

**SOCIAL JUSTICE AND EMPOWERMENT**

**Context: Granting Tribal Rights and Implications, Baiga Tribe, PVTG (Particularly Vulnerable Tribal Group), Bharia and Kamar Tribe, Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006.**

- Following the Kamar PVTG's receipt of habitat rights in August 2023, the Chhattisgarh government recently awarded habitat rights to its Baiga PVTG (Partially Vulnerable Tribal Group).
- In Chhattisgarh, the Baiga PVTG was the second group to receive these privileges.
- Seven PVTGs are located in Chhattisgarh: Bhujia, Birhor, Pando, Abujmadiya, Baiga, and Mar.

**The Baiga Tribe:**

- Mainly residing in Chhattisgarh, Jharkhand, Bihar, Odisha, West Bengal, Madhya Pradesh, and Uttar Pradesh is the Baiga tribe, which derives their name from "sorcerers."
- In the past, the Baiga people engaged in slash and burn agriculture and led semi-nomadic lives. They now mostly rely on small-scale forest products for their subsistence.
- Most of the resources are bamboo. Every age group and body part has a unique tattoo saved for that particular event because tattooing is such an intrinsic part of Baiga tradition.
- The recognition of a community's rights over its customary territory of habitation, socio-cultural practices, economic and livelihood means, traditional knowledge of using natural resources, biodiversity and ecology, and protection and conservation of their natural and cultural heritage are all part of what it means to have habitat rights.
- Traditional means of subsistence and ecological knowledge passed down through the centuries are protected and promoted by habitat rights. In order to enable PVTG communities to enhance their habitats, they also assist in bringing together numerous government programmes and projects from different departments.
- The FRA defines "habitat" as customary habitats as well as those found in PVTGs' designated and protected forests as well as those found in other Scheduled Tribes that live in forests.
- Only three of India's 75 PVTGs hold rights to their habitat; the Bharia PVTG in Madhya Pradesh was one of them.

**Procedure for declaring habitat**

- The process for declaring habitat is based on a comprehensive set of guidelines provided by the Ministry of Tribal Affairs in 2014.
- To ascertain the extent of culture, customs, and occupation, the method include consultation with traditional tribe elders.
- To define and declare habitats, coordination with the UNDP team and state-level departments—such as Forest, Revenue, Tribal, and Panchayati Raj—is crucial.

**Law:**

- Under Section 3(1)(e) of the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 (often referred to as FRA), habitat rights are accorded to PVTGs.
- The acknowledgement of habitat rights gives PVTGs ownership of their traditional land, including areas for residence, sources of income and sustenance, and knowledge of biodiversity.

**PVTG Identification:**

- PVTGs are distinguished depending on standards including a subsistence economy, difficult living conditions, low literacy rates, sluggish or declining population growth, and technological backwardness.
- They are vulnerable in terms of livelihood, education, nutrition, and health.
- In 18 states and one Union Territory, 75 PVTGs have been identified by the Ministry of Tribal Affairs.
- Primitive Tribal Groups (PTGs), who are the least developed tribal groupings, were established as a distinct category by the Dhebar Commission in 1973. The Indian government rebranded the PTGs as PVTGs in 2006.

### Importance of Providing Rights for Habitats

- Preservation of Culture and Heritage: Granting tribes rights contributes to the preservation of their distinct social, cultural, and traditional legacies. Their unique languages, customs, rituals, and ancient knowledge systems can all be preserved.
- Empowerment and Social Justice: These communities are made stronger by tribal rights, which grant them legal recognition, guarantee their involvement in life-affecting decision-making, and correct historical wrongs. This empowerment helps create a society that is more equitable and just.
- Protection of Livelihoods: The natural environment is essential to the livelihoods of many indigenous cultures. By granting them rights over lands and resources, we can assist their economic well-being by ensuring that they can continue to engage in traditional activities like farming, fishing, hunting, and gathering.
- Sustainable Development: By giving tribal communities legal rights,
- Preserving Natural Diversity:
- Tribal communities frequently have special understanding of the plants, animals, and ecosystems in their area as well as sustainable resource management. Sustainable resource management and biodiversity preservation are made possible by the acknowledgement of their rights.

### Conclusion

A more inclusive, just, and peaceful society where the rights, customs, and cultures of all people—including those of tribal communities—are valued and safeguarded can only be achieved through granting tribal rights.

## FOOD SECURITY AND CLIMATE CHANGE

**Context: Addressing the threats to food and nutrition security that are imminent in sustainable water management.**

### Introduction:

- This year's World Food Day (October 16) theme, "Water is Life, Water is Food," urges immediate action towards prudent water management.
- Every aspect of human life is impacted by the availability of water, particularly the security of food and nourishment. For example, rainfed agriculture accounts for around 60% of India's net sown land and 40% of its overall food production.

### Climate change, crop production, and water

- Degradation covers over 40% of the planet's land surface, giving farmers less productive land. • Extreme weather events and water availability variability are severely affecting agricultural production, changing agro-ecological conditions and shifting growing seasons. Small-scale farmers, who make up over 80% of farmers worldwide, are especially affected because they often lack access to finance, technology, and irrigation to maintain a level of production that can sustain their livelihood. Increased temperatures and variations in rainfall also impact crop yield, which lowers the amount of food available.
- The Indian government has used crop simulation models and climate projections to evaluate the effects of climate change in 2050 and 2080. It is anticipated that in India, rainfed rice production will decrease by 20% in 2050, and by 47% in 2080 scenarios. Irrigated rice yields are predicted to decrease by 3.5% in 2050 and 5% in 2080 scenarios, respectively, whereas yields will rise by 20% in 2050 and 47% in 2080 scenarios. While kharif maize yields could decline by 18% and 23%, wheat yields are predicted to plummet by 19.3% in 2050 and 40% in 2080.
- Growing, eating, and selling high-value crops like nutrient-dense fruits and vegetables can help farmers alter their livelihoods. In most circumstances, irrigation can also be a useful strategy to strengthen agriculture's resilience. In this regard, the World Food Programme (WFP) provides food aid in return for employment to support the construction or repair of irrigation canals, dams, ponds, and dykes, as well as flood barriers. It also supports soil and water conservation.

### Climate Change Adaptation

- To increase water use efficiency, the FAO also supports climate-smart agriculture techniques and the sustainable transformation of agrifood systems. It provided support to the Uttar Pradesh farmer water

school initiative, which benefited smallholder farmers. The Andhra Pradesh Farmer Managed Groundwater Systems initiative, which included a hydrological monitoring system, reached out to 638 habitations in seven districts that were at risk of drought at the same time. In a similar vein, adaptation to climate change has been integrated into IFAD's basic strategies.

- It set aggressive goals for utilizing climate financing to lessen climate change by addressing the negative effects of agriculture and assisting farmers in adjusting to the escalating unpredictability of weather patterns, as well as by investing in the preservation and restoration of soil health, water resources, and the fusion of contemporary technology utilizing native knowledge systems to create robust and successful value chains and industrial systems. Projects in Maharashtra, Odisha, Uttarakhand, Nagaland, and Mizoram sponsored by IFAD

#### Way forward

- Political commitment is just as important to achieving global food and nutrition security as actual financial investment. Policies and investments are required to support the following:
  - ✓ Bringing sanitation and drinking water supplies closer to rural households;
  - ✓ Adopting effective food and water recycling strategies;
  - ✓ Strengthening institutional arrangements and capacity for sustainable and equitable water regulations, management, access, and ownership;
  - ✓ Innovative and proven technologies that help farmers increase productivity,
  - ✓ Adapt to climate change, and become more resilient to shocks and irrigation and water management strategies that are both environmentally and socially sustainable and financially viable.

### PRELIM FACTS

#### 1. Gaza Strip

##### Why is this in the news?

- The current escalation of violence between Israel and Hamas militants has brought the Gaza Strip into the international spotlight.
- In the middle of this upheaval, Israel defense minister ordered a complete siege on Gaza, shutting off vital resources. This action has drawn attention to the long-standing and contentious problem of the Gaza barrier, which has been in place since 2007.

##### What Are the Important Factors Concerning the Gaza Strip?

###### About:

Gaza is located in the eastern Mediterranean basin, bordering Egypt to the southwest and Israel to the north and east. It is bounded to the west by the Mediterranean Sea. It is one of the world's most densely populated locations, with nearly 2 million people living in a small area.

###### Historical Importance:

- During the 1967 Six-Day War, Israel captured Gaza from Egypt and began its military control of the region. Although Israel removed its settlements from Gaza in 2005, there were periodic blockades on the passage of people and goods during this time.
- After Hamas took power in Gaza in 2007, Israel and Egypt imposed a permanent blockade, describing it as vital for security.
- According to the United Nations Office for the Coordination of Humanitarian Affairs (OCHA), the embargo has had a significant impact on Gaza economy, resulting in high unemployment, food insecurity, and assistance dependency.
- Related Border Areas: Gaza is surrounded on three sides by walls, and its western border is controlled by Israel, limiting sea access.
- There are three operational border crossings: the Karem Abu Salem and Erez crossings operated by Israel, and the Rafah crossing managed by Egypt.
- In response to recent violence, several crossings have been closed.

#### 2. Setu Bandhan Scheme: CRIF

- The Ministry of Road Transport and Highways has announced the approval of seven critical bridge

projects in Arunachal Pradesh through the Setu Bandhan Scheme of the Central Road and Infrastructure Fund (CRIF).

- These projects, which would cost a total of Rs 118.50 crores, will be implemented during the fiscal year 2023-24.

#### **About Central Road Infrastructure Fund?**

- The Central Road and Infrastructure Fund (formerly known as the Central Road Fund) was created in 2000 by the Central Road Fund Act of 2000.
- The fund is made up of a cess and excise charge on gasoline and diesel. The Ministry of Finance has administrative jurisdiction over the CRIF.
- Previously, it was the responsibility of the Ministry of Road Transport and Highways. 2018 Central Road Fund Act (Amendment):
- The Central Road Fund was renamed the Central Road and Infrastructure Fund (CRIF) as a result of the change.
- It permitted the use of the earnings of the CRIF road cess to finance other infrastructure projects such as rivers, a section of the railway infrastructure, and even social infrastructure like as educational institutions, medical colleges, and so on.

#### **Scheme of Setu Bandhan:**

- Setu Bandhan Scheme; is a program launched by the Ministry of Road Transport & Highways to facilitate the building of Rail Over Bridges (ROBs), Rail Under Bridges (RUBs), and State Road Bridges.
- This program aims to improve road safety by replacing existing level crossings with bridges, resulting in fewer accidents at these locations.

### **3. Mulls Partnership**

- The Indian government is looking into numerous collaborations and projects in semiconductor chip production, artificial intelligence (AI), and robotics.
- Seven working groups have presented proposals for the Indian government artificial intelligence plan, which includes public-private partnerships for semiconductor fabrication.
- In addition, the government intends to build GPU clusters for AI applications and a broad dataset platform for Indian researchers and companies.

#### **Details:**

##### **Semiconductor Chip Manufacturing:**

- India is thinking about forming alliances to improve semiconductor chip manufacturing, a critical component of modern technology.
- The demand for semiconductor chips is increasing in a variety of industries, including AI and electronics.
- Platform for AI Applications and Datasets:
- AI applications in agriculture, healthcare, education, finance, security, and governance are being prioritized by the government.
- It underlines the significance of robotics hardware manufacture and development on a local level.

#### **Significance:**

- These projects are crucial for India's technical and economic development since they address emerging technologies and their applications in a variety of areas.
- They indicate a dedication to encouraging technological innovation, research, and local manufacturing.

#### **The way forward:**

- Partnerships in Semiconductor Manufacturing:
- Collaborate with private-sector enterprises to construct semiconductor manufacturing facilities in India, therefore increasing self-sufficiency in chip manufacture.



**Platform for AI and Datasets:**

- Encourage public-private collaboration to develop AI applications in critical industries.
- Ascertain that the dataset platform complies with data privacy and security standards.
- Robots Development: Create fiscal incentives to encourage local manufacturing of robots hardware, hence encouraging innovation and economic progress.
- Establish testing and displaying facilities for robotics technologies to potential investors and users. Invest in robotics skill development and capacity building to create a trained workforce.

**Public Perception and Awareness:**

- Rather on focusing primarily on job losses, educate the public about the possible benefits of robotics, highlighting the need of quality evaluation and efficiency.

**4. Comprehensive Nuclear Test Ban Treaty**

- Russia recently stated that it is considering withdrawing its ratification of the Comprehensive Nuclear Test Ban Treaty (CTBT).

**The Origins of the CTBT:**

- The CTBT is a multinational pact that prohibits all nuclear explosions, whether military or peaceful.
- The CTBT has its origins in the Cold War era, when the US and the Soviet Union were engaged in a nuclear arms race, conducting several nuclear tests.
- Over 2,000 nuclear tests were conducted worldwide between 1945 and 1996, with the United States performing 1,032 tests and the Soviet Union completing 715 tests, among others.
- The international community undertook attempts to limit nuclear testing in response to worries about the environmental and health consequences of such tests.
- The 1963 Limited Nuclear Test-Ban Treaty (LTBT) barred nuclear testing in the atmosphere, outer space, and beneath the sea, but allowed for underground tests.
- The 1974 Threshold Test Ban Treaty (TTBT) outlaws underground nuclear weapons tests and specifies a nuclear; but it stops short of putting a total prohibition on all nuclear testing.

**Breakthrough with CTBT**

- The Cold War end and the disintegration of the Soviet Union produced an opportune climate for comprehensive weapons control measures.
- The CTBT was agreed in 1994 at the Conference on Disarmament in Geneva.
- The United Nations enacted the CTBT in 1996, imposing a total ban on nuclear weapons testing and filling gaps left by prior treaties.
- The CTBT became available for signing in September 1996, marking a significant step forward in the global effort to ban nuclear testing around the world.
- The CTBT will enter into force 180 days after it has been ratified by all 44 states mentioned in Annex 2 to the treaty, all of which had nuclear reactors or research reactors at the time of its adoption.
- Current Status: It has been signed by 187 countries and ratified by 178. However, the pact will not enter into force until 44 particular nations ratify it. The pact has yet to be ratified by eight of these countries: China, India, Pakistan, North Korea, Israel, Iran, Egypt, and the United States are all involved.

**5. Ferry to Sri Lanka resumes service after 40 years**

- **Context:** Prime Minister Narendra Modi launched an international, high-speed passenger ferry service between Nagapattinam, Tamil Nadu, and Kankesanthurai, Sri Lanka, reviving a vital link that had been dormant for nearly four decades. The launch marks an important step forward in improving connectivity and developing political and commercial ties between India and Sri Lanka.

**Background:**

- **Disruption of Connectivity:** For nearly four decades, the ferry service between Nagapattinam and Kankesanthurai was discontinued, breaking a crucial route of connectivity between India and Sri Lanka. **Cultural and Economic Ties:** The connectivity disruption impacted cultural, commercial,

and civilisational ties between the two countries, affecting people-to-people contacts and economic prospects.

**Significance:**

- **Enhanced Connectivity:** The return of boat service represents more than just physical proximity; it also represents the coming together of people, countries, and their hearts. It encourages trade, tourism, and people-to-people ties, opening up new prospects for both countries youth.
- The region, notably Nagapattinam, has a rich history of marine trade, and the resurrection of this service underlines the region historical importance in establishing international linkages.
- **Diplomatic and commercial Ties:**
- The ferry service is seen as a new chapter in India-Sri Lanka diplomatic and commercial relations. It strengthens cultural and business relations, harmonizing with the India-Sri Lanka economic partnership shared vision.

**Conclusion:** The reintroduction of ferry service between Nagapattinam and Kankesanthurai is significant because it reconnects two nations, people, and hearts. This development improves not just physical proximity but also diplomatic, cultural, and economic ties.

**ANSWER WRITING**

**Discuss the effects of plastic pollution on the economy and environment. Emphasise the global efforts aimed at mitigating the issue of plastic pollution.**

**Introduction**

Plastic pollution is becoming a global problem as a result of the rise in the manufacturing of single-use and throwaway plastics. 79% of the 8.3 billion tones of plastics created since the 1950s escaped into the environment or ended up in landfills. A survey by the OECD states that just 9% of plastic garbage is recycled globally, with the remaining 22% being mishandled. Plastics have cross-sectoral effects on people and the environment throughout their lifecycle.

**Effects on the environment:**

**Threats to Wildlife:** Wildlife is being threatened by plastic pollution. Plastic garbage can be mistaken for food by marine creatures like sea turtles, dolphins, and whales, which can then consume it. This may result in harm, disease, or even death. Furthermore, plastic debris can entangle birds and other animals, causing harm or even death.

**Ecosystem Alteration:** Mobile animals are not the only creatures directly impacted by marine trash. Marine debris can affect fragile ecosystems, plants, and other immobile living things. Fishing gear left over from previous seasons may shatter or choke coral, harming coral reefs. Plastic bags and fishing nets can suffocate plants. The passage of an abandoned vessel can harm or change the ecosystems on the ocean floor or other marine debris.

**Invasive Species:** The spread and migration of invasive species can be facilitated by marine debris. Invasive organisms can spread from one place to another on floating marine trash. Marine debris serves as a kind of "raft" that invasive species utilize to travel from one body of water to another.

**Climate change:** As plastic waste decomposes, greenhouse gases (GHG) are released into the atmosphere, endangering efforts by the international community to limit global warming to less than 1.5°C. By 2050, it's predicted that plastics would account for 13% of the world's remaining carbon budget in greenhouse gas emissions.

**Risks to Human Health:** There is a serious concern that plastic pollution will affect people's health. Waste made of plastic can leak dangerous chemicals into the environment as it decomposes. These chemicals can then enter the food chain and potentially harm human health.

**Economic Impacts:**

**Tourism:** The presence of marine debris can lead to a decline in income as it appears unappealing and unwelcoming to beachgoers. Marine debris may even force beach closures in extreme circumstances.

**Fishing:** Marine debris has a major negative economic impact on the fishing industry. When commercial fish and shellfish get caught up in misplaced fishing nets or other fishing gear, it affects the commercial fishery. Due to detrimental effects on the stock's capacity to reproduce, this kind may cause both short-term losses in the amount of available seafood and long-term declines in the stock's sustainability.

**Navigation:** Propellers can become entangled in floating marine debris, which can also jam cooling water input valves. Boat repairs caused by marine debris are costly and time-consuming.

**Global efforts to mitigate the issue of plastic pollution:**

- The Basel Convention is the primary international tool for controlling the transboundary transport and disposal of hazardous waste in terms of global governance. In an effort to promote improved plastic waste management, the Parties to the Convention established the Plastic Waste Partnership and approved the Plastic Waste Amendments in 2019.
- At the fifth UN Environment Assembly in 2022, nations took a historic step when they decided to form an International Negotiating Committee (INC) and work towards creating a globally enforceable document on plastic pollution by the end of 2024.
- UNEP is implementing activities to lessen marine litter and its detrimental effects through the Clean Seas platform.
- The UNWTO's Global Tourism Plastics Initiative combines the travel industry behind a shared goal to address the main reasons why plastic pollution occurs.
- Using a systematic approach, UNEP's One Plastics Initiative implements national, international, and regional projects in high-impact industries and value chains.
- The IAEA's main effort to combat the global problem of plastic pollution is called NUTEC Plastics. It focuses on nuclear technology and research for treating current polymers.

**Conclusion**

Since plastic pollution is a worldwide issue, coordinated action and effective decision-making require international cooperation to address this serious environmental issue. A meaningful impact on the battle against plastic pollution can be achieved by the creation of sustainable substitutes, cutting back on plastic consumption, recycling plastic trash, and enacting legislation.

**MCQS**

1. Consider the following statements Global Health Innovation Fellowship
  1. This collaboration will leverage intellectual property, innovation and medical technology to solve local health challenges using global partnerships
  2. It is an initiative in collaboration with World Economic Forum and the Department of Biotechnology (DBT), Ministry of Science & Technology.
 Choose the correct statement(s)  
 (a) 1 only  
 (b) 2 only  
 (c) Both 1 and 2  
 (d) Neither 1 nor 2
2. Which Indian state/UT launched 'Orunodoi 2.0', a poverty alleviation scheme?  
 (a) Odisha  
 (b) Assam  
 (c) West Bengal  
 (d) Jharkhand
3. Consider the following statements:
  1. SARAS Aajeevika is a government initiative focused on urban development and infrastructure improvement in India.
  2. One District One Product (ODOP) initiative aims to select, brand, and promote at least One Product from each District of the country for enabling holistic socioeconomic growth across all regions.

3. One District One Product (ODOP) Wall is a collaboration between One District One Product (ODOP) initiative and SARAS Aajeevika.  
Which of the statements given above are correct?  
(a) 1 and 2 only  
**(b) 2 and 3 only**  
(c) 1 and 3 only  
(d) 1, 2 and 3
4. Consider the following statements, with reference to National Judicial Data Grid portal (NJDG):  
1.NJDG has been developed by National Informatics Centre (NIC)..  
2 It is the national repository of all case related information pertaining to the Supreme Court, High Courts, District and Taluka Courts  
Which of the above statements is/are correct?  
(a) 1 only  
(b) 2 only  
**(c) Both 1 and 2**  
(d) Neither 1 nor 2
5. Which of the following best defines the term 'MULE', recently seen in the news?  
(a) A lunar rover  
(b) It is a drone defence system  
(c) It's an anti-tank missile  
**(d) It is a load-bearing autonomous robot**
6. 'A-HELP' program is an initiative of the  
(a) NITI Aayog  
**(b) Department of Animal Husbandry and Dairying**  
(c) Indian Council of Medical Research  
(d) Indian Agricultural Research Institute
7. Consider the following statements:  
1. Adenoviruses have single-stranded DNA genomes whereas retroviruses have double-stranded DNA genomes.  
2. Common cold is sometimes caused by an adenovirus whereas AIDS is caused by a retrovirus.  
Which of the statements given above is/are correct?  
(a) 1 only  
**(b) 2 only**  
(c) Both 1 and 2  
(d) Neither 1 nor 2
8. With reference to Gaza Strip, consider the following statements:  
1.The Gaza Strip shares borders with Lebanon in the southwest and Israel to the north and east.  
2.The term "open air prison" has been widely used by academics to characterise the conditions in Gaza.  
Which of the statements given above is/are correct?  
(a) 1 only  
**(b) 2 only**  
(c) Both 1 and 2  
(d) 4.Neither 1 nor 2
9. Consider the following statements  
1. Every year, October 16 is observed as World Food Day to mark the founding of the United Nations Food and Agriculture Organisation  
2. The theme for the World Food Day 2023 is "Water is Life. Water is Food".  
Which of the statements given above is/are correct?  
(a) 1 only  
(b) 2 only  
**(c) Both 1 and 2**  
(d) Neither 1 nor 2
10. Which of the following wetlands are recognised under Ramsar sites  
1. Satkosia Gorge  
2. Dhanauri Wetland  
3. Vembannur Wetland Complex  
4. Nanda Lake  
Select the correct answer using the code given below:  
**(a) 1, 3 and 4 only**  
(b) 2 only  
(c) 2 and 3 only  
(d) 1, 2, 3 and 4