

Today's Prelims Topics

Reciprocal Tariffs

Context

Recently US President Donald Trump has announced his plan to impose "reciprocal tariffs" on all countries.

What are Reciprocal Tariffs ?

- A **reciprocal tariff** is a tax or trade restriction imposed by one country in response to similar actions taken by another.
- The goal is to create **balance in trade** between nations by ensuring fairness in tariff rates.
- While intended to protect local industries, reciprocal tariffs can lead to **trade wars** and economic disruptions.

Historical Context:

- Since **World War II**, global trade has moved towards freer trade agreements.
- Agreements like **GATT (General Agreement on Tariffs and Trade)** and **WTO (World Trade Organization)** ensured that developing countries received preferential treatment.
- Under this system, **developing nations could levy higher tariffs** to protect their industries, while developed nations maintained lower tariffs.

Trump's Approach:

- Ends the preferential treatment for developing nations.
- The US will now **match tariff levels of other countries** on American exports.
- Trump calls it a "**fair**" system where the US no longer has to worry about uneven tariffs.

Impact on Indian Exports

- United States stands as India's largest export market, accounting for approximately **17.7% of India's total exports in the fiscal year 2024**.
- Key export sectors include pharmaceuticals, petrochemicals, textiles and machinery.
- The imposition of reciprocal tariffs could render Indian goods less competitive in the U.S. market due to increased prices, potentially leading to a decline in export volumes.

Source:

- [Economic Times - what is Reciprocal Tariffs](#)

Nocturnal Bull Ants Use Polarised Moonlight for Navigation

Context

Scientists have discovered that two nocturnal bull ant species, **Myrmecia pyriformis** and **Myrmecia midas**, navigate at night using **polarised moonlight**.

What is Polarised Light?

- Light from the **sun and moon** normally spreads out in all directions. This is called **unpolarised light**.
- When this light passes through the **Earth's atmosphere**, it **scatters** and becomes **polarised**.
- **Polarised light** means the light waves are organised in a specific direction, creating a pattern in the sky. This pattern is called **E-vector pattern**.
- Some animals, like ants, can see this **pattern** and use it like a built-in **compass** to navigate.

Why is Polarised Light Important for Nocturnal Insects?

- Many insects, like **ants and bees**, use the **moon's position** to move around at night.
- However, the **moon isn't always visible**—it changes shape (waxing and waning), gets covered by clouds, or is blocked by trees.
- **Polarised moonlight**, even though it is **much dimmer than sunlight**, still creates a pattern in the sky.
- Some insects can **detect and follow** this pattern, helping them find their way even on dark nights.

How Do Bull Ants Use Polarised Moonlight to Navigate?

- The ant species **Myrmecia pyriformis** and **Myrmecia midas** were known to use **polarised sunlight** to navigate during the day.
- But scientists didn't know how they **found their way at night** after sunlight disappeared.
- They noticed that:
 - **M. midas ants** returned home **late at night**.
 - **M. pyriformis ants** were more active on **full-moon nights**.
- **New Discovery:**
 - Scientists found that these ants can **see and follow polarised moonlight**, just like they use **polarised sunlight**.
 - Even when the **moon is very dim (like during a crescent moon, when it's 80% darker)**, the ants could still find their way.
 - The pattern in **moonlight's polarisation** acts like a **hidden map**, guiding the ants home.



Source:

- [The Hindu - second animal to find its way by polarised moonlight](#)

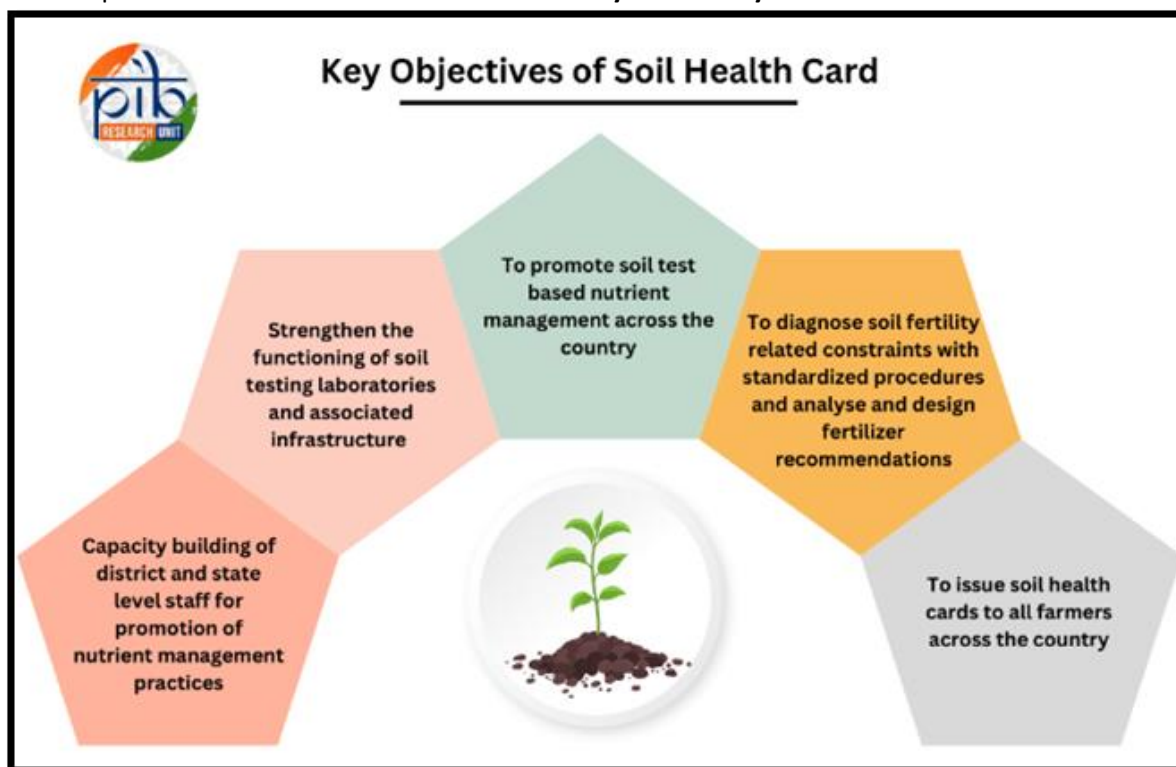
10 Years of Soil Health Card Scheme

Context

In February 2025 Soil Health Card Scheme completed 10 Years.

About Soil Health Card Scheme (SHC)

- It was launched on **19th February, 2015 at Suratgarh, Rajasthan**, to assist State Governments to issue soil health cards to all farmers in the country.
- Soil health card provides information to farmers on nutrient status of their soil along with recommendation on appropriate dosage of nutrients to be applied for improving soil health and its fertility.
- SHC scheme has been merged in **Rashtriya Krishi Vikas Yojana (RKVY)** scheme as one of its components under name **'Soil Health & Fertility'** from the year **2022-23**.



Key Features of the Soil Health Card (SHC)

- It provides nutrient status of the soil and Fertilizer recommendations based on soil composition.
- **Parameters Covered (12 Key Indicators):**
 - **Macronutrients:** Nitrogen (N), Phosphorus (P), Potassium (K), Sulfur (S).
 - **Micronutrients:** Zinc (Zn), Iron (Fe), Copper (Cu), Manganese (Mn), Boron (Bo).
 - **Other Soil Properties:** pH (Acidity or Basicity), EC (Electrical Conductivity), OC (Organic Carbon).
- **Sampling Frequency: Twice a year** (post-harvest of **Rabi & Kharif crops**). Conducted when **no standing crop** is in the field.

Achievement of SHC

- As of February 2025, the Government of India has generated **24.74 crore Soil Health Cards** across the country.
- Number of SHC issued to farmers increased from **16 lakh (2020-21) to 53 lakh(2024-25)**.
- Soil and Land Use Survey of India generated **1,987 village-level soil fertility maps for 21 States and Union Territories**.

Source:

- [PIB - Soil Health Card](#)



Global ice cover dipped to record low

Context

Global sea ice cover dropped to a record low of 15.76 million sq km in February 2025.

What is Sea Ice?

- Sea ice refers to **free-floating ice** in the polar regions, formed when **ocean water freezes**.
- It is different from: **Icebergs, glaciers, ice sheets, and ice shelves**, which originate from land.
- **Seasonal Changes:**
 - Expands in **winter** and melts in **summer**.
 - Some sea ice remains **year-round**.

Historical Trends in Sea Ice Decline

- **Arctic Sea Ice Loss:** Shrinking at a rate of 12.2% per decade.
 - **Since the late 1970s:** Arctic sea ice has been declining rapidly.
 - An estimated **77,800 sq km of sea ice is lost every year**.
 - **Current Situation:** Arctic sea ice **at its lowest recorded extent** for this time of year.
- **Antarctic Sea Ice Loss**
 - **Different Trend Until 2015:** Antarctic sea ice **increased slightly** year-on-year.
 - **2014-2017:** Antarctica lost **2 million sq km of sea ice**, equal to **four times the size of Spain**.
 - **2023:** Antarctic sea ice reached **historically low maximum levels**.
 - **2024-2025:** Ice cover improved **slightly from 2023** but still **1.55 million sq km below the 1981–2010 average**.

What is Causing the Record-Low Ice Cover?

- **Arctic Factors:**
 - **Warmer ocean waters:** Oceans are taking longer to cool, delaying sea ice formation.
 - **Storms in the Barents and Bering Seas:** Thinner ice is more fragile and breaks apart easily.
 - **Higher-than-normal air temperatures:** Particularly in **Svalbard (Norway), Hudson Bay (Canada)**.
- **Antarctic Factors:**
 - **Ice-breaking winds:** Unlike the Arctic (surrounded by land), Antarctic sea ice is surrounded by the **ocean**, making it **more mobile and thinner**.
 - **Warmer air and water temperatures:** More melting at the **edges of the ice sheet (ice shelves)**.

Consequences of Declining Sea Ice

- **Accelerated Global Warming:**
 - **Less ice = more heat absorption:**
 - **White sea ice reflects sunlight** back into space.
 - **Darker ocean water absorbs more heat**, leading to **higher temperatures**.
 - Polar regions are warming faster than the rest of the world.
- **Impact on Ocean Currents & Global Climate:**
 - Melting ice releases freshwater into the ocean.
 - **Lower salinity and density:** Reduces the downward flow of surface water & Slows **ocean overturning circulation**.

Source:

- [Indian Express - Global sea ice cover](#)

News in Shorts

India elected to Vice Presidency of IALA

- India has been elected Vice President of the International Association of Aids to Marine Navigation (IALA) during its first General Assembly in Singapore.

About IALA

- It is a **global organization** dedicated to harmonizing marine aids to navigation and ensuring efficient and environmentally responsible maritime operations.
- It was established in **1957**, as a Non-Governmental Organization (NGO). **HQ - Saint-Germain-en-Laye, France.**
- **NGO to IGO:** It officially changed its status from an NGO to an Intergovernmental Organization (IGO) based on a convention ratified by 34 states in 2024.
- **Objectives:**
 - Ensure safe and efficient vessel movement through marine navigation aids.
 - Standardize global maritime navigation systems.
 - Promote sustainable marine environment protection.
 - Facilitate technology-driven solutions for better navigational safety.
- India will **host the IALA Council** meeting in December 2025 and the **IALA Conference & General Assembly** in September 2027 in Mumbai.

Source:

- [PIB - IALA](#)

OPEC+

- Recently the Brazilian government has approved its entry in OPEC+.

Organization of Petroleum Exporting Countries (OPEC):

- It is a permanent, intergovernmental organization, created at the **Baghdad Conference in 1960, by Iran, Iraq, Kuwait, Saudi Arabia and Venezuela.**
- **HQ:** Vienna, Austria.
- **Objective:** To co-ordinate and unify petroleum policies among Member Countries, in order to secure fair and stable prices for petroleum producers.
- **Members (12):** Saudi Arabia, UAE, Iran, Iraq, Kuwait, Algeria, Equatorial Guinea, Gabon, Libya, Nigeria, Republic of the Congo and Venezuela.

OPEC+

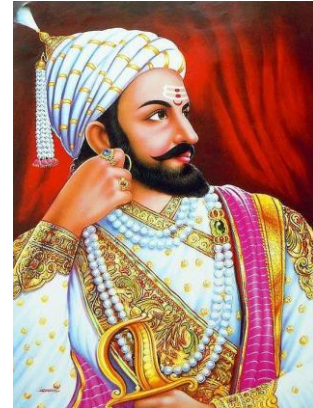
- **OPEC Plus** was created in 2016 when OPEC countries decided to ally with other oil-producing countries outside the group to cut down the global output of oil.
- **Current OPEC+ Members:** 12 OPEC members and 10 non-OPEC oil-exporting countries.
 - Russia, Azerbaijan, Bahrain, Brunei, Kazakhstan, Malaysia, Mexico, Oman, South Sudan and Sudan.

Source:

- [TOI - OPEC+](#)

Chhatrapati Shivaji Maharaj (1630 - 1680)

- He was born on **19th February 1630** at **Shivneri Fort** (Maharashtra) to **Shahaji Bhosale**, a general in the Deccan Sultanates, and **Jijabai**.
- **Guru (Mentor):** Dadoji Kondadev (taught administration, warfare, and governance).
- He laid the foundation of **Hindavi Swarajya (self-rule)** against the Mughal and Sultanate rule.
- He was crowned as Chhatrapati on **6th June 1674** at **Raigad Fort**.
- He established a well-organized administrative system with **Ashta Pradhan (Council of Eight Ministers)**.
- He captured and built over **300 forts** strategically across Maharashtra.
- He was the **First Indian king to establish a strong navy**. He built **warships** and secured the Konkan coastline.
- **Major battles fought:**
 - **Battle of Pratapgad (1659):** Defeated Afzal Khan of Bijapur Sultanate.
 - **Battle of Kolhapur (1659):** Defeated Adilshahi forces.



Source:

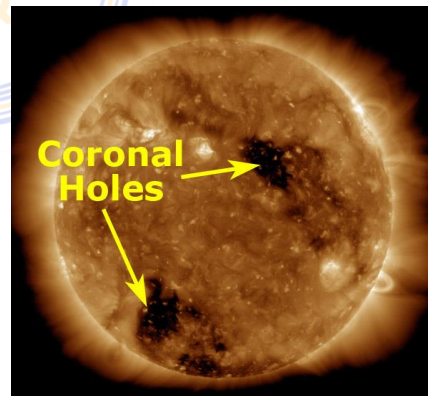
- [PIB - Shivaji Maharaj Jayanti](#)

Solar Coronal Holes

- A new study by Indian Institute of Astrophysics (IIA) has accurately estimated the thermal and magnetic field structures of solar coronal holes.

What are Coronal Holes?

- Coronal holes are dark regions in X-ray and extreme ultraviolet (EUV) images of the Sun.
- **Characteristics:**
 - Have open magnetic field lines extending into space.
 - Are low-density regions in the Sun's atmosphere.
 - Serve as intense sources of fast solar wind (450-800 km/sec).
- **Discovery:** First identified in the 1970s by X-ray satellites.
- **Impact of Coronal Holes:**
 - High-speed solar wind from coronal holes interacts with Earth's magnetic field, causing:
 - Geomagnetic storms.
 - Ionospheric disturbances, affecting radio communications.
- **Importance of Studying Coronal Holes:**
 - Helps estimate **temperature, radiative flux and energy** of coronal holes.
 - Provides insights into their **depth of origin** inside the Sun.
 - Determines how **magnetic field strength varies** across different latitudes.
 - Better prediction of space weather.



Source:

- [PIB - Solar Coronal Holes](#)

Caspian Pipeline Consortium (CPC)

- According to Russia, oil flows through the Caspian Pipeline Consortium were reduced by 30-40% recently after a Ukrainian drone attack on a pumping station.

About CPC

- CPC was established in **1992** to transport crude oil from the **Caspian Sea region to global markets**.
- **Pipeline Route:**
 - It starts from **Tengiz oil field, Kazakhstan** & Ends at **Novorossiysk, Russia (Black Sea port)**
 - **Length:** 1,500 km. & **Capacity:** Over 1.5 million barrels per day (bpd)
- **Key Features of CPC Pipeline:**
 - It is **one of the largest international oil transport projects** involving both public and private sector entities.
 - **Main source of crude oil:** Kazakhstan (Tengiz, Karachaganak, and Kashagan fields).
 - **Major Export Destination:** Europe and other global markets.
 - **Significance:**
 - **Bypasses the Persian Gulf and Suez Canal**, providing a strategic alternative for oil exports.
 - **Crucial for Kazakhstan's economy**, as over **80% of its oil exports** flow through this pipeline.

Source:

- [The Hindu - CPC](#)

Editorial Summary

Manipur Crisis

Context

Article 356 of the Constitution was invoked in Manipur and the State came under President's Rule.

Causes of the Crisis

Political Instability in Myanmar

- **February 2021 coup:** Myanmar's military (Tatmadaw) overthrew the civilian government, leading to mass protests.
- Emergence of **People's Defence Forces (PDFs)** and **Ethnic Armed Organizations (EAOs)** like the **Chin National Army (CNA)** in border regions.
- **Heavy fighting** in Chin, Kachin, and Sagaing regions led to mass displacement, affecting Indian border states.

Ethnic Conflicts in Manipur

- **Meitei vs. Kuki-Zomi conflict:** The **Meiteis (majority in Imphal Valley)** seek Scheduled Tribe (ST) status, opposed by Kuki-Zomi groups.
 - **May 2023 violence:** Clashes between Meitei and Kuki-Zomi groups escalated, leading to deaths, displacement, and destruction of villages.

Humanitarian Crisis in Manipur's Conflict-Affected Areas

Data Deficiency in the India-Myanmar Borderlands

- The India-Myanmar border region remains **data-deficient** despite its history of **armed conflict, displacement, and humanitarian crises**.
- The **Manipur conflict** lacks accurate documentation due to restricted access, adverse security conditions, and misinformation.
- Over **58,000 individuals** are **forcibly displaced** across relief camps in the **Valley and Hill districts**.
- Nearly **12,000** people fled to **Mizoram**, while **7,000** sought refuge in **Nagaland, Assam, and Meghalaya**.
- Data collection remains fragmented, missing many displaced individuals outside official camps.

Zone of the Unknown: The Data Gap

- The separation between **Meitei and Kuki-Zomi communities** has **disrupted humanitarian information flows**.
- **Unregistered displaced persons** living with relatives, in temporary shelters, or outside the State are unaccounted for.
- Many **youth left Manipur** for education and employment opportunities due to the conflict.
- **Health care access has been disrupted:**
 - **Kuki-Zomi-dominated districts** rely on **Mizoram (Churachandpur, Chandel, Tengenoupal)** or **Nagaland (Kangpokpi)** for medical care.
 - **Imphal's tertiary hospitals** are inaccessible to the hill district population.

Medical Challenges and Crisis in Relief Camps

- Displaced populations in **Imphal Valley** face **high out-of-pocket medical expenses**, leading to treatment discontinuation.
- **Health infrastructure has deteriorated** due to conflict, causing underreported **mortality, malnutrition, and disease outbreaks**.
- **Examples of Medical Emergencies & Deaths:**
 - **May 29, 2023:** A **63-year-old** displaced person died in **Kangpokpi** due to **lack of dialysis**.

- **June 2023:** A mother died from **excessive bleeding** in a relief camp in **Churachandpur** after childbirth.
- **September 22, 2023:** A **one-year-old girl** died from **pneumonia** in a relief camp in **Churachandpur**.

Mental Health Crisis and Suicides

- A local media report recorded at least **13 deaths** in **Valley relief camps**, including **suicides**.
- A **Regional Institute of Medical Sciences (RIMS) study** found:
 - **65.8% of displaced individuals** suffer from **Post-Traumatic Stress Disorder (PTSD)**.
 - **24.8% experience moderate anxiety**.
 - **15.2% have severe anxiety**.
- **Ongoing suicide study (NEST Suicide Survey) in Churachandpur** recorded cases, including a **70-year-old man** who took his life due to struggles in adapting to camp life.

Challenges in Basic Humanitarian Needs

- **Food, water, and shelter** remain largely unmet **even after two years**.
- **22,000 children** continue to live in camps with their **education severely disrupted**.
- **Unsanitary conditions, water shortages, lack of nutritious food, and inflation** have worsened the crisis.

Recommended Measures

- **Increased Humanitarian Aid:** External agencies, including **corporate social responsibility (CSR) entities**, should extend **humanitarian support**.
- **Water Supply Augmentation:** Displaced people **spend a significant portion of income** on private water sources.
- **Creation of Humanitarian Corridors:** Enable **emergency medical evacuations** via **Imphal airport**.
- **Restoring Supply Chains:** Transport **essential commodities, food, and medical supplies** across communities to **reduce inflationary pressures**.

Impact of Myanmar's Political Crisis on Northeast India

Influx of Refugees and Humanitarian Crisis

- According to the **United Nations High Commissioner for Refugees (UNHCR)**, by **December 31, 2024**, about **95,600 refugees** from Myanmar had entered India, with **73,400 arriving post-coup**.
- The porous border makes it difficult to get an exact count.
- **Mizoram** has welcomed Myanmar refugees, as many belong to the **Mizo-Chin-Kuki ethnic group**, sharing cultural and familial ties.
- **Manipur**, however, has seen tensions rise, as the **Meitei community** perceives the influx as a demographic threat, worsening the ongoing **Meitei-Kuki ethnic conflict**.

Free Movement Regime (FMR) Restriction

- The **Free Movement Regime (FMR)**, initially allowing free cross-border movement within **16 km**, was suspended in 2023 due to security concerns.
- In **December 2024**, a **new framework** was introduced, allowing border movement only **within 10 km** and requiring permits at designated entry/exit points.
- The restriction has **hampered local economies**, including **border haats** and informal cross-border trade.

Decline in Border Trade and Connectivity Projects

- The violence has disrupted India's plans to use Manipur as a **gateway to Southeast Asia**.
- The once-thriving **Moreh border town**, a hub of India-Myanmar trade, has suffered due to conflict.

- The **India-Myanmar-Thailand Trilateral Highway**, a key part of India's **Act East Policy**, has been delayed.

Geopolitical Implications: India vs. China in Myanmar

- **China**, facing similar spillover effects, has fenced parts of its border with Myanmar.
- Beijing **supports some Ethnic Armed Organizations (EAOs)** in Myanmar and has used them to combat drug syndicates.
- China, as a **UN Security Council (UNSC) member**, has greater diplomatic leverage in Myanmar, while India must operate within a **democratic framework**.
- Without a clear strategy, India risks losing geopolitical influence in Myanmar.

Conclusion

- **Manipur's humanitarian crisis remains critical** due to forced displacement, health infrastructure collapse, and increasing suicides.
- **Myanmar's internal conflict exacerbates security challenges** in India's Northeast, with refugee influxes and disrupted border trade.
- India's policies, including **abolishing the FMR**, may **harm long-term economic and diplomatic engagements**.
- A **comprehensive strategy** focusing on **humanitarian aid, cross-border collaboration, and economic development** is essential to mitigate **instability in Manipur and Northeast India**.

Source: [The Hindu: Myanmar, Manipur, and strained borders](#)

