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## GENERAL STUDIES I

### Salient Features of Indian Society

#### Caste Will Have No Role To Play In Appointment Of Temple Priests, Rules Madras High Court

Priority: High 

Primary Source: The Hindu

**Prepp Mains Booster:** Salient features of Indian Society, Diversity of India, Social empowerment.

#### Context:

In a recent milestone, the Madras High Court (HC) has delivered a significant ruling clarifying the role of caste in the appointment of temple priests or Archakas. The verdict sheds light on the separation of religious and secular functions, drawing on past judicial precedents.

#### Caste Irrelevant, Qualifications Paramount:

- The Madras HC emphasized that the selection of Archakas should be solely based on qualifications. The chosen candidate must be well-versed, appropriately trained, and fully qualified to conduct rituals in accordance with the Agama Shastras of the respective temple.
- The court's stance aligns with the 1972 Supreme Court case of Seshammal & Others versus State of Tamil Nadu, which underscores the secular nature of Archaka appointments.

#### Agama Shastras and Religious Functions:

- Highlighting the distinction between religious and secular aspects, the court clarifies that the stipulations of the Agama Shastras are applicable only during the performance of religious functions.
- Consequently, candidates from any caste or creed can assume the role of Archaka, provided they meet the Agama-based criteria for ritual performance.

#### Appointments Procedure and Agamic Temples:

- The responsibility for appointing Archakas rests with temple trustees or designated individuals from the Hindu Religious and Charitable Endowments Department.
- In cases where the adherence to a specific Agama is unquestionable, appointments can proceed.
- However, the court's stance negates keeping all Archaka positions vacant while awaiting the identification of Agamic and non-Agamic temples by the Committee under Retired Judge M Chockalingam, as authorized by a Division bench of the HC.

#### Agamic Diversity:

- The court acknowledges the diversity of Agama practices in Shaivite and Vaishnavite temples. Shaivite temples adhere to 28 Agamas, with

emphasis on Kamikagama, Karanagama, and Suprabedagama, while Vaishnavite temples follow their own, primarily Vikhanasa and Pancharatra Agamas.

- The verdict underscores the necessity for Archaka appointments to be aligned with these specific Agama guidelines.

#### Supreme Court Precedents:

- In addition to the Seshammal case (1972), the Madras HC draws on the 2002 Supreme Court verdict in N. Adithyan vs Travancore Devaswom Board.
- This case negates the customary restriction of rituals solely to Brahmins or Malayala Brahmins, asserting that any adequately trained and qualified individual can perform rituals.
- It dismantles the notion that Brahmins exclusively conducted pujas due to caste-based prohibitions on others.

#### Empowering Non-Brahmin Communities:

By placing qualifications above caste, the ruling upholds equality and empowers non-Brahmin communities to assume the role of Archakas, thus enriching the diversity of temple practices.

### Geography

#### How Has The Moon Transformed Our Evolution?

Priority: Low 

Primary Source: Down to Earth

**Prepp Prelims Booster:** Physical Geography

**Prepp Mains Booster:** Important Geophysical phenomena such as earthquakes, Tsunami, Volcanic activity, cyclones, etc.

#### Context:

- Recently, **India's moon mission Chandrayan-3 was launched**, which has set high hopes for **India expecting its first moon soft landing**.
- The **Moon continues to play a crucial role in shaping Earth's geology** and has significantly influenced the development of life.

#### Impact of the Moon on Earth

- Despite having a weaker gravitational pull compared to Earth's (distance of 384,400), the Moon plays a crucial role in several key aspects of our planet's existence, including the **length of our day, the stability of seasons, and the occurrence of tides**.
- **British historian Peter Frankopan, in his book The Earth Transformed**, stated that, "The moon played a role not only in the transformation of the earth, but also in the development of life on this planet."
  - **For example:** Recent models propose that significant tidal ranges have played a crucial role in driving bony fish towards shallow pools on land,

leading to the development of weight-bearing limbs and organs for breathing air.

### Impact through Tides

- Tides are the rise and fall of sea levels induced by the gravitational pulls of the Moon and Sun, as well as the rotation of the Earth.
- Rhythmic ebb and flow of tides have likely played a crucial role in fostering life's adaptation and migration from the oceans to the land.
- These **tides affect animal life that impact the intertidal zone**, the area where the ocean and land meet during high and low tides.
- If the moon's influence on tides were weaker or absent, this zone would become narrower, leading to heightened competition among species for survival.
- **Tides led by the moon also affect the reproductive cycles of marine life**, where the laying and hatching of turtles' eggs depend on the timings of tides.
- Hence, the reproductive cycles coincide with different phases in the lunar cycle.



### How lunar cycles affect Marine creatures and Birds?

- **Marine Creatures:** Many marine creatures, such as fish, crabs, and plankton, have reproductive cycles that are closely synchronized with lunar phases. The timing of migration and spawning in these creatures is affected by the moon's cycle.
- **Birds:** They also rely on the moon for migration and navigation, and the moon plays a significant role in the annual seasonal migrations of billions of species, especially birds.

### Lunar Rhythms with Human Behaviour, Activity and Fertility

- In the past, the **sleep cycles of pre-industrial communities were strongly influenced by lunar activity**.
- Furthermore, **long-term data on women's menstrual cycles suggest a correlation with lunar light and lunar gravity**, leading some scholars to argue that human reproductive behavior was originally synchronous with the moon but has been modified by modern lifestyles over time.

### Impact on Climate Change

- The Moon's gravitational pull **not only influences ocean tides but also helps regulate the distribution of heat on our planet**.
- **Without the moon**, the Earth's climate would undergo dramatic changes, leading to significant temperature differences and disruptions in the length of daylight throughout the year.
- The **moon's gravitational pull efficiently transports heat from the equator towards the poles**, which is essential for creating the climate patterns.
- The moon's presence acts as a stabilizing force for Earth's rotation on its axis.
- If the moon were absent, the Earth's rotational speed would lead to constant, unchanging day and night lengths, and **cause the poles to become excessively hot** while the **equator experiences extreme cold**.

### Impact of Moon's light

- Studies have observed changes in predator behavior and prey foraging patterns due to the increased nighttime illumination.
- **For example**, research shows that lions are less inclined to hunt during a full moon, and attacks on humans by lions tend to occur about 10 days after the full moon. Many species of bats also reduce their activity levels during the full moon.
- Moreover, certain marine organisms, such as coral, crabs, worms, and fish, possess the ability to sense specific phases of the Moon's light. They use this as a trigger to initiate species-wide reproduction events.
- Nocturnal animals exhibit distinct behaviors depending on the Moon's position during its 29.5-day cycle. When the moon is in its full and bright phase, prey fish tend to remain hidden in the reef to avoid being easily visible to predators.

### Distribution of Water

- Researchers from the University of Münster in Germany have revealed that **water on Earth originated from the formation of the Moon approximately 4.4 billion years ago**.
- The **Moon's creation can be traced back to a colossal impact event when a body known as Theia collided with the Earth**.
- This **impact from Theia not only led to the formation of the Moon but also brought significant amounts of water to Earth**, fundamentally shaping our planet's composition.
- Moreover, the collision with Theia provided a substantial supply of carbonaceous material, which scientists now believe can account for the entire quantity of water on Earth.

### Tectonic Plates Movements



- The **Moon's gravitational pull has contributed to the establishment of tectonic plate movements, which continue to shape the surface and structure of the planet.**
- The Moon's gravitational influence on Earth's oceans has caused a distinct oceanic pattern, where water is drawn towards the equator, resulting in higher sea levels along these regions.
- Without the Moon's gravitational effects, oceanic water distribution would be different, potentially leading to elevated sea levels at the poles instead.



### Conclusion

- The Moon's presence has been an integral part of Earth's history and has shaped the planet's geological, biological, and environmental aspects.
- As we continue to explore the cosmos and conduct missions like Chandrayaan-3, our understanding of the Moon and its impact on life on Earth is likely to grow, further revealing the interconnectivity and significance of celestial bodies in our universe.

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## Indian Ocean Dipole: What Is It, How It Can Limit El Nino Effects

**Priority: High**



**Primary Source:** Indian Express

**Prepp Prelims Booster:** Geography

**Prepp Mains Booster:** Important Geophysical phenomena such as earthquakes, Tsunami, Volcanic activity, cyclone etc., geographical features and their location-changes in critical geographical features (including water-bodies and ice-caps) and in flora and fauna and the effects of such changes.

**Context:**

- Recently, the Indian Meteorological Department's monthly bulletin stated that the Indian Ocean dipole is currently neutral but international climate models suggested that it could turn positive in the coming months.
- The Indian Ocean Dipole is an important phenomenon for India as it helps counterbalance the effects of El Nino, which is likely to affect the Indian monsoon this year.
- El Nino is a weather phenomenon involving the anomalous warming of surface waters in the eastern tropical Pacific Ocean.

### Indian Nino

- The **Indian Ocean Dipole** was identified as an independent system in 1999 and is sometimes known as the Indian Nino.
- **It takes place between the eastern (Indonesian and Malaysian coasts) and western (eastern coast of Africa) parts of the Indian Ocean.**
- The IOD involves one side of the ocean along the equator becoming warmer than the other side.
- There are three phases of the IOD:
  - **Positive:** Here, the western side of the Indian Ocean near Somalia is warmer than the eastern side.
  - **Negative:** In this phase, the western Indian Ocean is cooler than the eastern side.
  - **Neutral:** In the neutral phase, water from the Pacific Ocean flows through the Indonesian islands, warming the oceans to Australia's north-west.

### Air Circulation in the Indian Ocean

- The **air circulation in the Indian Ocean basin near the surface exists in a west-to-east direction i.e. from the African coast to the Indonesian islands while it exists in the east-to-west direction at the upper atmospheric levels.**
- Consequently, the surface waters of the Indian Ocean are pushed from west to east.
- In a normal year, the warmer waters of the western Pacific Ocean near Indonesia cross over into the Indian Ocean.
- As a result, the eastern Indian Ocean is slightly warmer than usual which causes the air to rise and aids the prevailing air circulation.

### Negative IOD

- In the negative IOD phase, the air circulation strengthens, causing more warm surface waters from the African coast to be pushed towards the Indonesian islands, making the eastern region warmer than usual. This also causes more hot air to rise and reinforces the cycle.

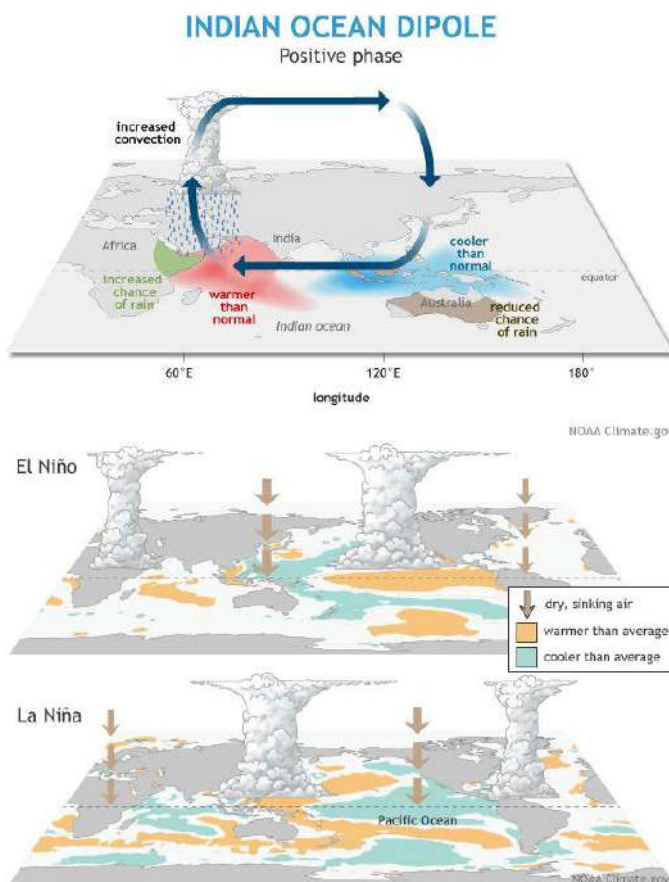
### Positive IOD

- In the positive phase, air circulation becomes slightly weaker than normal and in rare cases, the air circulation may even reverse direction.

- As a consequence, the African coast becomes warmer while the Indonesian coast becomes cooler.

### El Nino Southern Oscillation

- In a normal year, the prevailing wind systems in the Pacific Ocean which move from east to west push the warm surface water towards the west i.e. the Indonesian coast.**
- Cooler water from below the surface rises up to replace the displaced warm surface water.
- As a result, the eastern Pacific Ocean near the northwestern coast of South America is cooler than the western Pacific near the Philippines and Indonesia.
- During an **El Nino** year, the wind systems are weakened leading to lesser displacement of warm water. As a result, the eastern Pacific Ocean is much warmer than normal.
- During a **La Nina** year, the El Nino conditions are reversed.
- The **El Nino Southern Oscillation or ENSO**, which is the combination of the El Nino and La Nina conditions, has a significant effect on weather events across the world.



### How is the IOD affected by El Nino?

- A positive IOD event is often observed to develop alongside an El Nino, while a negative IOD is sometimes associated with La Nina.**
- During El Nino, the Pacific side of Indonesia is cooler than normal leading the Indian Ocean side to get

cooler, which aids in the development of a positive IOD.

- When both the IOD and ENSO are strong, their circulation patterns can impact each other.
- While most studies suggest that IOD events are induced by ENSO, a study by Saudi Arabia's King Abdullah University of Science and Technology claims that the IOD is an independent event.
- Although external factors like ENSO can trigger the IOD, it is usually caused by local circulations or subsurface processes within the equatorial Indian Ocean.
- IOD events largely develop and mature through internal dynamics even when triggered externally.

### Impact of IOD

- A positive IOD encourages rainfall along the African coastline and the Indian sub-continent while suppressing rainfall over Indonesia, Southeast Asia, and Australia.**
- The impacts are reversed during a negative IOD event.
- The impact of IOD events is much weaker than that of ENSO events but the influence of ENSO is usually countered by a positive IOD index resulting in enhanced monsoon rainfall even in an El Nino year.
- A negative IOD supports El Nino and causes a severe drought.**
- A positive IOD is a factor behind the increased occurrence of cyclones in the Arabian Sea while a negative IOD contributes to more intense cyclogenesis in the Bay of Bengal and reduced cyclogenesis in the Arabian Sea.**
- IOD events usually originate in the months of April and May but strong IOD events develop late as well.
- In 2019, the IOD event developed during late monsoon but was so strong that it compensated for the deficit rainfall during the first month of the monsoon season which was caused by a developing El Nino.

### Conclusion

- The El Nino is already firmly established in the Pacific Ocean but the IOD is still in the neutral phase.
- The IMD has forecasted that the probability for positive IOD conditions is around 80% and 15% for a neutral IOD between June and August 2023 season.
- Therefore, the Indian monsoon is very likely to be adversely impacted by El Nino. In such a case, the occurrence of a positive Indian Ocean dipole will be beneficial for India as it has an increased possibility of monsoon rainfall.

## Population And Associated Issues

### Demographic Transition And Change In Women's Lives

Priority: Medium 

Primary Source: The Hindu

Prepp Prelims Booster: Geography

Prepp Mains Booster: Role of women and women's organization, population and associated issues, Social empowerment

#### Context:

Recent observance of World Population Day on July 11th underscores the changing lives of citizens, particularly women, through demographic shifts. India's population growth from 340 million to 1.4 billion since Independence has been accompanied by improved food security and public health, raising male life expectancy to 69 years and women's to around 74. However, these demographic changes have presented both positive and negative outcomes for Indian women.

#### Challenges in the Face of Transformation:

1. **Sons' Preference:** As families opt for fewer children, the chances of having a son have diminished. This entrenched preference, deeply rooted in societal norms and patrilocal kinship structures, has led to alarming sex-selective abortions, the neglect of female children, and skewed sex ratios.



2. **Educational Gains:** With decreased time allocated to child-rearing, women have seized opportunities for education and employment. Nonetheless, persistent practices like early marriage and childbearing continue to impact their lives, constraining their possibilities.
3. **Labor Force Participation:** Despite the decline in fertility rates, women's entry into the labor force remains sluggish due to early motherhood. Access to skilled employment often remains elusive, relegating women to unskilled work, thereby limiting their overall contribution.
4. **Aging and Care Challenges:** The rise in life expectancy has propelled an increase in the proportion of elderly women in the population. This is particularly true for widowed women who, due to their marrying older men and outliving them, find

themselves dependent on their children, predominantly sons. This dependency on children forms a self-perpetuating cycle, maintaining the bias in favor of male children.

#### Harnessing the Gender Dividend:

1. **Empowerment through Economic Activities:** The way forward lies in bolstering women's access to employment and financial resources. By doing so, reliance on sons for economic security can be curtailed, undermining deep-rooted patriarchal norms.
2. **Elevating Childcare Provision:** A crucial element in boosting women's labor force participation is ensuring accessible and affordable childcare. The experiences of East Asian countries suggest that a decline in fertility can lead to delayed marriage and childbirth, offering women the chance to engage more extensively in the workforce.
3. **Strategies for Effective Childcare Provision:**
  - o Acknowledge crèche work under the National Rural Employment Guarantee Scheme (NREGS), integrating it into acceptable employment avenues.
  - o Utilize the momentum of self-help groups to establish localized childcare centers, functioning as vital social infrastructure.
  - o Enhance the availability of childcare facilities to leverage the potential of the gender dividend and, subsequently, the demographic dividend.

#### Conclusion

As India undergoes dynamic demographic shifts, women's lives are being reshaped. To address the challenges posed by son preference, education, labor force participation, and elderly care, transformative measures such as expanded employment opportunities and accessible childcare services are essential. By challenging traditional gender biases and fostering women's active engagement, India can harness the potential of the demographic dividend while forging a more inclusive and equitable societal fabric.

### Violence In France Is About Pent-Up Anger Against Discrimination

Priority: Low 

Primary Source: Indian Express

Prepp Prelims Booster: Current events of International importance

Prepp Mains Booster: Social empowerment, communalism, regionalism & secularism

#### Context:

- Recently, the death of a seventeen-year-old boy has led to widespread unrest and violent street clashes in France.
- French society has changed due to the influx of immigrants from across the world, but the country's model of cultural assimilation has not accommodated the growing cultural, religious, and linguistic diversity.



### What incited the violence in France?

- The fatal, point-blank, traffic-stop shooting of a 17-year-old French boy of Algerian descent, who ignored a police warning to stop was the trigger for the violence.
- **According to changes made to French law regarding the use of firearms by the police in 2017, the police can shoot if the driver refuses to stop or if they pose a threat to the life of an officer or any other person.**
- Reuters reported that two such shootings had been conducted in 2023 while 13 people of Arab or Black heritage were shot in 2022.
- Nanterre, the French town where the shooting took place witnessed spontaneous violent protests which spread to most towns and cities in France.
- In response, the government deployed 45,000 policemen and authorized the use of armored vehicles, drones, and helicopters to contain the protests, leading to thousands of arrests.

### Why are immigrants angry?

- The North and West African immigrant population in France generally resides in suburban housing estates that are also hotbeds of drug dealing and crime.
- Third and fourth-generation immigrants live in ghetto-like, rundown housing estates in the banlieue and suffer from **high unemployment, rampant poverty, and bleak life prospects.**
- The youth are regularly subjected to repeated and abusive identity checks which have resulted in a lot of frustration towards the police and the state in general.
- This frustration is believed to have encouraged the protesters to wreck municipal buildings and conduct arson attacks.

- **Immigrant communities feel marginalized and discriminated against** because the French model of cultural assimilation, unlike the melting pot model, does not make room for immigrants.
- These communities are regularly subjected to xenophobia, and racism from other mainstream communities in France.

### Need for reform

- Although the violence, looting, and damage to property are inexcusable and culprits must be severely punished under the law, France needs to re-examine its policing system.
- The **UN Human Rights Office** Spokesperson recommended that France seriously address **racism and racial discrimination** in law enforcement.
  - It also suggested that the use of force by the police when addressing violent elements in demonstrations must respect the **principles of legality, necessity, proportionality, non-discrimination, precaution, and accountability.**
- In comparison, the statement issued by the French police unions stated that they were "at war" with "savagely hordes of vermin", which reaffirmed the concerns raised by the UN body.
- The **systemic discrimination and ethnic profiling** faced by the Black and Arab immigrant communities is a major concern.
- The French government must introduce measures to rid the mutual distrust between these citizens and the police instead of blaming video games and social networks.

### Conclusion

- In order for society to heal from the violence and conflict, justice must be delivered and seen to be delivered.
- Ending institutionalized discrimination would require acknowledgment of the problem, followed by measures to eliminate it including the reform of law enforcement to prevent such accidents from taking place in the future.

## GENERAL STUDIES 2

### Indian Constitution

#### Supreme Court Collegium Now Has A Majority Of Future CJIs As Per Seniority Norm

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: Indian Polity

Prepp Mains Booster: Structure, organization, and functioning of the Executive and the Judiciary—Ministries and Departments of the Government; pressure groups and formal/informal associations and their role in the Polity, Indian Constitution—historical

underpinnings, evolution, features, amendments, significant provisions and basic structure.

#### Context:

- Recently, Justices B.R. Gavai and Surya Kant were added to the Supreme Court Collegium.
- As per the seniority norms, a majority of the judges in the current collegium are in line to become the Chief Justice of India.

#### Changes to the SC Collegium

- The Supreme Court Collegium, which consisted of 6 members recently, has reverted to its normal five-member strength following the retirement of Justices M.R. Shah, K.M. Joseph, and Ajay Rastogi.
- Justice Sanjeev Khanna was a member of the earlier collegium but not one of the first four **puisne** judges of the Supreme Court.
- Just. Khanna is expected to succeed Just D.Y. Chandrachud as the next Chief Justice of India in November 2024.
- **According to the Supreme Court's verdict in the Third Judges case and the Memorandum of Procedure for the appointment of judges to the Supreme Court, the successor to the incumbent CJI should have a role in the selection of judges.**
- Justice Gavai will succeed Justice Khanna as Chief Justice in May 2025 while Justice Kant will succeed Justice Gavai as Chief Justice in November 2025.
- Justice Aniruddha Bose would replace Justice Kaul, the current number two judge, as a member of the collegium in December 2023.



#### What is the Collegium?

- **The Collegium is a system of appointment and transfer of judges which was evolved by the Supreme Court through its judgments.**
- It was not developed by an Act of Parliament or by Constitutional provisions.
- It was **first introduced by the SC in the Second Judges Case (1993) as the CJI and two senior-most judges of the Court.**
- In the **Third Judges Case (1998), the Collegium was expanded to include the CJI and the four senior-most judges of the Supreme Court.**

#### How are judges appointed to the Supreme Court?

- According to **Article 124(2), judges of the Supreme Court are appointed by the President by warrant under his hand and seal after consultation with**

#### such judges of the Supreme Court and High Courts as deemed necessary by the President.

- The process of appointing Supreme Court judges is commenced by the Chief Justice of India.
- The CJI consults the other Collegium members and the senior-most judge of the court hailing from the High Court to which the recommended person belongs.
- The recommendations are forwarded by the Collegium to the Law Minister, who forwards it to the Prime Minister to advise the President.
- In case there is a difference in opinion between the CJI and the President, the CJI's viewpoint shall take precedence.
- The Supreme Court has a present sanctioned strength of 34 judges.
- The new collegium will have to consider the four vacancies in SC judges with the retirement of Justice V. Ramasubramanian on June 29 and Justice Krishna Murari on July 8.

To know more about the appointment of judges to the SC, click the [link](#).

#### What are other changes made by the SC?

- The Supreme Court has published a new subject-wise roster for the allocation of cases to its 15 Benches.
- Benches headed by the Chief Justice of India, Just. Kaul and Just. Khanna would be hearing public interest petitions (PILs).
- The Chief Justice's Bench will also hear cases dealing with critical subjects such as elections, habeas corpus pleas, the appointment of constitutional functionaries, personal law matters, commissions of inquiry, criminal matters, admissions, etc.

#### Lesson From Goa's Uniform Civil Code: Uniformity Can Be Unjust To Women

Priority: Medium



Primary Source: Indian Express

Prepp Prelims Booster: Indian Polity

Prepp Mains Booster: Indian Constitution—historical underpinnings, evolution, features, amendments, significant provisions and basic structure, Social justice  
GS1 - Social empowerment

#### Context:

- The author, Albertina Almeida, a Goa-based advocate, and human rights activist, has discussed the impacts and effectiveness of the Uniform Civil Code in Goa on women in the article titled "Lesson From Goa's Uniform Civil Code: Uniformity Can Be Unjust To Women" published in the Indian Express on 8th July 2023.

- The Goa family laws comprise parts of the **Portuguese Civil Code** relating to the **family laws, the Code of Customs and Usages of Gentile Hindus, and the Goa Succession, Special Notaries and Inventory Proceedings Act, 2012**, enacted in 2016.



### Does the Goa Civil Code treat men and women equitably?

#### Discriminatory provisions

- **Matrimonial property** is managed by the male spouse regardless of whether the couple hold the property together as a unit, or as separate properties.
- The husband can also dispose of the couple's moveable properties without his wife's consent, provided they are not gratuitous contracts.
- These provisions uniformly discriminate among couples across all religious communities.

#### Equality

- Matrimonial property includes all assets acquired by the couple or individually before or during their marriage through any means such as purchase, inheritance, etc.
- The female spouse is discriminated against by this provision of holding of property by the couple as a unit .
- The female may have contributed more to the husband's property in terms of cash expenses for repairs or maintenance.
- The female may thus have a deserving claim to co-ownership in the husband's property, while the reverse may not be true .
- This provision is also misused by male spouses during divorce proceedings to counter claims for marital property by making corresponding claims to the parental property of his spouse.
- This means that **equality** is the status quo for men while resulting in injustice against women.

#### Access to justice

- The legal education curriculum has very limited scope for learning family laws of Goa.
- Many women require hand holding and assistance even if they know about the relevant provisions.
- For instance, women need help in gathering details of matrimonial property and income, which are generally not accessible to her.

- This leaves them unable to make appropriate claims to matrimonial property in terms of her entitlements.

#### Marriage

- One of the provisions of the uniform laws is the permission granted for **canonical marriages and civil marriages** under which Roman Catholics may confirm their marriage in the Church, after which the Church sends the extract of the marriage register to the Civil Registrar where it is then entered into the books of registration of marriage. This is called a canonical marriage.
- For all other communities, the confirmation has to be compulsorily made before the Civil Registrar and are called civil marriages.
- Earlier, annulments granted by the Church in case of canonical marriages were treated as a civil annulment after a cursory approval of the High Court, despite the canonical process being non-transparent.
- In 2019, the High Court of Bombay struck down this automatic civil effect and stated that it is the court's prerogative to grant an annulment or separation or divorce for civil purposes.
- As a result of the court's ruling, Catholic couples in Goa are now provided with all details about the marriage including the default provision to hold matrimonial property as a couple, provided they do not have a contrary opinion.
- However, this form of legal counselling is not available in the official system of the state, despite demands for the same by the rest of the population.

#### Polygamy and HUF

- The **Code of Customs and Usages of Gentile Hindus** contains provisions for polygamy and adoption under sexist conditions.
- Another provision related to the **Hindu Undivided Family** states that the HUF is to be governed, managed and represented by the senior-most male member.
- As a result, it discriminates against the women of the family, regardless of age and contribution to the household.

#### Inheritance

- The family laws of Goa also include restrictions on willing property, which helps to mitigate bias towards male heirs and discriminating against any female heirs.

#### Reasons Advocating UCC:

1. **Colonial Roots:** Personal laws, drawn from religious scholars under British colonial rule, have led to faith-based distinctions.
2. **Gender Equality:** Current personal laws perpetuate gender biases, from male "karta" dominance in

Hindu Undivided Families to unequal rights for divorced Muslim women.

3. **Protecting Vulnerable:** UCC aims to counter discrimination and gender inequality, safeguarding the vulnerable.
4. **LGBT Inclusion:** UCC inclusion of the LGBT community in areas like civil partnership, inheritance, and adoption.
5. **Democracy Upheld:** UCC can be formulated while adhering to democratic principles of liberty, equality, and dignity, transcending religious practices.
6. **Inter-Faith Couples:** UCC would protect interfaith couples from societal pressures.
7. **Court Backing:** The Supreme Court supports UCC in judgments like Mohd. Ahmed Khan-v-Shah Bano Begum, emphasizing its importance.
8. **National Integration:** In diverse India, UCC fosters unity and shared identity, vital for a unified legal system.

### Opposing Views on UCC:

1. **Minority Concerns:** Critics label UCC as "anti-minority," arguing against India's unity in diversity ethos.
2. **Fundamental Rights:** Critics suggest UCC contravenes Article 26(b) and Article 29 of the Constitution, impacting religious practices and distinct cultures.
3. **Regional Diversity:** Special provisions, like Article 371, preserve cultural diversity in states such as those in the North East.

To know more about the Uniform Civil Code, click the [link](#).

### Legal Challenge To Changes In Article 370: What It Means For J&K -

Priority: Medium



Primary Source: Indian Express

Prepp Prelims Booster: Indian Polity

Prepp Mains Booster: Indian Constitution—historical underpinnings, evolution, features, amendments, significant provisions and basic structure, Functions and responsibilities of the Union and the States, issues and challenges pertaining to the federal structure, devolution of powers and finances up to local levels and challenges therein

#### Context:

- A five-judge bench of the Supreme Court headed by Chief Justice D.Y. Chandrachud will begin to hear petitions challenging the amendment to **Article 370** and the **division of the state of Jammu and Kashmir into the Union Territories of Ladakh and Jammu and Kashmir under the Jammu and Kashmir (Reorganisation) Act, 2019.**

- Only **Article 1** and **Article 370** applied to Jammu & Kashmir while other provisions of the Constitution did not automatically extend to the erstwhile state under the provisions of Article 370.
- The Constitution Bench deleted the names of bureaucrat Shah Faesal and activist Shehla Rasheed from the petitioners as a result of which the case would now be called 'In re: Article 370 of the Constitution'.

#### THE PETITIONERS

■ There are over 20 petitioners, including National Conference Lok Sabha MPs Mohammad Akbar Lone and Hasnain Masoodi, Jammu and Kashmir People's Conference, Kashmiri artist Inder Salim and journalist Satish Jacob, Radha Kumar, a former member of the Home Ministry's Group of Interlocutors for J&K, retired Air Vice Marshal Kapil Kak, retired Major General Ashok Kumar Mehta, Amitabha Pande, former Secretary of the Inter State Council of the Government of India and Gopal Pillai, former Union

Home Secretary, CPI (M) leader Mohammed Yousuf Tarigami, NGO People's Union for Civil Liberties (PUCI), and Jammu and Kashmir Bar Association.

■ IAS officer Shah Faesal too had filed a petition challenging the changes but subsequently filed an application requesting the court to delete his name from the list of petitioners.

#### THE BENCH

The Constitution Bench, led by Chief Justice of India D Y Chandrachud, also comprises Justices Sanjay Kishan Kaul, Sanjiv Khanna, B R Gavai, Surya Kant.



### Why have the Union government's actions been challenged?

#### Legislative Competence

- The Legislative Assembly of J&K is not empowered under the state's Constitution to recommend amendments to provisions of the Indian Constitution.
- As per **Article 147 of the J&K Constitution**, the J&K Legislative Assembly is restricted from making changes to the provisions of the Constitution of India in relation to the State.
- Therefore, the Legislative Assembly of Jammu and Kashmir is not legally competent to consent to the Presidential order.

#### Bifurcation of the State

- No other state of India has ever been demoted to Union Territory status despite the provisions of Article 3.
  - **Article 3** empowers Parliament to create a new state by carving out territory from any state, uniting two or more states, or portions of different states.
  - Parliament can also add area to an existing state, or change the existing boundaries of a state.
- This alleged violation of Article 3 has been challenged as Parliament's opinion on such a Bill cannot replace the view of the state legislature as it is the voice of the people of the state.
- **President's Rule allows for the exercise of only those powers of a state legislature that are essential for the day-to-day affairs of the state.**

#### Colorable legislation

- The Constitutional changes have also been challenged for being in violation of the principle of colorable legislation.

- The **doctrine of colorable legislation** is a legal principle that defines what cannot be done directly and indirectly.

### Interim nature of President's Rule

- While imposing President's Rule in Jammu and Kashmir, the **President assumed all functions of the J&K government and took over all the powers of the Governor under the Indian Constitution and the J&K Constitution.**
- The **powers of the state legislature were then extended to the Parliament of India.**
- The **powers of the J&K Constituent Assembly were passed on to the state legislature.**
- The President of India was effectively the state government of Jammu and Kashmir and Parliament was the state legislature.
- Therefore, the concurrence given by the state government was the concurrence given by the President to his own decision.
- **The imposition of President's Rule in a state is an interim arrangement** that exists until the new government can be instituted.
- Therefore, an **administration under President's Rule cannot take decisions that cause a fundamental, permanent, and irreversible alteration of the constitutional structure of the state.**

### Unilateral

- The Centre's imposition of curfew and decision to bifurcate the state of Jammu & Kashmir was taken without the consent of the people.
- It was a unilateral decision that undermines the **due process** and the **rule of law.**
- The amendments affect **Indian federalism** by changing the very character of a federal unit without consulting it.
- Article 370 was meant to facilitate the extension of constitutional provisions to Jammu and Kashmir in an incremental and orderly manner, based on its needs and requirements, without eliminating the State Constitution.

### How has the Union Government responded to the legal challenges?

- The Government claimed that the changes caused by the Presidential order had already become 'fait accompli'.
- The affidavit filed in the Supreme Court by the Union Ministry of Home Affairs stated that its constitutional changes have resulted in unprecedented development, progress, security, and stability in the region.
- It claimed that the situation has improved from what it was when Article 370 was in place.
- The affidavit cited that the positive changes and period of peace and normalcy following 30 years of

violence emphasized that parliamentary wisdom was exercised prudently.

- Incidents of organized stone-pelting, which was used by terrorists and separatists have fallen from 1767 in 2018 to zero in 2023.
- Similarly, street violence, bandhs, and hartals have reduced significantly.
- Recruitment into the terror ecosystem has fallen from 199 in 2018 to 12 in 2023 as a result of the strong anti-terror stance of the Government and policies to discourage youth from militancy.

### Reception

- However, the Chief Justice of India has said that the affidavit on the present status of Jammu and Kashmir shall not be relied upon while deliberating on the constitutional issues raised in the petitions as the case before the court was a pure constitutional challenge.
- According to the petitioners, the legal challenge remained regardless of the Centre's views on life in the Union Territory.

### How were the changes implemented?

- On June 19, 2018, **Governor's Rule** was imposed in Jammu and Kashmir following the collapse of the coalition government in the state.
- Article 92 of the Constitution of Jammu and Kashmir mandated six months of Governor's rule before President's Rule can be imposed.
- The Legislative Assembly of the state was dissolved on November 21, 2018, and subsequently, **President's Rule** was declared on December 12, 2018, before the end of the six-month period following approval from both Houses of Parliament.
- On June 12, 2019, President's Rule was extended for six months from July 3rd, 2019.

### Constitutional changes

- On August 5th, the Union Government issued an order amending **The Constitution (Application to Jammu and Kashmir) Order, 1954**, which would be superseded with the **Constitution (Application to Jammu and Kashmir) Order, 2019.**
- As per the 2019 order, all the provisions of the Constitution were made applicable to J&K state.
- **Article 367** was also amended to add a new Clause (4) which made the Constitution of India directly applicable to J&K.
- This was followed by a **Presidential declaration under Article 370(3)** which made all its clauses inoperative except the provision that all articles of the Constitution shall apply to J&K.

### What are the changes to Article 370?

- **As per Article 370, articles of the Constitution other than Articles 1 and 370 are not automatically applicable to Jammu and Kashmir.**



- However, the President is empowered by clause **(1)(d) of Article 370** to extend them through an executive order with the concurrence of the government of J&K.
- **Clause 3 of Article 370** stated that the President may declare that the article ceases to be operative completely or partially, but only on the recommendation of the Constituent Assembly of J&K.
- However, the **Constituent Assembly of J&K was dispersed in 1957 and is no longer in existence.**
- Therefore, this power of the President had ceased unless a new Constituent Assembly came into existence.
- As per the provisions of Article 370, the term **“state government” meant the Sadr-e-Riyasat (earlier the Maharaja) of J&K acting on the advice of the council of ministers.**
- However, the President could not obtain the concurrence of the state government since it had collapsed in 2018.
- As a result, there were no constitutional and legal mechanisms available to the Union Government to abrogate or amend Article 370.
- Therefore, it used the President’s powers under Article 370(1)(d) to amend Article 367 by replacing the term “Constituent Assembly of the State” referred to in Article 370(3) with the term “Legislative Assembly of the State”.
- This allowed for the amendment of Article 370 without requiring the concurrence of the Constituent Assembly of the State.

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## Structure, Organization, And Functioning Of The Executive And The Judiciary

### Teesta Setalvad Bail Matter: Supreme Court Rescues Rule Of Law

Priority: High



Primary Source: Indian Express

Prepp Prelims Booster: Indian Polity

Prepp Mains Booster: Structure, organization, and functioning of the Executive and the Judiciary

Context:

- Recently, the Supreme Court quashed the judgment of the Gujarat High Court which dismissed the regular bail application filed by activist Teesta Setalvad and granted her regular bail.
- An independent judiciary in a free society interprets the law and the fundamental principles that underline it while protecting the fundamental rights of citizens.



### Overview

- Setalvad, an activist, former Member of the Planning Commission, and [Padma Shri awardee](#), was arrested following the Supreme Court’s dismissal of a plea filed by Zakia Jafri regarding allegations of conspiracy during the Gujarat riots in 2002.
- The Court also recommended that those involved in the abuse of the [due process of law](#) should be punished.
- She was granted interim bail by the Supreme Court in September 2022 but the Gujarat High Court dismissed her regular bail application on July 1st, 2023.
- She was directed to surrender immediately despite her plea for it to be suspended for 30 days to allow her to move the Supreme Court.
- The High Court rejected the bail application by claiming that she had not challenged either the FIR or the chargesheet, therefore it was not permissible for her to claim that a case had not been made out against her.
- While granting interim protection in a late-night sitting, a three-judge bench of the Supreme Court observed that the High Court’s findings were perverse and if accepted, would mean that no application for bail could be accepted.

### Criticism of the HC order

- It is a copy of the allegations mentioned in the FIR and the chargesheet.
- It rejected the bail application on the basis of allegations despite the accused not having the opportunity to counter them.

- The Court's observation that the applicant used the victims of the riot as a means to further her career is irrelevant to the order and indicates the possibility of bias.

### Role of the courts in upholding the Rule of Law

- Courts play a vital role in making the rule of law meaningful by providing **qualitative, responsive, and timely justice**.
- The Supreme Court has on various occasions emphasized the importance of the rule of law in furtherance of the basic principles as laid down by **A.V. Dicey** through its judgments.
- It has been included in the **basic structure of the Constitution** and, hence, it cannot be abrogated or destroyed even by the Parliament.
- The system of judicial review which has been adopted by the Constitutional courts of India has three dimensions
  - Ensuring fairness in administrative action,
  - Protecting fundamental rights
  - To rule on the questions of legislative competence.
- In 1965, the conference of the **International Commission of Jurists in Bangkok** emphasized the importance of an independent judiciary in a free society.
  - The judiciary must uphold its independence from the executive and protect the Constitution alongside faithfully interpreting the law and its underlying fundamental principles.

### Cases:

- **A.K Gopalan Vs State of Madras:** Justice Khanna's dissenting verdict stated that the Rule of Law is a must to preserve the balance between individual liberty and public order.
- **Indira Nehru Gandhi Vs Raj Narayan:** The 39th Amendment was struck down for violating the Rule of Law.
- **Yusuf Khan Vs Manohar Joshi:** It is the constitutional duty of the state to protect and preserve peace and order in accordance with the Rule of Law.
- The responsible exercise of judicial review is a characteristic feature of a society in which the rule of law is maintained.

To know more about the Rule of law, click the [link](#).

### Bail

- Bail refers to the **temporary release of an accused in exchange for a monetary pledge in exchange for their appearance in court when required**.
- The person who pays the money or undertakes a money bond acts as the surety and can be anyone who is financially worth the monetary conditions mentioned in the bail conditions.

- **In a civil case, bail is the right of the defendant while in a criminal case, it is the discretion of the bail-granting authority** ie, the competent courts, or the police officer in charge.

### Types of Bail in India:

- **Regular Bail:** It is a direction given by the Court to release a person under arrest and in police custody.
  - A person can file an application for regular bail under Sections 437 and 439 of the CrPC.
- **Anticipatory Bail:** It is a direction issued to release a person on bail before their arrest.
  - It is applicable in situations where there is an apprehension of arrest.
  - It is issued only by the Sessions Court and High Court.
  - A person can file an application for anticipatory bail under Sec. 438 of CrPC.
- **Interim Bail:** It refers to a temporary and short period of relief granted by the Court while an application seeking Anticipatory or Regular Bail is pending before a Court.

### Supreme Court on bail

- The Supreme Court has emphasized that **"bail is the rule and jail is an exception"**.
- It has urged the government to think about enacting a **"Bail Act"** to make the process of granting bail more efficient.

## Government Policies & Interventions; Mechanisms, Laws, Institutions And Bodies Constituted For The Protection And Betterment Of These Vulnerable Sections, Issues Relating To Development And Management Of Social Sector/Services Relating To Health, Education, Human Resources

### Centre To Issue Norms Against 'Dark Patterns' In Online Advertise

Priority: Medium 

Primary Source: The Hindu

Prepp Prelims Booster: Cyber Security

Prepp Mains Booster: Government policies and interventions for development in various sectors and issues arising out of their design and implementation; Cyber Security

### Context:

- The **Department of Consumer Affairs, Government of India has called upon online platforms to avoid implementing design elements** or features in their online interfaces that could potentially deceive or manipulate consumer choices, thereby falling under the category of **dark patterns**.

## Key Highlights

- In response to the growing prevalence of deceptive practices in online advertising, and **recognizing the rise of 'dark patterns' in advertising, such as misleading information**, false urgency tactics, confirm-shaming techniques, forced actions, subscription traps, and persistent nagging on digital platforms, the **Union Consumer Affairs Ministry has decided to issue specific guidelines to control it**.
- The Union Consumer Affairs Ministry has urged consumers to flag such manipulative online practices on the National Consumer Helpline.

## What are Dark Patterns?

- Dark patterns are **deceptive or manipulative user interface designs or techniques employed by websites, apps, or other digital platforms** to trick or mislead users into taking actions they might not have intended or desired.
- Dark patterns are often employed to benefit the platform or service provider at the expense of the user's interests.

## Types of Dark Patterns

- **False Urgency** is a strategy that uses time pressure or scarcity to push consumers into making a purchase or taking a specific action.
- **Basket Sneaking** is when websites or apps utilize manipulative design patterns to add extra items or services to a user's shopping cart without their explicit consent.
- **Subscription Traps** are tactics that make it easy for consumers to sign up for a service but intentionally difficult for them to cancel, often by concealing the cancellation option or requiring multiple complex steps.
- **Confirm Shaming** involves using guilt or criticism to manipulate consumers into adhering to a specific belief or viewpoint by making them feel ashamed for not conforming.
- **Forced Action** is the act of coercing consumers into taking an action they may not desire, such as signing up for a service in order to access content or functionality.
- **Nagging** refers to persistent and annoyingly repetitive criticism, complaints, or requests for action that are aimed at pressuring consumers into taking a specific course of action.
- **Interface Interference** is a tactic that makes it challenging for consumers to perform certain actions, like canceling a subscription or deleting an account, by deliberately creating obstacles or confusion in the user interface.
- **Bait and Switch** involves advertising a particular product or service but delivering something

different, often of lower quality, deceiving consumers who were attracted by the initial offer.

- **Hidden Costs** is a strategy where additional expenses are intentionally obscured from consumers until they are already committed to making a purchase, often resulting in unexpected or higher costs than initially perceived.
- **Disguised Ads** are advertisements designed to resemble other forms of content, such as news articles or user-generated content, aiming to deceive consumers by blending in with the surrounding context.

## What are the concerns?

- The concerns have been raised about the use of "dark patterns" in online platforms and their impact on consumer autonomy.
  - **Example:** Dark patterns refer to design techniques that trick or influence consumers into making choices that are not in their best interest.
  - These patterns can include tactics such as creating false urgency, adding products to the shopping cart without consent (basket sneaking), subscription traps, and hiding additional costs.
- These practices **exploit consumers' interests and violate their rights, constituting unfair trade practices under the Section 2(9) of the Consumer Protection Act**.
- The increasing popularity of e-commerce in India makes it crucial to ensure that online platforms do not engage in these practices, which can have harmful consequences for consumers.
- The government has also urged social media influencers to clearly disclose when their content is promotional in nature.

## Impact of Dark Patterns

- **User Manipulation:** Dark patterns exploit cognitive biases and behavioral psychology to manipulate users into making decisions they may not have otherwise made. This manipulation undermines user autonomy and can lead to unintended consequences or regrettable outcomes.
- **Unintended Purchases or Subscriptions:** Dark patterns are often used in e-commerce websites to trick users into making purchases or subscribing to services they didn't intend to.
- **Privacy Concerns:** Dark patterns can be used to obtain users' personal information or consent for data collection without their full understanding or consent. By obfuscating privacy settings, burying opt-outs, or making it difficult to unsubscribe from marketing emails, users may unintentionally share more personal data than they intended.
- **Ethical Concerns:** Dark patterns raise ethical concerns, as they exploit users' vulnerabilities for the benefit of businesses. This unethical behavior

can damage a company's reputation and may result in legal consequences if it violates consumer protection laws or regulations.

- **Regulatory Response:** The pervasive use of dark patterns has prompted regulatory bodies to take action. Governments and consumer protection agencies are increasingly scrutinizing companies for their use of deceptive design practices. This has led to the introduction of legislation and regulations aimed at curbing dark patterns and protecting user rights.

### Way Ahead

- The **Advertising Standards Council of India (Asci) will collaborate with the Department of Consumer Affairs to establish self-regulatory guidelines.**
- These guidelines will require businesses to create communication and systems that respect user autonomy, improve transparency, and encourage well-informed choices.

## What Does India's First Gig Workers' Rights Bill Stipulate?

Priority: High 

Primary Source: The Hindu

Prepp Prelims Booster: Indian Economy

Prepp Mains Booster: Government policies and interventions for development in various sectors and issues arising out of their design and implementation. Employment

### Context:

- Recently, the Rajasthan government passed the **Rajasthan Platform-Based Gig Workers (Registration and Welfare) Bill, 2023**. It is the **first legislation of its kind** in India.
- The legislation aims to **address social security and welfare measures** for 3 lakh gig workers in the state of Rajasthan.
- According to a report by, India's gig workforce comprises 15 million workers employed across industries such as **software, shared services and professional services.**



### What did the Bill propose?

- **Application:** The Bill applies to “aggregators”– digital intermediaries connecting buyers and

sellers and “primary employers”– individuals or organizations engaging platform-based workers.

- **Welfare Board:** Under the proposed Bill, a Welfare Board is to be established, comprising **State officials, five representatives each from gig workers and aggregators**, and two others from **civil society.**

### Functions

- Set up a welfare fund
- register platform-based gig workers, aggregators and primary employers,
- facilitate **guarantee of social security to platform-based gig workers** and
- provide for matters connected therewith or incidental thereto.
- Maintain a database of companies and workers. A unique ID will be assigned to each worker that shall be valid in perpetuity.
- **Source of Social Security and Welfare Fund:** The welfare fund will be funded by contributions made by individual workers, State government aids, other sources, and a ‘welfare cess’ imposed on each transaction by aggregator companies.
- The rate of the welfare cess will be **between 1% and 2%** of each transaction value, and aggregators must submit the amount within the first five days of each month.
- **Workers' grievances:** Gig workers can raise grievances about entitlements and benefits under the Act. They can file petitions physically or online. Employers can object within 90 days before an ‘Appellate Authority.’
- **Aggregator duties:** An aggregator's duties under the Bill include
  - depositing welfare cess on time,
  - updating the database of gig workers, and
  - documenting any variations in numbers within one month of such changes.
- Failure to comply may result in fines, with the aggregator facing up to ₹5 lakh for the first offense and ₹50 lakh for subsequent violations. Primary employers may be fined up to ₹10,000 for the first offense and ₹2 lakh for further violations.

### Benefits of Gig Economy

#### Employees

- **Flexibility to work:** Gig workers help employees in attaining work-life balance by providing them with flexibility.
- **Employment opportunities** because of the changing nature of work and penetration of the internet have resulted in employment opportunities in the **digital space.**

#### Companies

- Companies do not have to undergo complex procedures during recruitment or lay off thereby promoting **ease of business**.
- **Optimum use of resources:** Small businesses benefit the most from the gig economy because they do not need to offer office space, equipment, or perks.

**Project-based recruitment:** They can save time and money by not having to establish healthcare or HR processes and instead hiring individuals to undertake small chores that need to be completed at the moment.

## Welfare Schemes For Vulnerable Sections Of The Population By The Centre And States And The Performance Of These Schemes;

### Centre To Assist Border States And UTs To Set Up Homes For Rehabilitation Of Trafficking Victims

Priority: Medium



Primary Source: The Hindu

**Prepp Prelims Booster:** Social Sector Initiatives

**Prepp Mains Booster:** Welfare schemes for vulnerable sections of the population by the Centre and States and the performance of these schemes;

#### Context:

- Recently, the Union Ministry of Women and Child Development has approved a scheme for providing assistance to states and Union Territories **for setting up protection and rehabilitation homes for victims of trafficking in states** having international borders.
- The shelter homes will provide the victims, particularly minors and young women, with food, clothing, counselling, primary health facilities and other daily needs.

#### About the scheme

- Under this initiative, the **Women and Child Development Ministry will provide financial assistance to States and Union Territories (UT)** along **the border areas** to set up homes for the protection and rehabilitation of trafficking victims from neighbouring countries.
- The trafficking victims in the border areas will also be produced before the child welfare committees to declare them fit for availing sponsorship as per the Mission Vatsalya Scheme guidelines.
- Mission Vatsalya is the central scheme focused on the protection and welfare of children.
- Currently, the Women and Child Development Ministry has been providing financial assistance to all States and Union Territories under the **Nirbhaya**

**Fund** to set up and strengthen Anti Human Trafficking Units (AHTU) in every district of the country.

- Funding has also been provided for setting up these units in border guarding forces such as BSF and SSB.
- As of now, 788 AHTUs, including 30 in border guarding forces, are functional.



#### Need for the scheme

- According to the NCRB data, there were 6,533 victims of human trafficking in the 2,189 cases filed last year under anti-human trafficking units. Out of these, 4,062 victims were female and 2,471 were male.
- As many as 2,877 victims were minors. While more underage boys (1,570) were trafficked in 2021 than girls (1,307) in 2021, this trend reversed in the case of adult victims.
- **Cross-border women trafficking:** Women and minors are often trafficked to India from neighbouring countries like Nepal, Bangladesh and Myanmar on the pretext of getting a better life, job and good standard of living.
- Thus, the States bordering these countries need to be more vigilant and have adequate facilities to provide relief and rehabilitation, and in order to aid this, the Ministry would provide financial assistance.
- A majority of those trafficked are minor girls or young women, who after their arrival in India are sold and forced into commercial sex work.
- These girls/women often reach major cities like Mumbai, Delhi, Hyderabad etc. from where **they are taken to the Middle East and Southeast Asia**.
- The proposal of such shelters, for the care and protection of trafficked girls, intercepted at the border, is a **need often voiced by the BSF as well as community-based anti-trafficking organisations** at these borders.
- The **homes will ensure that victims of trafficking** from neighbouring countries, particularly minors, are provided food, shelter, clothing, counselling and primary health care facilities, among other requirements
- Several states and UTs in the country share borders with neighbouring countries including Rajasthan, Punjab, Gujarat, Sikkim, West Bengal, Ladakh,

Jammu and Kashmir, Uttarakhand, Uttar Pradesh, Arunachal Pradesh, and Assam.

- Maximum number of victims were rescued from Odisha ( 1290 ), followed by Maharashtra ( 890), Telangana ( 796), and Delhi ( 509).

## Anti-Poverty Schemes May Help Poor Children's Brains Grow Normally

Priority: Medium



Primary Source: The Hindu

**Prepp Prelims Booster:** Economic and Social Development – Sustainable Development, Poverty, Inclusion, Demographics, Social Sector initiatives,

**Prepp Mains Booster:** Poverty and developmental issues; Welfare schemes for vulnerable sections of the population by the Centre and States and the performance of these schemes; mechanisms, laws, institutions and Bodies constituted for the protection and betterment of these vulnerable sections

### Context:

- Recently, a study by researchers from Harvard University and Washington University, revealed that children from low-income families faced the risk of a lowered cognitive ability due to poor hippocampal development which could be substantially lowered by anti-poverty policies.
- State-level public policies could address the correlation between brain development and low income.



### How does poverty affect brain development?

- Three studies in 2015 revealed that **children and young adults from low-income families had lower cortical volume and displayed poor performance in academic tests.**
- In addition, one study also discovered that the volume of the **hippocampus, which is regarded as the zone of the brain related to memory and learning, is positively** correlated to the family's socio-economic status, but not parental income.
- The study conducted by Harvard University and Washington University emphasized the relationship between household finances and brain development in children.
- Children from low-income families might have a smaller hippocampus which could lead to deficiencies in physical and mental health outcomes in the future.

- In 1844, Frederick Engels remarked that the physical effects of the living conditions of the poor were visible early in their life.
- Some examples of this were scrofula (tuberculosis of the neck), rickets, typhus, cholera, and smallpox in members of the working classes.
- A study by the University of California, Berkeley discovered that rats that grew up in an impoverished environment suffered from hampered brain development and learning abilities.

### How was the Harvard study conducted?

- Researchers used data from the **Adolescent Brain Cognitive Development (ABCD) study**, which is the largest long-term brain development and child health study in the U.S.A.
- The brain scans of over 10,000 children between the ages of 9 and 11 from 17 U.S. states had been examined.
- The states chosen all had different costs of living and anti-poverty programmes including two cash-assistance schemes and the health insurance scheme - Medicaid.
- It tested the relationship between family income and the occurrence of **internalizing (depression, anxiety) and externalizing psychopathologies (drug abuse, violence)** in children.

### Findings

- Participants from relatively higher-income families showed larger hippocampal volumes.
- **Family income was negatively associated with the incidence of psychopathologies**
- Impaired hippocampal development shown in low-income participants is associated with a higher risk of psychopathologies such as depression and post-traumatic stress disorder.
- As the relations varied in strength across the 17 states, the costs of living and anti-poverty policies were examined.
- There is a **three-way interaction between family income, cost of living, and the generosity of cash assistance programs in predicting hippocampal volume.**
- The hippocampal volumes of members of low-income households in a state with a higher cost of living with generous cash benefits have 34% larger hippocampal volumes than those from low-income households in states with a relatively higher cost of living and lower cash benefits.
- Fewer internalizing problems were observed in children from low-income households with more generous cash benefits.

### How can anti-poverty policies help?

- Economic policies and conditions that directly influence a family's financial resources play a major role in the brain development of families.
- The introduction of **more generous anti-poverty policies could amplify or reduce the stressors related to low income.**
- Greater access to financial resources could protect families from the chronic stressors associated with low income which influence hippocampal development.
- Generous anti-poverty policies allow families to take decisions that lead to reduced stress, such as decreased work hours, which result in lower wages as it complements the family income and insulates them from any negative financial effects.

### What are the shortcomings of the study?

#### Adaptability

- The brain is a complex and adaptable organ, with compensatory mechanisms that can sometimes mitigate the effects described in the studies. Therefore, a smaller hippocampus does not necessarily indicate that children will experience significant impairments in cognitive development and psychopathology incidence.

#### Systematic discrimination.

- Between 2007 and 2011 the highest poverty rates in the U.S.A. were reported among American Indians, Alaska Natives, and African-Americans, which are some of the traditionally discriminated communities.
- Similarly, in India, the Scheduled Tribes (STs), Scheduled Castes (SCs), and Other Backward Classes (OBCs) are significantly poorer than other communities.
- This indicates that the findings of the study could also be the result of racism and ethnicism, although the researchers claimed that they had ruled out as many alternative explanations as possible, including racial and ethnic makeup.

#### Limited applicability


- The **results could not be directly applied to India, as its macroeconomic conditions are much different from those in the U.S.A.**
- Although the dataset used in the study (ABCD) is broader than the one used in previous studies, the data being limited to 17 states limited the nature of the inferences made.
- The current paper is based on data collected in 2017-2018.
- However, youth participants have returned every year, allowing the researchers to study how the policy changes have influenced the youth's mental health and brain development.

### Conclusion

- The study found that **poverty could shape biological properties, like brain development, and highlighted the role governments and public policy could have in countering the biological effects of poverty.**
- Investments in social safety net programs could lower the high cost of addressing future mental health, educational, and economic challenges caused by socioeconomic disparities.

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### Supreme Court Asks NGO To Move Govt Against Sarpanch-Patism

Priority: Medium 

Primary Source: The Hindu

Prepp Prelims Booster: Indian Polity

Prepp Mains Booster: Salient features of Indian Society, Mechanisms, laws, institutions, and Bodies are constituted for the protection and betterment of these vulnerable sections. Role of women and women's organizations; Role of NGOs

#### Context:

- Recently, the Supreme Court said that the government, and not the judiciary, **should look into the problem of men often wielding** the actual power behind elected women who remain **"faceless wives and daughters-in-law"** in grassroots politics.
- A Bench of Justices Sanjay Kishan Kaul and Sudhanshu Dhulia advised an NGO, Mundona Rural Development Foundation, to make a representation before the Ministry of Panchayati Raj on this issue.

#### What is the issue?

- The NGO said that the phenomenon of unelected male relatives wielding political and decision-making power behind women amounted to a **"sheer mockery of constitutional democracy"** of the Seventy-Third Constitution Amendment Act, 1992 that provided one-third quota for women in village, block and district levels of panchayat governance, including in seats reserved for Scheduled Castes and Scheduled Tribes.
- The amendments were inserted in the Constitution to help the **women population at the grassroots level break cultural barriers** and improve their

socio-economic conditions through representative democracy.

- **Failure of implementation:** The State Governments had not been able to prevent men from acting as “sarpanch-pati, sarpanch-devar, pradhan-pati” while wielding the actual political and decision-making power.
- The NGO termed this tendency among male relatives to exercise power, in lieu of the elected women, as “sarpanch-patis”.
- The petitioner argued that an expert committee should be formed to look into the issue. Women should be given the “right support” mechanism.
- However, the court argued that it was an evolutionary process and the executive authority should look into the problem.



### What is Sarpanch Pati?

- It is the practice where husbands of women sarpanches exercise undue influence on the work of their elected wives and also sometimes, run the office in place of them.
- While the women get political representation, the real power is usurped by their husbands, “The Sarpanch Pati” depriving them of any meaningful gains.
- **Article 243 D of the Constitution** talks about the reservation for women.
- However, the Pradhan Pati culture **defeats the purpose of providing adequate representation** for women and their empowerment.
- Thus, even after 30 years of granting constitutional status to women’s reservation in panchayats, women sarpanchs **remain faceless wives and daughters-in-law**.

### What are the reasons behind the practice of Sarpanch Pati/Pradhan Pati/Proxy politics?

- **Patriarchy:** The emergence of effective female leadership is restricted within households in traditional and parochial societies due to patriarchal gender norms.
- Numerous women leaders in Panchayats have been targeted and even harmed, as their actions are perceived as challenging conservative social norms.
- **Lack of training:** Women face a lack of capacity building and training to assume leadership roles in

local government. Difficulties arise in balancing official work with domestic responsibilities.

- **Illiteracy:** The poor social status of illiterate women, coupled with their financial dependence on men, further hinders their ability to perform.
- **Absence of deterrence laws:** There is a lack of strong deterrence laws to punish men who take control instead of elected women.
- Political and general education deficiencies prevent women from entering politics, thereby keeping gender equality a distant aspiration in India.
- **Nonrecognition:** Women and their contributions are not adequately recognized.
- **Discrimination:** Caste and gender-based discrimination persist, and despite attaining political positions, women are denied the respect they deserve.
- **Ineffective implementation of State Panchayati Raj Acts and rules:** Panchayat, being ‘Local Government’, is a State subject and part of Seventh Schedule of the Constitution. Accordingly, all Panchayat-related matters, including representation of women in Panchayat systems, are governed by the respective State Panchayati Raj Acts and rules, subject to the provisions of the Constitution

### Panchayati Raj: 73rd Constitution Amendment Act

- 73rd Amendment Act was passed in 1992, and it took effect on April 24, 1993. The primary goal of the Act was **democratic decentralisation** of power and resources from the centre to locally elected authorities in order to encourage public involvement in governance.
- This act added a new Part-IX to the Indian Constitution, titled “The Panchayats” and it contains provisions from Articles 243 to 243 O.
- **Article 243D of the Constitution of India** provides for not less than one-third reservation for women out of total number of seats **to be filled by direct election** and a number of offices of chairpersons of Panchayats.

\*Click on this link for more information of [73rd constitutional amendment act](#)

### Impact of the legislation:

- **Increased representation of women:** The landmark piece of legislation has made a giant leap in women’s reservation and paved the way for the election of around 1 million women at the village, block, and district levels.
- **Grassroot level governance:** A significant difference is made in the grassroots level governance where the women in villages with reserved pradhans are twice as likely to have



addressed a request or a complaint to the gram pradhan.

- **Responsiveness to female policy concerns:** Villages with female leaders experienced increased female participation and responsiveness to female policy concerns.
- Furthermore, the village councils with reserved female leaders invested more in drinking water infrastructure, sanitation, roads, school repair, health centre repair, and irrigation facilities.

### Steps to be taken

- **Awareness:** Spread awareness among the Panchayats for identifying and addressing different forms of discrimination against women and girls.
- **Promote participation:** Ensure that panchayats resolve to promote full and effective participation and equal opportunities for leadership by women and girls in political, economic and social life.
- **Inclusivity:** Making gender inclusive Gram Panchayat Development Plans, ensuring gender justice and promoting gender equality would help address discriminatory social norms and practices at the family and community level thereby enhancing the value of women and girls.

### Conclusion

- Empowerment of women in all spheres and in particular the political sphere is crucial for their advancement and for the foundation of gender equal society. It is central to the goals of equality, development and peace.
- Indian democracy cannot be a true democracy, without equal and proportional participation of men and women at different levels of decision making.

## Rajasthan Minimum Income Bill: Provisions, What Makes It Unique

Priority: Medium



Primary Source: Indian Express

**Prepp Prelims Booster:** Rajasthan Minimum income bill

**Prepp Mains Booster:** Inclusive growth and issues arising from it ; Welfare schemes for vulnerable sections of the population by the Centre and States and the performance of these schemes; mechanisms, laws, institutions and Bodies constituted for the protection and betterment of these vulnerable sections.

### Context:

- Recently, the Government of Rajasthan has tabled the Minimum Guaranteed Income Bill which will provide the state's entire adult population with guaranteed wages or pensions.
- The Bill covers three broad areas: Right to Minimum Guaranteed Income, Right to Guaranteed Employment, and Right to Guaranteed Social Security Pension.



### What is the Rajasthan Minimum Guaranteed Income Bill?

- The **Rajasthan Minimum Guaranteed Income Bill** is part of a bouquet of schemes and measures undertaken by the Rajasthan government to provide **relief from inflation**.
- It is based on the idea of **Universal Basic Income** and will act as a legal guarantee for employment and pensions for citizens of the state.
- **Rationale:**
  - It is inspired by **Mahatma Gandhi's message that the true worth of a society can be measured in how it treats its most vulnerable members.**
  - It is the moral responsibility of the government to ensure the equitable distribution of **social justice and fair and just treatment of the marginalized.**
  - Act as a **safeguard against financial crises** and **reduce the financial burden on vulnerable households.**
- **Cost:** It is likely to incur the exchequer an additional expenditure of ₹2,500 crore per year.

### What are the major provisions of the Bill?

#### Minimum guaranteed income:

- All families in the state will be provided with **125 days of guaranteed employment every year** through the
  - **Indira Gandhi Shahri Rozgar Guarantee Yojana** in urban areas,
  - **Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)** in rural areas.
- The employment guarantee under the urban employment scheme had been increased from 100 to 125 days as part of the state's 2023 budget.
- The state will supplement the 100 days of work guaranteed under the MNREGA scheme by providing employment for an additional 25 days in rural areas.

#### Guaranteed Employment:

- According to the **Right to Employment**, once the work in a rural or urban employment scheme is finished, the entitled minimum wages must be paid weekly or not later than a fortnight.

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- A **Program Officer** will be appointed by the State government to monitor the implementation of the scheme.
- In rural areas, the officer must not be below the rank of a Block Development Officer (BDO).
- In urban areas, they must be an Executive Officer of the relevant local body.
- **Mandate:** Ensure that the work site is within a five-kilometer radius of the location in which the job card is registered in both rural and urban areas.
- The Program Officer must ensure the applicant gets work within 15 days of receiving the application.
- If not, the applicant is eligible for unemployment allowance on a weekly basis and in any case not later than a fortnight.

#### Guaranteed Social Pension:

- Eligible people belonging to special categories such as the **elderly, the specially-abled, widows, and single women are entitled to a minimum monthly pension of ₹1,000.**
- The pension will be increased over the base rate in two installments in each financial year beginning from 2024-25.
- 5% increase in July
- 10% increase in January

#### How have social activists responded?

- The Mazdoor Kisan Shakti Sangathan (MKSS) had earlier shared a draft of the Bill with the state government.
- It welcomed the Bill, which was the first of its kind in the country and covered some of the essential needs of the public.
- Although some of the provisions mentioned in the draft were not included in the official version of the Bill, activists have claimed that they can be added later through the Rules brought under the Act.

#### Criticism

- **Political motivations:** The Bill has been tabled a few months ahead of the Legislative Assembly elections in Rajasthan.
- It can be seen as a **populist** measure to attract voters.
- **Cost:** The funds required to implement the scheme will increase each year by 15%, which could pose a challenge in terms of identifying sustainable and practical sources of funding.
- Going forward, the scheme could have a **long-term effect on the state's financial health.**
- **Implementation:** Identification of beneficiaries, effective monitoring, and timely distribution of benefits, including wages and pensions.
- Potential concerns about data privacy due to the integration with existing platform systems.

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## Issues Relating To Development And Management Of Social Sector/Services Relating To Health, Education, Human Resources

### Is Open Defecation Back In India?

**Priority: Medium**



**Primary Source:** Down to Earth

**Prepp Mains Booster:** Issues relating to development and management of Social Sector/Services relating to Health, Education, Human Resources, Government policies and interventions for development in various sectors and issues arising out of their design and implementation.

#### Context:

- Recently, the WHO and UNICEF released the Joint Monitoring Programme Report which revealed that 17% of India's rural population still defecated in the open in 2022.
- The report's findings are contrary to those of the Union Government, which declared India to be Open Defecation Free (ODF) in 2019.

#### What does the Joint Monitoring Programme Report state?

- The **Joint Monitoring Programme Report** prepared by the **WHO** and **UNICEF** for water supply, sanitation, and hygiene for households for the year 2022 aims to monitor the progress made in achieving **SDG6**.
- It assesses access to water, sanitation, and hygiene.
- In 2022, 25% of India's rural population lacked access to **"basic sanitation"** facilities while 17% defecated in the open.
- Basic Sanitation services are defined as improved sanitation facilities that are not shared with others by the household.
- This means that there should be an exclusive toilet for a household.
- **Performance:** The Report has considered India's performance since 2015.

- The practice of **open defecation among the rural population has declined by 3.39% on average between 2015 and 2022.**
- 17% of the rural population practiced open defecation in India in 2022 as compared to the 41% who did in 2015.
- In 2015, basic sanitation facilities were available in 75% of households as compared to 51% in 2015.

### Discrepancies in India's ODF status and the Report

#### Report conclusion

- Assuming the average decline of 3.39% per annum is applied to the base figure of 2022, India would require another four to five years to achieve ODF status.
- **In 2021, the WHO UNICEF Joint Monitoring Programme stated that 22% of India's rural population practiced open defecation.**

#### India's official position

- On October 2, 2019, Prime Minister Narendra Modi declared India open defecation free (ODF).
- As part of India's efforts to achieve ODF status, more than 110 million toilets have been built to be accessed by 600 million people.

#### Why is there a discrepancy?

- Clinical and technical terms have been used to explain the mismatch between the JMP findings and the government's claims.
- Officials who were part of the Indian sanitation programme have claimed that the Union government did not declare India as Open Defecation Free (ODF).
- The villages had self-certified themselves as ODF.
- The government has confirmed that it believes in the assessment of its sanitation facilities under the programme.
- Providing access to such facilities including household toilets is treated as a proxy to ODF status.
- Therefore, there has not been a quantifiable evaluation of the behavioral change from open defecation to toilets.
- Using a proxy as the qualification meant that it was not possible to determine India's ODF status with certainty.

#### Consequence of India Achieving ODF status

- India's claim of achieving open defecation free status helped transform the global sanitation landscape.
- Since India was home to the largest population of people defecating in the open, it contributed substantially to achieving SDG 6.
- However, India has since then developed an elaborate and advanced sanitation program - **ODF Plus.**


- ODF Plus focuses on sustaining ODF status and helping villages adopt solid and liquid waste management.
- **0.36 million of India's 6 million villages have obtained ODF Plus status.**

#### Conclusion

- Open defecation, which is not just an ideal personal behavior but a major public health concern, has not been eliminated completely and is still prevalent in India.
- Therefore, a reassessment of the country's ODF performance and goals is necessary to ensure that it is eliminated from the country.

To know more about the SDGs, click the [link](#).

### India Recorded All-Time High Of 93% DPT3 Immunization Coverage In 2022: WHO

Priority: Medium 

Primary Source: The Hindu

Prepp Prelims Booster: DPT

Prepp Mains Booster: Issues relating to the development and management of Social Sector/Services relating to Health.

#### Context:

- According to the **WHO and UNICEF estimates for national immunization coverage for 2022**, India has surpassed the pre-pandemic record for childhood immunization coverage rate for DPT3.
- The third dose of **diphtheria, pertussis, and tetanus vaccines was 93%** in India, surpassing pre-pandemic all-time high of 91% in 2019, and also a rapid increase from 85% in 2021.



#### What do the estimates say about the South-East Asia Region?

##### Increase in DPT3

**coverage** (The third dose of diphtheria, pertussis, and tetanus vaccines)

- The South-East Asia Region of WHO had the **best immunization recoveries** among **all the WHO regions** mainly because of the efforts made by India and Indonesia.
- The estimates showed that the

	<p><b>coverage rate for DPT3 recovered</b> to the pre-pandemic level of 91%, a sharp increase from the 82% recorded in 2021.</p>
<p><b>Decrease in Zero doses</b> (those that have not received even the first dose of the DPT vaccine)</p>	<ul style="list-style-type: none"> <li>The number of <b>zero-dose children halved</b> to 2.3 million in 2022 from 4.6 million in 2021 in the region.</li> <li>The number of <b>partially vaccinated children</b> (those that have received at least one dose of the DPT vaccine but did not complete the primary series of three doses) <b>reduced</b> to 6,50,000 in 2022 from 1.3 million in 2021.</li> </ul>
<p><b>Increased coverage of the Measles vaccine</b></p>	<p>The region witnessed a <b>six per cent improvement</b> in the coverage of the measles vaccine, rising to 92% in 2022 from 86% in 2021.</p>

### Way forward

- The South-East Asia regional office noted that even though overall immunization coverage levels were looking encouraging, there is an existence of inequities in immunization at subnational levels.
- The pockets of unvaccinated children posed the risk of outbreaks of measles, diphtheria, and other vaccine-preventable diseases.
- Therefore, countries and partner agencies must continue to scale up efforts to identify unvaccinated children, strengthen the capacities of the health workforce, engage with vulnerable populations, and roll out tailored strategies to reach each child with the lifesaving routine immunization vaccines, because routine immunization is a fundamental pillar of primary healthcare.

### Can A Shorter Medical Course Solve Rural Doctor Shortages?

**Priority: Medium**



**Primary Source:** The Hindu

**Prepp Prelims Booster:** Health

**Prepp Mains Booster:** Issues relating to development and management of Social Sector/Services relating to Health, Education, Human Resources.

**Context:**

- Recently, West Bengal Chief Minister Mamata Banerjee put forward a suggestion to the Health Department regarding the **implementation of a three-year diploma course for medical practitioners**.
- The aim of this proposal is to **address the persistent shortage of doctors in rural areas**, despite the existence of approximately 1 lakh MBBS seats in India.
- By training individuals in this diploma course and subsequently deploying them to **primary health centers (PHCs)**, the government hopes to bridge the gap in healthcare access for rural communities.

### DPT

- D' stands for Diphtheria, 'P' stands for Pertussis and 'T' stands for Tetanus. These three are serious diseases **caused by bacteria**. Diphtheria and Pertussis are spread from one person to another while Tetanus enters the body through cuts and wounds, which may not appear dangerous and are often unnoticed or neglected.
- Diphtheria:** It causes a thick covering in the back of the throat. It can lead to breathing problems, paralysis, heart failure and even death in severe cases.
- Tetanus:** It causes painful tightening of the muscles usually all over the body.
- Tetanus can lead to locking of the jaw as a result the victim cannot open his mouth or swallow. Deaths because of Tetanus are around 10%.
- Pertussis (whooping cough or black cough):** It causes severe coughing spells that it is hard for infants to eat, drink or even breathe. These spells can last for weeks.

Pertussis can lead to Pneumonia, convulsions, Brain Damage and Death.

### Why health facilities in rural India face a workforce crisis?

- Lack of incentives:** Rural health facilities often lack adequate incentives to attract and retain doctors and healthcare professionals. The compensation and benefits offered in rural areas are generally lower compared to urban areas, making it less appealing for healthcare professionals to work in rural settings.
- Urban-Rural divide:** The healthcare infrastructure in urban areas is typically better developed, with more resources and facilities available. This creates a preference among medical professionals to work in urban areas where they have access to better opportunities, advanced medical technologies, and a higher standard of living.
- Limited focus on rural healthcare in medical education:** Medical education in India tends to

focus on training doctors for specialized and tertiary care hospitals, which are predominantly located in urban areas. As a result, medical professionals may not have the necessary skills or experience to work effectively in rural settings, further exacerbating the workforce shortage in rural health facilities.

- **Low incomes:** Rural areas generally have lower income levels compared to urban areas. The lower income potential in rural healthcare settings can be a deterrent for healthcare professionals who seek better financial prospects.
- **Insufficient government spending:** The government's spending on healthcare in India is relatively low, with healthcare expenditure accounting for less than 2% of the country's GDP. This limited investment in the healthcare sector hampers the development and improvement of rural health facilities, making them less attractive for healthcare professionals.
- **Lack of basic facilities:** Many rural health facilities in India lack basic infrastructure and amenities such as electricity, water supply, and proper road connectivity. These conditions make it challenging for healthcare professionals to work effectively and provide quality care in rural areas, further discouraging them from serving in such locations.

### Issues and Solutions regarding three-year diploma course for Medical Practitioners Issues

- The diploma course may not sufficiently prepare trainees to handle the unique challenges present in rural areas.
- Due to the limited availability of facilities, infrastructure, and transportation in rural areas, trainees may face difficulties when confronted with emergencies or critical care situations.

### Solutions


- The shortage of doctors in rural areas is a widespread issue. For example, in West Bengal, where the doctor-to-population ratio falls below the national average.
- To address this challenge, it is crucial to establish a cadre of capable healthcare professionals who can deliver primary care services in rural communities, even if they may not have the expertise to handle complex medical emergencies.
- **Primary Health Centers (PHCs)** play a vital role in the healthcare infrastructure, and it is essential to ensure they have well-trained doctors. However, considering the scarcity of doctors, it is worth exploring the possibility of introducing mid-level healthcare providers who can operate at sub-centers, which are a tier below PHCs.

- The recently enacted National Medical Commission (NMC) Act includes a provision for the appointment of community health officers. These officers can be trained to provide basic healthcare services and bridge the gap between the limited availability of doctors and the healthcare needs of rural communities.

### Government Initiatives to boost Rural Healthcare Infrastructure

- **Ayushman Bharat Health Infrastructure Mission**
- **National Rural Health Mission (NRHM)**
- **National Ambulance Service**
- **ASHA Workers**
- **Pradhan Mantri Jan Arogya Yojana (PM-JAY)**

### Over Half Of World's Child Trafficking Victims Trafficked Within Own Country: Report

Priority: Medium 

Primary Source: Down to Earth

**Prepp Prelims Booster:** International Organization for Migration

**Prepp Mains Booster:** Issues relating to development and management of Social Sector/Services relating to Health, Education, Human Resources ; Social empowerment,

### Context:

- Recently, the **"From Evidence to Action: Twenty Years of IOM Child Trafficking Data to Inform Policy and Programming"** report published by the **International Organization for Migration** and the **François-Xavier Bagnoud Center for Health and Human Rights (Harvard University)** revealed that 50% of all child trafficking victims were trafficked domestically, within their own country.
- The report has examined the patterns in trafficking and made recommendations to counter child trafficking.

### What are the findings of the Report?

- **Gender:** Children of all genders and backgrounds were found to be victims of child trafficking.
- Females accounted for 57.4% of victims while males accounted for 42.6% of the victims.
- **Age:** Children of all ages were susceptible to trafficking with victims ranging from 0-17 years of age.
- The majority of child trafficking victims i.e. 46.6% of the total were from the 13-17 age group.
- 12.6% of victims were from the 0-2 years category which meant that they were most likely to have been born into trafficking.
- **Nature:** 43.4% of victims of child trafficking, mostly boys, were trafficked to be used as forced labor in areas such as agriculture, domestic work, and begging.

- 20% of the trafficked children, most of whom are girls, are victims of sexual exploitation in the form of prostitution, pornography, and sexual servitude.



- **Patterns:** Generally, sexual exploitation victims were trafficked internationally while forced labor victims were trafficked domestically.
- In international trafficking cases, children are mostly trafficked to wealthier neighboring countries.
- More than 56.9% of identified child victims were trafficked within their own countries.
- 37.3% of European and Central Asian child victims were trafficked for sexual exploitation.
- **Reporting:** The database found that child victims had been reported in domestic work (14.5%), begging (10.2%), hospitality (3.4%), and agriculture (3.3%).
- Male child victims (7.3%) were less likely to report sexual exploitation than female victims (30.3%).
- **Exploiters:** 51.1% of child victims stated that friends or family members were involved in their exploitation.
- 37.4% identified friends and 14.7% identified family members as the ones responsible for their being trafficked.
- The role of family and friends in the trafficking of children is much greater in countries where poverty is localized or widespread.
- **Recruitment:** Children who have been trafficked are usually controlled using psychological techniques such as enmeshment in order to prolong their exploitation and prevent them from escaping. These include:
  - False promises (reported by 58.9%)
  - Psychological abuse (reported by 56.3%)
  - Physical abuse (reported by 50.6%)
  - Use of threats (reported by 39.5%)
  - Excessive working hours (reported by 36.5%)

#### VoTD

- The report was prepared after analyzing global data sourced from the IOM **Victims of Trafficking Database (VoTD)**.
- The VoTD is the largest international database related to victims of trafficking.
- The database contains primary data of nearly 69,000 victims of human trafficking from 156

countries and who were trafficked to 186 countries based on registrations from IOM member countries.

- Around 18.3% of the victims from the database are children.

#### Recommendations

- It recommended that countries undertake cooperative measures to counter trafficking and climate change including crisis preparedness and response.
- **Counter-trafficking strategies should be integrated with climate change, environmental, and disaster risk reduction policies.**
- Preparedness and disaster risk reduction programmes must be configured to address the vulnerability of children to trafficking.
- Communities that are susceptible to the dangers of climate change, ecological degradation, and disaster risk.
- **Community-level mitigation strategies** will help reduce the occurrence of human trafficking and allow communities to prevent the worst effects of climate change and other adverse weather events.

#### International Relations

##### What Are The Takeaways From The NATO Summit?

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: NATO

Prepp Mains Booster: Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests; Effect of policies and politics of developed and developing countries on India's interests

#### Context:

- Recently, the **2023 NATO summit took place from 11–12 July 2023, in Vilnius, which is the capital of Lithuania.**
- In the summit, the leaders discussed the ongoing Russian invasion of Ukraine as well as **Sweden and Ukraine's prospective memberships into NATO.**

#### What is the North Atlantic Treaty Organisation (NATO)?

- The **North Atlantic Treaty Organization (NATO), also called the North Atlantic Alliance, is an intergovernmental military alliance between 31 member states.**
- Under the treaty, parties have agreed to adhere to the goals and principles of the United Nations Charter and expressed their desire for peaceful coexistence with all people and nations.
- Members are committed to working together to safeguard peace and security and to implement the principle of common defence.

- **Article 10** of the treaty allows a new member to join the treaty with the full consent of the current members.
- The Organization is **headquartered in Brussels, Belgium.**



#### Objectives of NATO:

- **Political:** Spread of democracy, defence and security cooperation, and conflict avoidance.
- **Military:** Peaceful resolution of disputes and crisis management.

#### Key Takeaways from the NATO Vilnius Summit 2023

- **NATO-Ukraine Council:** NATO leaders have established the NATO-Ukraine Council, a new forum aimed at strengthening the relationship between NATO and Ukraine.
- This council will function as a permanent body, facilitating regular consultations and enabling emergency meetings between members and Ukraine.
- The initiative reflects NATO's commitment to fostering closer ties with Ukraine, without Ukraine formally becoming a member of the military alliance.
- **Turkey's shift in stance:** Sweden's path to alliance membership has been cleared as Turkey decided to lift its objections, opening the way for Sweden's approval by all current alliance members.
- **Attendance of Ukraine President:** Ukrainian President Volodymyr Zelenskyy's presence at the summit highlighted the possibility of extending NATO membership to Ukraine.
- **Ukraine's NATO membership:** Despite hopes for Ukraine's NATO membership, the alliance leaders reaffirmed their commitment to the prospect, stating that an invitation to Ukraine will be extended once the conditions are met and all allies are in agreement.
- **The Baltic Sea region** witnesses a significant shift as NATO's presence strengthens, leading it to be colloquially referred to as the 'NATO lake.'

- **Concerns over China:** NATO emphasized its acknowledgment of China as a significant factor affecting its security, interests, and core values. It shed light on concerns regarding China's lack of transparency in its strategic approach, ambiguous intentions, substantial military expansion, and its alignment with Russia

#### What does the entry of new members signify?

- **Finland joined the NATO alliance on 4th April, 2023** and hence it participated in its first NATO Summit as a full-fledged member.
- Hence, the **entry signals that the alliance continues to practice Article 10 of the Washington treaty signed in April 1949** which states that member countries can invite other European countries to become members of NATO.
- The **key advantage of adding Sweden and Finland is, in part, geographic because their position lends capacity or credibility to the NATO military role in the Baltic Sea.**

#### G20 Ministers For Equitable, Inclusive Use Of AI In Education

**Priority: Medium**



**Primary Source:** The Hindu

**Prepp Prelims Booster:** Important International Institutions

**Prepp Mains Booster:** Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests; Awareness in the fields of IT, Space, Computers, robotics, nano-technology, bio-technology and issues relating to intellectual property rights.



#### Education Ministers Unite for Equitable AI Integration

In a significant development, education ministers from G20 nations convened in Pune on June 22, 2023, under India's Presidency, to advocate for the equitable and inclusive deployment of Artificial Intelligence (AI) in education while upholding human rights. This milestone meeting followed the 4th Education Working Group (EdWG) gathering held in Pune from June 19-21, 2023, preceded by three earlier meetings across India.

#### Key Outcomes

All G20 member countries, during the Ministerial meeting, enthusiastically endorsed the Indian Presidency's four key priorities for the Education



Working Group. They unanimously embraced the "Outcome Document and Chair's Summary," along with the G20 Education Working Group Report and the Compendium on Education Policies and Programmes in G20 Countries.

### Key Takeaways

- **Education's Vital Role:** G20 members acknowledged education as a global empowerment tool.
- **Building a Resilient Future:** The need for collaborative efforts in achieving a resilient, equitable, inclusive, and sustainable future through education was emphasized.
- **Inclusivity and Quality Education:** Ensuring quality, inclusive, and equitable education for all, regardless of age, gender, or background, took center stage.
- **Lifelong Learning:** Education is not confined to academics but extends to life, technical, and vocational skills to prepare learners for the future, highlighting the significance of lifelong learning.
- **Digital Transformations:** Recognizing digital transformations, women-led development, green transition, and education for sustainable development as catalysts for SDG progress.

Prime Minister Modi's Vision

- Prime Minister Narendra Modi emphasized continuous skilling, re-skilling, and up-skilling of youth and proposed global skill mapping across G20 nations to identify and address skill development gaps.

### AI in Education: Pros and Cons

#### Pros

- **Enhanced Accessibility:** AI can make education more inclusive, accessible, and innovative.
- **Personalized Learning:** AI enables personalized learning experiences, benefiting both students and teachers.
- **Support for Disabilities:** Specialized AI systems can assist students with disabilities.
- **Time for Critical Thinking:** AI grading frees up teachers' time for critical thinking and individual student support.
- **Foreign Language Learning:** AI aids foreign language education with features like speech recognition and pronunciation correction.

#### Cons

- **Inequality:** AI can exacerbate technological disparities within and between nations.
- **Privacy Concerns:** Worries arise about the use of student data by algorithms for personalized learning.
- **Training Challenges:** Both students and teachers need training to effectively utilize AI tools in education.

### Conclusion

AI holds immense potential in education but necessitates a balanced approach to address the opportunities and challenges it presents. As G20 nations unite to harness AI's transformative power, the journey towards inclusive, quality education gains momentum.

### A Grand Revival: On India-Egypt Ties

Priority: Medium



Primary Source: The Hindu

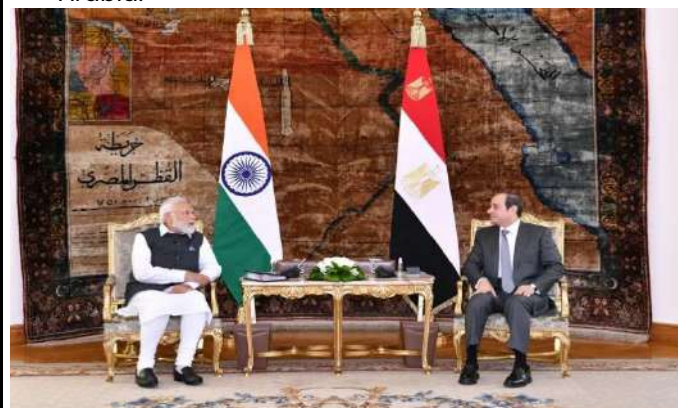
**Prepp Prelims Booster:** India-Egypt relations, Mapping  
**Prepp Mains Booster:** Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests.

#### Context:

- Recently, **India and Egypt signed an agreement on a strategic partnership to elevate their bilateral relationship to a Strategic Partnership.**
- The meeting between India's Prime Minister Narendra Modi and Egypt's President Abdel Fattah El-Sisi marks a significant milestone in India's engagement with the West Asia-North Africa (WANA) region.

#### About Egypt

- Egypt is a transcontinental country situated at the junction of northeastern Africa and southwestern Asia, with its territory extending across both regions.
- It features a land bridge formed by the Sinai Peninsula, connecting Africa and Asia.
- The country is bordered by the Mediterranean Sea to the north, while to the northeast, it shares boundaries with the Gaza Strip of Palestine and Israel. The Red Sea lies to the east, Sudan to the south, and Libya to the west.
- In the northeast, the Gulf of Aqaba serves as a separation point between Egypt, Jordan, and Saudi Arabia.



#### Historical Ties

- In 1955, **India and Egypt solidified their bilateral relationship by signing a Friendship Treaty.** This alliance proved crucial during the Suez Canal crisis in 1956, where India extended support to Egypt.

- Furthermore, their collaboration resulted in the establishment of the Non-Aligned Movement in 1961, with both countries as founding members.
- Together, they played a pivotal role in initiatives such as the G-77 grouping and fostered "South-South Cooperation."
- Throughout the Cold War era, India and Egypt shared a common goal of avoiding alignment with either the United States or the Soviet Union, emphasizing their independence and commitment to non-alignment.

### Highlights of the Recent Agreement

- The signing of the strategic partnership between India and Egypt marked a pivotal and historic milestone in the bilateral relationship.
- Both India and Egypt have taken similar stances regarding the Ukraine war. They have chosen not to criticize Russia's actions directly but have also refrained from condoning them. Instead, both countries have emphasized the importance of finding a diplomatic resolution to the conflict.
- India's decision to supply wheat to Egypt, one of the world's biggest importers that was hit by the blockade on exports from Russia and Ukraine last year, before the Black Sea Grain Initiative stepped in, won New Delhi much goodwill in Cairo.
- India and Egypt are actively pursuing closer cooperation in various sectors. They have signed Memorandums of Understanding (MoUs) in areas such as **green energy, pharmaceuticals, defense, agriculture, archaeology, antiquities, and competition law.**
- These collaborative efforts indicate a shared commitment to enhancing bilateral ties and exploring mutual benefits in multiple domains.
- Indian Prime Minister Narendra Modi's **visit to the Al-Hakim Mosque and his meeting with Egypt's Grand Mufti** served as an attempt to address any misgivings or concerns about India's policies towards the Muslim world.



### Challenges & Opportunities in India- Egypt Relation

#### Challenges

- **Economic Crisis:** Egypt's stagnant economy, pandemic impacts, global slowdown, and Ukraine conflict have led to reduced tourism, increased import costs, high inflation, and a depreciating currency.
- **Financial Constraints:** Egypt's significant financial commitments, foreign debt, and negative net foreign assets have resulted in foreign exchange scarcity and deferred payments for essential imports like wheat.
- Implementation of economic reforms is hindered by entrenched interests and crony capitalism.

### Opportunities

- **Economic Potential:** India can supply key imports such as refined petroleum, wheat, cars, corn, and pharmaceuticals to meet Egypt's demands, tapping into Egypt's large population and economy.
- **Infrastructure Development:** Egypt's ambitious infrastructure development agenda, including mega projects like New Cairo, a nuclear power plant, and a high-speed rail network, presents opportunities for India to contribute its expertise and participate in these projects.
- **Arms and Defence Cooperation:** Egypt's position as the world's third-largest arms importer earlier creates opportunities for India to enhance defence cooperation and engage in arms trade, fostering closer ties in the field of defense.

### Why is Egypt important to India?

- **Strategic Position:** Egypt's geographical location, notably with the presence of the Suez Canal, plays a pivotal role in international trade. Serving as a crucial transportation link, the canal handles a substantial portion of global trade, granting India access to European and African markets. This positions Egypt as a vital trade hub, enabling India to benefit from its role in production and re-export, particularly within the Arab world and Africa.
- **Energy Resources:** Egypt holds significant importance as a supplier of crude oil and natural gas to India. As a major importer of Egyptian petroleum products, India relies on Egypt as a dependable partner in meeting its energy requirements.
- **Influence in the Arab World:** Egypt holds a prominent position within the Arab world, evident by its status as the headquarters of the Arab League. This underscores Egypt's influence and diplomatic standing in the region. India recognizes Egypt as a significant partner in navigating regional dynamics and expects support from Egypt as a responsible Arab power.
- **Influence among Islamic Nations:** Egypt is acknowledged as a moderate Islamic voice within

the Organisation of Islamic Cooperation (OIC), an intergovernmental organization consisting of 57 Muslim-majority countries. India regards Egypt as a friendly ally within the OIC and values its moderate stance, as it can facilitate understanding and cooperation between India and other member nations of the OIC.

### India And The US-China Chips War



**Priority: Low**

**Primary Source:** The Hindu

**Prepp Prelims Booster:** Semiconductors industry

**Prepp Mains Booster:** Effect of policies and politics of developed and developing countries on India's interests; Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests; Indigenization of technology

#### Context:

- Recently, **Prime Minister Narendra Modi visited Washington DC and a technology partnership was established, between US-India, emphasizing the significance of technology** as a crucial aspect of geopolitics.
- A prominent aspect of this partnership involves addressing the **global semiconductor supply chain's diversification**, a critical factor in the ongoing competition between the world's top two economic powers, the US and China.

#### Key Highlights of the Recent Agreement

- Micron Technology, a prominent US chip maker specializing in memory chips**, has committed to investing in India to establish a chip packaging plant.
- This move is particularly significant as Micron Technology was recently barred by the Chinese government from participating in national projects due to alleged national security concerns.
- Renowned companies like Applied Materials and Lam Research have also announced their support for research and training programs in India.** These initiatives are crucial for building a strong ecosystem around semiconductor manufacturing and developing a skilled workforce.

#### What is the US-CHINA Chips War?

- The US-China chips war refers to the ongoing trade and technological **competition between the United States and China in the field of semiconductor chips**. It encompasses various economic, political, and national security aspects.
- The United States has traditionally been a leader in semiconductor technology, with American companies dominating the global market.
- However, in recent years, **China has been striving to develop its domestic semiconductor industry** to reduce its reliance on foreign chip manufacturers.

- In recent years, China emerged as a significant player in the semiconductor market, aiming to achieve self-sufficiency in this crucial industry through initiatives like Beijing's "Made in China 2025" plan.
- However, the landscape has changed **due to export controls imposed by the United States and upcoming restrictions from other countries**.
- These measures have presented significant challenges for China, potentially impacting its ability to fulfill its semiconductor goals.

#### Approaches for India to establish a Semiconductor Fabrication Plant

##### Micron's chip packaging plant

- Micron Technology is planning to invest a maximum of **\$825 million in its inaugural semiconductor assembly and test facility in India, which will be established in Gujarat**.
- This initiative falls under the government's incentive program to promote the chip ecosystem within the country.
- While Micron Technology specializes in producing memory and data storage modules such as DRAM, flash memory, and USB flash drives, the Gujarat plant will primarily focus on packaging semiconductor chips.
- Although this process is less intricate than memory chip manufacturing, it remains a crucial component of the overall chip ecosystem.

##### Applied Materials' research centre

- Applied Materials has announced its plan to **construct a collaborative engineering center in Bengaluru**. The company intends to invest \$400 million over a span of four years to establish this new center.
- The primary objective of the center is to foster collaboration among Applied engineers, domestic and international suppliers of equipment subsystems and components, as well as prominent research and academic institutions such as IIT Bombay and IISc Bangalore.
- By bringing these stakeholders together in one location, the center aims to drive innovation and facilitate the commercialization of technologies essential for producing advanced subsystems and components in India.
- These developments will ultimately contribute to the manufacturing of semiconductor equipment.

##### Lam Research

- Lam Research, a prominent semiconductor manufacturing product designer and manufacturer, has proposed a partnership with India to establish an educational initiative called 'Semiverse.'

- This program aims to educate and train semiconductor technologists in collaboration with the revised curriculum launched by the All India Council for Technical Education (AICTE).
- Over the next decade, the program aims to educate 60,000 professionals in the semiconductor industry. The project's first pilot phase is scheduled to commence in August 2023.

### Recent Developments related to Semiconductors

- **CHIPS act:** In August 2022, Congress passed the CHIPS and Science Act, providing \$280 billion in new funding for domestic research and manufacturing of semiconductors in the US.
- **Semiconductor friendshoring:** The Quad, consisting of the leaders of Australia, Japan, India, and the US, has taken significant steps towards semiconductor friendshoring. During the summits held in 2021 and 2022, these nations made a joint commitment to foster the development of robust, varied, and secure supply chains for critical and emerging technologies, including semiconductors.
- **iCET:** At the 2022 summit in Tokyo, President Biden and Prime Minister Modi announced the US-India Initiative on Critical and Emerging Technologies (iCET). The iCET serves as a framework for India-US cooperation in critical and emerging areas of technology.

### Why does India need to make chips?

- India's focus on chip manufacturing is driven by the goal of becoming a global producer of electronics goods, reducing import dependence, and strengthening the domestic supply chain.
- Prime Minister Narendra Modi's economic strategy prioritizes chip production to attract global investments.
- This move aims to reduce reliance on China, capitalize on the opportunity to diversify manufacturing bases, and position India as a reliable destination for chip production.
- By establishing a domestic chip manufacturing industry, India can enhance its position in the global electronics market, boost economic growth, and improve self-sufficiency in the manufacturing sector.

### SCO Calls For Multipolar World Order As Iran Joins Grouping

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: SCO

Prepp Mains Booster: India and its Neighbourhood, Groupings & Agreements Involving India and/or Affecting India's Interests

Context:

- Recently, **under India's first-ever Chairmanship, the 22nd summit of the SCO Council of Heads of State was held in the virtual format**, chaired by Prime Minister Shri Narendra Modi.
- The **grouping's decision to induct Iran as its ninth and latest member** was one of a number of agreements signed at the summit.

### Key Highlights

- During the recent summit, **India hosted the meeting for the first time but chose not to endorse certain paragraphs concerning China's Belt and Road Initiative (BRI)** in the joint statement.
- India decided not to participate in the joint statement on SCO Economic Development Strategy 2030, highlighting a lack of unanimity within the group.
- Prime Minister Modi also **addressed concerns about cross-border terrorism emanating from Pakistan and raised objections to China's connectivity projects** that encroach upon the sovereignty of other nations.
- The **SCO now comprises China, India, Iran, Kazakhstan, Kyrgyzstan, Pakistan, Russia, Tajikistan, and Uzbekistan.**

### Iran and the SCO

- In 2016, after Iran signed the nuclear deal with Western powers, Russia's President Putin expressed support for Iran's full membership in the Shanghai Cooperation Organization (SCO).
- He stated that with the resolution of Iran's nuclear issue and the lifting of UN sanctions, there were no longer any obstacles to Iran's membership.
- However, in 2018, the United States, under President Donald Trump, withdrew from the nuclear deal, rendering it ineffective.
- As a result, the US ended all waivers on sanctions, which severely impacted Iran's oil exports.

### What is Shanghai Cooperation Organisation (SCO)?

- The **Shanghai Cooperation Organisation (SCO), also referred to as the Shanghai Pact, is a transcontinental political, economic, and security alliance.**
- It is an intergovernmental international permanent organisation which was founded in the year 2001.
- In 2002, the SCO Charter was signed, and it went into effect in 2003.
- It is a statutory document that outlines the organisation's objectives, principles, structure, and core activities.
- Russian and Chinese are the official languages of the SCO.

### Objectives:

- To maintain security and stability throughout the vast Eurasian region.

- To join forces in the face of emerging threats and challenges.
- To improve trade, cultural, and humanitarian cooperation.
- To encourage members to work together to combat threats such as terrorism, extremism, and separatism.

### Agreements Signed

- The SCO meeting yielded the New Delhi Declaration, outlining cooperation areas among member countries.
- Joint statements addressed countering radicalization and digital transformation, with India offering expertise in digital payments like UPI.
- SCO members collectively criticized non-UN sanctions imposed on Russia and Iran by the US and Europe, considering them contrary to international law and harmful to other nations.
- As a solution, the SCO explored using national currencies for intra-group payments, offering an alternative to the dominant dollar-based system.

### Changing Geopolitical Landscape

- **Exit of the US from Afghanistan:** The disorderly withdrawal of the United States from Afghanistan has created an opportunity for China to increase its influence and investments in the Central Asian region. China has further strengthened its strategic ties with Pakistan and has become more assertive in its global presence.
- **War in Ukraine:** the ongoing conflict in Ukraine and deteriorating relations between the West and Russia have prompted Beijing to declare an unwavering friendship with Moscow, emphasizing a "no-limits" approach to their alliance.
- **Iran's diplomatic relation:** In a notable shift, Iran has expanded its diplomatic outreach beyond its traditional ally, Russia. In March of this year, Iran took a significant step by signing a China-brokered agreement to restore diplomatic relations with its old regional rival, Saudi Arabia. Furthermore, despite their historically limited ties, Iran and Pakistan opened a border market at their shared border in 2023, indicating a potential strengthening of their relationship.
- **Iranian Oil:** For China, inclusion of Iran in the SCO provides reassurance amidst escalating tensions with the US. In 2021, China and Iran signed a 25-year cooperation deal, mainly focused on oil. As China faces increasing competition for oil supplies from Russia in Asia, private refiners in China, the world's largest crude importer, are turning to Iranian oil for their needs.
- **Russia's close ally with Belarus:** Russia has expressed a strong inclination to expand its circle of allies within the international community.

Belarus, a neighboring country that shares a close regional alliance with Russia, is expected to soon sign a memorandum of obligations. This significant step is likely to pave the way for Belarus to become a full member and further deepen its ties with Russia.

### Challenges for India

- India is confronted with the challenge of preserving a fragile equilibrium amidst evolving dynamics within the SCO.
- **India-US Partnership:** The partnership between India and the US has reached remarkable heights of collaboration and confidence.
  - Prime Minister Narendra Modi has recently concluded an Official State Visit to the US, during which significant technology and defense agreements were signed between the two nations.
  - President Joe Biden has underscored the democratic credentials of both countries and contrasted them with Chinese authoritarianism.
- **Historical ties with Iran:** India has a long-standing historical relationship with Iran, particularly in terms of commercial ties. In the past, India has heavily relied on importing crude oil from Iran, making it one of its primary energy suppliers.
  - However, this scenario changed in May 2019 when the United States ended the waiver on sanctions, leading to India's suspension of crude oil imports from Iran.

### Conclusion

As Chair of the SCO, India has made efforts to take our multi-faceted cooperation to new heights. **Security, economic development, connectivity, unity, respect for sovereignty and territorial integrity, and environmental preservation are pillars of India's SCO vision.**

### Freedom Of Expression Being Misused In Canada By Anti-India Elements: MEA

Priority: Low 

Primary Source: The Hindu

**Prepp Prelims Booster:** International relations

**Prepp Mains Booster:** Effect of policies and politics of developed and developing countries on India's interests, Indian diaspora.

### Context:

- Recently, the Ministry of External Affairs said that **Freedom of expression is being "misused" by extremists in Canada to legitimize terrorism.** The remarks came soon after Canadian PM Justin Trudeau argued that Canada is taking steps to fight extremism without compromising freedom of expression.
- The Pro-Khalistani posters called upon pro-Khalistan sympathisers to assemble in Toronto on

July 8 in protest against the alleged killing of a leading campaigner for Khalistan, Hardeep Singh Nijjar. The poster that carried the words "Kill India" also displayed the photographs of Indian High Commissioner and Consul General in Toronto and the words "Faces of Shaheed Nijjar's Killers in Toronto".

### Indian Response

- Despite India repeatedly highlighting the threat posed by Khalistan extremists to the Indian diaspora, the Trudeau government has been criticized for its **lack of action against these violent elements**.
- India urged Canada to rein in pro-Khalistan elements who have circulated posters inciting violence against Indian diplomats in Canada, U.S., and Australia ahead of an expected pro-Khalistan demonstration on July 8.
- The situation took on a new significance in June 2023 when a float used in Canada to commemorate Operation Blue Star in 1984 showed the assassination of Prime Minister Indira Gandhi. External Affairs Minister Dr. S. Jaishankar had previously criticised the Canadian government's lack of action against pro-Khalistan protests and stated that responses seemed to be **driven by vote bank politics rather than** addressing the issue effectively.
- He acknowledged that the **Khalistani issue has had an impact on India-Canada ties** and called for clarity in Canada's approach.



### Impact

- **Diplomacy:** The leniency by Canada can create challenges in maintaining smooth diplomatic engagements and affect the overall atmosphere of bilateral interactions.
- **Propagating separatism and legitimizing terrorism:** It may promote hatred and compromise the security of the Indian diaspora living in Canada. The destructive actions of some individuals or groups will prompt stereotypes which can potentially worsen larger-scale divisions
- If it is left unchecked it may have an effect on the Unity and diversity of India.

- **Disrupt the peace & harmony:** These extremists have previously defaced Indian temples and targeted the non-Sikh Indian community, sparking further concerns.

### Way forward

- The issue of pro-Khalistan activities and the alleged reluctance of the Canadian government to take action against them has strained India-Canada relations. Diplomacy and dialogue are the way forward.

## The Global South: Origins And Significance

Priority: Medium



Primary Source: The Hindu

**Prepp Prelims Booster:** International relations

**Prepp Mains Booster:** International Relations, India and its neighborhood- relations, Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests.

### Context:

- Recently, the unwillingness of many leading countries in Africa, Asia and Latin America to stand with NATO over the war in Ukraine has brought to the fore once again the term **"Global South."**

### What is the Global South?

- The **Global South refers to various countries around the world that are sometimes described as 'developing', 'less developed' or 'underdeveloped'**.
- Many of these countries, although by no means all, are in the Southern Hemisphere, largely in Africa, Asia and Latin America.
- In general, they are poorer, have higher levels of income inequality and suffer lower life expectancy and harsher living conditions than countries in the "Global North" – that is, richer nations that are located mostly in North America and Europe, with some additions in Oceania and elsewhere.
- **Global North** is defined essentially by an economic division between the rich and poor countries.
  - Global North' refers loosely to countries like the US, Canada, Europe, Russia, Australia and New Zealand.

### Origin of Global South

- The term **Global South appears to have been first used in 1969 by political activist Carl Oglesby**.
- It was only after the 1991 breakup of the Soviet Union – which marked the end of the so-called "Second World" – that the term gained momentum.
- Until then, the more common term for developing nations (countries that had yet to industrialize fully)– was "Third World."
- Increasingly the term that was being used to replace them (third world) was the more neutral-sounding "Global South."

### Features of Global South

- **Lower-income nations:** The Global South is a phrase commonly used to denote lower-income countries on one side of the so-called global North-South split, with the countries of the Global North on the other.
- **Beyond geographical south:** As such, the phrase does not automatically relate to a geographical south; for example, the majority of the Global South is actually located in the Northern Hemisphere.
- **Third World radicalism:** The word was initially adopted by governmental and development organizations as a more open and value-free alternative to "Third World" and related potentially "valuing" terminology like developing countries.
- **Newly industrialized:** Countries in the Global South have been described as newly industrialized or in the process of industrializing, and they typically have a history of colonialism by Northern, often European, powers.
- **Major Countries:** Brazil, China, India, Indonesia, and Mexico have the greatest populations and economy among Southern states. The vast majority of these are near the tropics.

### Global South is Geopolitical, not geographical

- The Global South's two largest countries — **China and India lie entirely in the Northern Hemisphere.**
- Rather, its usage denotes a mix of political, geopolitical and economic commonalities between nations.
- **Countries in the Global South were mostly at the receiving end of imperialism and colonial rule,** with African countries as perhaps the most visible example of this.
- And whereas the terms 'Third World' and 'underdeveloped' convey images of economic powerlessness, that isn't true of the "Global South."
- **By 2030 it is projected that three of the four largest economies will be from the Global South,** with the order being China, India, the U.S. and Indonesia.
- Already the GDP in terms of purchasing power of the Global South-dominated BRICS nations — Brazil, Russia, India, China and South Africa, surpasses that of the Global North's G-7 club.
- There are now more billionaires in Beijing than in New York City.

### Significance of Global South

- **Economic Potential:** The Global South comprises countries with vast populations and substantial economic capabilities. These nations, such as India, China, Brazil, and South Africa, have experienced significant economic growth in recent years.
- **Unleashing Untapped Potential:** The growing economies of the Global South possess immense untapped potential. By collaborating and sharing knowledge, expertise, and best practices, these

countries can accelerate their development further.

- **Addressing Common Concerns:** The Global South faces common challenges and concerns, including energy security, energy justice, and sustainable energy transition. By coming together as a united front, these countries can amplify their voices and advocate for the interests of developing nations on the global stage.
- **South-South Cooperation:** The Global South emphasizes South-South cooperation, which involves collaboration and exchange of resources, expertise, and technology among developing nations.
  - By fostering stronger ties and partnerships within the Global South, countries can enhance their collective bargaining power, share experiences, and collectively address development challenges.

### India's approach towards Global South

- India is actively pursuing a collaborative approach with nations in the Global South to create a strong collective front and implement effective strategies for the development of these countries.
- With its vast population and robust economy, India possesses significant resources to contribute to the world, particularly to the countries of the Global South.
- **India's Role and G20 Presidency:** India, as a prominent member of the Global South, is actively working to unite nations within this region and facilitate an action-oriented approach. As a leader in the G20, India seeks to amplify the voices of the Global South, bringing their concerns to the forefront of global discussions.

### Initiatives by India

- **Vaccine Maitri Program:** One notable initiative by India is the Vaccine Maitri program, through which it provided medicines and vaccines to more than 100 countries during the pandemic. This demonstrates India's commitment to global health and its willingness to support nations in need.
- **Evacuating citizens:** India has played a crucial role in evacuating its citizens from conflict-ridden countries like Afghanistan and Ukraine, showcasing its dedication to ensuring the safety and well-being of its people abroad.
- **India's digital public assets,** such as the Unified Payments Interface (UPI), RuPay, and India Stack, have proven to be instrumental in supporting a significant portion of the Indian population. These digital platforms have the potential to drive the digital transformation of other developing and emerging countries.

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### Rupee-Dirham Deal Is Bilateral: Envoy

Priority: High



Primary Source: The Hindu

Prepp Prelims Booster: International Relations

Prepp Mains Booster: Agreements involving India and/or affecting India's interests; Indian Economy and issues relating to planning, mobilization of resources; Growth and Development

#### Context:

- The India-UAE rupee-dirham agreement signed during the Prime Minister's visit to Abu Dhabi is bilateral, with no intention of "de dollarization" of the world economy.



### India - UAE local Currency Relation

- The **Reserve Bank of India (RBI)** and the **Central Bank of the UAE** agreed to develop a framework for allowing the use of the two nations' native currencies in cross-border transactions.
- The **initiative** to allow payments in the **Indian rupee** and the **UAE dirham** is intended to promote their bilateral usage, decreasing reliance on a third country's currency, such as the US dollar, as an intermediary for settling transactions.
- According to the two central banks' memorandum of understanding, all **current account payments**, including those involving the two nations' exporters and importers, as well as some "permitted" capital account transactions, may be paid using either the rupee or the dirham.
- The **India - UAE local currency settlement system** might also serve as a forerunner for future bilateral currency deals, which, as an **RBI Inter-Departmental Group** indicated earlier this month.

- The initiative will significantly smooth the road for trade by cutting transaction costs and making currency conversion easier.

### India - UAE - Bilateral Relation

- Since the commencement of the **Comprehensive Economic Partnership Agreement** between the UAE and India in May 2022, bilateral commerce has risen by nearly 15%.
- Bilateral commerce, including oil purchases, has reached over \$85 billion, with the UAE accounting for approximately \$50 billion of that total.
- According to the UAE**, technical teams had examined how to avoid the bilateral deficit against India and a surplus of Indian rupees becoming an issue, due to India's trade with Russia for oil payments and defence purchases, with Iran.
- The UAE has joined the **SCO** as a dialogue partner and has applied to join the **BRICS** group of developing economies.
- The UAE President is set to visit Delhi in September to attend the G20 conference, to which the UAE has been invited as a special guest.
- Furthermore, the Indian PM has been invited to the CoP28 climate change meeting in Dubai in November, and the Ambassador stated that the frequency of visits between the two leaders has "accelerated the momentum" of bilateral ties, particularly in commerce.

### Bilateral Challenges Between India and UAE

- Indian enterprises have certain economic obstacles in the Emirates due to confusing legislation, employment laws, and transparency concerns.
- The UAE and Iran have territorial disagreements. Any flare-up in this will have an impact on India's trade, community, and energy security.
- The UAE is home to a considerable number of Indians, including blue-collar and manual employees.
- They endure several challenges, including deplorable working and residential circumstances, as well as treatment discrimination in comparison to other workers.

#### Air Service Agreement

- An **Air Service Agreement (ASA)** is a bilateral or multilateral agreement between countries outlining the terms and conditions for international air transport services provided by their respective airlines.
- The talks between the UAE and India to revise the ASA signed in 2014 have stalled in recent years, as the Civil Aviation Ministry is reluctant to increase the number of seats between UAE cities, including Dubai, and some 15 Indian cities, fearing it will take business away from Indian airlines.



As a result, data from travel sites reveal a 4550% rise in airfares to Dubai from New Delhi, Bengaluru, and Kochi as compared to pre-COVID pricing.

### Raise Katchatheevu, Tamils Issue During Sri Lankan President's Visit: T.N. CM Stalin Writes To PM Modi

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: Katchatheevu

Prepp Mains Booster: India and Neighbourhood relations

#### Context:

- Recently, Tamil Nadu CM Stalin urged the Union government to raise two broad issues – the retrieval of Katchatheevu and the aspirations of the Tamil-speaking people in Sri Lanka during President Ranil Wickremesinghe's New Delhi visit.



#### What are the issues raised by the Tamil Nadu CM?

##### Katchatheevu

- The **Tamil Nadu government refuses** to accept the agreement ceding Katchatheevu to Sri Lanka as it was done without the state government's consent and the agreement has deprived T.N. fishermen of their fishing rights adversely impacting their livelihoods.
- The agreement has restricted access to traditional fishing grounds and also resulted in harassment by the Sri Lankan navy on trespassing charges.

##### Issue of Tamils in Sri Lanka

- The CM called for adequate and meaningful devolution of powers to the provinces so that they can lead dignified lives as equal citizens of Lanka.
- The 13th Amendment provides for the devolution of power to the Tamil community in Sri Lanka.
- India has been pressing Sri Lanka to implement the 13th amendment which was brought in after the **Indo-Sri Lankan agreement of 1987** which envisaged devolution of powers to the Tamils.

#### Suggestions to ensure smooth fishing operations

- Use of diplomatic channels** to secure the immediate release of apprehended T.N. fishermen and prevent the recurrence of such incidents.
- Regular patrolling, establishment of communication channels, and installation of warning systems **could significantly reduce the incidents** of harassment and apprehension.
- Regular meetings and consultations of the Joint Working Group** reconstituted in 2016, would help in building trust, facilitate effective communication and ensure smooth fishing operations.

#### History of Katchatheevu Dispute

- It is an **uninhabited off-shore island in the Palk Strait**.
- During British rule, it was administered jointly by India and Sri Lanka.
- It is a **disputed territory** between Sri Lanka and India, claimed until 1976 by India, and administered by Sri Lanka at the moment.
- In 1974, then **Prime Minister Indira Gandhi** signed four Maritime Boundary Agreements between 1974-76 with her counterpart **Srimavo Bandaranaike**, Sri Lankan President, and **ceded Katchatheevu Island to Sri Lanka**.

#### Understanding The Wagner Mutiny

Priority: Low



Primary Source: The Hindu

Prepp Prelims Booster: Current events of international importance

Prepp Mains Booster: Effect of policies and politics of developed and developing countries on India's interests, Indian diaspora.

#### Context:

- Recently, **Yevgeny Prigozhin**, the chief of **Russia's Wagner Private Military Company**, staged a short-lived mutiny against the country's defence establishment, pushing Vladimir Putin's Russia into an unprecedented internal security crisis.
- Yevgeny Prigozhin, founder of the Wagner group, **called off the rebellion** after Belarus President Aleksandr Lukashenko reportedly brokered a deal between him and Putin.

#### Wagner Group

- The Wagner Group is a **mercenary organisation** that came into existence in 2014, during Russia's annexation of Crimea.
- Apart from Ukraine it has footprints across Africa and West Asia, where it has provided mercenaries to different governments and led social media disinformation campaigns.

#### Significance of Wagner group to Russia

- **Russian influence in Africa:** It allowed Russia to expand its influence in the region without sending the regular Russian troops.
- The company has established a deep presence in Africa's lawless regions providing security to governments, mines, corporations, etc.
- **Ukraine war:** The Wagner group under Prigozhin has benefited Russia significantly in the ongoing war against Ukraine. It was this mercenary group that captured the key regions of Soledar and Bakhmut for Russia.
- Russia suffered humiliating retreats last year from Kharkiv and Kherson after its initial thrust into Ukraine made limited territorial gains. Since last summer, Russia has taken only two major battlefield victories — Soledar in January and Bakhmut in May — and both were led by Wagner.

### Reason behind wagner groups's rebellion

- Mr. Prigozhin, a former Kremlin contractor and a close ally of Mr. Putin, accused the **Ministry of Defence leadership of corruption and incompetence.**
- Prigozhin accused the **Russian military of killing his mercenary forces** in a strike on a camp.
- When he launched his mutiny, Mr. Prigozhin had demanded the ouster of the MoD top brass, mainly Defence Minister Shoigu and Gen. Gerasimov.
- Russia's Federal Security Service (FSB) had slapped a criminal case against Mr. Prigozhin.



■■■■ Russian blockade or defences

### What was the deal?

- According to the Kremlin, as part of the deal, Mr. Prigozhin would **relocate to Belarus and those Wagner members** who did not join the mutiny would be allowed to sign contracts with the MoD and
  - All the others, keeping in mind their "heroic actions in the war", would be allowed to go home with no prosecution.
  - The case against Mr. Prigozhin would be dropped.

- There is no mention of Prigozhin's main demands, of changing the defence minister and the Chief of Staff.

### Implications

- The mutiny was an implosion of the **feud between the strongmen of his security circle.**
- Mr. Prigozhin set an example of challenging Russia's state institutions and walking away freely, something that's unheard of in Mr. Putin's Russia and could have echoes in the future.
- The whole incident exposed Mr. Putin's weakening authority.
- The deal may have averted an immediate crisis, but the reasons for the mutiny — Russia's poor battlefield performance, internal feud, corruption allegations, etc. — remain unaddressed.
- If the war drags on further without any concrete result, Mr. Putin could face more challenges from within.
- The Wagners were a major concern for Ukraine, because they were particularly ruthless, diehard and daredevil in their fighting methodology. That element will be missing.

### Russia 'Exits' UN-brokered deal to export Ukrainian grain via Black Sea

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: International Relations

Prepp Mains Booster: International Relations ; Agriculture And Agricultural Technology ; Economy and issues relating to planning, mobilization of resources; Growth and Development

### Context:

- Russia has halted a wartime agreement that permits Ukraine to ship grain, threatening world food security.

### Black Sea Grain Initiative

- The **Black Sea Grain Initiative** is a joint initiative aiming at strengthening cooperation and improving trade in the grain sector among **Black Sea area countries.**
- The United Nations (UN) and Turkey brokered the agreement, which was signed in Istanbul in July 2022.
- The initiative aims to boost the competitiveness of member countries in the global grain market.
- It focuses on promoting its grain products, developing export options, and recruiting investments to upgrade infrastructure and agricultural practices.
- The initiative focuses on grain commodity production, export, and logistics, mainly **wheat, maize, and barley.**

- Major grain producers and exporters such as Russia, Ukraine, Romania, Bulgaria, and Kazakhstan are among those taking part in the Black Sea Grain Initiative.
- These nations have enormous agricultural resources and have emerged as prominent players in the global grain market.

### Russian withdrawal from the Initiative – Reasons

- None of Russia's conditions had been completed, including the restart of **ammonia shipments** through a pipeline connecting **Pivdennyi port (Russia)** to the Ukrainian port of Odessa and the reconnection of its state agricultural bank Rosselkhozbank to the **SWIFT international payments system**.
- Russia has highlighted **shipping and insurance limitations** as obstacles to its **food and fertiliser exports**, both of which are critical components of the global food chain. Despite these challenges, Russia has sent unprecedented amounts of wheat and fertiliser.
- The agreement was extended for another 60 days, although there was a decline in food shipments and ships departing Ukraine, with Russia accused of restricting the number of participating ships.



### Implications of the Withdrawal

- The withdrawal resulted in the **elimination** of shipping safety guarantees, the closing of a **maritime corridor**, and the dissolution of the **Joint Coordination Centre** established at the entrance of the **Black Sea** in Istanbul to oversee the deal's execution.
- So, it meant that the northern Black Sea will be declared a temporary shipping danger zone once more.
- Grains and oilseeds prices have already risen in response to Russia's actions, and this is expected to transfer into higher prices for staple commodities

such as **bread, pasta**, and so on in the coming weeks or months.

- The high expenses may further worsen **economic issues** in numerous nations, pushing millions more into **poverty or food insecurity**.

### Geography of Black sea

- The Black Sea is a body of water in southeastern Europe that is bounded on six sides by six countries: Ukraine to the north, Russia to the northeast, Georgia to the east, Turkey to the south, Bulgaria to the west, and Romania to the northwest.
- The Black Sea is **strategically** vital due to its geographic location, natural riches, and historical significance.
- The Black Sea is an important maritime waterway that connects Europe, Asia, and the Middle East.
- It connects to major ports in Russia, Ukraine, Turkey, and Bulgaria, aiding the transportation of products, energy resources, and commodities.
- Control over the sea and its access points provides leverage over regional commercial and transportation networks.

### Impact on Global Food Security

- The war in Ukraine, as well as subsequent limitations on grain exports, have led to increasing food commodity prices, compounding economic woes and forcing millions into poverty and food insecurity.
- Developing countries, who rely significantly on imported food priced in dollars, are facing rising prices as a result of currency depreciation and climate-related difficulties such as **droughts**.
- The withdrawal of the **Black Sea grain agreement** exacerbates the issues faced by countries already dealing with high debt levels and the effects of climate change.
- High grain prices in areas like Egypt, Lebanon, and Nigeria aggravated economic issues and assisted in driving millions more people into poverty or food insecurity.

**Poorer countries that rely on imported food priced in dollars are also paying more as their currencies weaken and they are compelled to import more due to climatic difficulties.**

### Conclusion

The suspension of the grain deal between Russia and Ukraine puts world food security at risk. Rising food costs, continuous conflicts, climate change, and the COVID-19 epidemic have already put several countries at risk of starvation and destitution. The loss of this key agreement exacerbates these issues, emphasising the need for coordinated measures to combat food poverty

and provide equitable access to cheap and nutritious food for everyone.

## 90 Days Of Sudan Strife: Country Saw Decade's Displacement In Just 10 Weeks, Says Analysis

Priority: Low



Primary Source: Down to Earth

**Prepp Prelims Booster:** Current Events of International Importance, Migration related issues

**Prepp Mains Booster:** Population and associated issues; Effect of policies and politics of developed and developing countries on India's interests, Indian diaspora.

### Context:

- Recently, the Internal Displacement Monitoring Centre (IDMC) reported that 2,231,523 internal displacements have been recorded in Sudan since April 2023.
- Clashes between the Sudanese army and paramilitary forces have led to displacement on a national scale.

### IDMC Observations on Migration in Sudan

#### Magnitude

- The **internal displacement observed between April and June 2023 is nearly equal to the internal displacement observed over the last ten years (2,246,000)**.
- It is the highest level of internal migration observed in Sudan since 2008.
- Over 3.8 million people in Sudan were internally displaced as of March 2023, prior to the outbreak of violence.
- It is not possible to identify newly displaced people from those who had been displaced multiple times due to constraints on access.

#### Nature:

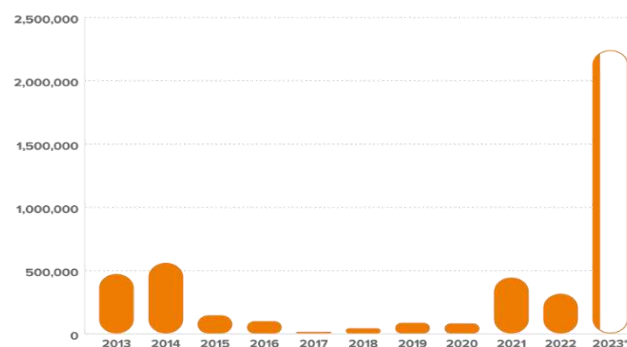
- In 2022, **inter-ethnic conflicts** between the **Hausa** and **Funj tribes** caused displacements in Blue Nile state while land and resource disputes between Arabs and non-Arabs led to displacements in West Darfur state.
- Unlike these previous instances which were caused by regional conflicts, the **present displacement is national in scope**.
- In 2023, the **highest level of internal displacement was observed in Khartoum** (1,558,798 internal displacements since April), which is where the violence first broke out.
- No internal displacements were recorded in Blue Nile state in 2023 as the Funj and the Hausa tribes signed an agreement in January 2023 to refrain from violence and resolve intercommunal disputes peacefully.

### How was the Darfur region affected?

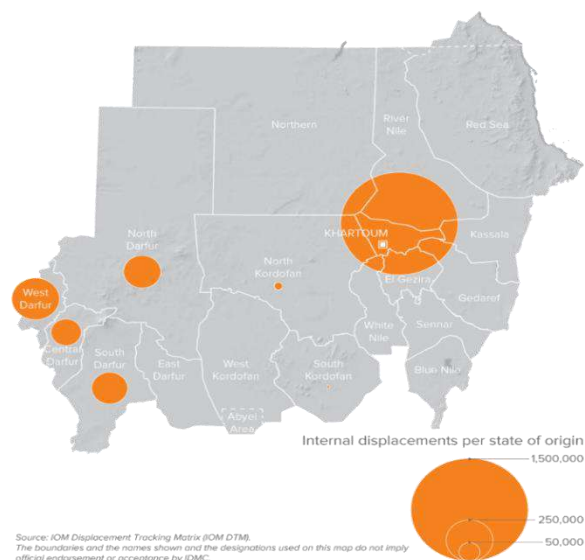
- The **Darfur region, which comprises West Darfur, South Darfur, Central Darfur, and North Darfur**, in west Sudan has been experiencing a **permanent humanitarian emergency since February 2003**.
- The Arab-dominated government of former President Omar al-Bashir was accused of **genocide** and **ethnic cleansing** against the indigenous residents of Darfur who are mostly non-Arabs and Black Africans.
- He has been indicted by the **International Criminal Court** for genocide, **war crimes**, and **crimes against humanity**.
- The outbreak in violence has revived ethnic tensions in West Darfur, leading to repeated displacements.
- Around 664,033 internal displacements have been reported across the Darfur region since April 2023 with West Darfur recording 255,855 internal displacements (11% of the country's total).
- El Geneina, the capital of West Darfur, suffered** the most violence outside of Khartoum with civilians, hospitals, and general utility facilities being attacked.

### 10 years of displacements in 10 weeks

Recent violence in Sudan has triggered nearly as many internal conflict displacements in ten weeks than in the previous ten years combined.



Internal displacements in Sudan due to conflict and violence between 2013 and 2023  
\* 15 April 2023 to 28 June 2023



## What are the major reasons for the displacement?

### Political Conflict

- Violent conflict broke out following disagreements between the military and the RSF regarding the transition to democratic rule (Al Bashir Government was overthrown in April 2019 through a military coup **led by General Burhan**)

### Economic crises

- Shortage of food, water, medicine, and fuel has forced people to leave their homes.
- **Prices of basic goods including drinking water have risen by 40 – 100%.**

### Natural disasters

- Sudan has been heavily impacted by climate change-related severe weather events such as floods and droughts leading to crop and livestock destruction and exacerbated food insecurity.

### International Displacement Monitoring Center (IDMC)

- The International Displacement Monitoring Center was established in 1988 in Geneva by the Norwegian Refugee Council.
- **Objective:** Monitoring and providing information and analysis on the world's internally displaced persons to guide policymaking in order to reduce the risk of future displacement.
- **Publications:** The **Global Report on Internal Displacement (GRID)** is released annually and is the world's leading source of data and analysis on Internal Displacement.

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## GENERAL STUDIES 3

### Indian Economy

#### A Macro View Of The Fiscal Health Of States

Priority: Medium



Primary Source: The Hindu

**Prepp Prelims Booster:** Indian Economy, Fiscal Deficit

**Prepp Mains Booster:** Indian Economy and issues relating to planning, mobilization, of resources

**Context:**

In this article, Pinaki Chakraborty, an economist and a former director of the National Institute of Public Finance and Policy, New Delhi has discussed enhancing the fiscal health of States which necessitates a comprehensive framework for reducing revenue deficits.

### Understanding Fiscal Deficit

Fiscal deficit, the gap between government revenue and expenditure, is a critical economic indicator. When government expenses surpass revenue in a fiscal year, it results in a fiscal deficit.

### Improvements in Fiscal Health

- Recent data indicates that the fiscal deficit of both the Union and State governments in India is receding.
- The Union government's fiscal deficit decreased from 9.1% of GDP in 2020-21 to 5.9% in 2023-24, while State governments collectively reduced their fiscal deficit from 4.1% of GDP in 2020-21 to an estimated 2.9% in 2023-24.

### Rising Revenue Deficits

- However, several States, including Andhra Pradesh, Haryana, Kerala, Punjab, Rajasthan, Tamil Nadu, and West Bengal, continue to grapple with fiscal deficits primarily driven by revenue deficits.
- These deficits pose challenges, particularly when coupled with high debt-to-Gross State Domestic Product (GSDP) ratios.

### Data Challenges

- Compiling comprehensive data on state budgets is challenging, and a consolidated view of general government finances is often unavailable until the Reserve Bank of India publishes its Annual Study on State Finances.

### Significance of Fiscal Consolidation

- Fiscal consolidation, achieved through prudent fiscal management, coordinated efforts between the Union and States, expenditure prioritization, improved tax revenues, and a recovery in non-GST revenues, has played a crucial role in enhancing fiscal health.

### Ongoing Fiscal Challenges

Despite progress, significant fiscal challenges remain, especially regarding containing revenue deficits, which have not decreased proportionately with fiscal deficits.

### Impact of COVID-19

The COVID-19 pandemic has exerted substantial pressure on revenue expenditure, contributing to rising revenue deficits.

### Increasing Fiscally Stressed States

The number of fiscally stressed states has grown, with seven states now facing fiscal stress, primarily due to revenue deficits.

### Measures for Fiscal Consolidation

- To address these challenges, linking interest-free loans from the Union Government to a reduction in revenue deficits is proposed.
- This approach discourages states from substituting capital spending with borrowed funds and ensures borrowed resources aren't misused for regular expenses.
- Additionally, introducing performance incentive grants focused on reducing revenue deficits could incentivize states to prioritize fiscal discipline.

### Conclusion

Fiscal consolidation is vital for the fiscal health of Indian states. Implementing credible plans to reduce revenue deficits and employing performance incentives can help restore fiscal balance and improve government spending quality.

### What Is The Legal Row Between Farmers And PepsiCo?

**Priority: High**



**Primary Source:** The Hindu

**Prepp Prelims Booster:** Indian Economy, IPR

**Prepp Mains Booster:** Issues relating to intellectual property rights

#### Context:

In a recent development, the Delhi High Court dismissed PepsiCo's appeal concerning patent rights for its unique potato variety, 'FL 2027,' used in Lay's chips. The case revolved around the revocation of PepsiCo's registration for this potato plant variety by the Protection of Plant Varieties and Farmers Rights' Authority (PPVFRA).

#### Reasons for Revocation

- The PPVFRA revoked PepsiCo's registration based on the grounds stipulated in Section 34 of the Protection of Plant Varieties and Farmers Rights Act, 2001 (PPV&FR).
- FL 2027 is a specialized 'chipping potato' variety, ideal for chip production due to its low exterior flaws, high dry matter content, and stable sugars.



#### The Registration and Revocation

- PepsiCo India had obtained a registration certificate for FL 2027 in 2016, granting them exclusive rights for six years.

- However, a farmers' rights activist's application led to its revocation in 2021.

#### Understanding FL 2027

- FL 2027 is distinguished by its high dry matter and low sugar content, making it ideal for chip production.
- Unlike regular table potatoes with higher moisture content and sugar levels, FL 2027 is more suitable for chip processing.
- It was developed in 1996 by Robert W Hoopes, a breeder at Frito-Lay Agricultural Research, a division of PepsiCo Inc.

#### The Plant Protection and Farmers' Rights Act

- The PPV&FR Act, 2001, is a comprehensive legislation that safeguards plant varieties' rights, benefiting breeders, researchers, and farmers alike.
- It supports the growth of the seed industry, ensuring farmers access high-quality seeds.

#### Rights Under the PPV&FR Act

- The Act grants Breeders' Rights, Researchers' Rights, and Farmers' Rights. Breeders gain exclusive rights to their varieties, researchers can use registered varieties for experimentation, and farmers can register and protect their varieties.

#### Objectives of the PPV&FR Act

The Act aims to protect and promote plant varieties, recognize farmers' contributions, foster agricultural growth, and facilitate seed sector expansion.

#### Grounds for Revocation

Section 34 of the PPV&FR Act outlines grounds for revocation, including incorrect information, ineligibility, non-compliance with regulations, and actions against public interest.

#### Court's Ruling

The court rejected PepsiCo's appeal based on Section 34(a), as the company inaccurately registered FL 2027 as a "new variant" instead of an "extant variant," failing to meet the novelty criterion.

#### Conclusion: Prioritizing Farmer Welfare

To support India's agrarian economy, multinational food companies should respect local laws like the PPV&FR Act. Complying with these regulations can ensure the welfare of farmers, fostering a mutually beneficial relationship in India's agriculture sector, which employs a significant portion of the population.

#### How The CPI Basket Conceals The Inflation Picture

**Priority: Medium**



**Primary Source:** The Hindu

**Prepp Prelims Booster:** Indian Economy

**Prepp Mains Booster:** Indian Economy and issues relating to planning, mobilization, of resources, growth, development

#### Context:

- In this article, Bibek Debroy, Chairman of the Economic Advisory Council to the Prime Minister and Aditya Sinha, Additional Private Secretary (Policy & Research), Economic Advisory Council to the Prime Minister have discussed the **Consumer Price Index (CPI) basket and its impact on concealing the true picture of inflation.**
- It was stated that the **CPI basket should be seen as a dynamic and evolving representation of the changing needs** and preferences of consumers over time.

### About Consumer Price Index (CPI)

- The [Consumer Price Index](#) measures the **overall change in consumer prices based on a representative basket of goods and services over time.**
- The **CPI is the most widely used measure of inflation**, closely followed by policymakers, financial markets, businesses, and consumers.
- The CPI basket reflects the average prices of a basket of goods and services consumed by households. This basket typically includes items such as food, housing, transportation, healthcare, and education.
- The **weights assigned to each item in the basket determine their relative importance in calculating inflation.**
- CPI =** (Cost of market basket in a given year / Cost of market basket in base year) x 100.

### Current CPI (base year 2012)

Items	Weights
Food and Beverages	45.86
Paan, Tobacco and Intoxicants	2.38
Clothing and Footwear	6.53
Housing	10.07
Fuel and Light	6.84
Miscellaneous	28.32

### Weightage of Food in CPI

- As the economy grows over time, there has been a consistent decrease in the weightage of food in the Consumer Price Index (CPI) basket.
- This decline can be observed from 60.9 in 1960 to 57.0 in 1982, and further down to 46.2 in 2001.
- This trend aligns with **Engel's Law, a widely recognized phenomenon, which states that as income increases, the proportion of income spent on food decreases**, regardless of the absolute expenditure on food.
- Indian inflation is often distinguished by its heavy reliance on food inflation compared to many other developed countries, where the weightage assigned to food in the CPI basket is relatively smaller.

- These shifts state that **as people's income rises, they tend to allocate a larger proportion of their spending towards non-food items** such as housing, education, healthcare, personal care, entertainment, and digital services such as the Internet.

### Issues related to the CPI and its weight assigned to Cereals

- As nations progress economically and society advances, dietary habits tend to diversify, leading to a broader range of nutrient-rich food options beyond cereals.
- This **shift in dietary patterns would naturally reduce the relative expenditure on cereals over time.**
- However, if the weight assigned to cereals remains disproportionately high in the CPI, it may not accurately reflect the changing consumption patterns and expenditure trends.
- The Pradhan Mantri Garib Kalyan Yojana**, a social welfare program in India that aims to reduce the economic burden on vulnerable populations.
  - This program likely includes provisions to subsidize or provide affordable cereals to a significant segment of the populace.
- As a result, the consumption patterns may be influenced, and the relative expenditure on cereals could further decrease.
- Examples regarding tomatoes, onions, and potatoes points to another issue in the CPI.** These particular food items may have a considerably higher impact on inflation due to their price volatility or supply-demand imbalances.



### Issue in CPI as a measure of Inflation

- Substitution bias:** The CPI assumes that consumers do not change their consumption patterns in response to price changes, known as the substitution bias. In reality, consumers often substitute goods and services based on relative price changes.
- Weighting assigned to different items:** Limitations of the CPI as an inflation measure may result in a disparity between the reported inflation and the

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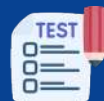
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actual inflation experienced by the average consumer. This discrepancy arises from the fact that the weighting assigned to different items in the CPI basket does not accurately reflect the spending patterns of households.

### What is the need for CPI?

- **Inflation Measurement:** The primary need for CPI is to measure inflation accurately. By tracking the changes in prices of a basket of goods and services over time, CPI provides a quantitative measure of the average price level in the economy.
- **Economic Policy Formulation:** CPI plays a crucial role in formulating and evaluating economic policies. Governments also rely on CPI to assess the effectiveness of fiscal policies and to adjust social security benefits and pensions.
- **Wage and Salary Adjustments:** CPI is used to index wages, salaries, and pensions to ensure that they keep pace with inflation. By adjusting these incomes based on CPI changes, individuals can maintain their purchasing power over time.
- **Comparative Analysis:** CPI provides a basis for comparing price levels and inflation rates across different regions, countries, or time periods. It enables economists and policymakers to assess relative price changes, understand variations in inflation rates, and make informed decisions.

### A Challenge To Corporates From RBI

Priority: High



Primary Source: Indian Express

Prepp Prelims Booster: Indian Economy

Prepp Mains Booster: Government policies and interventions for development in various sectors and issues arising out of their design and implementation; Economic Development, Inclusive growth and issues arising from it; Mobilization, of resources, growth, development and employment.

### Context:

- This article is written by Ketaki Purohit, center head, Centre for Asian Philanthropy India.
- In this article, the author discussed corporate social responsibility (CSR) spending.
- Corporate Social Responsibility is a management concept whereby companies integrate social and environmental concerns into their business operations and interactions with their stakeholders.

### Why is CSR Spending Geographically

#### Concentrated?

- **Legislation:** Section 135 of the Companies Act mandates that companies **prioritize the** deployment of their corporate social responsibility (CSR) funds in the areas where they operate.

- This has resulted in more funding for social issues but also **concentrated spending in the most industrialized states.**
- As of 2020–21, 10 states received 80 percent of all CSR funding indicating the concentration of funds in a handful of states.
- Although the Ministry of Corporate Affairs clarified in 2021 that local preference is not mandatory and CSR should align with national priorities, the concentration of funding suggests that companies still tend to prioritize local areas in their CSR allocations.
- **Knowledge of the region:** Companies prioritize local communities and regions where they operate due to their familiarity with the challenges faced by these communities.
- local projects give funders an opportunity to make better **use of their local expertise, connections, and networks.** Moreover, the companies exert greater influence over outcomes through **staff visits and monitoring.**
- **Creating goodwill and influence locally:** Local projects enable corporations to earn a "social license to operate" by creating goodwill and influence through their positive impact on local communities. This license serves as a strong motivation for companies to prioritize projects in local areas.



### Challenges

- **Diversification:** Companies face the following challenges in diversifying their projects and funding into unfamiliar sectors and terrain:
  - Accessing remote locations,
  - Identifying local community needs, and
  - Finding trusted implementation partners
- **Information Gap:** Grassroots non-profit organizations often struggle to demonstrate their impact on national platforms, leading to a gap in information between them and potential funders.

### What should be done?

- **Regulatory change:** Regulatory change is required in order to overcome the preference for local areas.
- **Building Trust:** It is crucial to foster a high level of trust among companies, as well as between the private, public, and social sectors. This will facilitate the identification of reliable partners for companies.
- **Collaborations:** Collaborations between larger companies and smaller social enterprises can help in leveraging resources such as pooling funds, talent, resources, and innovations to address complex, intersectional challenges. A partnerships-based approach will help in achieving scalability.
- **Guiding lesser-known organizations:** Pan-India non-profits can promote and elevate the impact created by their lesser-known partners by providing guidance on compliance and acting as trusted intermediaries to strengthen the social ecosystem.
- Additionally, intermediaries and ecosystem-building organizations that possess trusted information can assist companies in identifying and partnering with smaller grassroots organizations, fostering a more inclusive and impactful distribution of resources.
- **Aligning Projects with Government Initiatives:** By aligning with local government through initiatives like the [Aspirational District Programme](#) and the [Aspirational Block Programme](#), the companies develop meaningful relationships with government departments, influence local governance practices, and streamline district administration work while undertaking impactful projects in vulnerable districts.
- However, it is critical that these collaborations balance the autonomy of non-profit organizations while providing accountability to the funders.
- **Use of technology:** Companies undertaking remote projects can leverage technology-enabled monitoring and evaluation models where physical field by-staff visits are feasible.

### Conclusion

- RBI in its latest report on currency and finance has put forward policy recommendations to address climate risks and support India's net-zero goal by 2070. One of the suggestions is to mandate geographic diversification of corporate social responsibility (CSR) spending.
- Therefore, in order to achieve an equitable distribution of CSR funds, change in both regulatory shifts and changes at an ecosystem level is required.

#### Criteria for CSR spending

- As per the Companies Act, 2013, companies with a minimum net worth of Rs 500 crore,

turnover of Rs 1,000 crore, or net profit of Rs 5 crore are required to spend at least 2 percent of their average profit for the previous three years on CSR activities every year.

### Banks face stiff competition from mutual funds in mobilising capital

**Priority: Medium**



**Primary Source:** Indian Express

**Prepp Prelims Booster:** Indian Economy

**Prepp Mains Booster:** Indian Economy and issues relating to planning, mobilization of resources; Growth and Development

#### Context:

- Banks face stiff competition from **mutual funds (MFs)** in raising cash from the Public.
- Mutual funds reported a 12.6 percent increase in **Assets under management (AUM)** for the quarter ending June 2023, while banks recorded a 6.2 percent increase in deposits when compared to March 2023 statistics.

#### Current Situation of Mutual Funds and Bank Deposits

- During the quarter ending June 2023, bank deposits increased by Rs 11.16 lakh crore to Rs 191.6 lakh crore.
- Despite the elimination of Rs 2,000 notes and the tax responsibility on borrowed money, time deposits (fixed deposits) increased by just 5.3 percent to Rs 167.11 lakh crore.
- Banks also increased deposit interest rates in response to the Reserve Bank of India's increase in the Repo rate, providing depositors with higher returns.
- Banks such as HDFC provide 7.10% on deposits for a period of 15 months.
- During the June quarter, however, mutual fund AUM increased by Rs 4.97 lakh crore to Rs 44.39 lakh crore.
- According to **Bank of Baroda statistics**, income fund assets increased by 14%, or Rs 1.65 lakh crore, to Rs 13.47 lakh crore, while growth fund assets increased by 14.9%, to Rs 17.43 lakh crore.
- During the June quarter, the benchmark Sensex gained by roughly 5,700 points, increasing mutual fund inflows and returns on various schemes.

#### The Upcoming scenario of Bank deposits and Mutual funds

- It appears that bank deposits will continue to be challenged by **Mutual funds** in the coming months.
- Bank deposits have risen at a slower pace of 5.3 percent over time, indicating that the Rs 2,000 notes deposited might have gone into non-term deposits accounts.

- The stock market's strong performance has contributed to the increased interest in mutual funds.
- This might explain the minor increase in the percentage of equity funds in AUM, which was much lower than the share of income funds.

#### What is a Mutual Fund?

- A mutual fund is a type of financial vehicle that pools money from several participants to invest in securities such as stocks, bonds, money market instruments, and other assets.
- Mutual funds are managed by professional money managers who allocate assets and aim to create capital gains or income for the fund's investors.
- A mutual fund's portfolio is constructed and maintained to satisfy the investment objectives stated in the prospectus.
- The total market value of investments owned or managed by a financial institution (such as a bank, mutual fund, or hedge fund) on behalf of its customers is referred to as **Assets under management (AUM)**.
- AUM can be computed in a variety of methods, depending on the firm's preferences.
- The computation is based on either the total capital handled by the company or the individual client's money.

[Click here](#)

### Tax Can Be An Incentive

Priority: Medium



Primary Source: Indian Express

Prepp Prelims Booster: Indian economy

Prepp Mains Booster: Government policies and interventions for development in various sectors and issues arising out of their design and implementation; Mobilization of resources; GS 4-Corporate Governance

#### Context:

- This article discusses the importance of **tax transparency as a catalyst** for sustainable growth and **proposes a voluntary tax transparency framework** for organizations operating in India [as a global economic powerhouse and the **challenge of nurturing sustainable growth** as the country aims to surpass the \$5 trillion milestone in its economy].



### How can the Voluntary Tax Transparency Framework help India?

- A voluntary tax transparency framework would encourage organizations operating in India to disclose their tax strategies and approaches toward domestic and international taxation.
- This would help to ensure that all companies **are paying their fair share of taxes**, regardless of size or nationality.
- **Attract foreign capital:** It would also help to attract foreign investment, as investors are increasingly looking for companies that are transparent and have a strong commitment to sustainability.
- The resulting influx of capital would create job opportunities, stimulate economic expansion, and promote investments particularly in sectors such as infrastructure and green energy.
- **Sustainability:** The framework could be linked to the ESG framework, which would make it a standard that every company follows to demonstrate its commitment to sustainability.
- **Contribution to India's growth story:** Tax transparency would serve as a litmus test to gauge the contribution of each company to India's growth story and provide valuable insights into the tax strategies of corporations.
- **Promote competition:** A voluntary framework could encourage healthy competition among companies by encouraging them to share their tax strategies and employ responsible tax procedures to raise their ESG ratings.

#### How will it help companies?

- **Aligning with environmental goals:** Companies **can report environmental taxes** related to carbon emissions, plastic usage, waste management, and water consumption.
- Businesses can be encouraged to adopt greener practices, aligning economic growth with environmental goals.
- For, example if a company pays taxes on carbon emissions, it may be more likely to invest in renewable energy or energy efficiency measures.
- **Social contribution:** The **social dimension of tax transparency** reporting could shed light on a **company's contribution towards** aspects such as social insurance, healthcare, and pension premiums.
- **Aligning with ESG policies:** Companies can align their ESG policies **with tax behavior by enhancing tax reporting and increasing** stakeholder communication.

#### Steps need to be taken by India

- Transparency must **extend beyond financial disclosures** to encompass a broader spectrum including environmental practices, social contributions, and governance policies of an organization.

- **India can establish a voluntary framework for companies** along the lines of tax transparency reports (TTR) to solidify its economic base and cultivate a business environment centered around integrity.
- Tax Transparency Report (TTR) is an annual report providing an overview of tax strategy, governance, and tax contributions made by a particular corporate group to the government.

### Conclusion

- The Securities Exchange Board of India has introduced the Business **Responsibility and Sustainability Report (BRSR) Core**, aimed at enhancing the reliability of ESG disclosures by the top listed companies.
- As India races towards surpassing the \$ 5 trillion milestone, accompanied by a growing per capita income, a noticeable shift in consumer behavior led by the younger generation is emerging.
- Tax transparency, which falls under the broader umbrella of ESG, will carry considerable importance in influencing the choices of the younger generation.
- The need for tax transparency is urgent, but the framework must be in sync with India's commitment to facilitate the ease of doing business.

## Effects Of Liberalization On The Economy

### Internationalization Of Rupee Can Cause Excess Exchange Rate Volatility, Says RBI Group

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: Indian Economy

Prepp Mains Booster: Effects of liberalization on the economy; Government policies and interventions for development in various sectors and issues arising out of their design and implementation.

### Context:

- The Reserve Bank of India's (RBI) Inter-Departmental Group (IDG) in its report said internationalization of currency may pose challenges such as an increase in volatility of exchange rate in the initial phase. Internationalization of the rupee is a process that involves increasing the use of the local currency in cross-border transactions.
- The IDG was set up to examine internationalizing the rupee thereby reducing dependence on the dollar.

### IDG recommendation

- The inter-departmental group (IDG) stated that capital account convertibility was not a prerequisite for internationalizing the rupee, or vice

versa and the current level of capital account convertibility gives enough room to initiate steps for internationalization.

- The Inter-Departmental Group (IDG), headed by **Radha Shyam Ratho**, suggested a short-term, a medium-term, and a long-term recommendation.

### Short term

- In the short term, which is two years, the IDG recommended
  - designing a template and
  - adopting a standardised approach for invoicing, settlements, and
  - payments in rupees and local currencies.
- It suggested making efforts to enable the rupee to **become an additional settlement currency in existing multilateral mechanisms** such as the Asian Clearing Union.
- **Opening of rupee accounts by non-residents:** The report said in the short term there was a need to **encourage opening rupee accounts for non-residents** (other than nostro accounts of overseas banks) both in India and abroad.
- There is also a **need for strengthening financial markets** by fostering a global 24x5 rupee market and promoting India as the hub for rupee transactions and price discovery.

### Medium term

- **Waiver of the withholding tax for masala bond issuances:** Among the steps that can be taken over the medium term, two-five years, the group recommended **waiving withholding tax on Masala bond issuances**. A withholding tax of 5 per cent applies to Masala bond issuances, which appears to tilt the cost materially and adversely for rupee-denominated external commercial borrowing through Masala bonds
  - Masala Bonds are rupee-denominated bonds issued by Indian firms outside of India. They are debt products that aid in the raising of funds in local currency from international investors. These bonds can be issued by both the government and private businesses
- **Expanding RTGS system for settling international transactions:** The report said the **use of real time gross settlement for international/cross-border transactions** might be explored.



### Long term

- **Inclusion of rupee in IMF's SDR basket:** The report said the long-term goal would be to include the rupee in the International Monetary Fund's special drawing rights basket.

### Reason behind the move

- India's growth and external sector metrics, along with global geopolitical developments, have set the stage for the emergence of various currencies, including the rupee, as prospective currencies for use in international transactions.
- Linkages of the Indian economy with the rest of the world in terms of trade and capital flows have increased over the years
- Russia's invasion of Ukraine and the resultant sanctions reduced dollar dependence

### Benefits

- It allows India's exporters and importers to limit exchange rate risk.
- It permits domestic firms, and financial institutions to access international financial markets without assuming exchange rate risk.
- Reduced requirement of foreign exchange reserves

### Concerns

- **Increased volatility:** Inter-Departmental Group (IDG) of the Reserve Bank of India (RBI) in a report said that internationalization may result in potentially increased volatility in the rupee's exchange rate in the initial stages.
- **Vulnerability to external shocks:** The internationalization of a currency may increase vulnerability to external shocks, given the open channel of the flow of funds into and out of the country and from one currency to another.
- It would further have **monetary implications as the obligation of a country to supply its currency** to meet global demand may come in conflict with its domestic monetary policies, popularly known as the **Triffin dilemma**.
- **Associated costs:** There are costs associated with meeting the additional demand for the currency and dealing with increased volatility in demand. While central banks can separate foreign demand for money through statistical reporting, uncertainty remains in certain areas, such as cash.
- However, the group felt overall that the benefits of internationalization in terms of limited exchange rate risk, lower cost of capital due to better access to international financial markets, high seigniorage benefits, and reduced requirement of foreign exchange reserves far outweigh the above concerns.


### Way forward

- The internationalization of a currency is a long-drawn process involving continuous change and

incremental progress that would require timely redressal of the associated concerns and challenges as we move forward.

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## India Curbs Gold Imports To Check Rising Indonesian Shipments

Priority: Medium 

Primary Source: The Hindu

**Prepp Prelims Booster:** Indian Economy

**Prepp Mains Booster:** Bilateral, regional and global groupings and agreements involving India; Indian Economy and issues relating to planning, mobilization, of resources, growth, development; Effects of liberalization on the economy

### Context:

- Recently, the **Government imposed import restrictions on certain gold jewellery and articles, a move which would help cut import of non-essential items.**

### Key Highlights

- The **decision to prohibit shipment of certain gold jewellery items was primarily motivated by the significant increase in duty-free imports of gold jewelry from Indonesia under the 'free trade agreement'.**
- Under the new rules, **importers will now be required to obtain permission or a license from the government** for importing certain gold items into the country.
- It was stated that import under the **India-United Arab Emirates Comprehensive Economic Partnership Agreement** would be allowed without any license.

### Fall in Imports

- Imports of pearls, precious and semi-precious stones fell by 25.36% during the first two months of the current fiscal year, totaling around \$4 billion. Gold imports decreased by about 40% over the same time to \$4.7 billion.
- During April and May of the current fiscal year, there was a 10.24% decline in total merchandise imports, which came to \$107 billion.

### What are the concerns?

- The Government has raised concerns over a potential diversion of gold into India from other countries, bypassing the necessary duty payments under the India-ASEAN free trade agreement.
- This suspicion arises as Indonesia, which has not been traditionally associated with exporting gold jewelry to India, has recently shipped out a significant quantity of 3-4 tonnes of gold articles and jewelry over the past 2-3 months.
- This sudden increase has alarmed policy makers who are striving to reduce the current account deficit by imposing restrictions on non-essential imports.

### What are Free Trade Agreements?

- **Free Trade Agreements (FTAs) are agreements established between two or more countries or trading blocs**, with the main objective of reducing or eliminating customs tariffs and non-tariff barriers on significant trade between them.
- These **agreements typically encompass trade in goods or services**, but they can also extend to various other areas, including intellectual property rights (IPRs), investment, government procurement, and competition policy.

### About India-ASEAN Free Trade Agreement

- The ASEAN-India Free Trade Area (AIFTA) originated from a shared objective between ASEAN and India to strengthen their economic relations within the Asia-Pacific region.
- The initial framework agreement for AIFTA was signed on 8 October 2003 in Bali, Indonesia, laying the foundation for deeper cooperation.
- Subsequently, on 1 January 2010, the AIFTA officially came into effect, marking a significant milestone in fostering trade and economic integration.

### Why was it established?

- **India's Look East policy** prompted a reciprocal interest from several ASEAN countries to enhance their interactions towards the west.
- Following India's designation as a sectoral dialogue partner of ASEAN in 1992, the country witnessed a significant increase in its trade with ASEAN compared to the rest of the world.
- **From 1993 to 2003, bilateral trade between ASEAN and India experienced a substantial annual growth rate of 11.2%.** During this period, trade volume surged from US\$2.9 billion in 1993 to US\$12.1 billion in 2003.
- Recognizing this positive trajectory and acknowledging the immense economic potential of stronger linkages, both **ASEAN and India identified the opportunities to lay the foundation for an ASEAN-India Free Trade Area (FTA).**

### Important Trade Agreements of India

- Comprehensive Economic Cooperation and Partnership Agreement (CECPA)
- South Asian Free Trade Area (SAFTA)
- Asia Pacific Trade Agreement (APTA)
- South Asia Preferential Trading Agreement (SAPTA)
- India-United Arab Emirates Comprehensive Economic Partnership Agreement (India-UAE CEPA).

### India-UAE CEPA

- India-United Arab Emirates Comprehensive Economic Partnership Agreement (India-UAE CEPA) is the **latest Free Trade Agreement of India.**
- It is a major free trade agreement (FTA) between India and UAE.
- It addresses products trade, services, investment, and other sectors of economic cooperation.
- The CEPA went into effect on May 1, 2022, and is anticipated to boost the total value of bilateral trade in goods to more than USD 100 billion and trade in services to more than USD 15 billion within five years.

### Minerals Security Partnership (MSP)

Priority: High 

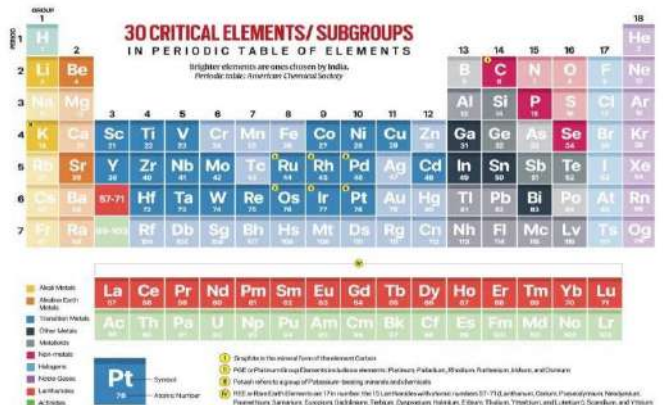
Primary Source: Down to Earth

Prepp Prelims Booster: Mineral Security Partnership

Prepp Mains Booster: Distribution of key natural resources across the world (including South Asia and the Indian subcontinent)

### Context:

- Recently, India became a part of the coveted critical minerals club – the **Mineral Security Partnership (MSP)** – headed by **the United States.** The announcement was part of a joint statement by US President Joe Biden and Indian Prime Minister Narendra Modi during the latter's visit to the US.
- MSP is a strategic grouping of 14 member states including Australia, Canada, Finland, France, Germany, Japan, the Republic of Korea, Sweden, the United Kingdom, US, the European Union, Italy and now India.



### Significance

- **Promote Investments:** It aims to **catalyze public and private investment in critical mineral supply chains** globally.
- The critical minerals that the MSP is likely to focus on include Cobalt, Nickel and Lithium which are used in the manufacturing of batteries for electric vehicles and wind turbines along with 17 'rare earth' minerals that are key components of semiconductors.
- Rare earth minerals are classified into light (atomic numbers 57–63) and heavy REE (atomic numbers 64–71). The former are more abundantly available while the latter are rarer in nature and consequently more expensive.
- **Reduce reliance on China:** A key goal of this partnership is to reduce the dependence on China to secure critical minerals.
- Most countries are dependent on China for REEs not only because the country has developed a mineral processing infrastructure **but also because China has acquired mines in Africa to source cobalt.** China dominates roughly 60 percent of global RE production.
- **Prevent Supply Chain disruptions:** Additionally, geopolitical uncertainties, unfavorable rising of prices, COVID-19 pandemic and the ongoing Russia-Ukraine war have resulted in supply chain disruptions across the globe for these critical minerals.
- The MSP has shortlisted several projects to collaborate in sharing of expertise, developing battery materials and jointly developing a minerals processing facility in South America.

#### How will it benefit India?

- **Sustainable mobility:** India's inclusion in the club is vital for India to fulfill its ambition of shifting towards sustainable mobility through large, reliable fleets of electric public and private transport.
- **Promote indigenous manufacturing:** Securing the supply chain of critical minerals will also provide the country with the necessary push towards a concerted indigenous electronics and semiconductor manufacturing.
- It will help the indigenous development of emerging technologies in the clean energy sector, scaling up the manufacturing of the technologies, including solar panels, wind turbines, batteries, and electric vehicles.
- **Sharing of resources:** The inclusion will also pave the way for equitable sharing of resources across the globe.
- **To ensure a reliable and secure supply chain:** Due to geopolitical uncertainties, the unfavorable rising of prices, the COVID-19 pandemic, and the ongoing Russia-Ukraine war have resulted in supply chain

disruptions across the globe for these critical minerals.

#### Way forward


- The strategic grouping formed by the US currently does not include countries such as Indonesia, Vietnam, and the Democratic Republic of Congo, despite their significant reserves of critical minerals. However, India's diplomatic strength can play a pivotal role in creating opportunities for these countries to join the partnership. By doing so, these countries can reduce their reliance on China and contribute to the establishment of a strong and dependable supply chain for the raw materials essential for the global clean energy transition
- India's entry into MSP will foster several bilateral, plurilateral and multilateral agreements, specifically for the governance involving critical minerals and their strategic importance among the member countries.

#### Other groupings

- **Intergovernmental Forum on Mining, Minerals, Metals, and Sustainable Development:** India is already a member of the Intergovernmental Forum on Mining, Minerals, Metals, and Sustainable Development, which supports the advancement of good mining governance.
- **Critical Minerals Investment Partnership:** India and Australia have already signed the **Critical Minerals Investment Partnership** – a major milestone in working towards investment in critical minerals projects to develop supply chains between the two countries.
- Investments under the partnership will seek to build new supply chains underpinned by critical minerals processed in Australia that will help India's plans to lower emissions from its electricity network and become a global manufacturing hub, including for electric vehicles.

#### Agriculture

##### Agriculture, Allied Sectors Crucial In \$5-Trillion Economy Target

Priority: High 

Primary Source: Indian Express

Prepp Prelims Booster: Agriculture

**Prepp Mains Booster:** Major crops-cropping patterns in various parts of the country, – different types of irrigation and irrigation systems storage, transport and marketing of agricultural produce and issues and related constraints; e-technology in the aid of farmers, Indian Economy and issues relating to planning, mobilization, of resources, growth, development and employment

**Context:**



- The author, C.D.Mayee, the President of the South Asia Biotechnology Center, has discussed the role of agriculture and allied sectors in making India a \$5-Trillion economy.
- India already ranks first or second in the production of several commodities such as food grains, cotton, cane, horticulture, dairy, poultry, spices, etc.

### Trends in Agricultural Production in India

- The agriculture sector is one of the most important private sector enterprises in the country as it **employs 51% of the population and contributes 18% of the economy.**
- According to the **Agriculture Census 2015-16, there are around 145 million farm families in the country.**
- India is home to 25% of the total number of farmers in the world and is responsible for 11% of global agriculture, 2.4% of global land, 5% of water resources, and 82% of small and marginal landholders.
- India is also the largest producer of dairy products and the second-largest producer of horticultural products in the world.
- According to a report by the World Bank, **India's agricultural output grew 400% between 2000 and 2022 from \$101 to \$532 billion.**
- IMF data at current prices revealed that the Indian economy grew from \$1.86 billion in 2013 to \$3.74 trillion in 2023, making it the fifth-largest economy in the world and the estimated third-largest by 2027.
- However, the growth of the economy has been accompanied by a reduction in the agricultural workforce from 60% of the total in 2000 to 42% in 2019.

Agricultural commodities	Production
Food grains	330 million tonnes
Horticultural products	342 million tonnes
Milk	200 million tonnes
Fish	13 million tonnes
Poultry	4 million tonnes
Eggs	110 billion eggs
Cotton	35 million bales of 170 Kg each

### Impact of technology

- The introduction of modern inputs and technologies has enabled Indian farmers to make the country an agriproduce hub.
- India has become self-sufficient in all agricultural commodities except vegetable oils and is now preparing for surplus management of agriproducts.
- There has been a remarkable level of adoption of modern technology by Indian farmers since the **Green Revolution.**

- New technologies in use in the country include hybrid cultivars, GM cotton, sensor-based micro irrigation, hi-tech horticulture, resource conservation, artificial insemination tools, sustainable intensification, and mechanization of agriculture.
- **The surplus in production has caused demand deficits for certain products leading to farmer distress due to the buildup of surplus stocks and the consequent price crash.**

### How can agriculture contribute to the \$ 5 trillion target?

- A Working Group of the Ministry of Finance has set a **target of achieving a \$5 trillion economy by 2024-25 along with a GVA of 14% or \$700 billion in the agriculture and allied sectors.**
- Two major areas that have been highlighted to achieve this
  - Exports
  - Food and fruit processing



### Exports

- The trade surplus has declined from \$27.7 billion to \$11.2 billion in the past decade.
- **India's agri exports grew from \$33 billion in 2016-17 to \$50 billion in 2021-22** through the implementation of the Agri Production Policy 2018 and domestic production schemes.
- India has set a target of \$120 billion from agri exports by 2030, which is expected to be a critical factor in achieving the \$5 trillion economy.
- The export of agricultural commodities such as cereals, spices, meat, and cotton which are India's traditional strengths as well as other commodities like non-basmati rice, marine products, sugar, dairy, fresh and processed fruits, and Ayush and herbal products have been robust.
- India exports 50% of the world's rice worth around \$9.6 billion of which \$6.1 billion accounts for non-basmati rice.
- The rise in non-basmati exports was encouraged by the increased procurement by African and Asian countries at competitive prices during the pandemic and the increased domestic production in 2021-22 (127.9 million tonnes).

- The Russia-Ukraine war is another major factor in India's increased food grains exports as the two countries were responsible for 50% of global wheat exports.
- The war led to a rise in the global prices of wheat making it an attractive option for Indian farmers and exporters.

### Food Processing

- As India is a major food-producing country with a large and growing market, food processing is an integral part of the agricultural economy.
- Although, India's food and grocery retail market was valued at \$11.3 trillion in 2021, making it the largest in the global economy, the food processing industry represents a very small share of it.
- India processes around 10% of agricultural products in comparison to the U.S.A. which processed around 56% of agricultural products.
- India accounts for just 2% of global exports of processed foods which amount to \$4.2 million.
- **Tripling the rate of food and fruit processing is expected to contribute significantly towards achieving the \$5 trillion target and substantially decrease farmer distress.**

To know more about the food processing industry, click the [link](#).

### Millet Processing

- One of the areas where India can improve its food processing capacities is millets as the industry is in focus due to 2023 being declared the **International Year of Millets**.
- India is a leader in millet production producing 18 million tonnes and accounting for 42% of global production.
- Millets are nutritionally valuable and are now referred to as **nutri-cereals** instead of coarse cereals.
- It is the crop of choice for 60% of India's rainfed farmers. Therefore, increased adoption of millet for exports and domestic use would boost the incomes of dryland farmers.
- The government must attempt to popularize the use of millets and encourage processors to explore potential markets for processed millets.

### What are the challenges associated with the agricultural sector?


- **Water stress** due to groundwater depletion as a result of over-irrigation and focus on water-intensive crops like rice.
- **Climate change** and adverse weather events.
- **Low productivity**, particularly in pulses and oilseeds.
- **Rising input costs** in agriculture force small and marginal farmers into a vicious cycle of debt.

- **Suboptimal farm optimization** and **poor adoption of technology**.
- **Gaps between actual yields and realizable yields** have impacted the profitability of the Indian agriculture sector.

### Conclusion

- Agriculture will continue to be the backbone of the Indian economy because of the strong participation. As a result, the agricultural economy will become more robust and farmer's income will double.
- Small farmers in India have evolved through self-engineered innovation driven by economic necessity to produce various agricultural and allied products.
- Strong policy support to farmers especially in terms of exports and processing will enable the agricultural economy to contribute towards achieving the \$5 trillion target.

### Market Access Critical For India's Sustainable Agri Transition: CSE Report

Priority: Medium 

Primary Source: Down to Earth

Prepp Prelims Booster: Agriculture

Prepp Mains Booster: Storage, transport and marketing of agricultural produce and issues and related constraints; Government policies and interventions for development in various sectors and issues arising out of their design and implementation.

### Context:

- Recently, the Delhi-based think tank **Centre for Science and Environment (CSE)** released a report titled **Market Access in India for Organic and Natural Produce: Case Studies**.
- The report highlighted how various stakeholders procure, process and sell organic and natural produce while trying to ensure remunerative prices to farmers and the report also identified some of the challenges faced by them.



### What are the findings of the report?

- **Market access:** It is critical for the success of India's momentum towards organic and natural farming.

- Policymakers have emphasized the **importance of transitioning to organic and natural farming methods**. However, unless farmers get assured access to the market to sell their produce at a remunerative price, the challenge of transition will remain difficult to overcome.
- **Case studies:** Centre for Science and Environment (CSE) has identified three categories of stakeholders.
  - Farmer Producer Organisations (FPO) and the Federation of FPOs, retail food corporations and State government programmes – and some of the challenges faced by them.
- The case studies included Bhoongaadi Farmers Producer Company Limited, Dantewada, Chhattisgarh; Sahaja Aharam Producer Company Limited, Hyderabad, Telangana; Sresta Bioproducts Limited (24 Mantra), Hyderabad; BigBasket; Odisha Millet Mission; and Prakritik Kheti Khushhal Kisan Yojana of Himachal Pradesh.

### Challenges

- **Transition:** Market access for organic and natural produce in India continues to remain a big concern along with the challenge of transition to organic and natural farming
- The existing ecosystem is not in favor of small and marginal farmers
- **Expensive:** Organic is 40-50 per cent more expensive for the right price to farmers, certification costs, storage costs etc. Organic farmers don't get all the benefits conventional farmers get in terms of subsidies.

### What needs to be done?

- **Financial Support:** Farmer Producer Organizations (FPOs) require government support in terms of working capital, dedicated infrastructure, and capacity building.
- **Coherence in Certification Systems:** There is a need for coherence in different certification systems like Participatory Guarantee System (PGS) and third-party National Programme for Organic Production (NPOP) certification.
- **Shift in Behavior:** Need to collaborate with consumers to promote a shift in behavior towards organic produce.
- **Value addition:** Need to expand value addition and move towards shorter supply chains for better price realization by farmers

### Conclusion

- Lack of market access should not be allowed to become a barrier in India's journey towards non-chemical farming practices, which are good for the farmer, nature and human health.

\*Click on this link to know about [Organic Farming](#) and [Natural Farming](#)

- **Participatory Guarantee System of India:** PGS-India (Participatory Guarantee System of India) is a quality assurance initiative that is locally relevant, emphasize the participation of stakeholders, including producers and consumers and operate outside the frame of third party certification.
- **National Programme for Organic Production (NPOP):** The APEDA, Ministry of Commerce & Industries, Government of India is implementing the National Programme for Organic Production (NPOP).
- The **program involves the accreditation of Certification Bodies, standards for organic production, promotion of organic farming and marketing etc.**
- The NPOP standards for production and accreditation have been recognized by the European Commission and Switzerland for unprocessed plant products as equivalent to their country standards.
- **Farmer Producer Organizations:** The concept behind Farmer Producer Organizations is that farmers, who are the producers of agricultural products, can form groups.
- To facilitate this process, the Small Farmers' Agribusiness Consortium (SFAC) was mandated by the Department of Agriculture and Cooperation, Ministry of Agriculture, Govt. of India, to support the State Governments in the formation of Farmer Producer Organizations (FPOs).
- The role of FPO is to act as an aggregator for member farmers including from inputs to output which will enhance the economy of scale and bargaining power of member farmers.

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### What Is The Dispute About Sugar Subsidies At WTO?

**Priority:** Medium



**Primary Source:** The Hindu

**Prepp Prelims Booster:** Indian Economy

**Prepp Mains Booster:** Bilateral, regional and global groupings and agreements involving India and/or

affecting India's interests; Important International institutions, agencies and fora- their structure, mandate; Issues related to direct and indirect farm subsidies and minimum support prices

### Context:

- India is in negotiations with Brazil to resolve a long-standing dispute about sugar at the World Trade Organisation (WTO) to arrive at possible alternatives. The same approach has been adopted with other complainants in the dispute.
- In 2019, Brazil submitted a complaint against India alleging that India's sugar subsidies were inconsistent with global trade rules.
- India is the second-largest producer of sugar in the world behind Brazil, which also is the largest exporter.

### What is the reason behind the dispute?

- In 2019, Brazil, Australia and Guatemala sought consultations with India, concerned about domestic support measures for agricultural producers of sugarcane and sugar.
- **Inconsistent with Agreement on Agriculture:** The countries alleged that India for five years, from 2014-15 to 2018-19, provided domestic support in excess of the **permissible 10% of the total value of production inconsistent** with the norms laid out under the organisation's Agreement on Agriculture.
  - The Agriculture Agreement (AoA) is a World Trade Organisation treaty aimed at lowering agricultural support and subsidies provided by countries to domestic producers. This agreement focuses on countries lowering agricultural support and subsidies to native producers.
- **Fair and Remunerative Prices (FRP):** The countries argued that the **minimum prices of sugarcane and sugar**, specifically **fair and remunerative prices (FRP)** alongside specific states enforcing higher minimum prices, incentivised Indian sugarcane farmers and led to production exceeding domestic demand, and ensuing increases in sugar stocks.
  - The FRP is the minimum price that mills have to pay to sugarcane farmers. The FRP is fixed on the basis of recommendations of the Commission for Agricultural Costs and Prices (CACP), a statutory body that advises the government on the pricing policy for major farm produce.
- The government also intervened in the market with **assistance programmes**, thereby facilitating lowered prices for the commodity in the global market.



- **Mill-specific Minimum Indicative Export Quota (MIEQ):** The complainant also argued against India's mill-specific Minimum Indicative Export Quota (MIEQ) wherein sugar mills must export an allocated amount of sugar by the end of each season (October-September).
  - The countries alleged that certain support measures were dependent on compliance with the MIEQ, or otherwise dependent on export performance.
  - MIEQ allocates the **minimum quantity of sugar which must be exported** and distributes that quantity among individual sugar mills operating in India.

### What did the WTO conclude?

- WTO constituted a panel to study the allegations in October 2019, which submitted its report in December 2021.
- The multilateral trade organization held that India was acting inconsistently with its obligations under Article 7.2 (b) of the Agreements on Agriculture (AoA) as far the domestic support was concerned. This article stipulates that members cannot provide support in excess of the relevant de minimis standards.
- WTO held that the 'price support' would entail "assistance from a government or other official body in maintaining prices at a certain level regardless of supply or demand.
- WTO said that, while the FRP may appear to be paid by the mills, they are set by the government.
- The WTO asked India **to withdraw its exports subsidies within 120 days from the circulation of the report.** It also sought that the country withdraws the proscribed subsidies (as per the multilateral organisation's rules) meant for production assistance, buffer stock, marketing and transportation along with the **duty-free import authorisation (DFIA) scheme.**
  - **Under the scheme, the inputs required for export production are exempt from basic customs duty, additional customs duty, education cess, anti-dumping duty and safeguard duty.**
- The report concluded that India was providing "lump sum assistance" for expenses emanating on account of sugar towards maximum admissible

export quality or MAEQ (which works as a marketing assistance listing upper limit for exports) of sugar mills for the sugar season 2019-20.

- It broadly covered marketing including handling, quality upgradation, debagging and re-bagging and other processing costs.

#### What was India's defence?

- The Indian government stated the panel had made "certain erroneous findings" about the schemes meant to support sugarcane producers and exports.
- It held the findings are unreasonable and not supported by the WTO rules.
- The panel **has also evaded key issues** which it was obliged to determine, Similarly, the panel's findings on alleged export subsidies undermine logic and rationale.
- It said that the measures in contention were within its obligations under the WTO agreements and that there would be no impact on the country's existing policy measures in the sector.
- In its appeal, India stated that the panel has cherry-picked a few broad similarities while **ignoring the differences between MAEQ and other alleged export subsidy** measures.
- India has contended that the Fair and Remunerative Price (FRP) and state-advised prices for agricultural products, specifically sugarcane, do not qualify as "applied administrative prices", as these prices are not determined by government administrative actions but rather by market forces.
- Additionally, India has argued that market price support can only be considered when the government or its agents directly pay or procure the product.
- Therefore, it would be incorrect to conclude that India provided any market price support to sugarcane producers.

#### What are the implications?

- The WTO ruling may have an impact on agricultural subsidies in the broader ecosystem.
- It may have an impact on farmers' income, especially the small and marginal farmers and may impact the production of certain crops.

#### Way forward

- In the WTO resolution process, bilateral consultations are the first step to resolve a dispute. However, if the sides are unable to resolve the matter through consultation, either can approach the dispute settlement panel.
- The latter files a report which can be challenged before an Appellate Body. However, the Appellate Body is unable to review cases at present given ongoing vacancies, because of differences among member countries in appointing members.

- Therefore, India needs to resolve the issue by negotiating with countries to arrive at possible alternatives.

### Fertiliser For Thought

Priority: Medium



Primary Source: Indian Express

Prepp Prelims Booster: Agriculture

Prepp Mains Booster: Major crops-cropping patterns in various parts of the country, - different types of irrigation and irrigation systems storage, transport and marketing of agricultural produce and issues and related constraints; e-technology in the aid of farmers.

#### Context:

- The article titled "Fertiliser for Thought" published in the Indian Express on 1st July 2023 has discussed the use of urea and the policies relating to it.
- The Union Government has introduced the PM-PRANAM scheme that aims to promote alternative fertilizers and balanced plant nutrition in the country.

#### Urea

- Urea is an essential nutrient crucial for crop growth and development.
- **Urea is the most important nitrogenous fertilizer** in the country because of its high N content (46%N).
- It is a white crystalline organic chemical compound with a neutral pH.
- Urea is widely used in the agricultural sector both as a fertilizer and animal feed additive.



#### Pricing of Urea

- The government has extended the **urea subsidy scheme** with the aim of ensuring the supply of fertilizer at the same price.
- Since 2014, the MRP of urea has remained unchanged (₹5,360 per tonne).
- **The only revision made in the urea policy of the government was that companies would have to mandatorily coat their urea with neem oil from May 2015.**
- The government directed the companies to charge an extra 5% or ₹268 per tonne from farmers for the neem-coated urea.

- The government has committed ₹3,68,676.7 crore over three years till 2024-25.
- This means that it is spending around \$45 billion to subsidize a single nutrient product whose average production or import cost is in the region of ₹30,000 per tonne.

#### PM-PRANAM Scheme

- The **PM-PRANAM (PM Programme for Restoration, Awareness, Generation, Nourishment, and Amelioration of Mother Earth) scheme** was developed with the objective of soil conservation and sustainable, balanced use of fertilizers.
- It aims to help the government reduce its subsidy burden on chemical fertilizers, which is expected to rise 39% to ₹2.25 lakh crore (2022-23) from ₹1.62 lakh crore (2021-22).
- It aims to promote the balanced use of fertilizers or alternative fertilizers through the participation of State governments with the Centre incentivizing states that adopt alternative fertilizers with the subsidy saved from the reduced use of chemical fertilizers.

#### Have government policies succeeded in reducing urea use?

- Urea sales in India in 2022-23 reached a record high of 35.7 million tonnes in comparison to the 30.6 million tonnes sold in 2021-22.
- Government policies to reduce urea consumption include
  - **Compulsory neem coating**
  - **Reduction of bag size from 50 to 45 Kg**
  - **Launch of nano urea.**
- However, none of these initiatives have succeeded in lowering the consumption of urea, the major reason for which is the lower cost - **Urea costs only a fifth or less of the costs of other fertilizers.**
- As a result, there has been a disproportionate application of urea in India which has over time led to a reduction in crop yield.
- According to studies, 1 Kg of N, P, and K (Nitrogen, Phosphorous, and Potassium) only yields 5 Kg of cereal grains at present in comparison to more than 12 kg during the 1960s.

#### Suggestions


- The government has proposed to introduce **sulfur-coated urea** which is believed to be more economical and efficient than plain urea.
- Urea can also be used as a carrier to deliver other nutrients like zinc to crops.
- The government must **allow urea, di-ammonium phosphate, and other commodity fertilizers to be coated with secondary and other micro-nutrients.**
- The prices of these coated fertilizers must also be freed from excessive regulations.

#### Conclusion

- If the yield benefits of using these coated fertilizers are greater than those from using urea, farmers will be more willing to adopt them by paying higher prices.
- This could help achieve the price decontrol of urea and bring it under the **nutrient-based subsidy regime.**

To know more about fertilizer subsidies in India, click the [link](#).

#### Centre To Buy Tomatoes From South And West To Sell In Northern Cities

Priority: Medium 

Primary Source: The Hindu

Prepp Prelims Booster: Indian Economy

Prepp Mains Booster: Government policies and interventions; Agriculture

#### Context:

- In **response to the soaring tomato prices, the government took action by leveraging its agencies to acquire tomato stocks** from Andhra Pradesh, Karnataka, and Maharashtra.
- The Department of Consumer Affairs directed the **National Agricultural Cooperative Marketing Federation (NAFED) and the National Cooperative Consumers Federation (NCCF) to immediately procure tomatoes for distribution in major consumption centres** where retail prices have recorded the biggest increase in the last one month.

#### Background

- Due to the **impact of heavy rains and floods in Himachal Pradesh**, transportation systems have been severely affected, resulting in increased prices in northern cities.
- The price surge has been particularly noticeable in Bathinda, Punjab, where tomatoes were priced at ₹203 per kilogram on July 12, making it the highest price recorded in the country.
- The **all-India daily average retail price of tomato was recorded at Rs 111.53 per kg** on July 12, which is 173.16 per cent higher than a year ago.

#### ALL-INDIA DAILY AVERAGE RETAIL PRICES



#### Key Highlights

- **Tomato production in India spans across almost all states**, albeit in different quantities.
- The **majority of tomato production, approximately 56%–58% of the national output, is concentrated in the southern and western regions** of the country.
- These regions are considered surplus states, supplying tomatoes to other markets depending on the production seasons.
- The **peak harvesting period for tomatoes is observed from December to February**.
- The **periods during July–August and October–November are generally the lean production months for tomatoes**.
- In particular, the month of July coincides with the monsoon season, presenting additional challenges in terms of distribution and increased transit losses, which can contribute to a rise in prices.

### About Tomato (Climate & Planting)

- Tomato is a warm season crop. The best fruit colour and quality is obtained at a temperature range of 21–24°C.
- Temperatures above 32°C adversely affect the fruit set and development.
- The plants cannot withstand frost and high humidity. It requires a low to medium rainfall. Bright sunshine at the time of fruit set helps to develop dark red coloured fruits.
- Temperature below 10°C adversely affects plant tissues thereby slowing down physiological activities.
- Seeds are sown in June July for autumn winter crop and for spring summer crop seeds are sown in November.
- In the hills seed is sown in March April.
- **Soil:** Tomato can be grown on a wide range of soils from sandy to heavy clay. However, well-drained, sandy or red loam soils rich in organic matter with a pH range of 6.0–7.0 are considered as ideal.

### Production of Tomatoes in India

- India grows two crops of tomatoes:
  - **Rabi Crop:** The first is the rabi crop, which is grown in Junnar Taluka of Maharashtra and in parts of Karnataka and Andhra Pradesh, which comes to the market between March and August.
  - **Kharif Crop:** Second is the Kharif crop, which is grown in Uttar Pradesh and Nashik and comes during the rest of the year.
- **Major tomato producing states:** According to the Ministry of Agriculture, the major tomato producing states are Madhya Pradesh, Andhra Pradesh, Karnataka, Gujarat, Odisha, Chhattisgarh, West Bengal, Tamil Nadu, Bihar, Maharashtra, Uttar Pradesh, Haryana and Telangana.

- **These states account for about 90 per cent of the total production** of the country.

### Why are tomatoes being sold at high prices?

- **High temperature:** There was a sudden rise in temperature in March and April that led to pest attacks on crops, forcing many farmers to abandon their crops.
- **Delayed monsoon:** The monsoon arrived late in many parts of the country. This delayed the sowing of tomato crops and led to a lower yield.
- **High rainfall:** There is the issue of unreasonable high rainfall in the last few months, which impacted the growing crops and fueled a deadly fungal disease.

### NAFED (National Agricultural Cooperative Marketing Federation)

- NAFED is an organisation of agricultural produce marketing cooperatives.
- The Multi State Cooperative Societies Act established it on October 2, 1958.
- It was established with the goal of promoting farmer-beneficial cooperative marketing of agricultural products.
- The NAFED is a part of "Operation Greens," which implements price stabilisation measures in order to increase farmers' income by 2022.
- It collaborates with the Food Corporation of India (FCI) to take the lead in purchasing oilseeds and pulses under the Price Support Scheme (PSS).
- The PSS, in turn, is a scheme within the PM-AASHA scheme.

### Objectives:

- To organise, promote, and develop agricultural and forest produce marketing and storage.
- Assist in technical agricultural production advice.
- Facilitation, coordination, and promotion of marketing and trading activities of agricultural sector partners and associates.
- Purchasing, selling, and supplying agricultural, marketing, and processing needs such as manure, seeds, fertilisers, and so on.
- Facilitate warehouse construction in accordance with the Warehousing Act by building its own godowns and storage facilities.
- Act as a government or cooperative's agent for the purchase, sale, and storage of agricultural, horticultural, and animal husbandry products.
- Provide insurance coverage to cover any potential accidents.
- Organise consultancy work for the benefit of NAFED-affiliated institutions.
- To conduct marketing research and market intelligence dissemination.
- To subscribe to share capital and engage in business collaboration with cooperative

institutions, public, joint, and private sector enterprises, as deemed necessary for NAFED's objectives.

## India Bans Export Of Non-Basmati White Rice

Priority: Medium



Primary Source: Indian Express

Prepp Prelims Booster: Indian Economy

Prepp Mains Booster: Government Policies and Interventions; Public Distribution System- objectives, functioning, limitations, revamping; Issues of buffer stocks and food security

### Context:

- Recently, **India banned the export of non-basmati white rice by amending the export policy of the cereal variety from 'free' to 'prohibited.'**
- The **category impacted non-basmati white and broken rice** which accounted for around 10 million tons of a total of 22 million tons of Indian rice exports last year.
- The government stated that parboiled rice, which represented 7.4 million tons of exports in 2022, was not included in the ban.
- Non-basmati white rice constitutes about 25% of the total rice exported from the country.**

### Background

- The action by the Centre to prohibit the export of non-basmati white rice comes just a month after it barred state governments, including Karnataka, from purchasing rice from the Food Corporation of India (FCI) under its Open Market Sale Scheme (OMSS).
- Karnataka had requested 2.2 lakh metric tonnes of rice to distribute 5 kg of rice per month, free of charge, to beneficiaries of the National Food Security Act, 2013 in the state.
- Prices are already hovering at decade highs, in part due to tighter supplies when rice became an attractive alternative as prices of other major grains surged following Russia's invasion of Ukraine in February 2022.

### Rice exports prices jump as El Nino develops

Export prices in India jump to 5-year high, to 2-year high in Thailand and Vietnam.



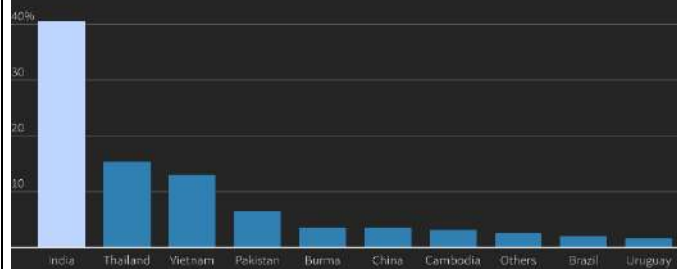
Source: Elion | Reuters, July 5, 2023 | By Sumanta Sen

### Reason behind the move

- Increase in Retail prices:** It has increased by 11.5% over a year and 3% over the past month.
- Increase in export:** Export duty of 20% on non-basmati white rice was imposed on 8.09.2022 to lower the price as well as ensure availability in the domestic market. However, the export increased from 33.66 LMT (Sept-March 2021-22) to 42.12 LMT (Sept-March 2022-23) even after imposition of 20% export duty.
- In the current FY 2023-24 (April-June), about 15.54 LMT of non-basmati rice was exported against only 11.55 LMT during FY 2022-23,** which is an increase by 35%.
- Weather Damage:** Heavy rain in northern India has destroyed recently planted crops in regions such as Punjab and Haryana, forcing many farmers to replant.
- The **large increase in exports can be attributed to high worldwide pricing as a result of the geopolitical environment, El Nino attitudes, and harsh weather circumstances** in other rice producing nations, etc.

### India's lion's share in rice exports

India is estimated to account for over 40% of the global rice exports in 2023; the chart shows the 10 countries with the highest estimated rice export share for this year.



Source: USDA | Reuters, July 5, 2023 | By Sumanta Sen

### What will be the impact?

- Global rice supplies would be substantially reduced** since India is the world's second top producer of the food staple.
- Bangladesh and Nepal would be hardest hit by the ban,** as both countries are top export destinations.
- The **ban could also exacerbate food insecurity for countries heavily reliant on rice.**
- Top destinations for Indian rice also include Bangladesh, China, Benin, and Nepal. African countries also import a large amount of Indian rice.
- Affected **importers may turn to alternative suppliers in the region, like Thailand and Vietnam.**

### Significance of Rice

- Rice is a staple food for more than 3 billion people,** and Asia produces about 90% of the water-intensive crop.
- It is a Kharif crop that demands high temperatures (over 25°C) and high humidity, as well as an annual rainfall of more than 100 cm.



- It flourishes with the aid of irrigation in locations with little rainfall.
- **India is the world's leading rice exporter, accounting for more than 40% of the global rice trade, as well as the second-largest producer after China.**
- West Bengal, Uttar Pradesh, Punjab, Tamil Nadu, Andhra Pradesh, Bihar, Chhattisgarh, Odisha, Assam, and Haryana are the leading rice-producing states.

## Infrastructure

### India's Decision To Allow Private Players To Mine Lithium, Other Critical Minerals Step Towards Self-Reliance In Clean Energy

Priority: Medium



Primary Source: Down to Earth

Prepp Prelims Booster: Geography

Prepp Mains Booster: Mineral & Energy Resources; Energy and Infrastructure

#### Context:

- Recently, the Government of India **amended the Mines and Minerals (Development & Regulation) Act of 1957**, allowing private players to mine **lithium and other five critical minerals including titanium, beryllium, zirconium, niobium and tantalum.**
- These **six minerals have been withdrawn off the country's atomic mineral listings, allowing private players to mine** and allowing the government to auction their reserves in the future.

#### Key Highlights

- The central **government has taken a significant step towards fostering public-private partnership in the mining sector** by releasing a list of thirty critical minerals.
- These are Antimony, Beryllium, Bismuth, Cobalt, Copper, Gallium, Germanium, Graphite, Hafnium, Indium, Lithium, Molybdenum, Niobium, Nickel, PGE, Phosphorous, Potash, REE, Rhenium, Silicon, Strontium, Tantalum, Tellurium, Tin, Titanium, Tungsten, Vanadium, Zirconium, Selenium and Cadmium.
- These minerals are of utmost importance for the country's economic growth and national security.
- The move by the Union Ministry of Mines opens up opportunities for private players to participate in the mining processes, marking a crucial development in India's quest for strategic resource management.

#### Role of Private Players

- **India's reliance on imports for critical minerals**, particularly those used in electric vehicle (EV) production, highlights the need for increased capital infusion and the adoption of innovative technologies in exploration and mining.

- **Private players can play a pivotal role in addressing this situation by bringing in additional investment** and promoting the utilization of emerging technologies.
- Private sector entry is expected to bring capital and technology for **improved exploration and production of critical minerals that have applications across various sectors**, ranging from information technology, communication, medicine and defence to electric mobility.
- Lithium, in particular, has emerged as one of the most coveted minerals globally due to its strategic significance in the manufacturing of batteries for EVs.
- As countries worldwide strive to transition to greener economies and embrace e-mobility, the demand for lithium and other essential minerals has skyrocketed.

#### Challenges for India regarding Critical Minerals

- **Russia-Ukraine conflict:** It impacts critical mineral supply chains as Russia is a major producer, while Ukraine possesses reserves of lithium, cobalt, graphite, and rare earth elements.
- **Limited domestic reserve:** India, with limited domestic reserves, heavily relies on imports for these minerals, making it vulnerable to price fluctuations, geopolitical factors, and supply disruptions.
- **India's growing demand for minerals:** With the rapid expansion of renewable energy technologies and the widespread adoption of electric vehicles, there is an increasing need for essential minerals like copper, manganese, zinc, lithium, cobalt, and rare earth elements.
- **Reliance on foreign partners:** However, due to India's limited reserves and higher requirements, the country relies on foreign partners to fulfill its domestic mineral needs.

#### Significance of Critical Minerals for India

- **Economic Development:** High-tech electronics, telecommunications, transportation, and defense rely significantly on these minerals. Given India's enormous domestic demand and potential in these areas, their expansion has the potential to create jobs, generate income, and stimulate innovation.
- **National Security:** These minerals are critical for defense, aerospace, nuclear, and space applications, demanding the employment of high-quality and dependable materials capable of withstanding harsh circumstances and performing complicated tasks.
- **Environmental Sustainability:** They are critical to India's transition to clean energy and a low-carbon economy, allowing it to reduce its dependence on fossil fuels and greenhouse gas emissions. With a

target of 450 GW of renewable energy generation by 2030, these minerals are critical to India's green goals.

- **International Cooperation:** These cooperation allow India to diversify its import sources, lessen its reliance on China, and improve resource security and resilience.

#### CRITICAL MINERALS: INDIA'S NET IMPORT RELIANCE (2020)

Critical Mineral	%age	Major import sources
Lithium	100%	Chile, Russia, China, Ireland, Belgium
Cobalt	100%	China, Belgium, Netherlands, US, Japan
Nickel	100%	Sweden, China, Indonesia, Japan, Philippines
Vanadium	100%	Kuwait, Germany, South Africa, Brazil, Thailand
Niobium	100%	Brazil, Australia, Canada, South Africa, Indonesia
Germanium	100%	China, South Africa, Australia, France, US
Rhenium	100%	Russia, UK, Netherlands, South Africa, China
Beryllium	100%	Russia, UK, Netherlands, South Africa, China
Tantalum	100%	Australia, Indonesia, South Africa, Malaysia, US
Strontium	100%	China, US, Russia, Estonia, Slovenia
Zirconium (zircon)	80%	Australia, Indonesia, South Africa, Malaysia, US
Graphite (natural)	60%	China, Madagascar, Mozambique, Vietnam, Tanzania
Manganese	50%	South Africa, Gabon, Australia, Brazil, China
Chromium	2.5%	South Africa, Mozambique, Oman, Switzerland, Turkey
Silicon	<1%	China, Malaysia, Norway, Bhutan, Netherlands

Source: 'Unlocking Australia-India Critical Minerals Partnership Potential', Australian Trade and Investment Commission, July 2021

#### Recent Discovery of Lithium Reserve in J&K

- In February of this year, the Geological Survey of India detected a 5.9-million-tonne lithium resource in Jammu and Kashmir's Reasi area.
- Once approved by Parliament, the reforms will also allow the government to award a single exploration license to corporations via auction.
- This is projected to be a significant incentive for private enterprises, particularly junior mining companies engaging in exploratory operations.

#### Minerals Security Partnership (MSP)

- Recently, a joint statement was issued by the Indian and US governments during Prime Minister Modi's recent visit to the United States.
- India's inclusion is crucial in this partnership because a key aspect of New Delhi's growth strategy is a shift to electric vehicles along with indigenous electronics and semiconductor manufacturing.
- The Minerals Security Partnership (MSP) is a **US-led collaboration** of 14 countries (Australia, Canada, Finland, France, Germany, Japan, the Republic of Korea, Sweden, UK, the European Commission, Italy, and **now India**).
- It aims to enhance public and private investment in critical mineral supply chains globally.

#### Way Ahead

- India is actively engaging in discussions with several Latin American nations, such as Chile and Argentina, to explore opportunities for mining and acquiring minerals, particularly lithium.

- These minerals have significant applications in sectors like defense and space, and their acquisition will facilitate India's progress towards establishing enriching public-private partnerships. Consequently, India aims to position itself as a global manufacturing hub.
- To achieve these objectives, it is crucial for India to regularly revise its list of critical minerals, ideally every three to five years.
- India should focus on establishing robust and reliable value chains for each mineral, particularly those essential for the development of strategic and emerging technologies.
- By inviting private players into the mining sector, India can foster increased exploration activities and bolster its ambitions of becoming a prominent global player in the field of batteries and renewable energy technologies.

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#### India Explores Developing Strategic Gas Stockpile As Hedge Against Volatility

Priority: **Medium**



Primary Source: Indian Express

**Prepp Prelims Booster:** Indian Economy

**Prepp Mains Booster:** Infrastructure: Energy, Ports, Roads, Airports, Railways, etc GS2 – Government policies and interventions for development in various sectors and issues arising out of their design and implementation.

#### Context:

- Recently, the Petroleum Secretary of the Government of India stated that India was looking to develop strategic natural gas storage facilities similar to its strategic crude oil reserves.
- India, which is a net importer of natural gas, has attempted to increase the share of natural gas in its primary energy mix from 6% to 15% by 2030.

#### Status of the strategic natural gas reserves project

- The project is in the preliminary stage and is currently examining the feasibility and technical viability of the project.
- It has approached a few global enterprises with experience in gas storage for assistance.

- It is considering options for storage such as **abandoned gas wells** and the development of **underground storage facilities**.
- **Engineers India (EIL)**, a government-owned consultancy firm, is studying the prospects and feasibility of developing **salt cavern-based strategic oil reserves** in Rajasthan.
- These caverns can be utilized to store natural gas as well but Indian companies do not have the requisite technical knowledge to do so.
- EIL has partnered with Germany's DEEP.KBB GmbH which specializes in cavern storage and solution mining technology to acquire the relevant technology.

### Why is India building Strategic natural gas reserves?

- **Consumption:** India's natural gas consumption is expected to increase significantly, but the country lacks any strategic natural gas storage facilities.
- **Emergencies:** Large strategic reserves will allow India to stockpile natural gas for use during emergencies and supply disruptions.
- **Price volatility:** Adequate reserves will help counter the effects of extreme price volatility in the international market.

### Natural gas

- Natural gas is one of the cleanest fossil fuels available at present and is made up primarily of methane and other gases.



### Storage methods:

- In depleted reservoirs in oil and gas fields
- In natural aquifers and salt caverns
- In large over-ground tanks as LNG
- **Uses:** It is used as a feedstock in the manufacture of fertilizers, and plastics, and as a fuel for electricity generation, transportation, and cooking.
- **Distribution:** Odisha, Assam, Tripura, the Gulf of Kutch, the Gulf of Khambhat, the Bassein field, Bombay High, Barmer, the KG basin, the Cuddalore, and the Andaman and Nicobar islands.
- **India meets around half of its LNG requirements through imports.**

- India was adversely affected by the tightened supply and rise in prices due to the invasion of Ukraine by Russia.
- The Union government has promoted the consumption of natural gas in the country as it is seen as a **transition fuel**.

### Why is natural gas significant?

- **Energy Efficient and Clean:** It is environmentally friendly and has the **highest calorific value** among fossil fuels.
- Will help India achieve its **Paris Convention carbon emission targets**
- **Cost-effective:** It is cheaper than fossil fuel alternatives such as petrol and diesel.
- **Convenience:** It is piped, eliminating the need for cylinders and periodic refills.
- **Applications:** It has numerous applications such as domestic and transport fuel, industrial raw materials, etc.



### Natural gas reserves in the rest of the world

- **U.S.A.:** Most natural gas storage in the U.S.A. are in depleted oil and gas fields located close to centers of gas consumption.
- **Europe:** Most countries in the EU have gas storage facilities on their territory.
- Germany, Netherlands, Austria, Italy, and France account for two-thirds of the EU's total gas storage capacity.
- The EU member countries stocked around 90% of their capacities by October 2022 over fears of an energy crisis in the winter.
- **China:** China has 84 underground storage facilities storing around 19.8 billion cubic meters of natural gas.

### Strategic crude oil reserves

- **India has a strategic crude oil capacity of 5.33 million tonnes.**
- This is stored in underground caverns at **Mangaluru and Padur in Karnataka**, and **Visakhapatnam in Andhra Pradesh**.

- The total capacity is equivalent to **39 million barrels**, which can meet around **9.5 days' worth of India's oil demand**.
- The total storage capacity is being increased by building storage facilities of **6.5 million tonnes** capacity in **Chandikhol (Odisha)** and **Udupi (Karnataka)**.
- This will allow India to store enough crude to satisfy demand for an additional 12 days.
- It is maintained by the **Indian Strategic Petroleum Reserves Limited**, a Special Purpose Vehicle – wholly owned subsidiary of the Oil Industry Development Board under the Ministry of Petroleum & Natural Gas.

### Smaller EVs Are Key To Save Critical Minerals: Study

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: Indian Economy

Prepp Mains Booster: Infrastructure: Energy, Ports, Roads, Airports, Railways etc. Conservation, environmental pollution and degradation, environmental impact assessment.

#### Context:

- Recently, a report suggested that the development of vehicles with smaller batteries could reduce Europe's dependence on critical minerals.
- In June, the European Parliament passed legislation that established environmental protections throughout the entire life cycle of batteries.

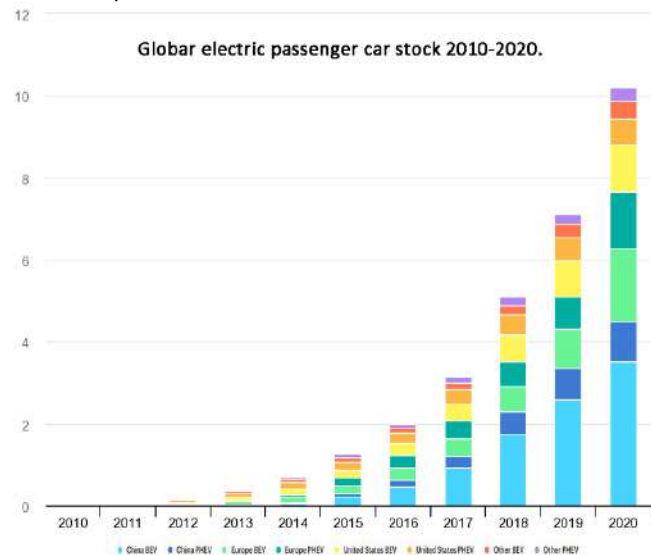
#### What does the Report by Transport and Environment say?

- At least 30 million vehicles will be on European roads by 2030.
- Switching to zero-emissions transport systems will increase the demand for raw materials.
- The **electrification of Europe's vehicle fleet** will help in **flattening the greenhouse gas emissions curve**.
- However, this will increase the scale of exploration of critical minerals, which could pose a threat to the environment.
- Three scenarios were analyzed – business as usual, accelerated, and aggressive.
- In all three scenarios, demand for **battery raw materials such as nickel, lithium, cobalt, and manganese is likely to increase by 2050**.
- **Annual demand in 2050 will be four to ten times higher than in 2023**.
- **Cumulative battery demand will increase by 200 times from the 2022 level**.

#### Suggestions

- **Promote smaller batteries.**

- This can be done by using batteries with smaller ranges while keeping the car size unchanged or by downsizing the vehicle.
- **Increase sales**
- Focus on smaller, affordable segments, charging infrastructure, and the increased electrification of corporate and urban fleets.
- **Public policy**
- Government should promote public modes of transport, active travel (bicycles, etc), and shared transport.



#### Why are smaller batteries better?

- **Downsizing:** It is the most efficient way to reduce metal demand through optimized resource utilization of metals like aluminum and steel.
- It will lead to a decline of up to 49% in critical metal consumption in Europe.
- **Affordability:** Consequently, electric vehicles will become more affordable for the general public.



#### Why is the expected increase in demand a concern?

- In order to meet Europe's rising demand for raw materials, extensive levels of mining will have to be undertaken.
- However, it is difficult to extract and process the necessary quantities of raw materials in a socially and environmentally responsible manner.

- Geopolitics and price volatility have adversely impacted the procurement of raw materials like lithium and graphite which has in turn impacted the production and adoption of Evs.

### European Parliament's Law on Batteries

- The **European Battery Regulation (June 2023)** aims to promote the **circular economy throughout the battery life cycle** including **raw material sourcing, production, and recycling stages**.
- From June 2024, battery manufacturers who wish to sell their products in Europe will have to **report the product's entire carbon footprint across mining, production, and recycling**.
- On the basis of the reported data, a maximum CO<sub>2</sub> limit for batteries will be set which will be applicable from the end of 2027, ensuring that companies switch to clean energy sources.
- The companies will also have to comply with rules that **prevent human rights violations, non-ecofriendly practices, and labor abuse in their supply chains**.
- This will include activities such as water pollution, community rights, etc.
- **From 2027 battery-makers will need to recover 90% of the nickel and cobalt used, which will rise to 95% in 2031.**
- **From 2027, the percentage of lithium used in batteries that will have to be recovered will be 50%, rising to 80% in 2031.**

### Challenges

- The Draft carbon footprint rules, which are under discussion, could allow manufacturers to only have to declare guarantees of origin to prove energy used was renewable.
- This could disincentivize manufacturers who are investing in their own electricity generation or renewable power.
- It could incentivize bigger and heavier vehicles with higher energy consumption.
- The methodology used could result in a battery having a better carbon footprint performance rating just because the vehicle it is used in has a higher energy consumption per km.

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## The Ethanol Impetus

**Priority: High**



**Primary Source:** Indian Express

**Prepp Prelims Booster:** Ethanol Blending, Energy

**Prepp Mains Booster:** Infrastructure: Energy,

### Context:

- Recently, Prime Minister Narendra Modi announced that India has rolled out 20% ethanol-blended petrol this year and aims to cover the entire country by 2025.
- There has been a significant diversification of feedstocks in ethanol production from C-heavy to B-heavy molasses and direct sugarcane juice, as well as rice and other food grains.

### How is ethanol extracted?

#### From cane

- **Route 1:** The cane crushed by sugar mills has around 13.5 - 14% **total fermentable sugar (TFS)** content, of which 11.5% is recovered as sugar.
  - The final by-product of the sugar processing is **C-heavy molasses** which contains the remaining uncrystallized and non-recoverable 2-2.5% TFS.
  - Around 200-225 liters of ethanol can be produced from C-heavy molasses (40-45% sugar content).
- **Route 2:** Mills can recover 9.5-10% sugar instead of the maximum 11.5%.
  - The extra TFS can be diverted to **B-heavy molasses** (more than 50% sugar), which produces 290-320 liters of ethanol per tonne.
- **Route 3:** The entire 23.5-14% TFS in the cane can be fermented into ethanol.
  - This produces 80-81 liters of ethanol per tonne as compared to the B-heavy (20-21 L) and C-heavy methods (10-11 L).



#### From grains

- The starch in the grain is first converted into **sucrose** and **simpler sugars like glucose and fructose**.
- The sugars are then fermented into ethanol using **saccharomyces cerevisiae or brewer's yeast**.
- The process of producing ethanol from grains is longer but produces more ethanol than from molasses.

- This is because molasses already contain sucrose, glucose, and fructose.

Grain	Ethanol produced per tonne	Starch content
Rice	450-480 L	68-72%
Broken grains	450-460 L	-
Maize	380-400 L	58-62%
Sorghum	385-400 L	58-62%
Other millets	365-380 L	56-58%

### Why is feedstock diversification necessary?

- **Higher productivity:** Ethanol production from grains is much higher than from molasses due to their higher starch content.
- **Year-round production:** Distilleries can now produce ethanol throughout the year by operating on multiple feedstocks.
- During the crushing season, molasses can be used to produce ethanol while surplus grain, sourced from the open market or the FCI can be used to produce ethanol during the off-season.
- **Economically beneficial:** The diversification of feedstock for ethanol manufacture will reduce the **supply and price volatility** that was associated with ethanol.
- Earlier, ethanol was solely dependent on sugarcane which is a seasonal crop.
- **Beneficial for farmers:** Feedstock diversification has increased the demand for various food grains.
- Uttar Pradesh (sugarcane producer) and Bihar (maize producer) could supply rice, barley, and millets to distilleries.

### ETHANOL SUPPLIED TO OIL MARKETING COMPANIES (CORE LITRES)

Supply Year **	C-Heavy Molasses	B-Heavy Molasses	Sugarcane Juice	Surplus Rice	Damaged Grains	TOTAL
2013-14	38.00	0	0	0	0	38.00
2014-15	67.41	0	0	0	0	67.41
2015-16	111.40	0	0	0	0	111.40
2016-17	66.51	0	0	0	0	66.51
2017-18	150.50	0	0	0	0	150.50
2018-19	145.84	32.53	0.68	0	9.50	188.55
2019-20	74.12	68.14	14.83	0	15.96	173.05
2020-21	38.96	182.71	39.17	1.90	39.26	302.00
2021-22	10.84	264.93	85.42	48.56	23.85	433.60
2022-23*	6.49	241.47	143.78	143.43	23.80	559.08*
2022-23**	3.85	158.46	122.59	57.95	8.31	351.16

Note: \*Finalised quantity, \*\*Supplied/lifted quantity till July 9, 2023;

\*Includes 0.11 crore litres from maize, \*\*Dec-Nov.

Source: Indian Sugar Mills Association

### AVERAGE ETHANOL BLENDING WITH PETROL (%)



\*Achieved till July 9, 2023

### Changes in pricing

- **Up to 2017-18, Oil marketing companies paid a uniform price for ethanol**, regardless of the feedstock from which it was produced.
- Since 2018-19, the Union government has adopted a differential pricing model in which ethanol produced from B-heavy molasses and whole sugarcane juice is charged a higher price.
- This was meant to compensate mills for the loss in revenue due to the reduced production of sugar.
- As a result, the all-India average ethanol blending has increased from 1.6% in 2013-14 to 11.75% in 2022-23.
- The effect of El Nino on the domestic availability of cereals and sugar in 2023-24 will also affect prices.
- The government has not imposed restrictions on the ethanol blending programme despite export bans on wheat, sugar, and non-parboiled non-basmati rice due to availability concerns.

### How can the byproducts from distilleries be used?

- The liquid effluent or spent wash which is generated during the production of alcohol can have serious environmental problems unless they are properly treated before discharge.

#### Molasses-based distilleries

- They have **multi-effect evaporator (MEE) units** where the spent wash is concentrated to 60% solids.
- The concentrated solids are used as a boiler fuel in a 70:30 ratio with **bagasse**.
- The dry ash produced from the incineration contains **28% potash**.

#### Grain-based distilleries

- The spent wash is passed into a decanter centrifuge, where liquids are separated from the solids.
- The liquid is then concentrated in MEE units and dried along with the wet cake from the decanter.
- DDGS or distillers' dried grain with solubles, which is the by-product of the reaction, is also marketed as animal feed.

### Ethanol blending

- It is the process of combining ethanol of at least 99% purity with gasoline to run automobiles while using less fossil fuel.
- It is produced naturally through the fermentation of sugar by yeasts or via petrochemical processes like ethylene hydration.
- **The government has set a target of 20% blending (E20) in petrol by 2025-26.**

To know more about ethanol blending, click the [link](#).

# Yearlong Mentorship for UPSC 2024



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## Science and Technology

### AI's Disruptive Economic Impact, An India Check

Priority: Medium



Primary Source: The Hindu

**Prepp Prelims Booster:** Science and technology

**Prepp Mains Booster:** Science and Technology-developments and their applications and effects in everyday life, Awareness in the fields of IT, Space, Computers, robotics, nano-technology, bio-technology and issues relating to intellectual property rights.

#### Context:

- The article titled "AI's Disruptive Economic Impact, An India Check" published in the Hindu on 11th July 2023 has discussed the positive and negative impacts of AI adoption and the opportunities it provides to India.
- The rising popularity of Generative AI is based on the realization that users gain in terms of productivity.

#### What are the positive effects of AI adoption?

##### Productivity

- The adoption of AI in the production of goods and services leads to increased productivity.
- The Generative AI at Work survey conducted in the Philippines by economists from the Massachusetts Institute of Technology revealed that **worker productivity increased by 14% through the use of AI tools.**
- It also led to increased customer satisfaction, which meant that service agents were treated better and employee retention increased.
- Generative AI will not replace employees, but employees who use generative AI will gradually replace those who did not upskill.
- A survey of employees of LinkedIn's top 50 companies in the USA showed that almost 70% of them found that AI helped them to be faster, smarter, and more productive.
- 32% expected that there would be larger gains over the next five years although the current impact of AI was modest.
- In order to fully leverage the potential for AI in productivity, business processes must be restructured and investments must be increased.

##### Growth

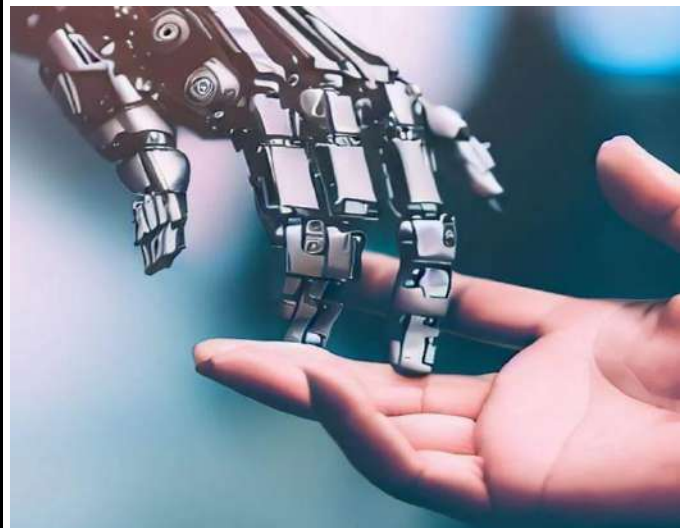
- According to a study by PricewaterhouseCoopers, technological advancements in **AI could lead to a 14% increase in global GDP or \$15.7 trillion by 2030.**
- A Goldman Sachs Research report (April 2023) claimed that **global GDP could rise by 7% or nearly \$7 trillion over a ten-year period due to generative AI alone.**

- There are many positive macroeconomic effects associated with the potential of generative AI to create human-like output and break down communication barriers between humans and machines.
- A survey on the impact of AI on the per capita income of the U.S. and Western Europe Forum among Western economic experts for the Kent A. Clark Center for Global Markets revealed that
  - 44% of the U.S. experts agreed that there would be a substantial increase in the growth rates of real capital income whereas 46% said the effects were uncertain.
  - 34% of the European experts expected a substantial increase in GDP per capita, while 42% were uncertain about the effects of AI.
  - Only 2% of experts believed that AI would not significantly impact per capita GDP.
  - 62% of the European experts agreed that a ban on generative AI chatbots could hinder innovation, while 14% were uncertain, and 2% disagreed.

#### What are the negative effects associated with AI adoption?

##### Labor replacement

- AI technology can **automate repetitive tasks** while generative AI means that creative tasks can be performed efficiently.
- According to a research paper from MIT and Boston University, **robot adoption negatively affects workers, by reducing the average wages, labor share, and employment.**
- These negative effects affected the **blue-collar workers** and poorly educated workers the most adversely.
- 50-70% of changes in the U.S. wage structure over the last four decades can be attributed to relative wage declines of worker groups specialized in routine tasks in industries experiencing rapid automation.



#### Disruption in employment



- **AI could be highly disruptive** and is more likely to displace middle-class, **white-collared jobs** in comparison to earlier technological advancements which displaced people from lower-paid farm jobs to higher-paid factory floor jobs.
- According to Goldman Sachs, 15%-35% of work in the U.S. economy is exposed to automation.
- However, 60% of workers today are employed in occupations that didn't exist in 1940.
- This means that over **85% of employment growth over the last 80 years is in new positions created through technological advancements.**

### Low wages and social security

- Automation leads to a reduction in labor share and wages, especially when it only results in small gains in productivity
- It also causes inequality among workers and can adversely impact social welfare.

### Reduced competition

- Research conducted by the McKinsey Global Institute suggested that the increasing adoption of AI may lead to intensified competition among firms.
- This could cause a **widening of the technological divide** among them with early adopters gaining significant advantages in a winner-takes-all scenario.

### How will it affect India?

- A **net negative effect on employment i.e. drop in employment due to AI adoption can adversely impact the economy since India is the most populous country in the world.**
- The increased efficiency offered by AI in call centers and the software industry could affect millions of Indians.
- Merely regulating the use of AI is insufficient as this would discourage investments and decrease new opportunities.
- According to the PwC report, the **Chinese economy is likely to grow 26% by 2030 due to AI adoption.**
- India must, therefore, focus on education and training in AI to take advantage of the demographic dividend and emerging opportunities.

### Way Forward

- 70% of respondents in an IGM survey agreed that the increased adoption of AI could create deep challenges for society across the labor market, politics, data privacy, crime, and warfare.
- However, these challenges are difficult to anticipate and prepare with governments having to improve their cyber regulations to tackle the challenges posed by AI.
- Some experts have suggested the need for tax capital to balance the returns from capital and

labor and reduce the displacement and distributional effects of AI adoption.

- India must adopt the best practices and tools so that it can reap the rewards of the emerging trends of AI adoption.

## Geneva HIV Patient Cured? Can Stem Cell Transplant Help?

Priority: Medium 

Primary Source: The Hindu

Prepp Prelims Booster: Science and Technology

Prepp Mains Booster: Science and Technology-developments and their applications and effects in everyday life; Issues relating to development and management of Social Sector/Services relating to Health

### Context:

- Recently, a person infected with HIV since the 1990s, referred to as the Geneva patient, has likely been cured of HIV following a stem cell transplant to treat leukemia.
- This is the sixth patient to overcome HIV following a stem cell transplant with other patients remaining free from the virus even years later.
- Prior to the Geneva patient, remission of HIV infection was observed in 5 people - the Berlin patient, the London patient, the City of Hope patient, the New York patient, and the Dusseldorf patient.

### Geneva patient

- The number of HIV-affected cells reduced significantly after one month of the transplant.
- Subsequently, doctors completely stopped his medicines in 2021.
- Tests conducted after twenty months did not indicate the presence of any viral particles, or latent infections, or elevated immune responses.
- Unlike in the five previous instances, the **Geneva patient's cells are still susceptible to HIV.**
- As a result, doctors have not been able to rule out the possible return of his HIV infection.

### What is HIV?

- The **Human immunodeficiency virus (HIV)** is an infection that attacks the immune system by destroying the body's CD4 cells, which help it respond to infection.
- HIV starts replicating and destroying the CD4 cells, thereby weakening the body's immune system and making it susceptible to opportunistic infections as a result of its weak immune system.
- In case HIV is not treated, it can lead to AIDS.

### Transmission:

- HIV is transmitted through bodily fluids such as blood, semen, vaginal fluids, rectal fluids, and breast milk.

- Unprotected sex, transfusion of contaminated blood, sharing needles and syringes, and during pregnancy.

#### Prevention:

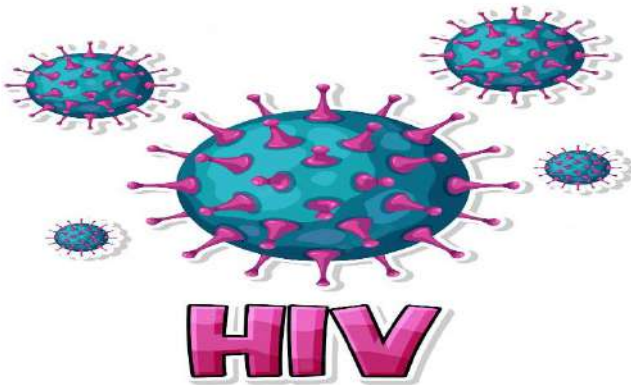
- There's no vaccine to prevent HIV infection and no cure for AIDS.

#### Prevalence in India:

- **Males:** 0.24% of the population
- **Females:** 0.20% of the population

#### Schemes by the Indian Government:

- **Project Sunrise:** Control rising HIV prevalence in Northeastern states
- **National AIDS and STD Control Programme:** Central sector scheme for prevention and control of HIV/AIDS in India.
- **Prevention from Parent to Child Transmission (PPTCT) programme:** Provide pregnant women access to HIV testing.



#### What is the genetic mutation selected for the programme?

- Stem cell transplantation for cancer treatment was performed on all six patients who have achieved HIV remission.
- In the first five cases, however, the treatment teams specifically identified donors with the **CCR5 delta 32 mutation, which is associated with a lower risk of HIV.**
- HIV attacks the **CD4 immune cells (a type of White Blood Cell T Cell)** which lowers immunity in infected individuals.
- However, HIV needs receptors on the surface in order to gain entry into the immune cells.
- These **receptors are not formed in people who have inherited the CCR5 delta 32 mutations from both sets of parents.**
- This means that the virus cannot enter the CD4 cells, leaving them safe.
- Only 1% of the people across the world possess two copies of the CCR5-delta 32 mutation
- Those who inherit the mutation from one of the parents have fewer receptors and are less likely to get the infection.
- Only 20% of the global population, mainly of European heritage, carry one copy of the mutation.

#### What are the challenges in making stem cell treatment a routine treatment for HIV patients?

##### Lack of donors

- It would be **impossible to find a matching donor for the nearly 38.4 million people who are living with HIV.**
- As the **CCR5-delta 32 mutation is mainly found in people of Caucasian origin,** it would be difficult to find matching donors for patients from high-burden countries like those from Africa.

##### Risky procedure

- Stem cell transplanting is a major procedure that includes the **risk of the patient rejecting the donor cells.**

##### Mutation

- The virus may mutate and **learn new mechanisms to infect the cells** even after the transplant is performed.

##### Antiretroviral Treatment

- HIV treatment depends on effective antiretroviral therapy in which drug cocktails are administered to the patients daily.
- These drugs help prevent the virus from replicating within the body, which protects the CD4 cells in the body and allows them to rebound from the infection.
- While normal people have a CD4 count of 500–1600, it can be as low as 200 for infected patients.
- It reduces the viral particles to undetectable levels, which means the infection will not be transmitted to others.
- It prevents the disease from progressing to **Acquired Immuno-Deficiency Syndrome (AIDS).**
- However Antiretroviral therapy needs to be taken for life as it does not completely remove the virus from the body.
- This means that the viral count increases whenever the therapy is stopped.

##### Way Forward

- The success of stem cell transplants will help in the remission of HIV infections and could lead to a cure for HIV in the future.
- The results of the treatment on the New York patient will make it easier to find donors in the future as it showed that interracial transplants are possible.
- This could help achieve the **UN General Assembly's goal of ending HIV by 2030.**

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success begins here. [Contact us today at +91-9289130503 via call or WhatsApp]

## Environment

### Soil Microbiomes Should Be Included In One Health Goals: Study

Priority: Medium



Primary Source: Down to Earth

Prepp Prelims Booster: Environment

Prepp Mains Booster: Conservation, environmental pollution and degradation, environmental impact assessment; Issues relating to development and management of Social Sector/Services relating to Health, Education, Human Resources.

#### Context:

- Recently, a group of soil experts and researchers have recommended the inclusion of soil microbiomes under the One Health approach.
- The One Health approach consists of recommendations for global strategies to identify and manage the spread of infectious diseases and antimicrobial resistance.
- Soil microbiomes play a crucial role in maintaining healthy water and environmental stability



#### What is the role played by soil microbiomes?

- Soil microbiomes could play a critical role in ensuring global food security as well as the overall sustainability of terrestrial life.
- They provide a **habitat for environmentally beneficial microorganisms** by performing important ecosystem and host functions.
- They are **sources of organic and inorganic pollutants**.
- They act as a **reservoir of human pathogens** that induce antibiotic-resistance genes.
- They impact human and animal immune systems by interacting with them through food chains.
- They also have a **direct influence on the quality of the environment** through air and water.

#### What are the findings of the experts?

- Soil is a direct source of plant microbiomes including beneficial and pathogenic microorganisms.
- Grazing herbivores are exposed to the microbiomes via direct ingestion or the consumption of plant microbiomes from which gut microbiomes that can

impact their overall health and immune system are sourced.

- The **microbial loop is completed by organic waste like plant litter and debris such as gravel, and sand which deliver microorganisms back to the soil**.
- However, disruptions to the microbial loop can lead to diseases in the host organism.
  - Soil-borne pathogens such as **Yersinia pestis, Clostridium botulinum, and Bacillus anthracis** which are present in soil across the globe cause millions of infections a year via direct or indirect ingestion.
- Depending on microbial virulence, ecology, society, and the environment, these disruptions could lead to epidemics or pandemics.
  - An example is the **typhoid-causing Salmonella enterica serotype type** whose transfer from soil to plants to consumable fruits and seeds was aided by soil microbiomes.
- Soil microbiomes are also responsible for the development and spread of **Anti Microbial Resistance**, which is one of the biggest threats to global public health.

#### What are the recommendations of the scientists?

- The scientists recommended an **integrated and interdisciplinary five-step approach** among global bodies by restructuring and reorganizing the current system for efficient data sharing.
- **Knowledge-hub network:** Creating a knowledge-hub network with the UN Global Soil Partnership (UNGSP) and specialized groups like the WHO, FAO, UNEP, World Organisation for Animal Health, Consultative Group on International Agricultural Research, International Network of Soil Biodiversity, and International Network of Soil Pollution.
  - One Health High-Level Expert Panel (OHHLEP) and other international organizations including the UNGSP, Consultative Group on International Agricultural Research, and OHHLEP can collaborate with world experts to conduct periodic soil assessments linked to One Health.
  - To execute the **One Health approach** efficiently and effectively, the OHHLEP needs to be expanded to include experts in soil health and the microbiome, and resource allocation needs to be improved.
- **Integrated data:** The distribution of soil-borne pathogens and ARGs worldwide can be understood through the integration, storage, and sharing of soil microbiome data.
  - This would help build an automated system to detect and flag human pathogens, allowing policymakers to develop policies to handle potential microbial threats in soil systems

- **Epidemiological models:** Knowledge could be shared with the [Intergovernmental Panel on Climate Change](#), the Intergovernmental Platform on Biodiversity and Ecosystem Services, and the global research community to analyze and predict future risks associated with human pathogens, food safety, and pollutants.
- **Engagement:** Establishing a coordinated system for the periodic and systematic involvement of stakeholders, including the general public, in order to highlight the crucial role soil microbiomes play in One Health.
- **Coordination:** Address the difficulties encountered in effective data collection, facilitation, storage, and sharing, as well as in working with the agencies.

### NGT Has Imposed A Fine Of About 80,000 Crore So Far On States For Not Disposing Of Sewage And Garbage

Priority: Medium



Primary Source: Down to Earth

Prepp Prelims Booster: Environment

Prepp Mains Booster: Conservation, environmental pollution and degradation, environmental impact assessment.

#### Context:

- Recently, the **National Green Tribunal (NGT) has so far imposed fines of about Rs 80,000 crore on states and Union territories (UT)**, due to their failure to comply with sewage treatment and garbage disposal rules and for violating orders.

#### Recent Observation Made

- The observation made by the NGT highlights a significant **disparity in the treatment and disposal of sewage and solid waste by various states and union territories.**
- There has been a substantial amount of liquid waste, approximately 26,000 million litres per day (MLD), and solid waste, around 56,000 tonnes per day, are not being adequately disposed of.
- Furthermore, there is a significant backlog of 180 million tonnes of legacy waste that remains unaddressed by several states.
- Regarding the penalties imposed, **more than 50 percent of the total fine of Rs 80,000 crore has been levied on just four states.**
- **Tamil Nadu** faces the highest penalty of Rs 15,419.71 crore, followed by **Maharashtra** with Rs 12,000 crore, **Madhya Pradesh** with Rs 9,688 crore, and **Uttar Pradesh** with Rs 5,000 crore.
- If the amount of fines imposed on states for garbage and sewage is compared to the ad hoc National **Compensatory Afforestation Fund Management and Planning Authority (CAMPA)**

fund created by the Supreme Court in 2002 to compensate for forests, it is 48 per cent more.

#### What is the National Green Tribunal (NGT)?

- The National Green Tribunal (NGT) is a specialized organization established under the NGT Act, 2010 to handle matters involving the protection and conservation of the environment, forests, and other natural resources.
- After Australia and New Zealand, India has become the third country in the world to establish a specialized environmental tribunal, and the first developing country to do so.
- The stated goal of the Central Government was to provide a specialized forum for the effective and timely resolution of cases involving environmental protection, forest conservation, and compensation for damages caused to people or property due to violations of environmental laws or conditions specified when granting permissions.
- The Tribunal's dedicated jurisdiction in environmental disputes will expedite environmental justice while reducing the burden of litigation in higher courts.
- The Tribunal is required to make an attempt to resolve applications or appeals within six months after their submission.

#### Structure of NGT

- The Tribunal comprises the Chairperson, the Judicial Members, and Expert Members.
- They shall hold office for a term of 5 years and are not eligible for reappointment.
- The Chairperson is appointed by the Central Government in consultation with the Chief Justice of India (CJI).
- A Selection Committee shall be formed by the central government to appoint the Judicial Members and Expert Members.
- There are to be at least 10 and a maximum of 20 full-time Judicial members and Expert Members in the tribunal.

#### What are the roles and responsibilities of NGT?

- It resolves cases involving the environment in a timely and effective manner. The NGT is in charge of matters involving, protection of the environment.
- The NGT has control over the government's environmental clearances for projects.
- It looks after forest and other natural resource conservation and any legal right connected to the environment that needs to be enforced.
- For damages to individuals and property, relief and compensation are available.
- The Tribunal's decisions are binding. The Tribunal's orders are enforceable because the Tribunal has the same powers as a civil court under the Code of Civil Procedure, 1908.

## Initiatives for the Scientific Treatment and management of Solid Waste and Sewage

- **Swachh Bharat Abhiyan (Clean India Mission):** This nationwide campaign launched in 2014 aims to make India clean and open defecation-free. Under this initiative, emphasis is placed on proper waste management, including solid waste and sewage.
- **Atal Mission for Rejuvenation and Urban Transformation (AMRUT):** It was launched in 2015. AMRUT focuses on providing basic services like water supply, sewerage, and solid waste management in urban areas. The mission aims to improve the infrastructure and management systems for efficient waste and sewage treatment.
- **Central Pollution Control Board (CPCB) Guidelines:** The CPCB regularly issues guidelines and regulations for the scientific management of solid waste and sewage. These guidelines provide a framework for waste management practices, including collection, transportation, treatment, and disposal.
- **Smart Cities Mission:** It was launched in 2015 and focuses on the development of 100 smart cities across India. These cities prioritize sustainable waste management systems, including segregation at the source, decentralized processing, recycling, and effective sewage treatment.

### Air Pollution Impacts Villages And Cities Almost Equally But Pollution Control Funds Only For Urban India, Shows Analysis

Priority: Medium



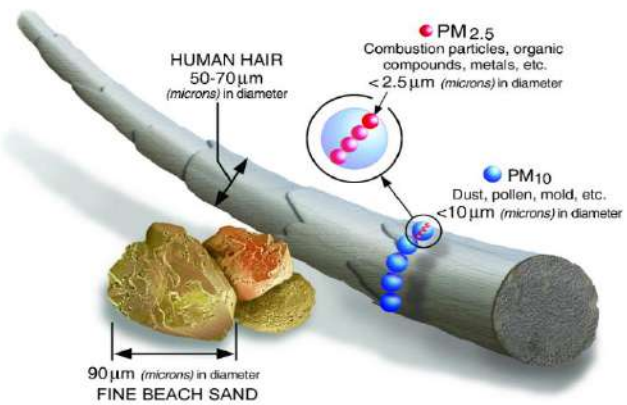
Primary Source: The Hindu

Prepp Prelims Booster: Down to Earth

Prepp Mains Booster: Conservation, environmental pollution and degradation,

#### Context:

- Recently, an analysis carried out by **Climate Trends, a nonprofit organisation**, based on satellite-based data generated by IIT Delhi scientists stated that the average annual PM 2.5 level in **rural India in 2022 was 46.4 micrograms**, only slightly lower than the urban level of 46.8 micrograms, exceeding the national limit of 40 micrograms.
- Incidentally, another study carried out by Delhi-based think tank **Centre for Science and Environment (CSE)** found that the rural population suffers more than its urban counterpart when it comes to the length of losing life span due to exposure to the toxic pollutant.
- The analysis questions the government's National Clean Air Program which is focusing on combating urban air pollution.



#### What are the findings of the study?

- The Climate Trends report found that the **urban and rural levels** of PM 2.5 in India since 2017 are almost **similar**.
  - PM 2.5 is an extremely potent air pollutant that can penetrate deep into the lungs or even into your blood.
- **Rural pollution:** The rural PM 2.5 pollution was found to be significantly high in Delhi (87.7 microgrammes) and states like Bihar (74.5 microgrammes), Haryana (67.8 microgrammes), Uttar Pradesh (62.3 microgrammes), Rajasthan (60.4 microgrammes) and West Bengal (58.3 microgrammes).
- **Decrease in lifeSpan:** According to CSE analysis, villagers, on average, lose over five years and two months of lifespan due to air pollution exposure, while city dwellers lose about four years and five months.
- While a loss of over eight years of lifespan was recorded for rural residents in Uttar Pradesh; Bihar, Haryana villagers were found to lose over seven years on average.
- **Questions NCAP focus on Urban Areas:** Under NCAP, so far around Rs 9,000 crore has been allotted to 131 non-attainment cities in order to minimize particulate pollution, but virtually no funds for rural areas.
  - Cities are declared non-attainment if over a 5-year period they consistently do not meet the National Ambient Air Quality Standards (NAAQS).

#### Suggestion

- **Focus on rural areas:** Air pollution is a transboundary challenge, therefore there is a need to track pollution levels and develop policies for rural regions, as there is little difference in concentration levels between urban and rural areas.
- **Monitoring of nonurban areas:** Experts emphasize the need for a much larger network of high-spatial-resolution systematic, robust and **continuous air pollutants monitoring over the rural and non-**

**urban regions** too, that could meet the scientific demands.

- Researchers advocate for the implementation of an "air shade arrangement model" to address air pollution. This model emphasizes the need to expand air pollution control efforts beyond selected cities and includes rural areas as well.

### What is the National Clean Air Programme (NCAP)?

- National Clean Air Program (NCAP) was launched by the Ministry of Environment, Forest and Climate Change (MoEFCC) in January, 2019 with an aim to improve air quality in 131 cities (non-attainment cities and Million Plus Cities) in 24 States/UTs by engaging all stakeholders.
- The program envisages achieving reductions up to 40% or achievement of National Ambient Air Quality Standards for Particulate Matter<sub>10</sub> (PM<sub>10</sub>) concentrations by 2025-26.

## Disaster Management

### Rain Toll Points To Man-Made Disaster in Himachal Pradesh

Priority: Medium



Primary Source: The Hindu

**Prepp Prelims Booster:** Disaster Management

**Prepp Mains Booster:** Disaster and Disaster Management; urbanization, their problems and their remedies

#### Context:

- Recent **incessant rains in Himachal Pradesh** have caused over 41 **landslides, 29 flash floods, and one cloud burst**.
- The rains have caused havoc in several parts of Himachal Pradesh resulting in the loss of human lives and livestock, damage to several roads, National Highways, vehicles, and residential and commercial buildings, with hundreds left stranded, and losses estimated at crores of rupees.
- This has yet again triggered a debate over whether the ongoing 'fury of nature' is a man-made disaster inevitably visited upon the Himalayan region.

#### Man-made disaster in Himachal Pradesh

- **Solid waste:** According to the Environmentalists, even though the flash floods in Himachal Pradesh had been triggered by excess rainfall, they had been "**intensified**" by **muck and debris** dumped along streams and rivers due to land use change, and slopes destabilized by construction.
- **Change in Land use:** Building along the river bed in floodplains blocks the path of the river and also tree felling and digging of slopes for roads, highways, buildings and dams that causes

landslides which in turn lead to flash floods, causing damage downstream.

- **Development activities:** According to Himachal Pradesh Landslide Hazard Risk Assessment (2015), the hilly areas of Himachal Pradesh are vulnerable to landslides due to geological, meteorological and anthropogenic factors.
- The **hydro-meteorological conditions** and fragile structural fabric of the geological strata of Himachal Pradesh increase the possibility of landslides.
- **Anthropogenic factors** such as removal of vegetation cover, and overloading of slopes also contribute to a great extent. Development activities, including the construction of roads, tunnels, and excavation for hydro projects have further accentuated the problem.
- **Upsetting Natural balance:** According to the Himachal Pradesh State of the Environment Report(2022), mountain areas are highly vulnerable to natural disasters, and development over the years has compounded the problem by upsetting the natural balance of various physical processes.
- The reports added that the **increased pressure on the mountain environment** has contributed in some measure to environmental problems such as **landslides, land subsidence, removal of vegetation and soil erosion**.
- According to one estimate, **about 58.36% of land is subjected to intense soil erosion**, most of which is located in the Himalayas, and Himachal Pradesh, which forms part of the Western Himalayas, is environmentally fragile and ecologically vulnerable.

#### Suggestions

- **Prevention:** It calls for a policy overhaul and strengthening of regulatory measures on the part of the government.
- The focus of government agencies and policymakers should be on prevention rather than management.
- **Waste Management:** There's a need to ensure that debris and muck are not thrown into rivers or rivulets during the construction of roads, projects or dwellings.
- Construction near rivers needs to be **regulated**.



## Conclusion

- The developmental activities need to be directed in a more sustainable direction through integrated urban-rural land use planning. Effective land use policies must be developed and implemented to protect and conserve forests, biodiversity, water resources, and agricultural land.

**Cloud burst:** A cloudburst is a localized but intense rainfall activity. Short spells of very heavy rainfall over a small geographical area can cause widespread destruction, especially in hilly regions where this phenomenon is the most common.

**Flash Flood:** Flash floods occur when heavy rainfall exceeds the ability of the ground to absorb it. They also occur when water fills normally dry creeks or streams or enough water accumulates for streams to overtop their banks, causing rapid rises of water in a short amount of time. They can happen within minutes of the causative rainfall, limiting the time available to warn and protect the public..

**Landslide:** A landslide is defined as the movement of a mass of rock, debris, or earth down a slope. Landslides are a type of "mass wasting," which denotes any down-slope movement of soil and rock under the direct influence of gravity. The term "landslide" encompasses five modes of slope movement: topples, slides, spreads, and flows. These are further subdivided by the type of geologic material (bedrock, debris, or earth). Debris flows (commonly referred to as mudflows or mudslides) and rock falls are examples of common landslide types.

**\*Click on this link for more information on [Urbanization in Himalayas](#)**

### Landslip Triggered By Heavy Rains Buries Village In Maharashtra's Raigad

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: Geography, disaster management

Prepp Mains Booster: Disaster and Disaster Management

#### Context:

- Recently, a **devastating landslip, triggered by continuous heavy rainfall occurred in the hamlet of Irshalwadi, located in Raigad district, approximately 65 km away from Mumbai.**
- Teams of the **National Disaster Response Force (NDRF) and State Disaster Response Force (SDRF)** personnel arrived in the area to carry out rescue operations.

#### Key Highlights

- Irshalwadi was not in the list of potentially landslide-prone places** as per the Geological Survey of India (GSI) report. It was stated that **there had not been any incidents of landslides in this place before.**

- Rescue operations became significantly challenging and hazardous due to the village's elevated location in the Sahyadri mountains, nestled just below the formidable Irshalgad fort.
- Earlier Incidents:** The Irshalwadi tragedy brought back bitter memories of the 2014 Malin landslide, which killed more than 150 people, and the Taliye village in Raigad, which killed more than 75 people following a landslide in 2021.

- The leaders of the Opposition party demanded the state government conduct an immediate survey of vulnerable and landslide-prone villages.

It was also demanded to know what action had been taken on the Madhav Gadgil Committee that studied ecology in the Western Ghats.

#### India is among the top five landslide prone countries globally.

Rainfall variability pattern is the best cause of landslides in the country, with the Himalayas and the Western Ghats remaining highly vulnerable

#### What is a Landslide?

**A landslide is a fast movement of rock, soil, and plants down a slope caused by gravity.**

Landslides can be produced by natural forces such as severe rain or an earthquake, or it can be caused by human tampering with the slope's stability. Man fractures rocks to build roads, trains, houses, and tunnels, among other things. In such instances, the rocks become loose, resulting in a landslide.

- Landslides are **defined as earth flow, mass movement, mudflow, rotating slip, and avalanches.**

- Landslides are seldom as large as seismic or volcanic occurrences.
- The severity and scale of the landslide, on the other hand, are determined by the geological structure of the slope, the angle of dip of the slope, the composition of sedimentary materials, and human involvement with the slope.

#### Causes of Landslides

##### Natural Causes:

- Climate:** Long-term climate change may have a substantial influence on soil stability.
- Earthquakes:** Seismic activity has long been a contributor to landslides across the world. When tectonic plates move, the earth underneath them shifts with them.
- Weathering:** Weathering is the natural process of rock degradation that results in weak, landslide-prone materials.
- Erosion:** Erosion caused by periodic flowing water, such as streams, rivers, wind, currents, ice, and waves, destroys slope stability, increasing the likelihood of landslides.

- **Volcanoes:** Volcanic eruptions can cause landslides. The stratovolcano is a typical example of a volcano that is responsible for the majority of landslides across the world.

#### Man Made:

- **Mining activities:** Excavation and removal of large amounts of soil and rock during mining operations can alter the balance of slopes and trigger landslides.
- **Construction and urban development:** Poorly planned construction on steep slopes or improper grading and excavation can disturb the natural stability of the terrain, leading to landslide occurrences.
- **Road building and infrastructure development:** The construction of roads, highways, and other infrastructure can alter the natural drainage patterns and increase water runoff, which may cause slope instability and landslides.
- **Irrigation and drainage systems:** Improperly designed or poorly maintained irrigation and drainage systems can change the groundwater levels and soil moisture content, making slopes more susceptible to landslides.

#### Impact of Landslides

- **Loss of Lives and Livelihoods:** One of the most tragic outcomes of landslides is the loss of human lives, as well as the potential impact on livestock and wildlife. Beyond the immediate casualties, landslides can also disrupt communities, displacing people from their homes and livelihoods.
- **Disruption of Transportation and Communication:** Landslides can block important transportation routes such as highways, roads, and railways. This disrupts the movement of goods and people, hindering emergency response efforts and access to essential services.
- **Infrastructure Damage:** Landslides can cause extensive damage to buildings, houses, bridges, and other infrastructure in affected areas. The cost of repairing or rebuilding these structures can be substantial.
- **Environmental Consequences:** Landslides can alter the landscape and ecological balance of an area. The removal of vegetation and disruption of natural drainage patterns can lead to soil erosion, loss of biodiversity, and other ecological issues.
- **Water Supply Disruptions:** When landslides occur on the slopes of a river valley, the sliding mass may reach the valley bottom and partially or completely obstruct the river channel, hence, it can jeopardize water availability for communities that depend on the affected rivers for their water supply.

#### Steps taken for Landslide Management in India

- National Landslide Risk Management Strategy (2019)
- National Disaster Management Authority (NDMA) Guidelines on Landslide Hazard Management (2009)
- National Institute of Disaster Management (NIDM)

#### National Disaster Response Force (NDRF)

- The National Disaster Response Team (NDRF) is an Indian specialized force constituted for the purpose of special response to a threatening disaster situation or disaster" under the Disaster Management Act, 2005.
- It works under the general supervision and administration of the National Disaster Management Agency (NDMA).
- NDRF carries out rescue and relief operations during natural disasters.

#### State Disaster Response Force (SDRF)

- The SDRF was established under Section 48 (1) (a) of the Disaster Management Act of 2005.
- It was formed in accordance with the recommendations of the 13th Finance Commission.
- It is the major resource available to state governments for responding to declared disasters in order to fulfill emergency relief expenditures.

#### Disasters covered under SDRF:

Cyclone, drought, earthquake, fire, flood, tsunami, hailstorm, landslide, avalanche, cloudburst, pest attack, frost and cold waves.


#### Prevention and Mitigation Measures

- **Restriction on Construction:** Implement strict regulations that prohibit construction in high-risk landslide areas to prevent human settlements in dangerous zones.
- **Hazard Mapping:** Create detailed hazard maps to identify regions with a higher likelihood of landslides, allowing for focused mitigation efforts.
- **Afforestation Programs:** Initiate afforestation initiatives in susceptible regions as vegetation can stabilize slopes and reduce landslide occurrences.
- **Early Warning and Monitoring Systems:** Establish advanced early warning systems and monitoring networks to detect potential landslide triggers and promptly alert residents and authorities.
- **Terrace Farming:** Promote and support terrace farming practices in hilly regions, which can minimize soil erosion and reduce the risk of landslides.
- **Advancement in Scientific procedures:** It will enable us to understand what elements trigger landslides and how to mitigate them.



## Internal Security

### An Internet Ban Will Not Restore Peace In Manipur

Priority: Medium 

Primary Source: The Hindu

**Prepp Prelims Booster:** Current events of National Importance

**Prepp Mains Booster:** Challenges to internal security through communication networks, the role of media and social networking sites in internal security challenges; Governance

#### Context:

- The **Ethnic violence** between the **Meitei and Kuki communities**, which began on May 3, 2023, received little attention from the rest of India until a video of **sexual violence by a mob went viral on social media recently**.
- During this period, the government enforced an Internet shutdown in the region, impacting the flow of information and communication.
- This article examines the propriety of the Internet ban and its role in the nation's apathy towards the crisis in Manipur.
- There is no concrete evidence to suggest that the Internet ban prevented violence or mitigated unrest. The absence of data on the efficacy of the shutdown raises questions about its necessity.

#### What are the arguments for and against internet shutdowns?

##### For

- **Fake news:** Internet shutdowns are used as a **preventive measure to restrain disinformation** on social media and communication apps.
- To prevent protesters from **mobilizing and coordinating**.
- It enables the prevention of reproduction and sharing of affective content, which can evoke **strong emotions** that can promote hatred **against other communities**.
- To maintain law and order and **restore peace**.
- **Preventive Response:** Cutting off the Internet is both an early and preventive response to block restive groups to organize riots against the Government.
- **National Interest:** The Internet cannot be independent of national sovereignty. Therefore, the necessary regulation of the Internet is a reasonable choice of sovereign countries based on national interests.

##### Against

- **Against fundamental rights:** It is against the fundamental right of freedom of speech and the right to practice any profession or to carry on any occupation, trade, or business.

- **Access to Information** is disrupted due to the internet shutdown. This impacts the press and media.
- **Health and education:** Access to health and Educational services gets impacted which may in turn increase inequalities. For example, **telemedicine services like e-sanjeevani** and access to education platforms like **e-Patashala** get impacted.
- **Economic damage:** Shutdowns can cause economic damage and deeply impact lives and livelihoods across India. For example, Freelancing jobs, work from home are affected. The **Internet Society** estimated the loss caused by internet shutdowns in India in 2022 to be \$2.369 billion.
- **Impact on the poor and vulnerable:** Internet access is essential for accessing subsidized food grains, rural employment schemes like **Mahatma Gandhi National Rural Employment Guarantee Scheme**, and e-governance assistance in rural areas.
- For example, internet shutdowns make it impossible for beneficiaries to receive their rations due to linkage with **Aadhaar**, a biometric database system.
- **Lack of empirical data:** There is an absence of data or specific instances of violence being prevented due to the jamming of Internet connectivity

#### What is Anuradha Bhasin's Verdict on Internet shutdown?

- In 2020, Anuradha Bhasin Case the Supreme Court ruled that **freedom of speech** and expression and the **freedom to practice any profession** or carry on any trade, business or occupation **over the medium of Internet are constitutionally protected** under Article 19 (1) (a) and Article 19 (1) (g).
- Therefore, the restriction upon such fundamental rights should be in consonance with the mandate under Articles 19 (2) and (6) of the Constitution, **inclusive of the test of proportionality**.
- The doctrine of Proportionality means striking a balance between actions and goals. The Doctrine of Proportionality is often used as a basis for judicial review in matters involving administrative action.
- **Suspension of the internet** for an **indefinite period** as per Telecom Suspension Rules 2017 is **not permissible**.
- Suspension of the internet can only be for a reasonable duration and periodic review should be done.
- Any orders suspending the Internet are subject to **judicial review**.

- Government should **publish all orders of prohibition** to enable affected persons to challenge the same.

### Conclusion

- Internet shutdowns in Manipur have proven ineffective in quelling violence and unrest. Instead, they have led to the spread of misinformation and hindered communication, making it difficult to hold the government accountable for its actions.
- Therefore, compliance with the Supreme Court guidelines in the Anuradha Bhasin case is the way forward in order to get rid of the tag of the “internet shutdown capital” of the world and fulfill Digital India’s potential.

### Provisions Related to Internet Shutdown

- Home Departments in the states are mostly the authorities that enforce shutdowns, drawing powers from the **Temporary Suspension of Telecom Services (Public Emergency or Public Safety) Rules, 2017**.
- Powers have now been given to the Secretary of the Union Government, Secretary of the state government, to issue orders related to internet shutdown.
- **Section 144 of the Code of Criminal Procedure, 1973** has enabled many of the shutdowns in the recent past, especially until the telecom suspension Rules came into force in 2017.
- Section 5(2) of **the Indian Telegraph Act, of 1885**, allows central and state governments to prevent the transmission of messaging during a “public emergency or in the interest of public safety”, or “in the interests of the sovereignty and integrity of India, the security of the state”.
- **The Information Technology Act** (India’s principal information technology sector law), has provided limited power to the government to issue individual web content-blocking orders, instead of a larger suspension of interest itself.

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## GENERAL STUDIES 4

### Ethics in Public Administration

#### Moral Decadence: Gujarat IAS Officer Laments ‘Rotten Education’ Among Schools In State’s Tribal Belt

Priority: High



Primary Source: Indian Express

Prepp Mains Booster: Ethics in Public administration

#### Context:

- Recently, a bureaucrat in Gujarat pointed out several shortcomings in the schools and learning in Gujarat’s tribal belt.
- He also highlighted the prevalence of mass copying in exams in these schools.

#### What has been reported about schools in Gujarat’s tribal belt?

- The Geology and Mines Commissioner, Dhaval Patel visited six primary schools as part of the Gujarat government’s flagship enrolment programme, **Shala Praveshotsav**.
- According to him, students in class 8 were unable to perform single-digit addition or read words in Gujarati.
- Students were unable to understand simple question or locate Gujarat or the Himalayas on the map of India.
- He also reported that **teachers failed to address his questions appropriately which could be a major reason for the extremely poor education levels of the students**.
- The report claimed that the poor performance of students was despite the availability of required infrastructure and teachers.
- Students at Timla primary school exhibited extremely low quality standards of education.
- While the teachers at the Rangpur Primary School were of a high quality which was reflected in the performance of the students, standards at Bodgam Primary School were extremely poor.



#### Copying

- The report highlighted the **problem of mass-copying** in annual exams as an erroneous question

on square root in the Maths exam was answered correctly by all the students.

- In another school, students had described how to make lemonade in English in their answer sheets.
- However, they were unable to read the question or the words in English when asked by the officer.
- He alleged that the teacher could have made them write the answers.

#### How have the authorities responded?

- In the aftermath of the report, the education department conducted a review of all the education officials and staff of the six government schools in Chhota Udepur district visited by the Commissioner.
- The Education Minister of Gujarat stated that a report has been sought from the Education department regarding the poor performance of the students.
- He also stated that action would be taken to ensure the situation is corrected and all shortcomings are addressed.
- Awareness building exercises would be conducted for parents in the interior tribal regions.
- The Ministry also acknowledged its responsibility to improve educational standards across the state and improve education in poorly performing schools.
- According to authorities, these **tribal villages are located**
- **on the border and parents do not care much about the education of their wards.** They were included in the red zone according to the state education department's annual performance of government schools.
- As a result, **students do not return immediately when schools reopen.**
- Teachers have to go convince them and their parents to get them back to school.
- As a result, it **usually takes them two to three weeks for the children to get used to the routine and revise what they have studied in the previous years.**
- The Praveshotsav was conducted on the same day that students returned to school which was why they were unable to understand and answer the questions.

#### What are the ethical concerns?


- The poor tribal children of the area do not have any other source of education. As a result, the lack of proper education confines them to labor work for generations and does not allow them to progress.
- The situation was morally decadent as both students and their parents who trusted the schools and education authorities were being cheated.

- The absence of proper education and learning mean that the students are not truly literate despite being educated. This can lead to them being socially and digitally excluded from the rest of society.
- The inefficiency of teachers could be because of the lack of properly qualified teachers being appointed while unqualified candidates are employed through political connections or corruption in appointments.
- Other ethical concerns are the focus on results in the education system which limits the creative thinking and imagination of students.

#### Conclusion

Efforts must be made to achieve Universalisation of Education in a meaningful manner. This can be aided by the creation of inclusion funds to help socially and educationally disadvantaged children pursue education and the enactment of policies and initiatives that encourage children to learn.

#### Citizen Action For Clean Politicians, Cleaner Politics

Priority: Medium 

Primary Source: The Hindu

Prepp Prelims Booster: Indian Polity

Prepp Mains Booster: Parliament and State legislatures—structure, functioning, conduct of business, powers & privileges and issues arising out of these Public/Civil service values and Ethics in Public administration, Probity in Governance

#### Context:

- The author, Trilochan Shastri, the Founder Chairman of the Association for Democratic Reforms, has discussed the criminalization of Indian politics in the article titled "Citizen Action For Clean Politicians, Cleaner Politics" published in the Hindu on 12th July 2023.
- 66% of MLAs have a college graduation or higher degree with nearly 44% having a criminal case against them.
- However, only 9% of elected MLAs in India are women.

#### Criminalization of Indian politics

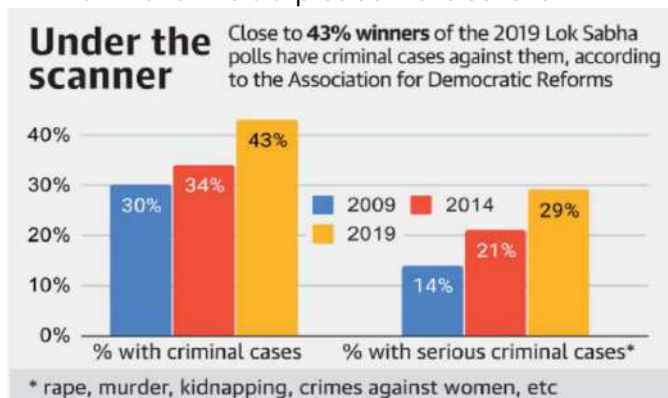
- Criminalization of politics means the participation of criminals in politics allowing them to be elected as members of the Parliament and the State legislature.
- **1,777 of the 4,001 sitting MLAs (44%) in India have a criminal case against them while 43% of the Members of Parliament (MP) in the present Lok Sabha have been charged with criminal cases, doubling from the 22% in 2004.**
- Most cases were filed when the party to which the MLA or MPs belonged to was in power. So, the cases

are not all politically motivated but based on proper investigations, filing of FIRs and preliminary judicial proceedings.

- **1,136 or 28% of MLAs have been charged with serious criminal cases** which carry a sentence of five years or more.
- This includes cases of murder (47 MLAs), attempt to murder (181 MLAs), crimes against women (114), and rape (14).
- Delhi (53%), Bihar (59%), Maharashtra, Jharkhand and Telangana (39% each), and Uttar Pradesh (38%) are the states with the most MLAs charged with serious crimes.

### Role of Money in the Criminalization of Politics

- Electoral victory was dependent on the wealth of a candidate with **30% of those with assets of ₹5 crore or more being elected. In comparison, only 8% of those with assets of ₹2 crore or less were elected.**
- The average assets of MLAs in India was ₹13.63 crore and ₹16.36 crore for MLAs with criminal charges.
- Even though the [Election Commission](#) in consultation with political parties instituted a spending limit of ₹40 lakh for MLAs and ₹70 lakh for MPs (enhanced to ₹90 lakh in 2022) electoral expenditure is at an all-time high mainly due to new forms of advertising and freebie distribution.
- Lok Sabha election expenditures are even greater than that of the U.S. presidential elections.



### Why is the number of criminals in politics rising?

- The number of MLAs and MPs with criminal records has risen because of the system of distributing tickets practiced in India, which favors such candidates.
- Unlike India, candidates are selected through a **first-round primary** in the U.S.A while European countries practice an open and democratic candidate selection process.
- Candidates with criminal records regularly flout electoral laws on poll expenditure giving them a higher potential for victory, which would allow the party to recover the money spent and use it for the next election.

- **Candidates with a criminal record had a 15% of winning while clean candidates had a 4.7% chance of winning.**
- However, the Election Commission has taken very little action to curb the menace of criminalization of politics.

### Ethical Implications of Criminalisation of Politics

- **Free and Fair elections:** The selection of candidates with a criminal history due to their potential for victory limits the choice of voters in electing a suitable candidate.
- It, therefore, violates the democratic principle of free and fair elections.
- **Good Governance:** The elections of criminals as legislators and ministers have an adverse impact on the democratic governance system.
- This creates a poor image of India's institutions and the quality of its elected representatives among the global community.
- **Loss of public trust:** Often politicians use illegal sources of money including black money to purchase votes and secure their positions.
- As a result, corrupt practices are normalized and the work of honest bureaucrats is hampered, leading to a loss of public trust.
- **Social disharmony:** The prevalence of criminals in politics leads to a culture of violence in society.
- It sets a negative precedent for the youth and reduces people's faith in democracy.

### Conclusion

- This trend of criminalization is expected to continue in the Lok Sabha elections in 2024 as parties fear they will lose if reforms are undertaken.
- Media management and citizen action are essential to raise awareness about the dangers of the criminalization of politics.

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## PRELIMS

### Art & Culture

#### A Fascinating Fusion Of Rock Art In Andhra Pradesh's Rudragiri

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: Art and Culture

**Prepp Mains Booster:** Art and Culture; Ancient Indian History

### Context:

- Recently, D. Kanna Babu, former Superintending Archaeologist of the Temple Survey Project (Southern Region) at the Archaeological Survey of India has discussed about the **historical significance and remarkable archaeological monuments found at Rudragiri hillock, located in the village of Orvakallu, Atchampet mandal, in Guntur district of Andhra Pradesh, India.**
- The site is known for its fascinating **combination of prehistoric rock paintings from the Mesolithic period** and exquisite **artwork from the Kakatiya dynasty.**

### About Rudragiri Hillock.

- This **site presents an intriguing blend of prehistoric rock paintings dating back to the Mesolithic period and exquisite artwork attributed to the Kakatiya dynasty,** offering a captivating glimpse into the past.
- Rudragiri, located in the serene surroundings of the Eastern Ghats, **features five naturally formed rock shelters at its foothill facing westward,** which played a vital role as dwelling places for people during the Mesolithic age approximately 5,000 B.C.



### Murals Found in Rudragiri Hillock:

- An intense battle between the Vanara brothers, Vali and Sugriva, with Rama shooting arrows at Vali.
- A grand sketch of Hanuman, accompanied by sacred symbols of the conch (Sankha) and the fire altar (Yagna Vedi) carrying the Sanjivani hill in his right hand, which symbolizes his mission to save Lakshmana's life.
- The prehistoric rock paintings from the Mesolithic era, with the figure of Hanuman superimposed in a unique 'Anjali' posture, folding his hands in a divine offering.
- The **esteemed Ganapati Deva Maharaja (1199-1262 AD), the esteemed founder of the Muppavaram temple and a prominent figure of the Kakatiya dynasty,** likely patronized the rich ancient mural heritage found at Rudragiri.



### About Kakatiya Kingdom

- Kakatiyas is an Andhra dynasty that flourished in the 12th century CE.**
- The Kakatiya dynasty ruled from Warangal (Telangana) from CE 1083-1323.
- Their territory comprised much of the present day Telangana and Andhra Pradesh, and parts of eastern Karnataka, northern Tamil Nadu, and southern Odisha.
- Their capital was Orugallu, now known as Warangal.
- Kakatiya Artworks:**
  - Kakatiya artworks reveal remarkable artistic brilliance from their period.
  - Despite some damage from exposure to elements, surviving sketches and **outlines showcase captivating scenes from the epic Ramayana, using various colors derived from white kaolin and different pigments.**

### Seven Products From Uttar Pradesh Get Geographical Indication Tag

Priority: High



Primary Source: The Hindu

**Prepp Prelims Booster:** Geographical Indications

**Prepp Mains Booster:** Issues relating to intellectual property rights

### Context:

- Recently, the **Geographical Indications Registry in Chennai** has given tags to seven different **products from Uttar Pradesh.**
- '**Amroha Dholak**', '**Mahoba Gaura Patthar Hastashlip**', '**Mainpuri Tarkashi**', '**Sambhal Horn Craft**', '**Baghpat Home Furnishings**', '**Barabanki Handloom Product**' and '**Kalpi Handmade Paper**' are the products that been given the Geographical Indication (GI) tag.
- Geographical indications (GIs) are intellectual property (IP) rights that serve to identify a product that originates from a specific geographical area and that has a quality, reputation, or other characteristics that are essentially attributable to its geographical origin.

### GI Products From Uttar Pradesh

- Amroha Dholak:** The Amroha Dholak is a **musical instrument** made of natural wood. Mango, jackfruit and teakwood is preferred for making the dholak's.

- Wood from mango and sheesham trees are used to carve the multiple sized and shaped hollow blocks, which are later fitted with animal skin, mostly goatskin, to create the instrument.
- There are around 300 small units producing wood-based drum instruments (dholak), which provide employment to over 1,000 artisans.
- **Baghpat Home Furnishings:** Baghpat and Meerut are famous for their exclusive handloom home furnishing product and running fabrics in cotton yarn since generations, and only cotton yarn are used in the handloom weaving process. Baghpat is famous for weaving on the frame loom instead of the pit loom since generations.
- **Barabanki Handloom Product:** The Barabanki district is known for fabric knitting through handlooms. Owing to the high demand of cotton clothing, there is also a huge demand for handloom products prepared using traditional technology. Weaving is done in urban as well as rural areas of the district. There are around 50,000 weavers and 20,000 looms at Barabanki and adjoining area. The annual turnover of the Barabanki cluster is projected to be ₹150 crore.
- **Kalpi Handmade Paper:** Kalpi has historically been a centre of **handmade paper manufacturing**. Historical details show that Munnalal 'Khadari', a Gandhian, formally introduced the craft here in the 1940s, though many locals say that Kalpi's association with paper-making dates further back into history. The **handmade paper-making cluster at Kalpi is a huge cluster, engaging more than 5,000 craftsmen and approximately 200 units.**
- **Mahoba Gaura Patthar Hastashlip:** The Mahoba Gaura Patthar Hastashlip is a **stone craft**. It is a very unique and soft stone with scientific name, the **'Pyro Flight Stone'**. Gaura stone craft is made of radiant white-coloured stone that is predominantly found in this region. It is cut into several pieces, which are then used for making various craft items.
- **Mainpuri Tarkash:** Tarkashi, a popular art form from Mainpuri in Uttar Pradesh, is primarily brass wire inlay work on wood.
- It was mainly used for khadaous (wooden sandals), a necessity for every household, since leather was considered unclean.
- **Sambhal Horn Craft:** The raw material is procured from dead animals that makes this industry environment friendly. They are completely hand-made. Sambhal's horn and bone products are known all over the world.
- The registration of a geographical indication is valid for a period of 10 years
- It can be renewed from time to time for further period of 10 years each.

### What is the benefit of registration of geographical indications?

- **Legal protection:** It confers legal protection to Geographical Indications in India and prevents unauthorised use of a Registered Geographical Indication by others.
- It encourages the preservation of biodiversity, local know-how and natural resources.
- **Economic prosperity:** Geographical Indications boost export and promotes economic prosperity of producers of goods produced in a geographical territory.
- It will automatically resolve the three fraught India issues of poor pay for talent, low female participation in the labour force, and urban migration.
- **Create Passion economy:** It will convert talent into entrepreneurship with gig workers, and create a "passion" economy, that is, a new way for individuals to monetise their skills and scale their businesses exponentially.
- It removes the hurdles associated with freelance work to earn a regular income from a source other than an employer.
- **Boost employment to population ratio:** The labour-intensive nature of GI offers the best solution to boosting the employment-to-population ratio in India, an abysmal 43 per cent compared with the 55 per cent global average.
- **Increase female labor participation: Monetising artisanal** work done at home will increase India's low female labour force participation rate, which at 21 per cent in 2019 was half the 47 per cent global average.
- **Reverse urban migration:** The hyper-localised nature of GI offers solutions to reverse urban migration and conserve India's ancient crafts, culture and food. Another revenue-earner, GI tourism, is typically a by-product of a strong GI ecosystem.

### U.S. hands over 105 antiquities to India following agreement

**Priority: Medium**



**Primary Source:** The Hindu

**Prepp Prelims Booster:** Art and culture

**Prepp Mains Booster:** Agreements involving India and/or affecting India's interests; Art and Culture

#### Context:

- Recently, during the visit of the Indian PM to the United States, pledged to work together to combat the illegal trafficking of cultural items.
- The United States handed back 105 trafficked antiques to India. The repatriation ceremony was

held in the Indian Consulate in New York, and the antiques will be carried to India soon after.

### India-US – Cultural Property Agreement

- To prevent stolen Indian antiquities from being transported overseas, India and the United States will collaborate on a new accord, the Prime Minister and President of the US stated in a joint agreement.
- Cultural property agreements**, according to the US State Department, are methods for combating illegal transportation of antiquities.
- The purpose of such an agreement is to conserve cultural assets by eliminating the motivation for future theft of archaeological and ethnological material.



### Trafficking of Cultural property in India

- The illicit exchange and transfer of precious artefacts, antiques, and cultural heritage objects is referred to as cultural property trafficking.
- The unauthorised excavation and plundering of archaeological sites is a big concern in India.
- This results in the loss of precious artefacts and alters the archaeological environment, making it harder to determine the historical and cultural relevance of the artefacts.
- Collectors, art dealers, and individual consumers drive the demand for Indian antiquities, creating a rich market for traffickers.
- It is difficult to monitor and identify stolen goods due to inadequate documentation and inventory management of cultural heritage sites and artefacts.
- The artefacts are frequently marketed in the international art market through shady routes.
- The local and international demand for Indian antiquities adds to the survival of this illegal activity.

### Efforts to Address the Issue

- The Indian government, in collaboration with several national and international organisations, has taken significant initiatives to combat cultural property trafficking.
- To govern the transportation and trading of cultural artefacts, India has implemented legislation such as the **Antiquities and Art Treasures Act of 1972** and

the **Protection of Cultural Property in the Event of Armed Conflict Act of 2010**.

- Improving law enforcement:** Improving the competence and resources of law enforcement authorities such as the police, customs, and specialised units such as the Archaeological Survey of India is critical for efficient cultural property trafficking prevention and detection.
- Awareness:** It is critical to raise public awareness about the necessity of conserving cultural assets and the implications of illicit trading.
- Educational programmes, campaigns, and efforts aimed at stakeholders, such as communities living near archaeological sites, can aid in the fight against human trafficking.

## Environment, Agriculture

### Global Tropical Primary Forest Cover Continued Decline In 2022: Study

Priority: Medium



Primary Source: The Hindu, Down to Earth

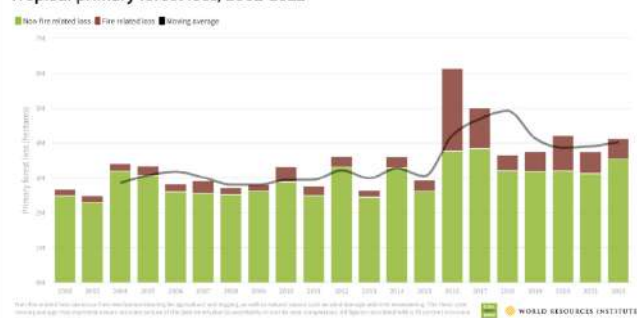
Prepp Prelims Booster: Environment

Prepp Mains Booster: Conservation, Environmental Pollution and Degradation

### Context:

- According to new research by the **World Resources Institute's (WRI) Global Forest Watch**, in 2022 tropical areas lost 4.1 million hectares of forest cover – equivalent to losing an area of 11 football fields per minute.
- This forest loss produced 2.7 billion tonnes of carbon dioxide emissions, which is around the same as India's annual emissions due to the combustion of fossil fuels.

Tropical primary forest loss, 2002-2022



### Findings of the report

- WRI measures progress on two goals –
  - Ending deforestation by 2030, and
  - restoring 350 million hectares (Mha) of lost and degraded forests by 2030 – that represents multiple global forest pledges.
- In order to meet the **2030 target**, global deforestation needs to be reduced by at least 10% every year.
- In 2022, even though the global deforestation rate was 3.1% lower than the baseline from 2018–2020, it

was still **over one million hectares above the level needed**. This puts the world off track to meet the 2030 goal.

- The world needs to **increase tree cover by 22 Mha per year**, between 2021 and 2030 to meet the target of restoring 350 Mha of forests globally by 2030.
- Despite **registering some gains**, the overall change in tree cover in the last 20 **years was a net loss of 100 Mha**.
- According to the report the world is not on track to meet most of its forest-related commitments and is **still losing forests and not restoring them** at the required rate.
- **Increase in loss of Primary forests:** Brazil and the Democratic Republic of Congo, the two countries with the most tropical forest cover registered losses of this resource in 2022.
- Brazil's high rate of primary forest cover loss occurred in the last year of Jair Bolsonaro's presidency whereas the Democratic Republic of Congo lost more than half a million hectares of primary forest cover in 2022 because of **more demand for agricultural land for the growing population** leading to an expansion of area under agriculture and encroachment of land hosting primary forests.
- A \$500 million agreement was signed at the **United Nations Climate Change Conference in 2021, in Glasgow**, to protect the Democratic Republic of Congo's forests, but it is yet to have an impact on the deforestation rate in the country.
- **India:** According to Global Forest Watch, India **lost 43.9 thousand hectares of humid primary forest** between 2021 and 2022, which accounts for 17% of the country's total tree cover loss in the period. The total tree cover loss in India between 2021 and 2022 was 255 thousand hectares.
- The total global tree cover loss in 2022 declined by 10%. This includes primary, secondary, and planted forests. This decrease, according to Global Forest Watch, is a direct result of a decrease in fire-related forest losses which decreased 28% from 2021. Non-fire losses in 2022 increased by slightly less than 1%.
- **Lower levels of loss of primary forests:** Indonesia and Malaysia managed to keep their primary forest cover loss to record-low levels in 2022. Costa Rica, China, Cote d'Ivoire, Vietnam, Gabon, Madagascar, Nicaragua, and Equatorial Guinea also managed to keep their primary forest level low in 2022.

#### The carbon costs of global wood harvests

- According to a new study led by World Resources Institute (WRI), the **world's wood harvests** will add 3.5–4.2 billion tonnes of carbon dioxide (CO<sub>2</sub>) yearly over the coming decades, which will be more than

10 percent of recent global annual emissions of carbon dioxide.


- The WRI study found that CO<sub>2</sub> emissions from **wood harvests will grow due to rising global demand for wood**, as more trees are used for **fuel** and for **making buildings, furniture, and paper** products.
- **Increased CO<sub>2</sub> emissions:** This level of emissions is more than **three times the annual emissions** from aviation and equals **common estimates of the emissions from deforestation** and other land use change due to agricultural expansion.
- Trees store a tremendous amount of carbon in their trunks, branches, and roots. When they are cut down, the stored carbon can be released over time or rapidly if the wood is burned.
- If wood harvesting is reduced, then the number of trees and plants above the ground (known as above-ground biomass) **could increase significantly**, which would result in the forests **capturing and storing more carbon dioxide (CO<sub>2</sub>)** from the atmosphere

\*[Click on this link to know more about Deforestation](#)

#### What are primary forests?

- Primary forests are mature, natural forests that have remained undisturbed in recent history.
- They often **store more carbon than other forests** and are rich sources of biodiversity.
- Primary forest loss is **almost irreversible in nature:** even if the green cover regrows, a **secondary forest is unlikely to match the extent of biodiversity** and carbon sequestering capabilities of a primary forest.
- **World Resources Institute (WRI):** WRI is a global nonprofit organization that works with leaders in government, business and civil society to research, design, and carry out practical solutions that simultaneously improve people's lives and ensure nature can thrive.

#### What Is Coral Bleaching?

**Priority:** Medium 

**Primary Source:** The Hindu

**Prepp Prelims Booster:** Geography

**Prepp Mains Booster:** Conservation, Environmental Pollution and Degradation

#### Context:

- Recently, a marine heat wave off Florida's coast has drastically increased water temperatures, alarming scientists. This unprecedented heat wave poses a significant risk, as it could result in one of the most severe coral bleaching events the State of Florida has ever seen.

#### What is coral Bleaching?

- When corals are stressed by changes in conditions such as temperature, light, or nutrients, they expel



the symbiotic algae living in their tissues, causing them to turn completely white.

### Why does Coral bleach?

- Coral and algae depend on each other to survive. Corals have a **symbiotic relationship** with **microscopic algae called zooxanthellae** that live in their tissues.
- Symbiosis is the interaction between two dissimilar organisms living in close physical association. In such relationships, plants or animals of different species may be dependent on one another for survival.
- These algae are the coral's primary food source and give them their color.
- When the symbiotic relationship becomes stressed **due to increased ocean temperature or pollution**, the algae leave the coral's tissue and the Coral is left bleached and vulnerable.
- Without the algae, the coral loses its primary source of food, turns white or very pale, and is more susceptible to disease.

### What Causes Bleaching?

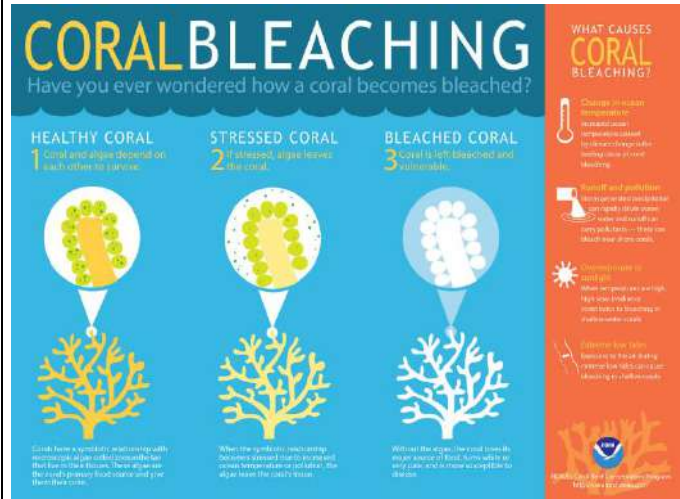
- **Change in ocean temperature:** Increased ocean temperature caused by **climate change is the leading cause** of coral bleaching.
- Runoff and pollution Storm-generated precipitation can **rapidly dilute ocean water and runoff can carry pollutants** – these can bleach near-shore corals.
- **Overexposure to sunlight:** When temperatures are high, high solar irradiance contributes to bleaching in shallow-water corals.
- **Extreme low tides:** Exposure to the air during extreme low tides can cause bleaching in shallow corals. NOAA's Coral Reef Conservation Program.

### Impact

- **Extinction of species:** Coral reefs serve as crucial habitats for numerous species, including sea turtles, fish, crabs, shrimp, jellyfish, sea birds, and starfish.
- They provide shelter, spawning grounds, and protection from predators.
- They also support organisms at the base of ocean food chains.
- The decline of coral reefs through bleaching poses a significant threat to various species already facing risks of extinction.
- **Compromise coastal safety:** Coral reefs are natural barriers that absorb the force of waves and storm surges, keeping coastal communities safe.
- Without them, expensive and less effective man made sea walls become necessary, causing environmental harm.
- **Increases overfishing:** Additionally, coral bleaching exacerbates overfishing issues by disrupting the

food web and depriving fish and crustacean species of their spawning and development sites. This loss has dire consequences for those who rely on these species for income or protein.

- **Impacts reef tourism:** Additionally, reef tourism, a significant source of revenue and employment, is negatively impacted when coral reefs bleach and lose their vibrant marine life.



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### PM-PRANAM: Biofertilizer scheme

**Priority: High**



**Primary Source:** The Hindu

**Prepp Prelims Booster:** PM-PRANAM Scheme

**Prepp Mains Booster:** Direct and Indirect Farm Subsidies; Government policies and interventions for development in various sectors and issues arising out of their design and implementation.

### Context:

- Recently, the Union Cabinet chaired by Prime Minister Narendra Modi approved the PM-PRANAM (PM Programme for Restoration, Awareness, Generation, Nourishment, and Amelioration of Mother Earth) scheme, which was announced in the last Budget. The Cabinet also approved Urea Gold Scheme, to address sulphur deficiency of soil and save input costs for the farmers
- Biofertilizer" refers to a material that contains living microorganisms that, when added to soil, seeds, or plant surfaces, colonize the rhizosphere or inside of the plant and encourage development by boosting the availability of primary nutrients to the host plant.



### PM-PRANAM Scheme

- The PM-PRANAM (PM Programme for Restoration, Awareness, Generation, Nourishment, and Amelioration of Mother Earth) scheme was aimed at saving the soil and promoting sustainable, balanced use of fertilizers and it involved the participation of State governments
- **Reduce promotion of chemical fertilizers:** The proposed scheme will help the government reduce its subsidy burden on chemical fertilizers, which is expected to rise 39 per cent to Rs 2.25 lakh crore in 2022-23 from Rs 1.62 lakh crore last year.
- The proposed scheme also aligns with the government's focus on promoting the **balanced use of fertilizers or alternative fertilizers** in the last few years.
- **Promotion of alternate sources:** The Centre would incentivise those States which would adopt alternative fertilizers with the subsidy that was saved by reducing the use of chemical fertilizers.
- For instance, if a State was using 10 lakh tonnes of conventional fertilizers and reduced its consumption by three lakh tonnes, then the subsidy saving would be ₹3,000 crore.
- Out of that subsidy savings, the Centre will give 50% of it – ₹1,500 crores to the State for **promoting the use of alternative fertilizer and other development works**

### Urea Gold scheme

- The Sulphur coated Urea (Urea Gold) is being introduced in the country for the first time.
- It is **more economical and efficient than the currently used Neem coated urea.**
- It will **address Sulphur deficiency** in the soil in the country.
- It will **also save input costs for the farmers** and also raise incomes for farmers with enhanced production & productivity.

### Market Development Assistance (MDA) for promoting Organic Fertilizers from Gobardhan Plants

- Market Development Assistance (MDA) scheme in the form of Rs 1500 per MT to support the marketing of organic fertilizers, viz., Fermented Organic Manures (FOM)/Liquid FOM/Phosphate Rich Organic Manures (PROM) produced as a by-product from Biogas Plants/Compressed Biogas (CBG) Plants set up under umbrella GOBARDhan initiative.
- Such organic fertilizers would be branded in the names of Bharat Brand FOM, LFOM and PROM. This on one hand will facilitate in **addressing the challenge of management of crop residue and problems of Stubble burning**, will also help in keeping the environment clean and safe and at the same time provide an additional source of income for farmers. Farmers will get organic fertilizers (FOM/LFOM/ PROM) at affordable prices.
- This initiative will facilitate the implementation of the Budget announcement of establishing 500 new waste-to-wealth plants under the GOBARDhan scheme for promoting a circular economy, by increasing the viability of these BG/CBG plants.
  - GOBARDhan supports the villages in safely managing their cattle waste, agriculture waste and organic waste in Rural areas.
  - It also helps villages convert their waste to wealth, improve environmental sanitation and curb vector-borne diseases.
  - The government of India provides Technical Assistance to every District and financial support of upto ₹50 lakhs per district to achieve safe disposal of cattle and organic waste.

### Way forward

- The gains of these policies will largely depend on how easily farmers adopt these and whether they can enhance or maintain the same productivity at affordable prices.

\*Click on this link to get more information on [Biofertilizers](#)

### Over 60 Species Of Plants That Can Survive Extreme Dehydration Found In Western Ghats

Priority: Medium



Primary Source: Down to Earth

Prepp Prelims Booster: Environment

Prepp Mains Booster: Biodiversity, Environment and Conservation

### Context:

- Recently, **researchers have found 62 species of plants that can withstand harsh environments, in the biodiversity hotspot of Western Ghats.**
- The **discovery of the species known as Desiccation-tolerant (DT) vascular plants**, has

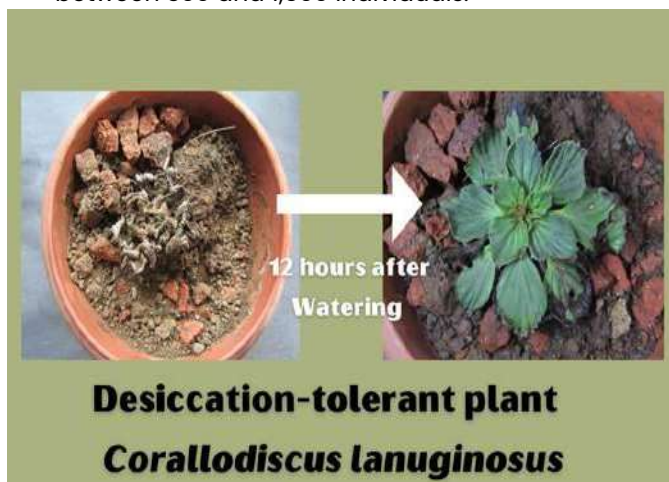
potential applications in agriculture, particularly in areas where water is insufficient.

### Key Findings

- The discovery of 62 plant species with desiccation tolerance holds promise for developing high-temperature tolerant crop varieties, ensuring food security amid climate challenges.
- Among them, 16 species are unique to India, and 12 are exclusive to Western Ghats outcrops.
- Researchers collected 26 random species samples during monsoon and post-monsoon at 17 sites between 2017 and 2020.
- The findings revealed that these resilient plants predominantly thrive in rock outcrops and partially shaded tree trunks within forests.
- Ferricretes and basaltic plateaus emerged as preferred habitats, with *Glyphochloa* being the dominant genus, mainly represented by annual species on plateaus.
- *Glyphochloa goensis*, *Glyphochloa ratnagirica*, and *Glyphochloa santapau* were exclusive to ferricretes.

### About Desiccation-tolerant (DT) Plants

- Desiccation-tolerant vascular (DT) plants **can endure high dehydration, losing up to 95% of their water content.**
- They are **often found in rocky outcrops** in the tropics and may regenerate fast when water sources are restored.
- Some species have been discovered to live at rising temperatures, which is critical for the warming world.
- DT plant variations are **found in both flowering and non-flowering plants**, as well as in temperate and tropical climates.
- The worldwide population of this species varies between 300 and 1,500 individuals.



### What makes plants Desiccation-tolerant?

- Desiccation-tolerant plants **possess unique adaptations that enable them to endure and survive extreme dehydration.**

- These adaptations include mechanisms to safeguard cellular integrity during water loss, such as the presence of a thick cuticle on their leaves, which minimizes water evaporation.
- By **effectively losing a substantial amount of water content, these plants can withstand prolonged periods of drought or arid conditions**, only to reawaken and regenerate once water becomes accessible again.
- These **remarkable strategies not only ensure their survival but also contribute to their ability to thrive in harsh and unpredictable environments where water availability is limited.**

### What are Vascular Plants?

- **Vascular plants, or tracheophytes, are a diverse group of plants that possess specialized tissues called vascular tissues**, which enable them to transport water, nutrients, and sugars throughout their structures.
- **These vascular tissues consist of xylem**, responsible for water and mineral transport, **and phloem**, which facilitates the movement of sugars and other organic compounds.

### Significance of Western Ghats

- The **Western Ghats is recognized as one of the 36 global biodiversity hotspots.**
- This incredible mountain range traverses through the states of Gujarat, Maharashtra, Goa, Karnataka, Tamil Nadu, and Kerala.
- The region holds immense significance as a hotspot for diverse and unique plant species, making it an essential ecological treasure.
- The **Western ghat serves as an important global Desiccation-tolerant (DT) hotspot.**

### Jowar An Ideal Alternative To Wheat In Times Of Increasing Temperatures

Priority: Medium 

Primary Source: The Hindu

Prepp Prelims Booster: Agriculture

Prepp Mains Booster: Major crops-cropping patterns in various parts of the country, - different types of irrigation and irrigation systems storage, transport and marketing of agricultural produce and issues and related constraints; e-technology in the aid of farmers.

#### Context:

- Recently, a research paper titled "Climate resilience of dry season cereals in India" has suggested that jowar is an ideal alternative to wheat due to its climate change resilience.
- A shift to Jowar is in line with the government's focus on millet for nutrition and the protection of marginal farmers.



### Why are there concerns about dependence on wheat?

- The **heatwave that occurred in India in March 2022** affected the harvest of wheat crops and the **Russia-Ukraine conflict** caused major disruptions in the international wheat supply chain.
- The **two events led to a drop in global wheat supplies and a price surge.**
- This has raised concerns over the availability of wheat and the global dependence on it as a staple food grain.
- **Wheat is a heat-sensitive crop** which means that its **water requirement and water footprint have increased** as a result of the rising temperatures.

### Research study

- The analysis which was published in Nature's Scientific Reports examined the sensitivity of wheat and jowar yields to increases in temperature and compared water requirements under different scenarios.
- **Wheat yields in India are likely to reduce by 5% with a significant increase in the water footprint by 2040 unless pragmatic changes are made in the way in which wheat is cultivated.**
- It examined the historical trends in rabi cereal production in India.
- It compared temperature sensitivity and water requirements for both cereals and assessed their sensitivity of yields and water requirements to increasing temperatures in the future.

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### What are the findings of the study?

- It highlighted the need for **climate-smart agriculture** interventions in the cultivation of wheat.
- **Wheat, which is a prominent rabi crop, was found to be highly sensitive to increases in maximum daily temperature in multiple stages of its growth during the post-monsoon, dry winter season.**
- In comparison, **jowar is capable of handling temperature increases with far less impact on yields.**
- Traditionally grown sorghum or jowar offers better resilience to climate change and requires significantly less water than wheat.
- **It requires 1.4 times more water than jowar because its growing cycle extends into the summer.**



### Recommendations

- It recommended immediate **diversification from mainstream cereals such as wheat to sorghum in order to counter the effect of post-monsoon increases in temperature.**
- **Agroecological** principles recommend the replacement of wheat and rice with millet crops such as pearl millet (bajra), finger millet (ragi), foxtail millet, and barnyard millet.

### Wheat and Jowar production in India

- **India is the second largest producer of wheat in the world** after China, with production increasing by 40% over the early 2000s.
- India exports its surplus yield of wheat to Bangladesh, Nepal, Afghanistan, Somalia, and Sri Lanka.
- The growth in wheat production in India began with the Green Revolution in the 1960s and has since gone up since the turn of the century due to both increases in yield (26%) and area (17%).

# Yearlong Mentorship for UPSC 2024



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## Jowar

- Jowar production declined by 5% in the same period which was attributed to a 21% loss in the area under production despite yields increasing by 37%.
- Jowar is mainly grown in Maharashtra, Karnataka, Rajasthan, Tamil Nadu, Andhra Pradesh, Uttar Pradesh, Telangana, and Madhya Pradesh.

## Conclusion

- Agriculture scientists have advocated against trends in favor of expanding wheat cultivation from the north into the hotter parts of the country.
- They have instead recommended the use of traditional crops such as millet which are nutritionally and ecologically more beneficial.

## Geography

### Massive 'Shelf Cloud' Formation Spotted In Haridwar

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: Geography

Prepp Mains Booster: Important Geophysical phenomena such as earthquakes, Tsunami, Volcanic activity, cyclones.

#### Context:

- Recently, a Video featuring a massive shelf cloud was captured on video in Haridwar, Uttarakhand.

#### What is Shelf Cloud?

- A shelf cloud is a low, horizontal wedge-shaped arcus cloud, **resembling a shelf hanging from the sky**.
- The **shelf cloud is attached to the base of the parent** cloud above it (usually a thunderstorm).
- It is usually associated with a solid line of storms. The wind will come first with rain following behind it. It may appear to rotate on a horizontal axis.
- **Rising cloud motion** often can be seen in the leading (outer) part of the shelf cloud, while the underside often appears turbulent, boiling, and wind-torn.

#### Formation

- The formation of shelf clouds occurs when a mass of cold and dense air is forcefully driven by the wind into a warmer air mass.
- This phenomenon takes place during the downdraft of a thunderstorm, where the cold air rapidly descends and disperses, creating a strong gust front.



#### Are they dangerous?

- Shelf clouds usually don't cause tornadoes or extremely dangerous weather on their own.
- They often appear ahead of powerful thunderstorms with heavy rain, strong winds, and occasionally hail or tornadoes.
- These clouds usually form with thunderclouds and downdrafts, they are associated with strong wind gusts, heavy rain or hail.

#### What is Arcus Cloud?

- Arcus clouds are **spectacular low-level, long, and thin clouds** associated with powerful thunderstorms.
- They are sometimes **seen beneath Cumulonimbus clouds**.
- There are two types of Arcus clouds: Shelf clouds and Roll clouds.
- Shelf clouds are attached to the **storm cloud**, whereas Roll clouds are a **horizontal column** separated from the storm cloud.

#### Formation

- When a cold downdraft from a cumulonimbus cloud reaches the ground, the cold air may spread rapidly along the ground, pushing existing warm moist air upwards.
- As this air rises, water vapor condenses into the patterns associated with Arcus clouds. The new cloud may roll if it experiences different wind directions above and below.
- As Arcus clouds form with cumulonimbus clouds and downdrafts, they are associated with strong gusty winds, heavy rain or hail showers as well as thunder and lightning.
- **Occurrence:** The clouds have been seen in Kolkata, Madurai, Mumbai, Chennai, and several other Indian cities in the monsoon months.
- They are also seen around the world routinely in places such as Australia, Alaska, California, etc., during powerful thunderstorms.

**Air mass:** An air mass is a large volume of air in the atmosphere that is mostly uniform in temperature and moisture. Air masses can extend thousands of kilometers in any direction, and can reach from ground level to the stratosphere—16 kilometers (10 miles) into the atmosphere.

**Thunderstorm:** A thunderstorm, also known as an electrical storm or a lightning storm, is a storm in which lightning strikes and produces a tremendous audible effect in the Earth's atmosphere.

**Tornado:** A tornado is a narrow, violently rotating column of air that extends from a thunderstorm to the ground. Because wind is invisible, it is hard to see a tornado unless it forms a condensation funnel made up of water droplets, dust and debris.

**Cumulonimbus:** It is a dense, towering vertical cloud, typically forming from water vapor condensing in the lower troposphere that builds upward carried by powerful buoyant air currents.

\*Click here to read more about [Types of Cloud & Forms of Precipitation](#)

## Government Schemes

### Govt Launches Meri Maati, Mera Desh Campaign

Priority: High



Primary Source: The Hindu

**Prepp Prelims Booster:** 'Meri Maati Mera Desh

**Prepp Mains Booster:** Government Policies And Interventions For Development In Various Sectors, Prelims

#### Context:

- Recently, the **Union government has launched the 'Meri Maati Mera Desh' campaign as a culmination of the 'Azadi Ka Amrit Mahotsav' celebration.**
- The campaign aims to honor and remember those who made the supreme sacrifice for the nation.

#### About the Campaign

- Under the campaign, **soil collected from various parts of the country will be utilized to develop a garden called the Amrit Vatika** along the Kartavya Path in Delhi.
- At the panchayat-level programs, it will involve the installation of a shilaphalakam (memorial plaque) engraved with the names of the bravehearts who sacrificed their lives for the country.
- The Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) will be employed to ensure the participation of local communities and resources.
- As part of 'Vasudha Vandhan,' **every gram panchayat or village will renew Mother Earth by**

**planting 75 saplings** of indigenous species, creating an Amrit Vatika.

#### Aim of the Campaign:

- The campaign aims to honor and remember the brave souls who made the ultimate sacrifice for the nation's freedom, unity, and integrity.
- It encourages communities to take responsibility for protecting Mother Earth and conserving biodiversity.
- By involving local communities, the campaign emphasizes grassroots engagement and active participation of citizens in building the nation's legacy.

#### What are the causes of Soil Exploitation?

- Excessive rain:** It can spoil the soil by causing erosion, leaching essential nutrients, and promoting waterlogging, which deprives plants of oxygen.
- Overgrazing:** It leads to soil compaction, reduced vegetation cover, and depletion of plant roots, resulting in erosion and decreased soil fertility. A 2019 global study indicated that overgrazing could account for 35.9% of soil degradation.
- Deforestation and Urbanization:** It has resulted in the conversion of forests into agricultural lands and residential areas, which is significantly deteriorating soil health. Due to urbanization, water holding capacity of the soil decreases and runoff rate increases which in turn led to soil erosion.
- Overuse of Agrochemicals:** It contributes to soil acidification, resulting in a reduction of organic matter in the soil, stunting plant growth and causing greenhouse gases to be released.
- Climate change:** It can affect the soil by altering precipitation patterns, temperature, and extreme weather events, leading to increased erosion, soil degradation, and changes in soil nutrient availability.

#### Prevention of Soil Erosion


- In order for soil to be healthy, the right combination of water, air, minerals, and organic matter is required.
- Ensuring continuous ground cover, such as by planting cover crops, also aids in the binding of soil to roots.
- Afforestation is one of the best methods to conserve soil.
- Carbon farming methods of agriculture are needed that can help the land store more carbon and maintain soil health and atmospheric stability.
- Terracing is an extremely effective method of erosion control that has been used for thousands of years by people all over the world.

#### Soil Conservation Schemes in India

- Pradhan Mantri Krishi Sinchayee Yojana

- National Mission for Sustainable Agriculture (NMSA)
- Soil Health Card Scheme
- Rashtriya Krishi Vigyan Yojana (RKVY)
- NABARD Loan- Soil & Water Conservation Scheme under RIDF

## Centre Announces Scheme For Minor Rape Victims

Priority: Medium 

Primary Source: The Hindu

Prepp Prelims Booster: Welfare Schemes

Prepp Mains Booster: Welfare schemes for vulnerable sections of the population by the Centre and States and the performance of these schemes

### Context:

- Recently, the **Women and Child Development Ministry** announced a scheme for Minor Rape Victims, recognizing the trauma faced by them, the government has decided to provide medical, financial, and infrastructural support to victims in cases where sexual assault results in pregnancies.
- The special scheme would operate under the aegis of the **Nirbhaya Fund** and an amount of ₹74.1 crore has been allocated for the same.

### About the scheme

- Under the scheme, **immediate, emergency and non-emergency access** to a range of services including access to education, police assistance, maternity, neonatal and infant care, psychological and mental counselling, **legal support and insurance cover will be provided to the girl child victim and her newborn under one roof to enable access to justice** and rehabilitation of such girl child victims.
- It will **not be mandatory for the girl child victim to have a copy of a first information report to avail of benefits under the scheme.**
- However, it shall be the responsibility of the persons responsible for the implementation of the scheme to ensure that information is provided to the police and FIR is registered.
- Any girl who is below 18 years of age and is a victim of rape as per the provisions of the POCSO Act and has become pregnant due to such assault or rape would be covered under the scheme. Such a victim should either be an orphan or have been abandoned by the family.
- Additionally the government has leveraged the **administrative structure of Mission Vatsalya** in collaboration with State governments and Child Care institutions [CCIs] to actualise this support to minor victims.
- Mission Vatsalya Scheme is a roadmap to achieve development and child protection **priorities**

**aligned with the Sustainable Development Goals (SDGs).** It lays emphasis on **child rights, advocacy and awareness along with strengthening of the juvenile justice care and protection system** with the motto to 'leave no child behind'. The Juvenile Justice (Care and Protection of Children) Act, 2015 provisions and the Protection of Children from Sexual Offences Act, 2012 form the basic framework for implementation of the Mission.

### Need for the Scheme

- According to **National Crime Records Bureau (NCRB) data**, 51,863 cases were reported under the **POCSO Act in 2021**, and of them, 33,348 or 64% of cases were of sexual assault.
- **99% of these 33,348 cases were committed against girls** and in many of these cases, girls become pregnant and bear several physical and mental health concerns, which are further aggravated when they are **disowned or abandoned by their own families or are orphaned.**

### Nirbhaya Fund

- Following the tragedy of December 2012, the Government has set up a dedicated fund – Nirbhaya Fund – which can be utilized for projects specifically designed to improve the safety and security of women.
- It is a non-lapsable corpus fund, being administered by the Department of Economic Affairs, Ministry of Finance.
- As per the guidelines issued by Ministry of Finance dt 25.03.2015, the Ministry of Women and Child Development (MWCD) is the nodal Ministry to appraise/recommend proposals and schemes to be funded under Nirbhaya Fund

## Reports & Indices

### Bridging The Gap: On India And Gender Gap Report

Priority: Medium 

Primary Source: The Hindu

Prepp Prelims Booster: Gender Gap Report

Prepp Mains Booster: Salient features of Indian Society, Social empowerment

### Context:

- Recently, the annual **Gender Gap Report** ranked India 127th out of 146 countries in terms of gender parity, rising up eight places from 135th in 2022.
- India has performed well in education and political empowerment but concerns have been raised about the country's poor performance on economic empowerment and health and survival.

### How has India performed on the Global Gender Gap Report 2023?



- India has improved its performance on the **Global Gender Gap Report 2023, closing 64.3% of its overall gender gap.**

### Political empowerment

- Women account for more than **40% of representation in local governance** following the enactment of the [73rd](#) and [74th](#) Amendments.
- However, **women account for only 15.1% of India's parliamentarians**, which is the highest since 2006.
- It recommended that Parliament enact the pending **Women's Reservation Bill**, under which 33% of seats in the Lok Sabha and State Legislative Assemblies will be reserved for women.
- Nagaland which became a state in 1963 elected its first women legislators in 2023.
- India ranked 59th** on the political empowerment subindex.

### Economic participation and opportunity

- India's performance (142nd rank)** has been among the lowest with less than 40% economic parity between men and women in India.
- Although improvements in wage and income parity have been observed, the proportion of women in senior positions and technical roles has decreased.
- The impacts of the pandemic were much more negative on women than on men.
- The drop in women's labor participation rates contributed to a reduction in household incomes.
- Even when employed, women are constrained by patriarchal, cultural norms, and safety concerns which also limit the opportunities available to them.



### Education

- India ranked 26th** on the education indicator and has achieved near parity in enrolment across all levels of education.
- One of the major factors in the lower participation of women in the economy is the burden of performing the majority of domestic work, leaving them unable to seek out paid work or join skilling programmes.
- Education with the guarantee of employment will improve all development indices for women and also break the vicious cycle of early marriage leading to poor maternal and child health.

### Health and survival

- India's performance (59th)** on the health indicator has been concerning despite the gains made in **sex ratio at birth** contributing to improved parity.
- It recommended that girls get access to education through school and college and that they are provided access to paid work.


### Global Gender Gap Report

- The **Global Gender Gap Report** is an annual index that has been published by the **World Economic Forum** to measure gender equality since 2006.
- The report assesses countries on their performance in dividing resources and opportunities among their male and female populations.
- It measures scores on a 0-to-1 scale.
- In comparison to India's 127th rank, its neighbors have been ranked - Pakistan (142nd), Bangladesh (59th), China (107th), Nepal (116th), Sri Lanka (115th), and Bhutan (103rd).**

### Conclusion

- The progress towards achieving gender equality by 2030 has been disrupted by the pandemic meaning more work must be done towards bridging the gap and ensuring holistic development in society.

### UNCTAD's World Investment Report 2023

Priority: High 

Primary Source: Mint

Prepp Prelims Booster: World Investment Report

Prepp Mains Booster: Important International Institutions; Economy

### Context:

- Recently, **the United Nations Conference on Trade and Development (UNCTAD) published its World Investment Report 2023.**
- Foreign Direct Investment (FDI) in developing countries in Asia remained flat at \$662 billion** during 2022, as compared to the previous year, despite clocking about half of global inflows.

### What is the World Investment Report?

- The **World Investment Report examines global trends in Foreign Direct Investment (FDI)**, as well as developing approaches to improve FDI's contribution to development at the regional and country levels.
- It is **released by the United Nations Conference on Trade and Development (UNCTAD).**
- The report establishes a global baseline for tracking capital flows in the energy sector and investigates how investors perceive risks and possibilities in all sectors of fuel and electricity supply, essential minerals, efficiency, research and development, and energy finance.

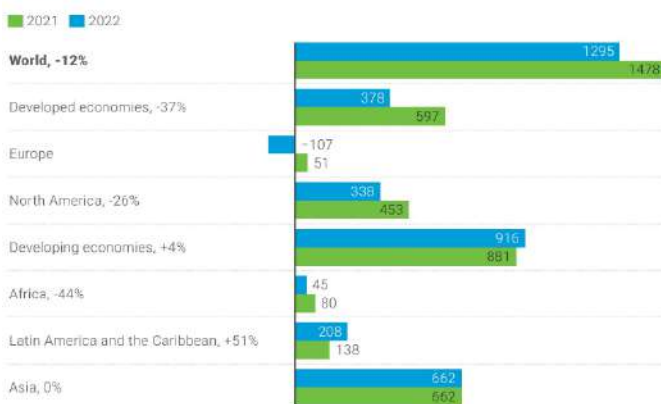
### Key Findings of the Report

- India and ASEAN were the most buoyant recipients of Foreign direct investment (FDI), with increases of 10 and 5%, respectively.
- China is the second largest FDI host country in the world which saw a 5 percent increase.
- **FDI in developing countries in Asia:** Developing countries clocked higher in incoming FDI compared to developed economies. Among the developing countries in Asia, incoming FDI was highly concentrated in a few countries, namely, China (and Hong Kong), Singapore, India, and the United Arab Emirates (UAE), which together accounted for about 80% of inflows into the region.
- **Investment gap in renewable energy:** The growth in international investment in renewable energy has been concentrated mostly in developed countries. It has nearly tripled since the adoption of the Paris Agreement in 2015.
- **Investment gap in Sustainable development Goals:** It was emphasized that developing countries face an investment gap of \$2.2 trillion annually, out of a \$4 trillion annual funding gap for the Sustainable Development Goals, for reaching energy transition goals.



## Global foreign direct investment fell by 12% in 2022

By subregion, billions of US dollars, per cent, 2021 and 2022



Source: UNCTAD, FDI/MNE database (<https://unctad.org/fdi/statistics>).

### Reason for the decline in Global FDI

- The overall global FDI declined by 12% to \$1.3 trillion in 2022 after a strong rebound in 2021 following the steep drop induced by the coronavirus pandemic in 2020.
- The decline of global FDI is attributed to the lower volumes of financial flows and transactions in developed countries
- The slowdown was also driven by overlapping crises: the war in Ukraine, high food and energy prices, and debt pressures.
- The fall in overall FDI flows was mostly caused by financial transactions in developed economies, where FDI fell by 37% to \$378 billion.

### FDI in India

- India was the **third largest recipient of foreign direct investment (FDI) in greenfield projects** in the world in 2022.
- The FDI flows into India rose 10 percent from \$44.7 billion in 2021 to \$49.3 billion in 2022.
- India was the **second largest recipient of international project finance in the world in 2022.**

### About United Nations Conference on Trade and Development (UNCTAD)

- It is a permanent inter-governmental body that was established by the United Nations General Assembly in 1964.
- Its primary responsibility is to address development issues, with a specific focus on international trade.
- UNCTAD plays a crucial role in formulating policies across various domains such as trade, technology, finance, aid, and transport. These areas are considered vital priorities for the organization.
- The Conference of UNCTAD is held once every four years and serves as a platform for member countries to come together and discuss these important issues.
- UNCTAD consists of 195 member countries and is headquartered in Geneva, Switzerland.
- UNCTAD publishes several reports that provide valuable insights into trade and development. Some of the notable reports include the Trade and Development Report, The Least Developed Countries Report, and the Commodities and Development Report, etc.

## Global Multidimensional Poverty Index (MPI): UNDP

Priority: Medium

Primary Source: The Hindu

Prepp Prelims Booster: Global Multidimensional Index

Prepp Mains Booster: Issues relating to poverty and hunger; Poverty and developmental issues

### Context:

- According to the latest update of the **Global Multidimensional Poverty Index (MPI)** released by the **United Nations Development Programme (UNDP)** and the **Oxford Poverty and Human Development Initiative (OPHI)** at the University of Oxford, about 415 million people moved out of poverty in India within 15 years from 2005/2006 to 2019/2021.
- It said that 25 countries, including India, successfully **halved their global MPI values within 15 years**, showing that rapid progress is attainable. These countries include Cambodia, China, Congo, Honduras, India, Indonesia, Morocco, Serbia, and Vietnam

### Progress made by India

- The report demonstrates that poverty reduction is achievable.

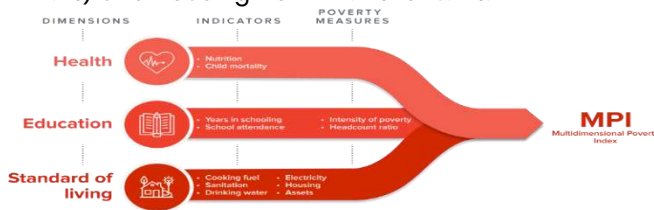
- In 2005–06, about 645 million people were in multidimensional poverty in India, with this number declining to about 370 million in 2015–16 and 230 million in 2019–21.
- The incidence of poverty fell from 55.1% in 2005–06 to 16.4% in 2019–21.
- **Improvement across all indicators:** The deprivation in **all indicators declined** in India and according to the report the poorest States and groups, including children and people in disadvantaged caste groups, had the fastest absolute progress.

### Health

- **Nutrition and child mortality:** People who are **multidimensionally poor and deprived under the nutrition indicator** in India declined from 44.3% in 2005/2006 to 11.8% in 2019/2021, and child mortality fell from 4.5% to 1.5%.

### Standard of living

- **Cooking fuel:** The people who are poor and deprived of cooking fuel fell from 52.9% to 13.9% and those **deprived of sanitation fell from 50.4% in 2005/2006 to 11.3% in 2019/2021.**
- The percentage of people who are multidimensionally poor and deprived fell from 16.4 to 2.7 during the period, electricity (from 29% to 2.1%) and housing from 44.9% to 13.6%.



#### Indicators and their weights



Sub-indices of the National MPI

### Global progress

- Countries with varying levels of poverty have successfully halved their global MPI (Multidimensional Poverty Index) value.

- 17 countries achieved this feat with initial poverty rates below 25%, while India and Congo started with rates above 50%.
- According to the 2023 release, 1.1 billion people, slightly over 18% of the global population, live in severe multidimensional poverty across 110 countries.
- Some countries managed to halve their MPI in as little as four to 12 years.
- This demonstrates the feasibility of the Sustainable Development Goal (SDG) target of halving poverty within 15 years, as defined by each country.

### Concerns

- **Sub-Saharan Africa and South Asia:** Sub-Saharan Africa (534 million) and South Asia (389 million) are home to approximately five out of every six poor people.
- Nearly **two-thirds of all poor people** (730 million people) live in middle-income countries whereas low-income countries constitute only 10% of the population included in the MPI, however, these are where 35% of all poor people reside.
- **Rural-Urban:** Poverty predominantly affects rural areas, with 84% of all poor people living in rural areas. Rural areas are poorer than urban areas across all regions of the world.
- **Child poverty:** Children **under the age of 18 account for half of MPI-poor people (566 million).** The poverty rate among children is 27.7%, while among adults, it is 13.4%.
- In over half the countries covered by the report, there was either no statistically significant reduction in child poverty or the MPI value fell more slowly among children than among adults during at least one period, suggesting that child poverty will continue to be a pressing issue, particularly in relation to school attendance and undernutrition.
- **Impact of the pandemic:** The **lack of post-pandemic data** for most of the 110 countries covered by the global MPI restricts the understanding of the pandemic's effects on poverty.
- The **negative impacts** of the pandemic in dimensions such as **education** are significant and can have long-lasting consequences.

### Multidimensional Poverty Index

- The Multidimensional Poverty Index is used to measure acute multidimensional poverty in developing countries. In 2010, the Oxford Poverty and Human Development Initiative (OPHI) and the Human Development Report Office of the UNDP launched the index.

- The global MPI monitors poverty reduction and informs policy, showing how people experience poverty in different aspects of their daily lives – from access to education and health to living standards such as housing, drinking water, sanitation and electricity.

### Multi-Dimensional Poverty

- According to the OPHI “Multidimensional poverty encompasses the various deprivations experienced by poor people in their daily lives – such as poor health, lack of education, inadequate living standards, disempowerment, poor quality of work, the threat of violence, and living in areas that are environmentally hazardous, among others.” Further, an individual who is deprived of one-third or more of the weighted indicators is multidimensionally poor. While any person deprived of one-half or more of the weighted indicators would fall into extreme multidimensional poverty.
- Recently '**National Multidimensional Poverty Index: A Progress of Review 2023** released by NITI Aayog stated that India witnessed 13.5 crore people moved out of multidimensional poverty between 2015-16 and 2019-21 with the fastest reduction in Uttar Pradesh, Bihar, Madhya Pradesh, Odisha, and Rajasthan.

### What does the report state?

- Decline in Multidimensional poverty:** According to the report India has registered a significant **decline of 9.89 percentage points in the number of India's multidimensionally poor from 24.85% in 2015-16 to 14.96% in 2019-21.**
- Rural-Urban:** The rural areas witnessed the fastest decline in poverty compared to urban areas. The rural areas saw a decline in poverty from 32.59% to 19.28%, while the urban areas saw a reduction in poverty from 8.65% to 5.27%.
- The fastest reduction in the proportion of multidimensional poor was observed in the states of Uttar Pradesh, Bihar, Madhya Pradesh, Odisha, and Rajasthan.
- Reduction in intensity of poverty:** In five years, the MPI value decreased by half, from 0.117 to 0.066, and the intensity of poverty decreased from 47% to 44%, putting India on track to meet SDG target 1.2 (to reduce multidimensional poverty by at least half) years before the deadline of 2030.
- All 12 parameters of the MPI have shown marked improvements.

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successfully selected last year, this program offers you the opportunity to be guided by some of the finest mentors in India. Take a step closer to your UPSC goals. Your journey to success begins here. [Contact us today at +91-9289130503 via call or WhatsApp]

## India Removed From UNSG Report On Impact Of Armed Conflict On Children

Priority: Medium



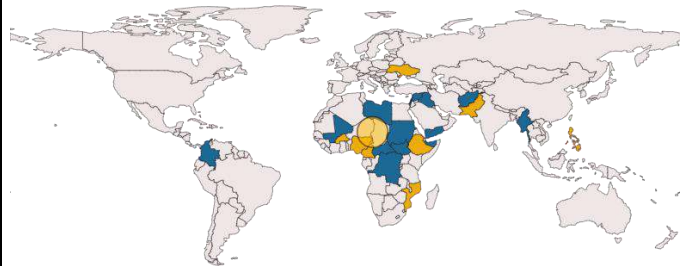
Primary Source: The Hindu

**Prepp Prelims Booster:** Report on Children and Armed Conflict

**Prepp Mains Booster:** Important International institutions, agencies and fora- their structure, mandate; Mechanisms, laws, institutions, and Bodies are constituted for the protection and betterment of these vulnerable sections.

### Context:

- Recently, UN Secretary-General Antonio Guterres **removed India from his annual report on Children and Armed Conflict**, citing protective measures taken by the Indian government. India has been mentioned since 2010 for alleged recruitment and use of boys by armed groups in Jammu and Kashmir.



### Report of the United Nations Secretary-General (UNSG) on Children and armed conflict

- In the latest report, UN Secretary-General called upon **India to implement the remaining measures identified in consultation** with his special representative and the United Nations. These include:
  - the training of armed and security forces on child protection,
  - prohibition of the use of lethal and non-lethal force on children,
  - ending the use of pellet guns, and
  - ensuring that children are detained as a last resort and for the shortest appropriate period of time.
- UNSG stressed the implementation of measures to **prevent all forms of ill-treatment in detention** and the **full implementation of the Juvenile Justice**

**(Care and Protection of Children) Act** and the **Protection of Children from Sexual Offences Act.**

### Steps taken by India

- In last year's report, UNSG was concerned by the "increased number of violations against children verified in Jammu and Kashmir", and had called upon the Indian government to strengthen child protection.
- UNSG highlighted the technical mission of the office of his special representative in July 2022 to identify areas of cooperation for child protection, and the **workshop on strengthening child protection held in Jammu and Kashmir** last November by the government, with the participation of the United Nations.
- The UN chief had **welcomed the legal and administrative framework** for the protection of children and improved access to child protection services in Chhattisgarh, Assam, Jharkhand, Odisha and Jammu and Kashmir, and progress in the **creation of a Jammu and Kashmir Commission for Protection of Child Rights.**
- The Government of India **had been consistently engaged in efforts to exclude the country's name from this list.** It led to an agreement to appoint a **national focal point to identify priority national interventions to enhance the protection of children**, a joint technical mission to hold inter-ministerial, technical-level meetings with the UN to identify areas of enhanced cooperation for child protection
- India was mentioned in the report of the **Secretary-General on Children and armed conflict since 2010** along with other countries of Burkina Faso, Cameroon, Lake Chad basin, Nigeria, Pakistan, and the Philippines for alleged recruitment and use of boys by armed groups in Jammu and Kashmir: detainment of boys by Indian security forces in J&K for their alleged association with armed groups, or on national security grounds.

### Countries where violations against children during armed conflict were recorded

- In its annual report on children and armed conflict, UNSG said that globally in 2022, children continued to be disproportionately affected by armed conflict, and the number of children verified as affected by grave violations increased compared with 2021.
- The United Nations verified 27,180 grave violations, of which 24,300 were committed in 2022 and 2,880 were committed earlier but verified only in 2022. Violations affected 18,890 children (13,469 boys, 4,638 girls, 783 sex unknown) in 24 situations and one regional monitoring arrangement.
- The **highest numbers of violations were the killing (2,985) and maiming (5,655) of 8,631 children,**


followed by the recruitment and use of 7,622 children and the abduction of 3,985 children.

- Children were **detained for actual or alleged association with armed groups** (2,496), including those designated as terrorist groups by the United Nations, or for national security reasons.
- The United Nations verified the killing (253) and maiming (656) of 909 children (732 boys, 177 girls), attributed to unidentified perpetrators (694), Islamic State in Iraq and the Levant-Khorasan (ISIL-KP) (112), the Taliban (98) and cross-border shelling from Pakistan (5).

### The Impact of Armed Conflict on Children

- In 1996, Graça Machel, a former Minister of Education of Mozambique, presented a report to the UN General Assembly highlighting the disproportionate impact of war on children and identified them as the primary victims of armed conflict.
- The report led to the adoption of the **General Assembly's Resolution 51/77**, which created the mandate and recommended that the Secretary-General appoint **a Special Representative on the impact of armed conflict on children.**
- The resolution also requested that the **Special Representative prepare reports on the situation of children affected by armed conflict** to be presented to the UN General Assembly and Human Rights Council.

### What Is The Farmers Distress Index?

Priority: High 

Primary Source: Down to Earth

Prepp Prelims Booster: Farmers disaster Index

Prepp Mains Booster: Major crops-cropping patterns in various parts of the country, - different types of irrigation and irrigation systems storage, transport and marketing of agricultural produce and issues and related constraints; e-technology in the aid of farmers.

### Context:

- Recently, the Central Research Institute for Dryland Agriculture (CRIDA) has stated that the work on its early warning system called the 'farmers distress index' is in the final stages.
- The index will try to anticipate distress and prevent its spread by pre-warning different stakeholders and also carrying out interventions to prevent income shocks to farmers.

### What is the Farmer's Distress Index?

- The **Central Research Institute for Dryland Agriculture (CRIDA)** under the **Indian Council of Agricultural Research (ICAR)** is developing an index that aims to minimize the agrarian damage from crop failure and income loss.

- It is being developed in the form of a mobile or desktop application and will be handed over to the central government once work is completed.
- It aims to **predict the distress faced by Indian farmers due to the increase in extreme climate events, market and price fluctuations, which have led to numerous farmer suicides.**
- The Index will prevent the distress from spreading from a few farmers to the village or block level.
- It will have warning systems to alert stakeholders including central, state, local, and non-government agencies about the possibility of future occurrence of farmer distress in a block or district.
- This will allow all stakeholders to adopt necessary preventive measures to ensure the fallout is minimal.



### How does the Index track distress?

- In the first step, local newspapers, media, and social media platforms will be analyzed for reports of localized farmer distress such as debt repayment, suicides, pest attacks, droughts, floods, migration, etc.
  - These incidents could either be localized or have the potential to spread wider.
- Contact details of marginal, small, and tenant farmers in the area will be collected, and telephonic interviews conducted.
- The interviews have **21 standardized questions to gauge early signs of distress and the answers will be mapped against seven indicators.**
  - Exposure to droughts, floods, crop failure due to pest attacks, livestock deaths, etc
  - Debt
  - Adaptive capacity of farmers and local governments through schemes
  - Landholding and irrigation facilities
  - Sensitivity, mitigation, and adaptation strategies like growing of contingency crops
  - Immediate distress triggers such as health-related expenditure
  - Socio-psychological factors and impacts.
- It must be noted that **not all exposures to risk may lead to distress** as farmers who follow mitigation

and adaptation strategies have an adequate adapting capacity that helps them avoid distress.

### How does the Index work?

- The degree of distress faced by the farmer will be identified on the basis of the response to the 21 questions.
- The index will have **scores between 0 and 1.**
  - A **value between 0 and 0.5 indicates low distress while 0.5–0.7 indicates moderate distress and scores above 0.7 indicates severe distress.**
- If the index value is severe, the component of the index which causes the most distress will be identified allowing stakeholders to take targeted steps.

### How will the index help?

- The Index will be made available to state governments, agriculture departments, rural development departments, agriculture universities that possess databases of local farmers, and civil society organizations.
- These agencies can then implement steps to minimize the distress faced by farmers based on the severity of the crises.
  - These actions could include direct benefit transfer, mid-term release of claims under the **Pradhan Mantri Fasal Bima Yojana (PMFBY)** in cases of crop failure, guarantees of work under the **MGNREGS**, and increased supply of rations under the **Public Distribution System**.
- The government can use the findings of the index to provide interim relief to farmers under the PMFBY scheme as full claims are processed only after the full survey, which affects farmers financially due to the delay.
- If the distress is found to be gender-based, then the government could develop methods to improve women's income through existing schemes.

## External Sector, Infrastructure, Energy

### India's FY23 External Debt Rises To \$624.7 Billion: RBI

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: Indian Economy

Prepp Mains Booster: Indian Economy and issues relating to planning, mobilization, of resources, growth, development

#### Context:

- According to data released by the Reserve Bank of India (RBI), **India's external debt increased by \$5.6 billion to reach \$624.7 billion at the end of March 2023, compared to the previous year.**
- However, the external debt to GDP ratio declined from 20% to 18.9% during the same period.

## Key Highlights

- **Valuation gains**, resulting from the appreciation of the U.S. dollar against the Indian rupee and other major currencies, were reported at \$20.6 billion.
- **Long-term debt**, with an original maturity of over one year, decreased by \$1.1 billion to \$496.3 billion compared to the previous year-end.
- **Short-term debt**: The share of short-term debt, with an original maturity of up to one year, in total external debt increased from 19.7% to 20.6% over the same period.
- **The ratio of short-term debt to foreign exchange reserves also increased from 20% to 22.2%** by the end of March 2023. Short-term debt on a residual maturity basis, which includes both short-term and long-term debt obligations falling due over the next 12 months, constituted 43.9% of total external debt and 47.4% of foreign exchange reserves.
- **The largest component of India's external debt remained the U.S. dollar-denominated debt**, accounting for 54.6% of the total.
- **Debt denominated in Indian rupees** accounted for 29.8%, while SDR, yen, and euro-denominated debts accounted for 6.1%, 5.7%, and 3.2% respectively.
- **Both government and non-government sectors saw an increase in outstanding debt during 2022-23.**
- **The outstanding debt of non-financial corporations** had the highest share at 38.9% of total external debt, followed by deposit-taking corporations (25.7%), general government (21.3%), and other financial corporations (9.3%).
- **Loans accounted for the largest portion of external debt at 32.5%**, followed by currency and deposits (22.6%), trade credit and advances (19.9%), and debt securities (16.7%).
- **Debt service**, including principal repayments and interest payments, slightly increased to 5.3% of current receipts by the end of March 2023, reflecting higher debt service compared to the previous year-end (5.2%).

## What is External Debt?

- External debt is defined as **part of a country's debt that is borrowed from various foreign lenders** such as commercial banks, governments, or international financial institutions.
- External Debt is borrowed from foreign lenders and is mostly paid in the currency in which the loan was made.
- In case of non-payment of external debt, a country could get embroiled in a debt crisis.

## Impact of External Debt

- External public debt can have nonlinear impacts on economic growth. At low levels of indebtedness, an increase in the proportion of external public debt to

GDP could promote economic growth; However, at high levels of indebtedness, an increase in external debt hurts economic growth.

- The theory of economic growth by noted Economist Paul Krugman (1989) examines the relationship between external debt and growth using some contributions from international finance.
- In the case of non-payment sovereign default can occur which can lead to lenders withholding future releases of assets that might be needed by the borrowing nation.
- Due to sovereign default, the borrower's currency can collapse leading to the deterioration of economic growth.
- It can sometimes cause erratic changes in the interest rate which can lead to greater default by borrowers.

## Difference between External and Internal Debt

External Debt	Internal Debt
Owed to foreign lenders or entities outside the country.	Owed to domestic lenders or entities within the country.
Denominated in a foreign currency or the borrower's local currency.	Denominated in the borrower's local currency.
Borrowed from international financial institutions, foreign governments, or private lenders outside the country.	Borrowed from domestic financial institutions, government agencies, or individuals within the country.
Subject to international market conditions and exchange rate fluctuations.	Subject to domestic market conditions and interest rates set by the country's central bank.
Repayment is often required in foreign currency, requiring conversion from the borrower's local currency.	Repayment is made in the borrower's local currency.
Can have an impact on a country's balance of payments and foreign exchange reserves.	Can have implications for a country's fiscal policy and domestic borrowing costs.
Typically used to finance imports, infrastructure projects, or other capital investments.	Generally used to manage domestic fiscal deficits, fund government programs, or provide liquidity in the local economy.

## Types of External Debt

- **Long-term Debt**: Debt with an original maturity of more than one year.
- **Short-term Debt**: Debt with an original maturity of one year or less, or debt repayments on-demand.
- **Multilateral Debt**: Debt owed to multilateral institutions such as the International Development Association (IDA), International Bank for Reconstruction and Development (IBRD), Asian Development Bank (ADB), etc.
- **Bilateral Debt**: Debt owed to individual nations through bilateral loan arrangements.
- **Sovereign (Government) Debt**: External debt incurred by the government of a country. This includes loans received under external assistance programs, borrowings from organizations like the International Monetary Fund (IMF), defense debt component of rupee debt, and foreign currency defense debt.
- **Non-Sovereign (Non-Government) Debt**: External debt incurred by entities other than the

government, such as private companies, banks, and non-governmental organizations.

- **Trade/Export Credits:** Loans and credits extended for imports by overseas suppliers, banks, and financial institutions to both sovereign and non-sovereign entities.
- **External Commercial Borrowings (ECB):** Borrowings from commercial banks, financial institutions, and the issuance of securitized instruments such as bonds and floating rate notes (FRN). This category also includes securitized borrowing of commercial banks.



### Greedflation And Its Counter Arguments: How Consumers Ultimately Decide Prices

Priority: Medium



Primary Source: The Hindu

**Prepp Prelims Booster:** Greedflation

**Prepp Mains Booster:** Indian Economy and issues relating to planning, mobilization, of resources, growth, development and employment. Corporate governance

#### Context:

- This article is based on '**Greedflation and its counter arguments: how consumers ultimately decide prices,**' which was published in 'The Hindu' on 4th July, 2023 has discussed about the **economic theory of Greedflation, which states that inflation is caused by businesses raising prices in order to increase their profits.**

#### Background

- The proponents of the greedflation theory argue that **corporate profit margins have experienced significant growth since the pandemic,** despite the larger economy facing challenges. It was stated that this situation has contributed to the high inflation rates seen in the United States.
- **U.S. corporations have allegedly increased the prices of their goods beyond what was necessary** to compensate for higher input costs resulting from supply-chain bottlenecks.
- Supporters of the greedflation theory interpret this as an indication of increased market dominance by corporations.
- They advocate for **measures to curb the market power of large corporations and propose various**

**solutions, including a ban on price hikes, to prevent what they perceive as excessive profiteering.**

## Is Greedflation Driving U.S. Consumer Price Increases?

U.S. Producer and Consumer Price Index (Jan. 1982=100)



Not seasonally adjusted. CPI: All urban consumers, city average. PPI: All commodities  
Source: Bureau of Labor Statistics

#### What is Greedflation?

- Greedflation is a **term used to describe price inflation driven by corporate greed and their pursuit of higher profits.**
- It reflects the situation in which prices are going up not because workers are getting higher wages but because the companies are making more profit.
- Greedflation happens when a crisis like pandemic or disaster turns into an opportunity for businesses to make what are called supernormal profits.

#### Greedflation in India

- The surge in net profits of Indian listed companies to Rs. 2.9 trillion in March 2023, which is over 3.5 times the pre-pandemic average of Rs. 0.83 trillion from December 2017 to December 2019, highlights an exceptional post-pandemic profit generation.
- In India, 60% of this growth in net profit can be solely attributed to the increase in profit margins. Another 36% can be attributed to the increase in sales, and the remaining portion represents a bonus resulting from a combination of both factors.
- This phenomenon suggests the presence of what can be referred to as "greedflation," where companies are driven by profit maximization and potentially prioritize financial gains over other considerations.

#### Impact of Greedflation

- **Low-income and middle-class individuals:** Greedflation, a term used to describe inflation driven by greed, has adverse effects on low-income and middle-class individuals, reducing their consumption and lowering their standards of living.
  - It benefits the wealthy by increasing the value of their assets, widening the wealth gap and exacerbating income inequality.



- **Economic stability:** The sharp price increases and speculation associated with greed can create bubbles and unsustainable market conditions, making financial markets more prone to crashes and crises, posing risks to overall economic stability.
- **Global Imbalance:** Moreover, the inflationary pressures caused by greedflation can lead to divergent policies among countries, as each nation adopts different strategies to combat inflation, resulting in conflicting approaches. This can further worsen global imbalances, trade tensions, and geopolitical conflicts as countries prioritize their own interests and competitiveness.

### Comparison to the theory of Cost Push Inflation

- **Greedflation has been compared to other theories of “cost-push” inflation** which attribute inflation to a rise in input costs.
- In the past, rising wages sought by employees were blamed for rising costs of products and services.
- In the case of greedflation, the growth in corporate profits is regarded as a cost that is driving up prices.

### Criticism of Cost Push Theory:

- The criticism directed at the cost-push theory of inflation is its failure to consider that the cost of producing goods is ultimately determined indirectly by consumers.
- The cost of inputs, which can be utilized for various alternative purposes in society, is established through competitive bidding in the market.

#### What is Inflation?

- Inflation is defined as a general rise in the price level of goods and services over time within a specific economy, resulting in a decrease in the customer's purchasing power.
- When prices rise in general, each unit of currency buys fewer goods and services.
- In India, the Ministry of Statistics and Programme Implementation (MoSPI) measures inflation.
- In India, the Consumer Price Index-Combined is used to calculate the rate of inflation.

#### Types of Inflation

- **Demand Pull Inflation:** Demand pull inflation occurs when aggregate demand in the economy exceeds aggregate supply.
- **Cost Push Inflation:** It occurs when the aggregate supply of goods and services decreases, resulting in an increase in production costs.

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successfully selected last year, this program offers you the opportunity to be guided by some of the finest mentors in India. Take a step closer to your UPSC goals. Your journey to success begins here. [Contact us today at +91-9289130503 via call or WhatsApp]

### Walmart Helps Link 8 Lakh Producers To Markets; Farm Groups Sceptical

Priority: Medium



Primary Source: The Hindu

**Prepp Prelims Booster:** Farmer Producer Organisations, Agriculture

**Prepp Mains Booster:** Transport and marketing of agricultural produce and issues and related constraints; Development processes and the development industry —the role of NGOs, SHGs, various groups and associations, donors, charities, institutional and other stakeholders.

#### Context:

- Recently, Walmart has created a network that **links farmers directly to the retail market across nine States** — Andhra Pradesh, Uttar Pradesh, Telangana, Karnataka, Odisha, Jharkhand, West Bengal, Maharashtra, and Madhya Pradesh and over 500 **Farmer Producer Organisations**, enhancing its capacity to enter India's retail market if and when it is allowed to.



#### How Intervention of NGOs helped farmers?

- **Revenue Growth:** TechnoServe, an NGO helped farmers establish and manage Farmer Producer Organisations (FPOs) which led to revenue growth of over 500% for the farmers.
- TechnoServe, a non-profit organisation that operates in 30 countries, began its association with **coffee farmers in the Araku Valley in Andhra Pradesh** about six years ago.
- **Better prices:** According to Digital Green, another non-profit that works among cashew farmers in Andhra Pradesh, the collective approach saw a 13% increase in cashew prices.
- **Cut out Intermediaries:** Professional Assistance for Development Action (PRADAN) helped women farmers cut out middlemen.

- **Small and Marginal Farmers:** Non-profits that implement the program are working among small and marginal farmers cultivating coffee, cashew, mint, mangoes, vegetables, wheat, and millet.
- **Funding:** TechnoServe, Digital Green, and PRADAN are linked to Walmart through the Walmart Foundation, which is the philanthropy arm of Walmart.
- The Walmart Foundation **funds projects implemented by these non-profit organizations that promote Farmer Producer Organisations (FPOs)** among farmers in India.
- Walmart has created a network that links farmers directly to the retail market and this move allows the organization to tap into a rapidly growing retail industry, estimated to reach around \$2 trillion by 2032 according to the Boston Consulting Group.

### Concerns

- Farmer lobbies and cooperatives are sceptical of the global giant that FPOs controlled by Walmart **will weaken cooperative societies administered** by democratically elected office bearers.
- Farmers' organisations are viewing these steps with suspicion stating that Walmart is **doing for-profit maximization**.

### Conclusion

- Walmart itself has experimented with FPOs in Central America and Mexico in the past and its technical support can help farmers build infrastructure to connect to formal markets so that smallholder farmers can grow their incomes and improve their livelihoods. However, the government should see that it does not monopolize the market.

#### What are Farmer Producer Organizations?


- Farmer Producer Organization refers to the farmer-producers' organization incorporated/registered either **under Part IXA of the Companies Act or under the Co-operative Societies Act** of the concerned States and formed for the purpose of leveraging collectives through economies of scale in production and marketing of agricultural and allied sector.
- The concept behind Farmer Producer Organizations is that farmers, who are the producers of agricultural products, can form groups.
- To facilitate this process, the Small Farmers' Agribusiness Consortium (SFAC) was mandated by the **Department of Agriculture and Cooperation**, Ministry of Agriculture, Govt. of India, to support the State Governments in the formation of Farmer Producer Organizations (FPOs)
- **Formation and Promotion of 10,000 Farmer Producer Organizations (FPOs):** The

Government of India has approved and launched a **Central Sector Scheme** of "Formation and Promotion of 10,000 Farmer Producer Organizations (FPOs)" to form and promote 10,000 new FPOs till 2027-28.

- Under the scheme, the formation and promotion of FPO is based on **Produce Cluster Area approach** and **specialized commodity-based approach**.

While adopting cluster-based approach, formation of FPOs will be focused on **"One District One Product"** for development of product specialization.

### How Russia Has Become World's Top Wheat Exporter At Ukraine's Expense

Priority: Medium 

Primary Source: Indian Express

**Prepp Prelims Booster:** Current Events of International Importance

**Prepp Mains Booster:** Major crops-cropping patterns in various parts of the country,

#### Context:

- Recently, Russia has emerged as the world's top exporter of wheat replacing Ukraine, where production has dropped to an 11-year low and exports to half what they were at their peak.
- The availability of wheat from Russia has been particularly important for the countries of the Global South including India.

#### Wheat exports from Russia

- Wheat exports from **Russia, the world's largest exporter**, grew to 45.5 million tonnes in 2022-23 from 33 mt, 39.1 mt, and 34.5 mt in the previous three years.
- In comparison, wheat exports from the European Union, the second largest exporter, peaked in 2019-20 at 39.8 mt before dropping to 34 mt in 2022-2023.
- According to estimates, Russia's wheat exports are likely to grow to 47.5 mt in 2023-24 ahead of the EU (38.5 mt), Canada (26.5 mt), Australia (25 mt), and Argentina (11 mt).

#### Major reason for the growth

- The Russian invasion of Ukraine resulted in wheat exports from Ukraine falling from 21 mt in 2019-20 to 16.8 mt in 2022-23.
- The wheat production in Ukraine is estimated to fall to 17.5 mt in 2023-24, leading to a further drop in exports to 10.5 mt.

#### Effect on prices

- Global wheat prices have softened due to the availability of Russian wheat whose price has dropped to \$235 per tonne from \$375 per tonne last year.

- West European wheat is \$25–30 more expensive, which has made Russian wheat more attractive.



### Supply and demand of wheat

- Russian wheat is primarily exported to the Middle East, North Africa, and Central Asia with Egypt, Iran, and Algeria being the major importers.
- The **Black Sea Grain Initiative** established by the UN and Turkey helped create special corridors for shipping Ukraine wheat from three designated ports – **Odesa, Chornomorsk, and Yuzhny**.
- However, 39% of Ukraine's wheat moved via the land route to Eastern Europe.
- The shift in markets for Ukrainian wheat from Africa and Asia to Europe is mainly due to the ease of shipment.

### Impact on India

- As poor monsoon rain in paddy-growing states is likely to adversely impact the rice crop, **India may have to import wheat** to meet its food grain requirements.
- In such a situation, the **plentiful availability of Russian wheat and lower prices are likely to aid procurement**.
- The drop in wheat production in Ukraine is an **opportunity for India to export competitively priced and acceptable quality wheat** to fill the shortfall.

#### Wheat

- It is the main food crop, in the north and north-western parts of India.
- It is a rabi crop that requires a cool growing season and bright sunshine at the time of ripening.
- **India was the third largest producer of wheat in 2022–23 behind China and the European Union.**
- **Temperature:** 10–15°C at sowing time and 21–26°C at Ripening & Harvesting
- **Rainfall:** Around 75–100 cm.
- **Soil Type:** Well-drained fertile loamy and clayey loamy

**Top Wheat Producing States:** Uttar Pradesh, Punjab, Haryana, Madhya Pradesh, Rajasthan, Bihar, and Gujarat.

## Science & Technology

### What is the Guillain-Barré Syndrome?

**Priority:** Medium

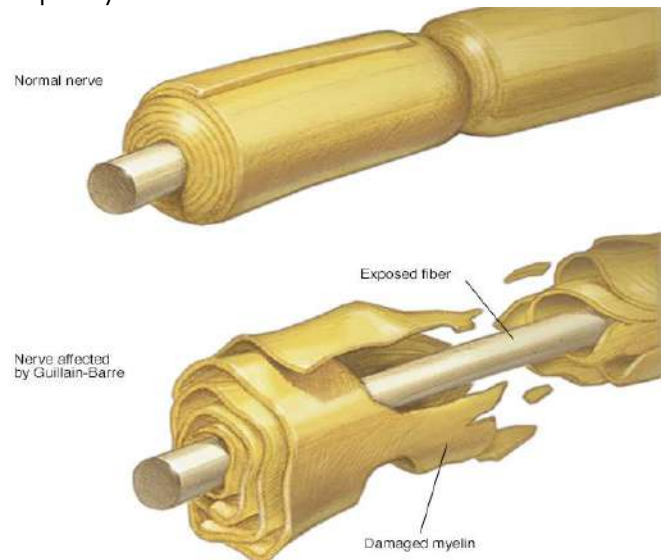
**Primary Source:** Indian Express

**Prepp Prelims Booster:** Guillain-Barré Syndrome

**Prepp Mains Booster:** Issues relating to Health

#### Context:

- Recently, Peru has declared a state of **national emergency** for up to three months, due to a spike in the number of cases of a **rare neurological disorder** called **Guillain-Barré Syndrome**.
- The disorder affects the body's nervous system and is characterized by **muscle weakness and breathing difficulties**, and can even lead to total paralysis in extreme situations.



### What is Guillain-Barré Syndrome?

- Guillain-Barré syndrome (GBS) is a rare condition in which a **person's immune system attacks the peripheral nervous system and leads to weakness, tingling, and numbness initially in the limbs**.
- **These can then expand to the rest of the body and eventually cause paralysis, which can last 6–12 months or longer.**
- People of **all ages** can be affected, but it is more common in **adults and in males**.
- In this condition, the myelin sheath surrounding the nerve cells becomes inflamed, disrupting the normal transmission of signals and impairing nerve function.
- The peripheral nervous system consists of the nerves that branch out from the brain and spinal cord. These nerves form the communication network between the Central Nervous System and the body parts.

- A person with this disorder will have difficulty speaking, walking, swallowing, excreting, or performing other normal functions of the body. The condition can get progressively worse.
- GBS is **not contagious** and it isn't an inherited disease.

### Causes

- According to WHO, the cause of it is not fully understood. However, GBS is usually **triggered by a viral or bacterial infection**.
- Rarely, viral or bacterial components (proteins) can appear to look similar to your body's proteins.
- When this happens, the immune system becomes confused and starts to attack your body. When the nerves are attacked by the immune system, this can result in GBS.
- Guillain-Barré Syndrome, or GBS, is also linked to the cytomegalovirus, Epstein Barr virus, Zika virus, and even the COVID-19 pandemic.

### Symptoms:

- Numbness or tingling in the hands or feet.
- Back pain.
- Muscle weakness (usually starts in the feet and moves upward).
- Breathing difficulty.
- Difficulty swallowing.
- Heart rate or blood pressure problems.
- Difficulty in facial movements

### Treatment

- There is no known cure for GBS. But treatments can help improve symptoms of GBS and shorten its duration.
- The two treatments that can **help recovery and reduce the severity** of the disease are plasma exchange or **plasmapheresis and immunoglobulin therapy**.
- In plasmapheresis, the plasma or the liquid part of the blood is removed and separated from the blood cells, inducing new plasma production to make up for the loss. This treatment is **aimed at removing the antibodies** which are attacking the peripheral nerves.
- In immunoglobulin therapy, the healthy antibodies from blood donors are injected intravenously. The damaged antibodies contributing to GBS are then blocked by the high doses of immunoglobulins.
- Apart from this, physical therapy might also be useful in alleviating pain.

### North India's First Skin Bank Opens In Safdarjung Hospital

Priority: Low



Primary Source: Indian Express

Prepp Prelims Booster: Science and Technology

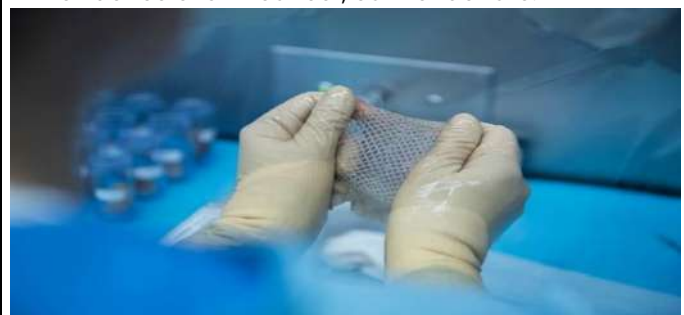
Prepp Mains Booster: Science and Technology

### Context:

- Recently, North India's first Skin Bank has been inaugurated at New Delhi's Safdarjung Hospital. It is a bank where deceased donors can donate their skin which will be helpful in treating burns. The skin can be donated within six hours of death and utilized for burns and trauma patients after processing.
- India has 16 skin banks — a facility where the skin of deceased persons can be donated — with seven in Maharashtra, four in Chennai, three in Karnataka, and one each in Madhya Pradesh and Odisha.
- Skin bank is a facility where skin is taken from an eligible donor and processed and stored under appropriate temperature for upto 5 years. The stored skin can be used for Deep burns, chemical burns, electrical burns and radiation burns.

### Significance

- It will help in providing a **better quality of life for people** suffering from severe burns and injuries.
- The donated skin is usually used as a **'biological dressing'** for burns patients.
- The donated skin is used as a **temporary dressing so** that the wound is healed early and the chances of infection reduce till the patients' skin grows back.
- This dressing can decrease the pain, chances of morbidity, and make the wound optimum for auto grafting.
- Patients of skin infections, skin cancer treatments such as Mohs surgery, skin ulcers, and slow healing or large wounds can all benefit from skin grafting.
- **Donor:** Anyone can be a donor irrespective of sex & blood group. The minimum age of the donor should be 18 years but there is no upper age limit. Even a 100-year-old person can donate his skin and it will be used for treatment. Only those suffering from HIV & Hepatitis B & Hepatitis C, STD'S, generalized infection & Septicemia (Pneumonia, T.B, Etc), any kind of skin infection, malignancy and having evidence of skin cancer, cannot donate.



### What is Crimean-Congo Haemorrhagic Fever?

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: Crimean-Congo haemorrhagic fever (CCHF)

**Prepp Mains Booster:** Issues relating to the development and management of Social Sector/Services relating to Health.

### Context:

- According to Horizon which publishes articles about European Union-funded research, the **Crimean-Congo haemorrhagic fever (CCHF)**, which has a fatality rate between 10% and 40%, is spreading northward and westward in Europe.

### What is Crimean-Congo haemorrhagic fever (CCHF)?

- According to the WHO, Crimean-Congo haemorrhagic fever (CCHF) is a **viral haemorrhagic fever** usually transmitted by **ticks**.
- Transmission:** The virus is primarily **transmitted to people from ticks and livestock animals**.
- Human-to-human transmission can occur resulting from close contact with the blood, secretions, organs or other bodily fluids of infected persons.
- The virus is present in the tick family of insects and according to the US Centers for Disease Control and Prevention (CDC), animals such as cattle, goats, sheep and hares "serve as amplifying hosts for the virus.
- Symptoms:** According to the WHO, CCHF symptoms include fever, muscle ache, dizziness, neck pain, backache, headache, sore eyes and sensitivity to light.
- There may be nausea, vomiting, diarrhoea, abdominal pain and sore throat early on, followed by sharp mood swings and confusion.
- After two to four days, the agitation may be replaced by sleepiness, depression and lassitude, and the abdominal pain may localize to the upper right quadrant, with detectable hepatomegaly (liver enlargement).
- The disease was first described in the Crimean Peninsula in 1944 and given the name Crimean haemorrhagic fever. In 1969 it was recognized that the pathogen causing Crimean haemorrhagic fever was the same as that responsible for an illness identified in 1956 in the Congo Basin. The linkage of the two place names resulted in the current name for the disease and the virus.

**WHAT IS CRIMEAN-CONGO HAEMORRHAGIC FEVER (CCHF)?**

CCHF virus is a disease caused by a tick-borne virus. It is categorised as 1 of the 9 "priority diseases" by the World Health Organization (WHO). It was first detected among soldiers in Crimea in 1944 and was found to be responsible for an ailment in a human in the Congo in 1969.

**TRANSMISSION**

Tick bites/contact with infected animal blood → Humans

Human-to-human transmission → blood, secretions, organs or bodily fluids of infected person

**REDUCING THE RISK**

Wear long sleeves, long trousers

Use approved repellent on the skin and clothing

Wear gloves and other protective clothing while handling animals

Avoid close physical contact with CCHF-infected people

Wash hands regularly

**SYMPTOMS:** Sudden fever, muscle ache, dizziness, headache, sore eyes, sensitivity to light, nausea, vomiting, diarrhoea, abdominal pain and sore throat

**TREATMENT:** Anti-viral drug ribavirin used with apparent benefits

**CONTROLLING SPREAD:** Standard infection control precautions should be implemented

### Concerns

- CCHF is a threat to public health as its outbreaks can lead to epidemics
- It has a **high case fatality ratio (10–40%)**.
- It potentially results in hospital and health facility outbreaks and is difficult to prevent and treat.
- There is no vaccine available for either people or animals and treatment generally consists of managing symptoms.

### How climate change is helping the spread of diseases?

- According to the US Centers for Disease Control and Prevention (CDC), climate change contributes to the spread of diseases in multiple ways,
  - warmer temperatures expand the habitat of ticks and other insects and giving them more time to reproduce;
  - the habitat offered by water undergoing changes; and
  - animals moving to newer areas and people coming into contact with them.

### Cases of Crimean-Congo haemorrhagic fever (CCHF)

- The CCHF is **endemic to Africa, the Balkan countries, the Middle East, and parts of Asia**. The first fatality from the disease in Europe was in Spain, in 2016.
- Cases have been reported in Spain, Russia and Turkey, and the UK till now.
- In India, one person succumbed to CCHF last month in Gujarat. Gujarat reports the majority of India's cases of this disease.

### Indo-Japanese Researchers Develop Treatment For Duchenne's Muscular Dystrophy

**Priority:** High

**Primary Source:** The Hindu

**Prepp Prelims Booster:** Duchenne Muscular Dystrophy

**Prepp Mains Booster:** Issues relating to development and management of Social Sector/Services relating to Health; GS3 - Science

### Context:

- Recently, a **team of Tamil Nadu doctors announced it has developed, jointly with scientists from Japan, a safe disease-modifying treatment for Duchenne Muscular Dystrophy (DMD)**.
- There are approximately 5,000 patients in Japan and 80,000 in India.

### What is Duchenne Muscular Dystrophy?

- Duchenne muscular dystrophy is a **genetic disorder**.
- The disorder is marked by progressive muscle degeneration and weakness due to **alterations of a**

**protein called “dystrophin”** that helps keep muscle cells intact.

- Dystrophin, an enzyme secreted in the muscles, helps in wear and tear and regeneration of muscles. Because of the genetic disorder, muscles cannot produce dystrophin.
- Patients usually become wheelchair-bound by around 12 years due to muscle weakness and die prematurely.
- **DMD is one of three dystrophinopathies**, along with Becker muscular dystrophy (BMD) and DMD-associated dilated cardiomyopathy (DCM), all of which are X-linked muscle diseases ranging from moderate to severe.
- This genetic condition normally manifests itself in early childhood, usually between the ages of two and three, and is **known to afflict boys**.
- **Rare examples of women being diagnosed with DMD have also been documented**, although the number is still very small.
- DMD affects one in 3,500 male births worldwide and there are approximately 80,000 patients in India.

#### What are the symptoms?

- **Muscle weakness:** The most prevalent and major sign of DMD is muscular weakness. The condition begins with the proximal muscles (those closest to the core) and progresses to the distal limb muscles (those closest to the extremities).
- Legs and lower external muscles are usually damaged before arms and higher external muscles.
- **Other symptoms:** A child with DMD may have trouble leaping, running, or walking, as well as other signs such as calves expansion or lumbar lordosis (inward bend of the spine). Boys with DMD are typically late walkers.
- The symptoms intensify as the person matures, with the heart and breathing muscles becoming damaged later in life.
- Scoliosis and increasing muscular weakness might affect pulmonary function in some circumstances and eventually lead to abrupt respiratory failure.

#### Causes of Duchenne Muscular Dystrophy (DMD)

- DMD is characterized by the absence of functional dystrophin protein, which is essential for maintaining the structural integrity of muscle cells.
- This condition is caused by mutations in the dystrophin gene, located on the X chromosome.
- These mutations can either be inherited from parents or occur spontaneously during the transmission of reproductive cells.

#### What are the challenges?

- Currently, the available therapeutic options for DMD are limited and come with a significant financial

burden, often exceeding Rs 2–3 crore per child annually.

- Unfortunately, the majority of these treatments are imported, resulting in their unaffordability for many families.
- In gene therapy, the missing link between dystrophin, the enzyme secreted in the muscles, and muscle power and clinical improvement is still not fully understood, and additional research is needed to explore the potential of this molecule.

#### Way Ahead

- Researchers in India are making significant strides towards developing a cost-effective treatment for Duchenne Muscular Dystrophy (DMD), a rare and currently incurable genetic disorder.
- With a staggering number of cases in the country, these dedicated researchers are focused on improving integrative therapies that can effectively slow down the progression of the disease.
- Their efforts aim to extend the life expectancy of individuals with DMD and enhance their quality of life.

### India Has Signed The Artemis Accords. What Is At Stake?

**Priority: High**



**Primary Source:** The Hindu

**Prepp Prelims Booster:** Science and Technology, Artemis Accords

**Prepp Mains Booster:** Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests; Science and Technology

#### Context:

- Recently, India has signed the Artemis Accords, a US-led effort to send humans to the moon again by 2025, **with the ultimate goal of expanding space exploration to Mars and beyond**.
- The program aims **to build a permanent presence in lunar orbit** and on the surface, over half a century after the Apollo missions ended.
- National Aeronautics and Space Administration (NASA) has welcomed India as the **27th Artemis Accords signatory**.

#### What Are Artemis Accords?

- The Artemis Accords are a set of **non-binding guidelines** that underpin the Artemis program, an ambitious U.S.-led project that aims to build **a permanent presence in lunar orbit and on the surface**.
- The project plan includes **a base on the lunar surface, multiple spacecraft** to ferry humans and cargo, a small orbiting space station called the 'Lunar Gateway', and a constellation of satellites to help with navigation and communication.

- Artemis mirrors a Chinese–Russian plan for an ‘International Lunar Research Station’ (ILRS). With Russia financially constrained and reeling under sanctions, China has taken the lead on ILRS, outlining similar plans for a permanent base and a lunar satellite constellation.
- The International Lunar Research Station (ILRS) is a planned lunar base currently being led by Roscosmos and the China National Space Administration (CNSA).
- The ILRS will serve as a comprehensive scientific experiment base built on the lunar surface or in lunar orbit that can carry out multi-disciplinary and multi-objective scientific research activities including exploration and utilization, lunar-based observation, basic scientific experiment and technical verification, and long-term autonomous operation.
- The Accords comprise **a set of principles governing international cooperation in space exploration**.
- The multilateral arrangement **aims to ultimately make humans an interplanetary species** as they venture onto Mars.
- The signing means that India and the US will share data, technology, and resources, and work together to ensure the safety and sustainability of lunar exploration.
- NASA, in coordination with the US Department of State, established the Artemis Accords in 2020 together with seven other founding member nations.
- The Artemis Accords **reinforce and implement key obligations in the 1967 Outer Space Treaty**.
- Modern space law is based on four international agreements. These agreements address crucial issues such as the peaceful use of space, registration, and liability. The principles outlined in the Artemis Accords generally align with these agreements.
- The Outer Space Treaty of 1967, the Rescue Agreement of 1968, the Space Liability Convention of 1972, Registration Convention of 1975.

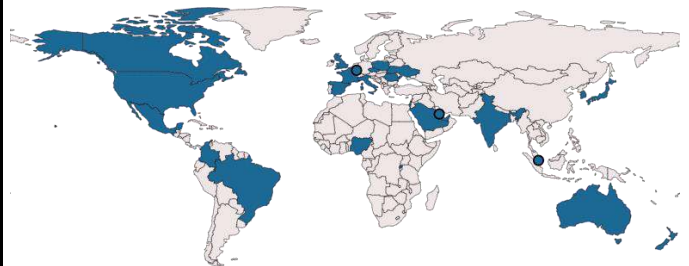
### Concerns

- **Moon Agreement Vs Artemis accords:** The Artemis Accords and the Moon Agreement are **two distinct sets of rules governing the exploration and use of the Moon**.
- The Moon Agreement was introduced in 1979 but failed to gain support from major spacefaring nations like the U.S. and the Soviet Union. India signed the Moon Agreement along with a few other countries but did not ratify it.

- The Artemis Accords, being more recent, are viewed as **more supportive of commercial exploitation** of lunar resources.
- In contrast, the Moon Agreement **focuses on promoting peaceful utilization** of the Moon and ensuring equitable sharing of its benefits.
- India is a **signatory to both agreements** and also India has recently taken steps to open up its space sector to private players, raising questions about whether India will be able to **comply with both sets of regulations**.
- However, it is said that the provisions of the Artemis Accords and Moon Agreement are vague allowing lawyers to interpret and navigate both sets of rules.
- **Formal law over informal guidelines:** India has historically preferred formal law over informal guidelines because it believes **laws foster better compliance** among adherents regardless of their relative power in the international system.
- **Domination of great powers:** India fears that **norms set by great powers are designed to maximize their own freedom of action** while constraining less powerful states like India.

### Conclusion

- If India wants to make the most of the Artemis program, it has much work to do such as increase its budget for space, overcome domestic resistance to collaboration with other space agencies, enable its private sector to work with other Artemis members, and develop legislation that encourages space activities.



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**Intel's New Chip To Advance Qubit Research For Quantum Computing**

Priority: Medium



**Primary Source:** The Hindu

**Prepp Prelims Booster:** Science and Technology

**Prepp Mains Booster:** Science and Technology—developments and their applications and effects in everyday life.

### Context:

- Recently, **Intel announced the release of its Tunnel Falls** quantum computing chip built to enable next-generation research into quantum computing and quantum algorithms.
- The **Tunnel Falls chip will be made available to the quantum research community** to increase the breadth of ongoing quantum research, a field that can come with significant learning curves.

### Key Highlights

- The advent of the latest Intel chip brings about a promising prospect for researchers in the field of quantum research.
- With this advanced chip, researchers can now dedicate more time and effort to groundbreaking and influential quantum studies, rather than being burdened by the development of intricate and inefficient quantum fabrication processes.
- Intel's utilization of their high-volume production line enables the creation of dependable quantum chips, thus accelerating the pace of research.

### What is Quantum Computing?

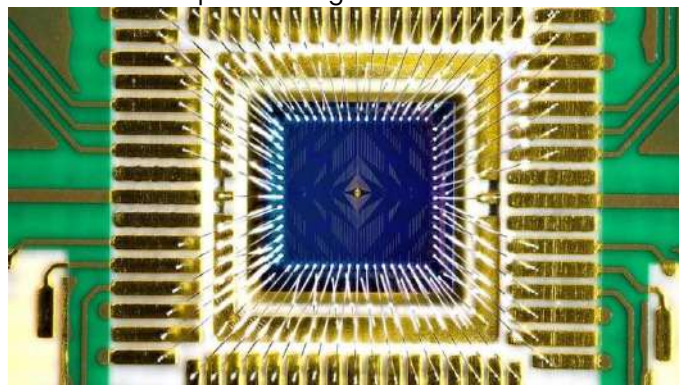
- Quantum computing is a **field of computing that utilizes principles from quantum mechanics to perform certain types of calculations** more efficiently than classical computers.
- One of the key features of quantum computing is superposition, which allows **qubits to exist in multiple states simultaneously**. This property enables quantum computers to perform parallel computations on a vast number of possibilities, leading to exponential speedup in certain algorithms.

### About Tunnel Falls

- Intel has introduced Tunnel Falls**, its first silicon spin qubit device made available to the research community.
- This **12-qubit device is fabricated on 300-millimeter wafers in the D1 fabrication facility**, utilizing advanced techniques like extreme ultraviolet lithography (EUV) and gate and contact processing.
- In silicon spin qubits, information is stored in the spin of a single electron, with each qubit device acting as a single electron transistor.
- Intel's fabrication process for these qubits follows a similar approach to standard **complementary metal oxide semiconductor (CMOS)** logic processing.

### Functions

- Silicon Spin Qubits:** Tunnel Falls chips by Intel Labs contain 12 qubits, which function as "single electron" transistors. Unlike traditional bits, these qubits can hold more than just 0 or 1, as they can exist in superposition states. This enables complex calculations through quantum dynamics.
- CMOS-like Fabrication:** Intel's advanced CMOS fabrication lines have been modified for Tunnel Falls, yielding an impressive 95% on a 300 mm wafer. This high yield enables Intel to manufacture a greater quantity of devices, facilitating increased quantum research. Intel's CMOS-like fabrication approach to silicon-based quantum computing may ultimately allow for quantum and digital devices to be integrated on the same chip.
- All-in-One Computing:** Intel's advancements have far-reaching benefits beyond quantum computing accessibility. Enhanced performance in high-performance computing (HPC) empowers novel design methods and accelerates research and development processes. The integration of silicon technology opens up exciting possibilities for researchers working on the development of innovative quantum algorithms.



### Way Ahead

- Intel has a strong commitment to enhancing the capabilities of Tunnel Falls and seamlessly incorporating it into its comprehensive quantum stack, alongside the Intel Quantum Software Development Kit (SDK).
- Moreover, Intel is actively engaged in the development of its forthcoming quantum chip, which is built upon the foundation of Tunnel Falls and slated for release in 2024.
- Looking ahead, Intel envisions forging partnerships with research institutions worldwide to foster the growth of a robust quantum ecosystem.

### The India-U.S. Deal For 31 MQ-9B Drones

**Priority:** Medium



**Primary Source:** The Hindu

**Prepp Prelims Booster:** Defense Technology

**Prepp Mains Booster:** Defense Technology, Achievements of Indians in science & technology;



indigenization of technology and developing new technology.

#### Context:

- Recently, a joint statement issued by the Prime Minister of India Narendra Modi, and the President of the U.S.A. Joe Biden welcomed India's plans to procure the MQ-9B High Altitude Long Endurance (HALE) Unmanned Aerial vehicles from General Atomics.
- India plans to acquire 31 armed UAVs including 15 SeaGuardians for the Navy and eight SkyGuardians each for the Army and Air Force.
- The Indian Navy had previously leased two MQ-9As from General Atomics in 2020 which have completed 10,000 flight hours and covered over 14 million square miles of operating area in two years.

#### What is the cost of the MQ-9B UAVs?

- The Ministry of Defense stated that the deal for the UAVs from General Atomic would cost an estimated **\$3,072 million**.
- However, the price is not final and will be negotiated as per the established procedure once the U.S. Government provides policy approval.
- The Ministry will compare the cost of acquisition with the best price offered to other countries in order to get an optimum price.



#### What is the process of acquiring UAVs?

- The deal for the MQ-9B UAVs will be executed through the **Foreign Military Sales (FMS) route of the U.S. government** and will be concluded in a few months.
- The first step in the process was the **Defence Acquisition Council (DAC)** chaired by Defence Minister Rajnath Singh according to the Acceptance of Necessity (AoN).
- Under the FMS route, a Letter of Request (LOR) would be sent to the U.S. government which would include the tri-services requirements, as well as the details of equipment and the terms of the procurement.
- On the basis of the LOR, the U.S. government and the Ministry of Defense will finalize the Letter of Offer and Acceptance (LOA).
- The LOA will include details of equipment while the terms of the procurement would be negotiated and

finalized based on the FMS program and the price and terms offered to other countries.

- The U.S. Government will then have to notify the U.S. Congress of the sale.
- The deal must then be approved by the Cabinet Committee on Security after which the contract will be concluded.
- **India is negotiating to increase the indigenous content under the deal from the proposed 8-9% to 15-20%.**

#### MQ-9 Predator

- **The MQ-9 is a much-improved version of the original RQ-1/MQ-1 Predator.**
- It was armed with AGM-114 Hellfire missiles and deployed extensively in Afghanistan and Pakistan's tribal areas in the early 2000s as part of the U.S. war on terror.
- The RQ-1 Predator was first flown in 1995 and replaced by the MQ-9 Reaper.
- **The MQ-9 Reaper is used primarily for intelligence collection and secondarily against dynamic execution targets.**
- It has a significant loiter time, wide-range sensors, a multi-mode communications suite, and precision weapons and can perform strike, coordination, and reconnaissance against high-value, fleeting, and time-sensitive targets.

#### Why does India want to acquire the MQ-9B UAVs?

##### Navy applications

- Depending on the configuration, MQ-9Bs can **fly over the horizon via satellite for up to 40 hours in all weather conditions.**
- It can also be safely **integrated into civil airspace.**
- The SeaGuardian configuration can also include a 360° surface-search maritime radar, automatic identification system, sonobuoy monitoring system, and sonobuoy dispensers for anti-surface and anti-submarine warfare missions.
- **It can provide 80% of the capability of a large human-flown maritime patrol aircraft at 20% of its cost.**
- Using the SeaGuardian is more economical for navies to clear big volumes of air or sea. It also reduces the time, cost, wear, and tear involved with such operations.
- It significantly reduces the wear and tear of manned aircraft including the Indian Navy's fleet of 12 P-8I long-range maritime patrol aircraft.
- As an unmanned craft, it contributes to reduced crew fatigue among the armed forces.

##### Army and Airforce

- The MQ-9Bs can provide **round-the-clock surveillance in areas beyond the borders** to allow the Army and Air Force to be prepared for military

buildup and troop movement by neighboring countries, particularly China.

- It can be used to support **counter-terrorism and counter-insurgency operations** in Kashmir and other regions.
- It can also integrate with other U.S.-origin platforms operated by the Indian armed forces such as the P-8Is, AH-64 Apache attack helicopters, and MH-60R multi-role helicopters.

#### Other deals between India and General Atomics

- General Atomics is in talks with several Indian companies for the domestic manufacture of components for the MQ-9B which could expand to potentially include the manufacture of electronics, sensors, and avionics.
- In February 2023, HAL and General Atomics announced that they are looking to develop a comprehensive engine maintenance, repair, and overhaul (MRO) programme for the HALE Remotely Piloted Aircraft project.
- The engines for the MQ-9B will be supported by the engine division of HAL for the foreign market.

#### Will Generic Supply Of Bedaquiline Be Accessible?

Priority: High



Primary Source: The Hindu

Prepp Prelims Booster: Health Issues & Important Medicines, Bedaquiline

Prepp Mains Booster: Issues relating to Intellectual Property Rights

#### Context:

- The **expiry of J & J's Patent on Bedaquiline Drug will allow generic manufacturers to supply the drug which will help in reducing the drug prices in India.** However, J&J appears intent on maintaining its monopoly over the bedaquiline market.
- **Tuberculosis is one of India's major public health problems.** India has about **2.8 million cases, making it a national public health emergency.**
- According to World Health Organization (WHO) estimates, **India has the world's largest tuberculosis epidemic.**

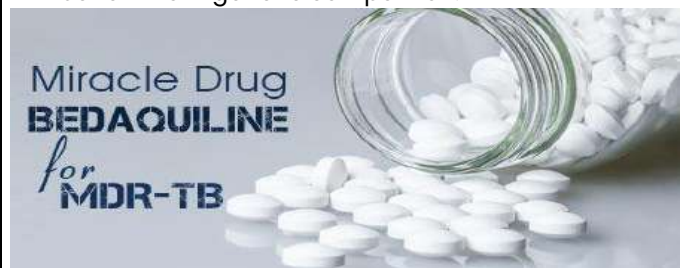
#### Key Highlights regarding generic accessibility of Bedaquiline

- Researchers estimate that with the introduction of competition from India, the price of bedaquiline will fall in the range of \$48-\$102 for a six-month treatment course, which is three to six times less than the current globally negotiated price paid by countries (\$272) when procured through the GDF.
- DR-TB drugs like linezolid have decreased in prices by over 90% with generic competition once Pfizer's patent expired in 2015.

- Hence, national TB programmes are waiting for the generic supply of bedaquiline from Indian manufacturers in order to reduce prices.

#### What are the global concerns?

- The Global Drug Facility (GDF) deal, aims to extend coverage to a significant portion of low- and middle-income countries, but **some of the hardest-hit nations by DR-TB have raised concerns.**
- **Eastern Europe and China, appear to be left out of the agreement.**
- Some **countries like South Africa are not purchasing from GDF** and with the ever-greening patent in force till 2027, it will not get access to generic Bedaquiline.
- As a result, **excluded countries are voicing their concerns to J&J, highlighting the challenges posed by patent restrictions** and their inability to benefit from generic competition.



#### What is Bedaquiline?

- Bedaquiline is a **drug used to treat active TB.**
- It is specifically used to treat multidrug-resistant tuberculosis (MDR-TB) in conjunction with other tuberculosis drugs.
- Bedaquiline is an **important medicine in the treatment of multi-drug resistant tuberculosis patients** whose first-line pharmacological therapy with isoniazid, rifampicin, pyrazinamide, and ethambutol has failed.

#### History of Bedaquiline:

- Bedaquiline was discovered by a team led by Koen Andries at Janssen Pharmaceutica and was approved for medical use in the United States in 2012.
- It is manufactured by Johnson & Johnson (J&J), who sought accelerated approval of the drug, a type of temporary approval for diseases lacking other viable treatment options.
- **Tuberculosis (TB) is an infectious illness caused by bacteria (Mycobacterium tuberculosis)** that mostly affects the lungs. Tuberculosis is transmitted from person to person through the air.

#### India's effort regarding Tuberculosis

- National TB Elimination Programme
- National Strategic Plan for TB (2017-2025)
- The Nikshay Ecosystem (National TB information system)
- Nikshay Poshan Yojana (NPY- financial support)

- TB Harega Desh Jeetega Campaign
- Ayushman Bharat Digital Health Mission

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## Places In News

### India

#### Mhadei Wildlife Sanctuary

**Reason to be in news:** Recently, the Goa Bench of the Bombay High Court directed the Government of Goa to notify the 208 sq. km. Mhadei Wildlife Sanctuary (WLS) and its surrounding areas as a tiger reserve, and issue a notification within three months.



#### Hampi

**Reason to be in news:** Recently, Hampi Group of Monuments inscribed in as UNESCO World heritage Site. Hampi comprise mainly the remnants of Capital City of Vijayanagara Empire (14th-16th Cent CE). It is located in Tungabhadra basin in Central Karnataka, Bellary District.



#### Palamau Tiger Reserve (PTR)

**Reason to be in news:** Four soft-release centres for Cheetals are under construction in Jharkhand's PTR. It is located in the western part of the Chotanagpur plateau. It forms part of Betla National Park and Palamau Wildlife Sanctuary.



### World

#### Egypt

**Reason to be in news:** Prime Minister Narendra Modi was on a two-day visit to Egypt at the invitation of President Abdel Fattah El-Sisi. It was the first bilateral visit by an Indian Prime Minister since 1997. Egypt is located on the northeast corner of the African continent. It shares international borders with a number of territories and countries, including: Sudan, Libya, Israel, and the Gaza Strip., the Red Sea to the east, and the Mediterranean Sea to the north.



#### Iran

**Reason to be in news:** Recently, Iran joined the Shanghai Cooperation Organisation (SCO) as its ninth member. Iran is a country located in West Asia. It is bordered by Iraq and Turkey to the west, by Azerbaijan and Armenia to the northwest, by the Caspian Sea and Turkmenistan to the north, by Afghanistan and Pakistan

to the east, and by the Gulf of Oman and the Persian Gulf to the south.



### Siachen Glacier

**Reason to be in news:** Amit. K. Paul, an independent researcher and author has recently discussed the first GSI Survey of the Siachen glacier led by V. K. Raina in 1958 and its significance. Siachen Glacier is located in the Karakoram Range. The Siachen Glacier lies between the Saltoro Ridge, a subrange of the Karakorams, to the west and the main Karakoram Range to the east.



### France



**Reason to be in news:** Narendra Modi, was the Guest of Honor at the Bastille Day celebrations in France, marking 25 years of the Strategic Partnership between India and France. France is a country located primarily in Western Europe. It also includes overseas regions and territories in the Americas and the Atlantic, Pacific and Indian Oceans, giving it one of the largest discontinuous exclusive economic zones in the world.

### Russia

**Reason to be in news:** Recently, Russia has emerged as the world's top exporter of wheat replacing Ukraine, where production has dropped to an 11-year low and exports to half what they were at their peak. Russia is a transcontinental country spanning Eastern Europe and Northern Asia. It is the largest country in the world by area, its vast landmass stretching over the easternmost part of Europe and the northernmost part of Asia.



### Peru

**Reason to be in news:** Recently, archaeologists working in Peru have uncovered a 3,000-year-old sealed corridor known as "the condor's passageway." Peru is a country in western South America. It is bordered in the north by Ecuador and Colombia, in the east by Brazil, in the southeast by Bolivia, in the south by Chile, and in the south and west by the Pacific Ocean.



## Solomon Islands

**Reason to be in news:** Recently China and Solomon Islands signed diplomatic agreements. Solomon Islands are an archipelagic state comprising of volcanic islands and coral atolls in Melanesia, located in southwest Pacific Ocean.



## Nigeria

**Reason to be in the news:** Nigeria has declared a State of Emergency over Food Security. It is located on western coast of Africa. It is bordered by Niger (north), Chad and Cameroon (east), Gulf of Guinea of Atlantic Ocean (south), and Benin (west).



## Yellow Sea

**Reason to be in news:** North Korea recently fired several cruise missiles into the Yellow Sea. The Yellow Sea is a marginal sea of the western Pacific Ocean. The Yellow Sea is situated between mainland China to the west and north, the Korean Peninsula to the east, and the Shandong Peninsula and Liaodong Peninsula to the south. It connects with the Bohai Sea to the northwest.



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