USA increased **economic, technical and military aid** to counter the Soviet Union.
- **Creation of USAID (1961):**
    - It was established by **President John F. Kennedy** under the **Foreign Assistance Act of 1961**.
    - Initially it focused on **preventing communism in Latin America** after the **Cuban Revolution (1959)**.
        - Launched the **"Alliance for Progress"** – a multi-billion dollar initiative for Latin American development.

Source:

- Indian Express - USAID

Extra-Long Staple (ELS) Cotton

Context

The **Union Finance Minister has** announced a **five-year mission** in the **Union Budget** to improve **productivity, sustainability, and quality** in cotton farming, with a focus on **ELS cotton** varieties.

About ELS Cotton

- It is a cotton variety with fibre lengths of 30 mm.
- **Origin**: South America, grown in **China, Egypt, Australia and Peru**.
- **Quality**: Produces premium fabric, softer, stronger and more durable.
- **Usage**: Blended with medium staple cotton to enhance textile quality.
- Key ELS types: Pima (USA), Peru (Israel), Giza (Egypt), Suvin & DCH-32 (India), Barakat (Sudan).
- In India it is grown in **Atpadi taluka (Maharashtra's Sangli district) and Coimbatore (Tamil Nadu)**.

Classification of Cotton by Staple Length

- Cotton is categorized based on **fibre length:**
  - **Short Staple** – Below **21 mm**
  - **Medium Staple** – **25 to 28.6 mm** (**96% of India's cotton production**)
  - **Long Staple** – **29 mm** and above
  - **Extra-Long Staple (ELS) – 30 mm** and above

Why is ELS Cotton Not Grown in India?

- **Lower Yields:** While medium staple cotton yields 10-12 quintals per acre, ELS cotton produces only 7-8 quintals.
- **Market Challenges:** Farmers struggle to sell ELS cotton at premium prices due to weak market linkages.

Source:

- Indian Express - ELS cotton

Supreme Court's Ruling on Forest Conservation

Context

The **Supreme Court of India** has directed the **Union government and States** to ensure that no reduction of **forest land** takes place without **providing compensatory land for afforestation**. The ruling is part of an ongoing case challenging the **2023 amendments to the Forest (Conservation) Act, 1980**.

Supreme Court's Key Directives

- **No reduction in forest land:** The court prohibited the use of forest land for development projects unless compensatory land is provided.
- **Linear projects require compensatory afforestation**: If forest land is used for **linear projects** (such as roads, railways, and transmission lines), an **equal amount of land must be afforested elsewhere**.
- **Dictionary meaning of 'forest' to continue**: The court reiterated that the definition of 'forest' should remain **broad and all-encompassing**, as established in the **TN Godavarman Thirumulpad case (1996)**.

Amendments to the Forest (Conservation) Act, 1980

- The **Forest (Conservation) Act, 1980** was enacted to **prevent deforestation** and **maintain ecological balance**.
- **What Did the 2023 Amendments Change?**
    - Introduced **Section 1A**, which **narrowed the definition of 'forest'** to:
        - Declared forests
        - Lands recorded as forests in government records after 1980
- **Concerns Raised by Petitioners:**
    - Petitioners argued that **Section 1A weakened forest protection** by: Excluding nearly **1.97 lakh sq km** of undeclared forest lands

Supreme Court's Stand on the Definition of 'Forest'

- The **Supreme Court reaffirmed** that the term 'forest' will continue to have a **broad meaning**, as per the **TN Godavarman Thirumulpad case (1996)**.
- This means forest lands will **not be limited to government-recognized forests**, but will also cover:
    - **Forest-like areas**
    - **Unclassed forests**
    - **Community forest lands**
- The **court ordered** that this broad definition **remain valid until** all States and UTs complete a **consolidated record of forest lands**.

Source:

- The Hindu - Do not reduce forest land for linear projects

News in Shorts

Central Forensic Science Lab (CFSL)

- The Supreme Court will await a **CFSL report** on the authenticity of audio recordings allegedly implicating **Manipur CM N. Biren Singh** in the state's ethnic violence.

About CFSL

- CFSL is a scientific department that analyzes crime exhibits for the Indian government.
- It is a wing of the **Ministry of Home Affairs and the Central Bureau of Investigation (CBI).**
- **Functions:**
  - Analyzes crime exhibits for the CBI, Delhi Police, and other government departments.
  - Provides expert opinions to the courts.
  - Conducts research and development to improve forensic science.
- **Disciplines covered by CFSL:** Ballistics, Biology, Chemistry, Physics, Toxicology, Explosives, Forensic physics, Forensic chemistry and Forensic biology.
- **Total CFSL labs in India (7):** Delhi, Bhopal, Chandigarh, Kamrup, Hyderabad, Pune & Kolkata.

Source:

- The Hindu - Apex court to wait for CFSL report

Newly Discovered Asteroid 2024 YR4

- YR4 was first detected in December 2023 by a Chilean telescope.
- It measures between 40 to 100 meters in diameter—comparable to a football field.
- Astronomers are using **powerful telescopes** to measure its **exact size and trajectory** before it fades from view in **mid-April 2024**.
  - It will not be visible again until **2028**.
- **Impact Potential (Torino Scale):**
  - The **Torino Scale** categorizes the risk of asteroid impacts (scale **0 to 10**).
  - NASA has rated **2024 YR4 as a 3** (moderate risk).

How Often Do Asteroids Crash into Earth?

- **Small asteroids:**
  - Thousands **enter Earth's atmosphere daily**.
  - Most **burn up due to friction**, sometimes appearing as **fireballs**.
- **Larger asteroids:**
  - Those **over 1 km in diameter** strike Earth approximately **every 260 million years**.
  - The **Solar System's vastness** makes direct asteroid impacts rare.
  - **Small asteroids (~40m)** could **devastate an entire city**, depending on **entry speed and angle**.

Source:

- Indian Express - YR4

Editorial Summary

India's Just Mineral Framework

Context

India has made significant strides in its transition to clean energy over the past decade, as reflected in budgetary allocations and policy initiatives. However, challenges such as underutilization of funds, dependence on fossil fuels, and supply chain disruptions continue to pose obstacles.

Obstacles to India's Clean Energy Transition

- **Underutilization of Budgetary Allocations: Budget allocations to the Ministry of New and Renewable Energy (MNRE)** have often remained **underutilized**, except in **2015 and 2023**, leading to **lower revised estimates (REs)**.
    - This reflects **implementation bottlenecks** and **slow fund disbursement**.

Fact

Budgetary Allocations

- **Fiscal Year 2015:** The budget allocation was ₹1,535 crore.
- **Fiscal Year 2025:** The allocation is projected to be ₹32,626 crore

- **Limited Success of PM-KUSUM Scheme:** Launched in **2019** with an outlay of **₹34,422 crore**, the scheme aimed at promoting **solar irrigation pumps and grid-connected solar plants**.
    - However, it received a **tepid response**, with **less than half a gigawatt of installed capacity**.
    - Factors behind its slow adoption include **lack of farmer awareness, financial constraints, and regulatory hurdles**.
- **High Dependence on Coal for Power Generation:** Despite **46% of total installed capacity** coming from **renewables (as of October 2024)**, **70% of actual power generation** still comes from **coal**.
    - The **intermittent nature of renewables** makes it difficult to fully transition away from **fossil fuels**.
- **Slow Expansion of Battery Storage Technology: Grid-scale battery storage** is essential to manage **intermittent renewable energy output**.
    - However, India has been slow in developing **advanced chemistry cell (ACC) battery manufacturing** and storage infrastructure.
    - High costs and **technological dependency** on imports (especially from China) remain key challenges.
- **Impact of High Import Duties on Solar Equipment:** To promote domestic manufacturing, the government imposed **40% Basic Customs Duty (BCD) on solar modules** and **25% on solar cells**.
    - However, this led to a **rise in solar power installation costs**, slowing **solar capacity additions**.
    - The move aimed at reducing **import dependence on China** backfired, affecting **project economics** and **renewable energy expansion**.
- **Critical Minerals and Supply Chain Vulnerabilities:** India lacks a **robust supply chain** for **critical minerals** (such as lithium, cobalt, and nickel), essential for **battery storage and clean energy technologies**.
    - **Heavy reliance on China** for **solar components and lithium-ion batteries** poses strategic risks.
    - Without a **domestic critical minerals framework**, India struggles to **secure a stable supply of essential resources**.

- **Policy & Regulatory Uncertainties:** Frequent **policy shifts** and lack of **long-term regulatory clarity** affect investor confidence.
    - The **PLI scheme for solar modules and Advanced Chemistry Cell (ACC) batteries** is a positive step but needs better **implementation and industry participation**.
    - **State-level policies** for renewable energy often vary, creating **inconsistencies in execution**.
- **Capital-Intensive Nature of Clean Energy Projects: Renewable energy projects**, especially **battery storage and solar module manufacturing**, require **high capital investment**.
    - Financing constraints, **high borrowing costs**, and **lack of incentives** slow down private sector participation.

Way Forward

To accelerate its clean energy transition, India must:

- Improve **fund utilization** and **policy stability**.
- Address **grid-scale battery storage** needs.
- Balance **import duties** with **renewable energy affordability**.
- Develop a **comprehensive critical minerals framework** to reduce **dependence on China**.
- Encourage **private sector investment** through **financing incentives** and **policy support**.

Source: The Hindu: Green And Clean

India's Maritime Sector

Context

- The Indian government has demonstrated a strong commitment to developing the **maritime sector**, which had been largely neglected by previous administrations.
- However, despite substantial investments, **the shipping industry continues to stagnate**, losing market share to foreign-flagged vessels and other transport modes.
- The **Union Budget 2025** has introduced some reforms, but critical issues, particularly tax disparities, remain unresolved.

Stagnation in the Indian Shipping Industry

Sagarmala Programme: Investment and Progress

- **Sagarmala**, the government's flagship maritime programme, aims to boost port infrastructure and connectivity.
- As of **September 2024**, the programme had outlined **839 projects** requiring an investment of **₹5.8 lakh crore** by **2035**.
- **Progress so far:**
    - **241 projects** worth **₹1.22 lakh crore completed**.
    - **234 projects** valued at **₹1.8 lakh crore under implementation**.
    - **364 projects** with an estimated investment of **₹2.78 lakh crore in various stages of development**.
- **Breakdown of Investments:**
    - **₹2.91 lakh crore** (50%) → **Port modernisation**.
    - **₹2.06 lakh crore** (35%) → **Port connectivity**.
    - **₹55.8 thousand crore** (10%) → **Port-led industrialisation**.
    - **Remaining 5%** → **Coastal community development, coastal shipping infrastructure, and inland water transport**.

Economic Growth and EXIM Trade Expansion

- India's GDP grew from **₹153 trillion (2016-17) to ₹272 trillion (2022-23)**, a **43% increase** at a **CAGR of 7%**, despite **COVID-19 setbacks**.
- Projections:
    - **$3.7 trillion** in **2024**.
    - **$5 trillion** by **2027**.
    - **$7 trillion** by **2030**.
- **India's EXIM trade:**
    - Increased from **$66 billion (2016-17) to $116 billion (2022)** → **77% cumulative increase** (**12.83% annual growth**).
    - **Target: $2 trillion exports by 2030**

- **Low Growth in Cargo and Vessel Traffic: Cargo handled at major ports** increased by just **14.26%** from **1,071.76 million tons (2016-17) to 1,249.99 million tons (2020-21)** (**Annual growth: 2.85%**).
    - **Number of vessels handled declined by 5.93%**, from **21,655 (2016-17) to 20,371 (2020-21)**.
    - **Indian shipping continues to lose market share** to **foreign-flagged vessels for EXIM cargo** and **rail & road transport for domestic cargo**.
- **Lack of Competitive Financing & High Capital Costs: High borrowing costs** and **short loan tenures** discourage investment.

  - **Rigid collateral requirements** force shipowners to provide **additional security** instead of using ships as collateral.
  - **Banks lack understanding of shipping cycles**, leading to **inflexible loan restructuring policies**.
- **Tax & Regulatory Disadvantages for Indian Ships: 5% IGST on ship purchases** (not applicable to foreign-flagged ships).
  - **TDS on Indian seafarers' salaries**, while foreign ships employing Indian seafarers are **exempt**.
  - **High port charges & additional financial burdens** for Indian shipowners reduce competitiveness.
- **Over-Reliance on Foreign-Flagged Ships:** Indian shipping companies **struggle to compete globally**, leading to **loss of market share**.
- **Challenges in Shipbuilding & Fleet Modernization:**
  - **Aging fleet**: Average **vessel age was 26 years (2022-23)**, improved to **21 years (2024)** with **only 34 new vessels added**.
    - **India's global ranking in ship ownership fell from 17 to 19**.
  - **Infrastructure gaps for large vessel construction**.
  - **High costs of shipbuilding** due to **import dependency for key components** (steel, machinery, spare parts).
  - **Customs duties on imported shipbuilding equipment** increase costs.
  - **Skill gaps in the workforce** limit shipbuilding efficiency.
  - **Limited Investment in Green & Digital Technologies**
  - **Global shipping is shifting toward green energy & digitization**, but India's investment in **eco-friendly vessels & digital logistics remains low**.
  - **Lack of incentives for LNG-fueled or hydrogen-based ships** hinders sustainability goals.

Government Reforms & Budget 2025 Announcements

- **₹25,000 crore Maritime Development Fund (MDF)** (49% government-funded, rest from major ports).
- **Infrastructure status for large vessels**.
- **Creation of shipbuilding clusters**.
- **10-year customs duty exemption** on **shipbuilding spares & equipment**.
- **Revamped financial assistance policy for shipbuilding**.
- **Credit incentives for shipbreaking** in **Indian yards**.
- **Extension of tonnage tax scheme** to **inland vessels**.

Unanswered Questions

- **Lack of clarity on MDF funding** (single-year or multi-year allocation?).
- **₹25,000 crore may be insufficient** given the **capital-intensive nature of shipping & shipbuilding**.
- **Need for long-term financing**:
  - **Lower interest rates**.
  - **Loan repayment tenures of 7-10 years**.
- **Urgent fleet replacement & green technology investments** required to meet **GHG emission targets**.
- **Need for new shipyards** to construct **large vessels** and **modernise existing ones**.

A Step Forward, But Not Enough

The **Union Budget 2025** introduces some **much-needed reforms**, but **funding uncertainties and tax disparities** threaten to undermine progress. To **truly revitalize the maritime sector**, the government must:

- **Ensure long-term financing at competitive interest rates**.

- **Expand MDF funding** to meet industry needs.
- **Invest in new shipyards & modernisation of existing ones**.
- **Remove tax disadvantages for Indian-flagged ships**.
- **Promote shipbuilding competitiveness** through **lower import duties and skill development**.

Source: [The Hindu: Some wind behind the sails of India's shipping industry]

Creating the Right Jobs for a Viksit Bharat

Context

With the **Union Budget 2025** presented, India must focus on **long-term job creation and real wage growth** rather than short-term demand boosts.

Key types of jobs needed for India's economic future

Climate-Resilient Jobs

- **Economic Impact of Climate Change**
  - **India ranked 7th most affected by climate change (2019)**.
  - **Loss of $159 billion in 2021** due to climate-related damages.
  - **Adaptation costs projected to reach $1 trillion by 2030** (RBI estimate).
- **Climate-Resilient Job Creation Strategies**
  - **State-subsidised e-rickshaws for last-mile mobility**: **3-4 e-rickshaws per village in 6,00,000 villages → Creates 2 million jobs**.
    - **Women-focused employment initiative**.
  - **Boosting private investment in compressed biogas plants**: **Only 82 plants set up vs. 5,000 target (FY23-24)** → Urgent need for expansion.
  - **Accelerating 500 GW non-fossil energy target**: **Creates over 1 million jobs**.
    - **Decentralised and rooftop solar initiatives → 7x more labour-intensive than utility-scale solar (CEEW study)**.

AI-Resilient Jobs

- **AI Impact on Job Market: 50% automation adoption in India expected in the next 10 years** (McKinsey Global Institute).
  - **IT and business services contribute 70%+ of India's services exports (Economic Survey 2021)** but face **AI disruption**.
  - **Examples of AI replacing jobs**:
    - **metaGPT simulating software companies**.
    - **AI writing 25% of Google's code**.
    - **Job losses due to AI-driven chatbots in India**.
- **AI-Resilient Job Creation Strategies**
  - **Education & healthcare expansion**: Plugging **millions of vacancies for healthcare professionals and teachers**.
  - **Strengthening National Rural Livelihood Mission (NRLM)**: **Facilitates global & urban market linkages** for **rural artisans, farmers, and craftsmen**.

Aspiration-Centric Jobs

- **Challenges for Rural Youth Employment:** Despite rising **startup engagement**, rural youth face **low confidence** due to:
  - **Poor foundational education (including English proficiency)**.
  - **Lack of resources in upbringing**.
  - Leads to **dependency on government jobs & coaching culture** for exam preparation.
  - **Non-farm job growth is slow**, requiring **off-farm employment solutions**.
- **Strategies for Aspiration-Centric Job Creation**
  - **Integrated Packhouses**: **Build 70,000 packhouses** to **plug the 95%+ infrastructure gap**.
    - **Creates over 2 million jobs** in food processing & logistics.
  - **Tech-enabled agri-input manufacturing**: **Boosts high-import agricultural sectors**.
  - **Rebranding rural employment through digital media & social media**:
    - Makes **off-farm jobs aspirational** for **rural youth**.

- **National Mission on Edible Oils – Oilseeds**: **Reduce India's 57% import dependence on edible oils** to pre-WTO levels.
  - **Revitalise local oilseed processing** (soybean, sunflower, cold-pressed oils).
- **Public-Private Partnerships (PPP) for large-scale rural businesses**: Addresses **youth frustrations over exam leaks & limited recruitment**.

Source: [The Hindu: The kind of jobs needed for the 'Viksit Bharat' goal]