

CLIMATE CHANGE

❖ **How rising sea levels threaten agriculture, rainfall, and the social fabric**

➤ **CONTEXT: The World Meteorological Organization (WMO) has found in a new report that the world's sea level is rising at an unprecedented rate, portending potentially disastrous consequences for the weather, agriculture, the extant groundwater crisis, and social disparities.**

- The report, entitled 'State of the Global Climate 2022', was published recently. Along with accelerating sea-level rise, it focused on a consistent rise in global temperatures, record-breaking increases in the concentration of greenhouse gases as well as glacier loss, sustained drought-like conditions in East Africa, record rainfall in Pakistan, and unprecedented heatwaves that struck Europe and China in 2022.
- Droughts, floods and heatwaves affected communities on every continent and cost many billions of dollars. Antarctic sea ice fell to its lowest extent on record and the melting of some European glaciers was, literally, off the charts.
- While the sea-level rise is one of several compounding disasters, it also merits individual attention for the unique crises it can precipitate, especially for coastal areas, the communities there that depend on life in the sea, and its ability to render the loss of land.

➤ **How much is the sea rising?**

- The rate of global mean sea-level [GSML] rise has doubled between the first decade of the satellite record and the last.
- Since the 1990s, scientists have been measuring sea-level rise using satellite altimeters. These instruments send radar pulses to the sea surface and measure the time they take to get back and the change in their intensity. The higher the sea level, the faster and stronger the return signal.
- Researchers are able to determine GSML by collecting this data from different points on the earth and calculating the average. To calculate the rate of change in the GSML (i.e. how fast or slow the sea level is changing) can calculate the difference in the GSML across a few years, usually a decade, and then divide the difference by the number of years. This provides an estimate of the rate of sea-level change.
- According to the WMO report, the sea level has been rising in the three decades for which satellite altimeter data is available (1993-2022). But while the rate of sea-level rise was 2.27 mm/year in 1993-2002, it shot up to 4.62 mm/year in 2013-2022.

➤ **What causes accelerated sea-level rise?**

- The WMO report points to the following factors as being responsible for a rising GSML: "ocean warming, ice loss from glaciers and ice sheets, and changes in land water storage".
- The report also quantifies the individual contribution of these factors to yield what researchers call the "GSML budget". According to the report, in 2005-2019, loss of glaciers and ice sheets contributed 36% to the GSML rise. Ocean warming (the phenomenon of rising mean ocean temperatures) contributed 55%, and changes in the storage of land water contributed less than 10%.
- As increasing concentrations of carbon dioxide and other greenhouse gases drive global warming, 90% of the 'extra' heat is stored in the oceans. This leads to ocean warming. And as the ocean heats up, it undergoes thermal expansion, which in turn leads to a rise in the GSML. One measure of ocean warming is the ocean heat content (OHC). Per the report, OHC measures in 2022 touched a new record.
- The report also says that the earth's ice cover, known as the cryosphere, has thinned. The cryosphere includes the Arctic and Antarctic regions (called "sea ice"), glaciers, the ice sheets of Greenland and Antarctica (area of ice on land covering more than 50,000 km²), seasonal snow cover, and permafrost (mass of land that remains below 0° C for at least two straight years).

➤ **What do the report's findings mean?**

- According to scientists:
- ✓ The WMO report confirms trends that are already well-known.
- ✓ The findings of the report are consistent with observations made by others and predictions from climate models.
- ✓ The accelerating pace is particularly worrisome.

➤ **What problems will sea-level rise cause?**

- **First** the accelerated pace will cause changes in land cover, i.e., "what will be land and what will be sea", in the future. As rising seas swallow more of the land cover, particularly in coastal areas, coastal communities will face an "acute shortage of land for human use".
- ✓ This land crunch will mean that those who are better off will be able to cope better than marginalised groups, leading to an increase in social disparities between people living in coastal areas.
- **Second**, weather formations like cyclones are known to typically originate in the open seas. As the GSML continues to rise, along with a rise in ocean temperatures, the chances of cyclones could increase, affecting coastal communities and leading to large economic liabilities for tropical countries like India and South Africa, which have high population densities.
- ✓ The WMO report says that South Africa was affected by five cyclones in over two months in 2022, leading to the displacement of "hundreds of thousands of people".

- **Lastly**, as the GSML continues to rise, more seawater could seep into the ground, leading to the groundwater (which is usually freshwater) turning more and more saline. This in turn can exacerbate water crises in coastal areas as well as agriculture in adjacent regions.
- **How will sea-level rise affect societies?**
- According to scientists coastal ecosystems could be “completely changed”.
- ✓ For example in the Sunderbans delta in West Bengal, the world’s largest mangrove area, rising sea levels and coastal erosion, due to loss of land and sediment from coastal areas, has left more islands submerged under water, and that in turn has forced members of local communities to migrate.
- Since the lives of coastal communities, including their economic activities, is tied intricately with the coastal ecosystem, changes in the coastal ecosystem as a result of GSML rise – especially when it happens faster than rehabilitative policies and laws can catch up – will further endanger the socio-economic stability of these communities.
- Indeed, a combination of these forces having increased child trafficking in the Sundarbans area has already been documented.

POLITY

- ❖ **How has the Supreme Court interpreted ‘sex’ and ‘gender identity’ in the past?**
- **CONTEXT: Chief Justice of India D.Y. Chandrachud, presiding over a five-judge constitutional bench, observed that the very notion of a man and a woman is not “an absolute based on genitals”, in response to an argument raised by the Centre that the ‘legislative intent’ of marriage throughout has been a “relationship between a biological man and a biological female”.**
- The Chief Justice underscored that the Centre was making a ‘value judgment’, that there was no ‘absolute concept of a man or an absolute concept of a woman’ and that gender was ‘far more complex’ than one’s genitals.
- The Supreme Court was discussing the ambit of gender and whether it expanded beyond the biological sex of a person while hearing a batch of pleas seeking the legalisation of same-sex marriage in India.
- **What transpired during the hearing?**
- Solicitor General appearing for the Centre argued that existing laws including the Special Marriage Act recognized only heterosexual marriages between a “biological man and a biological woman” and emphasised that the biological gender was indeed the gender of a person.
- ✓ Disagreeing with the Solicitor General CJI retorted, ‘There is no absolute concept of a man or an absolute concept of a woman at all... A man or a woman is not a definition of what their genitals are, it is far more complex. Even when the Special Marriage Act says ‘man’ and ‘woman’, the very notion of a man and a woman is not an absolute on what genitals you have’.
- Rebutting the CJI’s remark, the Solicitor General submitted that a ‘biological man means the genitals one has’, though adding that he did not want to use that ‘expression’. He added that if the notion referred to by the CJI is treated as a guiding factor to determine whether one is a man or a woman, the court would unintentionally be making several acts unworkable.
- Advocate appearing for one of the petitioners, argue that ‘same-sex marriage’ was a narrow term and, if the Court were to grant marriage equality to gay couples, it should be for consenting adults across the “bodily gender and sex spectrum”.
- **How do international covenants and foreign jurisdictions define ‘sex’ and ‘gender’?**
- Published in November of 2006 following an international meeting of experts in Yogyakarta, Indonesia, the Yogyakarta Principles on the Application of International Human Rights Law in relation to Sexual Orientation and Gender Identity extensively explain the concepts of gender identity and sexual orientation and were also heavily relied upon by the Supreme Court in **Navtej Singh Johar v. Union of India**.
- ✓ ‘Sexual orientation’ has been defined as each person’s capacity for profound emotional, affectional, and sexual attraction to, and intimate and sexual relations with, individuals of a different gender or the same gender or more than one gender.
- ✓ ‘Gender identity’, meanwhile, has been defined as each person’s deeply felt internal and individual experience of gender, which may or may not correspond with the sex assigned at birth, including the personal sense of the body (which may involve, if freely chosen, modification of bodily appearance or function by medical, surgical or other means) and other expressions of gender, including dress, speech and mannerisms.
- The Council of Europe Convention on Preventing and combating violence against Women and domestic violence (Istanbul Convention) is the first international human rights document which contains a definition of gender.
- ✓ Article 3 of the Convention, defines gender as “socially constructed roles, behaviours, activities and attributes that a given society considers appropriate for women and men.”
- Enacted in the year 2015, Malta’s Gender Identity, Gender Expression, and Sex Characteristics Act allows for the legal gender recognition of persons based on self-determination and bodily integrity and added gender identity as grounds for non-discrimination in the constitution.

- ✓ It defines “gender expression” as each person’s manifestation of their gender identity, and/or the one that is perceived by others. Gender identity here is defined in similar terms as the Yogyakarta Principles.
- **How has the Supreme Court previously interpreted ‘sex’ and ‘gender identity’?**
- ✚ **Stereotypes and gender roles**
 - The Supreme Court in 2007 in **Anuj Garg v. Hotel Association of India** struck down as unconstitutional a law that prohibited women from being employed in spaces serving alcohol, stating that it suffered from “incurable fixations of stereotype morality and conception of sexual role”, and hence discriminated on the grounds of sex.
 - The Court emphasized that due to traditional cultural norms, women often have to opt out of employment which is otherwise completely innocuous for men, and called upon the State to ‘focus on factoring in ways through which unequal consequences of sex differences can be eliminated’.
 - The judgement said legislations with pronounced “protective discrimination” aims, such as this one, potentially serve as double edged swords. Strict scrutiny test should be employed while assessing the implications of this variety of legislations. Legislation should not be only assessed on its proposed aims but rather on the implications and the effects. Adding that the perspective arrived at is “outmoded in content and stifling in means”.
- ✚ **Limited public knowledge about gender identity and expression**
 - In its landmark 2014 ruling **National Legal Services Authority (NALSA) v. Union of India**, the Supreme Court recognized the right to gender identity, holding that transgender persons have the constitutional right to self-identify as male, female, or transgender even without medical re-assignment. The Court held that the rights to life, dignity, and autonomy include the right to one’s gender identity and sexual orientation.
 - The Court acknowledged that there was limited public knowledge and understanding of sexual orientation and people whose gender identity and expression are incongruent with their biological sex.
 - ✓ The Court underscored “Recognition of one’s gender identity lies at the heart of the fundamental right to dignity. Gender, as already indicated, constitutes the core of one’s sense of being as well as an integral part of a person’s identity. Legal recognition of gender identity is, therefore, part of right to dignity and freedom guaranteed under our Constitution”.
 - ✓ The Court recognised that while a person’s sex is usually assigned at birth, a relatively small group of persons may be born with bodies which incorporate both or certain aspects of both male and female physiology.
 - ✓ Accordingly, it ruled that “discrimination on the ground of sex under Articles 15 and 16, therefore, includes discrimination on the ground of gender identity. The expression “sex” used in Articles 15 and 16 is not just limited to biological sex of male or female, but intended to include people who consider themselves to be neither male nor female.”
- ✚ **Sexual orientation is an essential attribute of privacy**
 - On August 24, 2017, a nine-judge bench of the Supreme Court in **Justice K.S. Puttaswamy v. Union of India** confirmed that the right to privacy was a fundamental right under Article 21 of the Constitution, and further held that it extended to an individual’s sexual orientation.
 - The Court said that sexual orientation is an essential attribute of privacy and that discrimination based on it is deeply offensive to the dignity and self-worth of an individual. The judges further held that the right to privacy and “the protection of sexual orientation lie at the core of the fundamental rights guaranteed by Arts 14, 15 and 21”.
 - The Court added that the right to privacy recognises personal choices governing a way of life, that it is not lost or surrendered merely because an individual is in a public space.
 - ✓ “Privacy of the body entitles an individual to the integrity of the physical aspects of personhood. The intersection between one’s mental integrity and privacy entitles the individual to freedom of thought, the freedom to believe in what is right, and the freedom of self-determination.
 - ✓ When these guarantees intersect with gender, they create a private space which protects all those elements which are crucial to gender identity. The family, marriage, procreation and sexual orientation are all integral to the dignity of the individual. Above all, the privacy of the individual recognises an inviolable right to determine how freedom shall be exercised”.
- ✚ **Sexual orientation is beyond mere sexual preference**
 - In **Navtej Singh Johar v. Union of India (2018)**, a five-judge bench of the Supreme Court decriminalized carnal intercourse ‘against the order of nature’ by reading down Section 377 of the Indian Penal Code (IPC). While the provision technically applied to sexual acts common to heterosexual intercourse as well (such as oral, digital, or anal sex), it was used most commonly to persecute those belonging to the LGBTQ+ community. The judgment facilitated an expansive understanding of the trappings of gender identity as intrinsically related aspects of a person’s identity.
 - The judgment repeatedly referred to the definition of ‘sexual orientation’ in the Yogyakarta Principles, which goes far beyond mere sexual preference to include “each person’s capacity for profound emotional, affectional and sexual attraction to, and intimate and sexual relations with, individuals of a different gender or the same gender or more than one gender.”
 - Challenging heteronormative gender roles, Justice Chandrachud opined in the judgment:

- ✓ “If individuals as well as society hold strong beliefs about gender roles (that men (to be characteristically reductive) are unemotional, socially dominant breadwinners that are attracted to women and women are emotional, socially submissive caretakers that are attracted to men) it is unlikely that such persons or society at large will accept that the idea that two men or two women could maintain a relationship. If such a denial is further grounded in a law, such as Article 377, the effect is to entrench the belief that homosexuality is an aberration that falls outside the ‘normal way of life.’”

PRELIMS

1. North Sea Summit

➤ **CONTEXT: 9 European nations set to turn North Sea into green power plant. The declaration, signed at the second North Sea Summit in Ostend, Belgium, sets ambitious targets including the production of at least 120 GW of offshore wind energy in the North Sea by 2030**

➤ **Details of the declaration**

- The signatory countries also aim to double their total offshore wind capacity to at least 300 GW by 2050.
- The declaration aims to accelerate the deployment of offshore renewables and connectivity within the maritime area encompassed by the signatory countries
- It focuses on the mass production of offshore wind and renewable hydrogen, as well as on electricity and hydrogen interconnections and national projects. The declaration also indicates the possibility of co-financing by countries that do not have direct access to the sea.
- The nine signatory countries have committed to take measures to promote the balanced coexistence of renewable energy deployment, biodiversity and environmental protection, as well as to contribute to the health and robustness of marine ecosystems.

➤ **About the summit**

- This second edition of the North Sea Summit brought together the heads of state and government and energy ministers of Belgium, Denmark, Germany, the Netherlands, Luxembourg, France, Ireland, Norway and the UK, as well as the president of the European Commission and the commissioner for energy.
- This declaration is the successor to the Esbjerg declaration, which resulted from the first summit in Denmark on May 18, 2022.
- At the time, the consequences of the war in Ukraine were beginning to be felt in the energy market.
- Belgium, Denmark, Germany and the Netherlands came together to form the "North Sea Coalition" and to coordinate their actions to combat dependence on gas and fossil fuels.
- The choice for Esbjerg was no accident, since the coastal town is known all over the world as a centre of excellence for the offshore industry.

➤ **First edition**

- This first edition of the North Sea Summit resulted in a declaration formalizing the ambition of the four founding countries to quadruple their combined offshore power generation capacity to 150 GW by 2050 (150 GW is the annual electricity consumption of 150 million European households).
- Such commitments will make the North Sea the largest sustainable energy plant in Europe.
- ✓ To achieve this, Belgium, Denmark, Germany and the Netherlands committed in Esbjerg to collaborate and connect their wind farms as much as possible.

• **About North Sea**

- The North Sea lies between Great Britain, Denmark, Norway, Germany, the Netherlands, Belgium and France.
- An epeiric sea on the European continental shelf, it connects to the Atlantic Ocean through the English Channel in the south and the Norwegian Sea in the north.
- It is more than 970 kilometres long.
- It hosts key north European shipping lanes and is a major fishery.
- The coast is a popular destination for recreation and tourism in bordering countries, and a rich source of energy resources, including wind and wave power.
- The North Sea has featured prominently in geopolitical and military affairs, particularly in Northern Europe, from the Middle Ages to the modern era.

❖ **Lesser Flamingo**

➤ **CONTEXT: After a six-year absence, the lesser flamingos, resplendent with deep red legs and bills, have finally found their way back to Pulicat lake.**

➤ **About**

- It is the smallest of all flamingos but has the largest population.
- It possesses the "hallux" or hind toe that some other flamingos do not have.
- Males are a little taller than females.
- Habitat: It inhabits coastal and inland wetlands.
- Geographical distribution: Africa, Asia continents and in that especially Sub-Saharan Africa, South Asia, North Africa
- They mostly eat blue-green algae but occasionally will take crustaceans and small insects.

- It is serially monogamous, meaning they form pairs that remain together while they are raising the young
- Conservation status IUCN: Near Threatened
- **Facts about the Pulicat Lake**
- It is the second-largest brackish water lake in the country.
- It lies at the border of the states of Andhra Pradesh and Tamil Nadu. (Majorly lies in Andhra Pradesh)
- The long and narrow Sriharikota Island, which separates Pulicat Lake from the Bay of Bengal,
- It is popular as a flamingo-watching site and for water activities.
- Both the South West and North-East monsoons provide rain to the area where Pulicat Lake is located.

ANSWER WRITTING

Q. The influence of Left-Wing Extremism (LWE) and associated violence has been falling in the country however, some regions remain affected by it. Examine why LWE remains potent in certain regions. Throw light on the government's approach to dealing with LWE.

Left Wing Extremism (LWE) or Naxal insurgency aims to overthrow the existing democratic state structure with violence as their primary weapon, and mass mobilization and strategic united fronts as complementary components and plans to usher in the so-called 'New Democratic Revolution' in India. According to the government, Maoist violence in the country has gone down by 77% since 2010. However, the Maoist insurgency still has potency in the Bastar and Dantewada districts of Chhattisgarh, the Andhra-Odisha border and some districts in Jharkhand.

Factors that have led to the continued existence of Left-Wing Extremism in certain regions of the country:

- Flawed understanding of the nature of the State: Instead of mobilising discontent with the government and ensuring inclusion and welfare, Maoists have continued with armed struggle and violence. They are unwilling to accept that the poor people, whom they claim to represent, seek greater engagement with the electoral and welfare system.
- Use of state structure to further Maoist agenda: They skilfully use state structures and legal processes to further the Maoist agenda and weaken the enforcement regime. The important functions include recruitment of 'professional revolutionaries', raising funds for the insurgency, creating urban shelters for underground cadres and providing legal assistance to arrested cadres.
- Inequitable development: Initially failure of land reforms and socio-economic inequities fuelled tribal discontent. However, now the Maoist insurgency has reached a stage where the insurgents have a vested interest in the continued underdevelopment of these areas. They are specifically keen to prevent infrastructural penetration of difficult jungle areas.
- Response of state governments and police: It was through the active involvement of local police in the leading role that states such as Andhra Pradesh, West Bengal, Odisha and Jharkhand were able to end their Maoist problem. However, this process started late in Chhattisgarh and hence Maoists from neighbouring states have been pushed into the state.
- Role of Front Organisations: In areas under Maoist domination, the absence of governance becomes a self-fulfilling prophecy since the delivery systems are extinguished through killings and intimidation. In the meanwhile, many Front Organisations are created to facilitate mass mobilisation in semi-urban and urban areas. The organisations are led by well-educated intellectuals with a firm belief in the Maoist insurgency doctrine and function as masks to cover the violent nature of the CPI (Maoist) ideology.

The government's approach to dealing with Left-wing extremism:

- Special Central Assistance (SCA) for most LWE-affected districts: The main objective of the scheme is to fill the critical gaps in Public Infrastructure and Services, which are of emergent nature.
- Scheme of Fortified Police Stations: Under the scheme 400 Fortified Police Stations have been constructed in 10 LWE affected States.
- Civic Action Programme (CAP): This scheme aims to bridge the gaps between Security Forces and local people through personal interaction and bring the human face of security forces before the local population.
- Aspirational District programme: The Ministry of Home Affairs has been tasked with monitoring the Aspirational Districts programme in 35 LWE-affected districts.
- Special Infrastructure scheme: Under the scheme, funds are provided to States for strengthening the infrastructure related to Security.
- Skill development measures: For Skill Development of the youth in these areas, Industrial Training Institutes (ITIs) in 47 districts and Skill Development Centres (SDCs) in 34 Districts have been approved.
- Improving access to education: The government has approved 234 Eklavya Model Residential Schools (EMRSs) for LWE-affected areas. Further, Kendriya Vidyalas (KVs) and Navodaya Vidyalas (JNVs) have also been approved and made functional in all the most LWE-affected districts.
- The government has also enunciated an integrated strategy for countering the LWE with full force and competence. This new strategy is called SAMADHAN, which is a blend of short- and long-term plans developed at different levels.

The area of influence of Maoists has reduced significantly from 96 districts in the year 2010 to only 39 districts in 2022. In order to tackle the remaining strongholds, a holistic approach focusing on development and security-related

interventions should be considered. Civil society and the media should be engaged to build pressure on Left-Wing Extremists to eschew violence and join the mainstream.

MCQs

1. With reference to World Meteorological Organization consider the following
1. The World Meteorological Organization (WMO) is a specialized agency of the United Nations.
 2. International Meteorological Organization (IMO) is the subordinate office to it which publish green house gas bulletin.
 3. World Meteorological Day is celebrated on 23 March as IMO was established on that day in 1950.

Which of the above statement/s is/are not correct?

- 1 and 2 only
- 2 and 3 only**
- 1 and 3 only
- 1,2 and 3

2. With reference to lesser flamingos consider the following

1. Lesser Flamingo is the smallest of all flamingos but has the largest population.
2. It inhabits only around freshwater inland wetlands.
3. It is endemic to Indian sub continent

Which of the above statement/s is/are correct?

- 1 only**
- 1 and 2 only
- 2 only
- 2 and 3 only

3. "Yogyakarta Principles" often mentioned in news is related to which of the following?

- Human Rights**
- Climate change
- Population Migration
- International Trade

4. Justice K.S. Puttaswamy v. Union of India case often mentioned in news can be associated with which of the following

- Right to privacy is a fundamental right under Article 21 of the Constitution.**
- Transgender persons have the constitutional right to self-identify as male, female, or transgender even without medical re-assignment.
- Decriminalized carnal intercourse.
- Legalise Same Sex Marriage

5. Consider the following statements:

1. In India, the Himalayas are spread over five States only.
2. Western Ghats are spread over five States only.
3. Pulicat Lake is spread over two States only.

Which of the statements given above is/are correct?

- 1 and 2 only

- 3 only**
- 2 and 3 only
- 1 and 3 only

6. Consider the following pairs:

Region often mentioned in the news Country

- | | |
|-----------------|----------|
| 1. Anatolia | Turkey |
| 2. Amhara | Ethiopia |
| 3. Cabo Delgado | Spain |
| 4. Catalonia | Italy |

How many pairs given above are correctly matched?

- Only one pair
- Only two pairs**
- Only three pairs
- All four pairs

7. Consider the following statements

1. The North Sea summit sets ambitious targets including the production of at least 120 gigawatts (GW) of offshore wind energy in the North Sea by 2030.
2. All the Nordic countries are part of this submit

Which of the above statement/s is/are correct?

- 1 only**
- 2 only
- Both 1 and 2
- Neither 1 nor 2

8. Which of the following countries share border with North Sea?

1. Belgium
2. Denmark
3. France
4. Germany
5. Ireland

Choose the correct answer using the codes given below

- 1,2 and 3 only
- 2,3 and 4 only
- 1,2,4 and 5 only
- 1,2,3 and 4 only**

9. "Promoting millets in diets: best practices across states/uts of india" report recently released by which of the following?

- NITI Ayog**
- FASSAI
- Ministry Health and Family Welfare
- Ministry of Agrriculture

10. Manamadurai pottery recently got GI tag belongs to which of the following state?

- Andhra Pradesh
- Kerala
- Tamil Nadu**
- Karnataka