# Freedom of Religion

## Why in News?

Recently, the Tamil Nadu (TN) Government has stated that the Article 25 (Freedom of Religion) of the Indian Constitution guarantees every citizen the right to propagate his religion, while replying to a petition in the **Supreme Court (SC).**

- The petitioner complained about the **instances of forceful conversion in TN,** violating the Fundamental Rights.

## What is the Case About?

- The petitioner sought an **NIA (National Investigation Agency)/CBI (Central Bureau of Investigation)** investigation into the "root cause" of the death of a 17-year-old girl in Tamil Nadu amidst a **swirl of accusations that she had been forced to convert to Christianity.** The petition argued that **forcible or deceitful conversion** was a violation of fundamental rights.
- TN govt has replied that the acts of **missionaries to spread Christianity by themselves cannot be seen as illegal,** since the Constitution guarantees every citizen the right to propagate his religion under Article 25.
    - However, if their act of spreading their religion is against public order, morality and health and against other provisions of Part III of the Constitution, it has to **be viewed seriously.**

## What is Understood by the Freedom of Religion?

- **About:**
    - Every citizen is entitled with this right and liberty **to preach, practice and propagate the religion** of his choice.
        - An opportunity is also provided by this right to spread it among everyone without any fear of government intervention.
        - But also, it is expected by the state to practice it amicably within the jurisdiction of the country.
- **Need:**
    - India is home to people following different religions and having different faiths. As per the Pew Research Centre 2021 data, **there are 4,641,403 people who follow other religions apart from the six major religions** which are Hinduism, Jainism, Islam, Buddhism, Sikhism, and Christianity.
    - So with such a diverse population, following different religions and beliefs, it becomes necessary to **protect and secure rights regarding the faith** of each and every religion.
- **Secularism:**
    - The 42$^{nd}$ Constitutional amendment in 1976 added the word **'secular' to the** preamble of the Constitution. India being a secular state, is a no state religion which means **that it**

**follows no particular religion.**
- In Ahmedabad **St. Xavier's College v. State of Gujarat (1975),** the SC held that Secularism neither means anti-god nor pro-god. It just ensures that no one is differentiated on the basis of religion eliminating the concept of God in matters of the state.
- **Constitutional Provisions Related to Freedom of Religion:**
  - **Article 25:** It imparts freedom of conscience and free profession, practice and propagation of religion.
  - **Article 26:** It gives freedom to manage religious affairs.
  - **Article 27:** It sets freedom as to **payment of taxes for promotion** of any particular religion.
  - **Article 28:** It gives freedom as to attendance at religious instruction or religious **worship in certain educational institutions.**

## Secularism in India v/s US:

- **India follows the concept of 'neutrality' and 'positive role' towards** religion. The State can introduce **religious reforms, protect minorities** and formulate policies on religious matters.
- **The US follows the principle of 'non-interference' in the matters** of religion. The State **cannot take any action** in religious matters.

## What are the Major Judicial Pronouncements on Freedom of Religion

- **Bijoe Emmanuel and Ors. v. State of Kerala (1986):**
  - In this case, three children of Jehovah's Witnesses sect were suspended from the school as they refused to sing the national anthem claiming that it is against the tenets of their faith. The court held that expulsion is violative of fundamental rights and the right to freedom of religion.
- **Acharya Jagdishwaranand v. Commissioner of Police, Calcutta (1983):**
  - The Court held that Ananda Marga is not a separate religion but a religious denomination. And the performance of **Tandava on public streets is not an essential practice** of Ananda Marga.
- **M. Ismail Faruqui v. Union of India (1994):**
  - The apex court held that the mosque is not an essential practice of Islam, and a Muslim can offer namaz (prayer) anywhere even in the open.
- **Raja Birakishore v. State of Orissa (1964.):**
  - The validity of the Jagannath Temple Act, 1954 was challenged as it enacted provisions to manage the affairs of Puri temple on the grounds that it is violating Article 26. The court held that the Act only regulated the secular aspect of seva puja, **therefore, it is not violative of Article 26.**

**Note:**

- States like **Karnataka, Arunachal Pradesh, Chhattisgarh, Gujarat, Himachal Pradesh, Jharkhand, Madhya Pradesh, Odisha, Uttar Pradesh and Uttarakhand** have passed laws restricting **religious conversion.**
- In March 2022, Haryana State Assembly passed the [Haryana Prevention of Unlawful Conversion of Religion Bill, 2022](#), against **religious conversion by allurement, coercion or fraudulent means.**
- In August 2022, the Himachal Pradesh government also passed the [Himachal Pradesh Freedom of Religion (Amendment) bill 2022](#), seeking to criminalise mass religious conversions.

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# Model Code of Conduct

**For Prelims:** Model Code of Conduct , Election Commission of India

**For Mains:** Role of the ECI in the Evolution of MCC, Model Code of Conduct - importance in elections and its criticism.

## Why in News?

As the Karnataka Assembly Elections draw closer, political parties are trading accusations of **hate speech** against each other.

- The parties have approached the Election Commission of India regarding violations of the Model Code of Conduct (MCC).

What is MCC?

- **About:**
    - The **MCC is a set of guidelines issued by the ECI** to **regulate political parties and candidates prior to elections.**
    - It helps EC in keeping with the mandate it has been given under **Article 324 of the Constitution,** which gives it the **power to supervise** and **conduct** free and fairelections to the Parliament and State Legislatures.
    - The MCC is operational from the date on **which the election schedule is announced until the date of the result announcement.**
- **Evolution:**
    - The **origin of the MCC lies in the Assembly elections of Kerala in 1960,** when the State administration prepared a **'Code of Conduct'** for political actors.
    - Subsequently, in the Lok Sabha elections in 1962, the **ECI circulated the code** to all recognized political parties and State governments, and it was wholeheartedly followed.
    - It was in **1991** after repeated flouting of the election norms and continued corruption, the **EC decided to enforce the MCC more strictly.**
- **MCC for Political Parties and Candidates:**
    - Prohibitions:
        - Criticism of political parties must be **limited to their policies and programmes, past record, and work.**
        - Activities such as **using caste and communal feelings** to secure votes, criticizing candidates on the basis of unverified reports, bribing or intimidation of voters, etc. are prohibited.

- **Meetings:**
    - Parties must **inform the local police authorities of the venue and time** of any meeting in time to enable the police to make adequate security arrangements.
- **Processions:**
    - If **two or more candidates plan processions** along the **same route,** the political parties must establish contact in advance to ensure that the **processions do not clash.**
    - **Carrying and burning effigies** representing members of other political parties is **not allowed.**
- **Polling Day:**
    - Only voters and those with a valid pass from the EC are allowed to enter polling booths.
    - All authorized party workers at **polling booths should be given suitable badges or identity cards.**
        - Identity slips supplied by them to voters **shall be on plain (white)** paper and **shall not contain any symbol, name of the candidate or the name of the party.**
- **Observers:**
    - The EC will appoint observers to whom any candidates may report problems regarding the conduct of the election.
- **Party in Power:**
    - The MCC incorporated certain restrictions in 1979, regulating the conduct of the party in power. **Ministers must not combine official visits with election work or use official machinery for the same.**
    - The party **must avoid advertising at the cost of the public exchequer** or using official mass media for publicity on achievements to improve chances of victory in the elections.
    - From the time elections are announced by Commission, the **ministers and other authorities must not announce any financial grants,** or promise any construction of roads, provision of drinking water, etc. **Other parties must be allowed to use public spaces** and rest houses, and these must not be monopolized by the party in power.
- **Election Manifestos:**
    - The ECI directs that political parties and candidates must adhere to the following guidelines while releasing election manifestos for any election (Parliament/State Legislatures):
        - The election manifesto **shall not contain anything against** the **ideals and principles enshrined in the Constitution.**
        - Political parties should avoid making **promises that are likely to vitiate the purity of the election process** or exert undue influence on voters.
        - Manifestos should reflect the **rationale for promises** and broadly indicate the ways and means to meet the financial requirements for it.
    - Manifestos shall **not be released during the prohibitory period,** as prescribed under **Section 126 of the** Representation of the People Act 1951, for single or multi-phase elections.

**Some Recent Additions to the MCC:**

- The regulation of opinion polls and exit polls during the period notified by the ECI.
- The **prohibition of advertisements in print media** on polling day and one day prior to it unless the contents are pre-certified by screening committees.
- The **restriction on government advertisements** featuring political functionaries during the election period.

# Is the MCC Legally Enforceable?

- Though the **MCC does not have any statutory backing,** it has come to acquire strength in the past decade because of its strict enforcement by the EC.
    - Certain provisions of the MCC may be enforced through invoking corresponding provisions in other statutes such as the IPC 1860, CrPC 1973, and **RPA 1951.**
- In 2013, the Standing Committee on Personnel, Public Grievances, Law and Justice recommended making the MCC legally binding and recommended that the MCC be made a part of the RPA 1951.
- However, the **ECI argues against making it legally binding.** According to it, elections must be completed within a relatively short time or close to 45 days and **judicial proceedings typically take longer, therefore it is not feasible to make it enforceable** by law.

## What are the Criticisms of the MCC?

- **Ineffectiveness in Curbing Malpractices:**
    - The MCC has failed to prevent **electoral malpractices such as hate speech, fake news, money power, booth capturing, voter intimidation, and violence.**
    - ECI is also challenged by new technologies and social media platforms that enable faster and wider dissemination of misinformation and propaganda.
- **Lack of Legal Enforceability:**
    - MCC is **not a legally binding document** and relies merely on **moral persuasion and public opinion for compliance.**
- **Interference with Governance:**
    - MCC imposes **limitations on policy decisions, public spending, welfare schemes, transfers, and appointments.**
    - ECI is often criticized for applying the **MCC too early or too late, affecting development activities** and public interest.
- **Lack of Awareness and Compliance:**
    - It is **not widely known or understood by voters,** candidates, parties, and government officials.

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### UPSC Civil Services Examination, Previous Year Questions (PYQs)

#### *Prelims:*

**Q. Consider the following statements: (2017)**

1. The Election Commission of India is a five-member body.

2. Union Ministry of Home Affairs decides the election schedule for the conduct of both general elections and bye-elections.

3. The Election Commission resolves the disputes relating to splits/mergers of recognised political parties.

Which of the statements given above is/are correct?

(a) 1 and 2 only
(b) 2 only
(c) 2 and 3 only
(d) 3 only

**Ans: (d)**

#### *Mains:*

**Q.** Discuss the role of the Election Commission of India in the light of the evolution of the Model Code of Conduct. **(2022)**

# National Health Accounts Estimates

**For Prelims:** Out-of-Pocket Expenditure, WHO, Universal Health Coverage.

**For Mains:** National Health Accounts Estimates.

## Why in News?

Recently, the Ministry of Health and Family Welfare has released the **7<sup>th</sup> National Health Accounts (NHA) Estimates** for India (2019-20), which was produced by the **National Health Systems Resource Centre.**

- The NHA estimates are prepared by using an accounting framework based on the internationally accepted System of Health Accounts 2011, provided by the World Health Organization (WHO).

## National Health Systems Resource Centre

- It was established in 2006-07 under the National Rural Health Mission (NRHM) of Government of India to serve as an apex body for technical assistance.
- Its mandate is to assist in policy and strategy development in the provision and mobilization of technical assistance to the states and in capacity building for the Ministry of Health and Family Welfare (MoHFW).

## What are the Key Highlights?

| Health Indicators | Definitions | Data of Growth Trends |
|---|---|---|
| **Out of Pocket Expenditure (OOPE)** | OOPE is the money paid directly by households, at the point of receiving health care. This occurs when services are neither provided free of cost through a government health facility, nor is the individual covered under any public or private insurance or social protection scheme. | The share of OOPE in total health expenditure has declined from **62.6% in 2014-15 to 47.1% in 2019-20.** |

| | | |
|---|---|---|
| **Government Health Expenditure (GHE)** | GHE constitutes spending under all schemes funded and managed by Union, State, and Local Governments including quasi-Governmental organizations and donors in case funds are channeled through Government organizations. health system as a low Government. | GHE's share in the country's total GDP increased from **1.13% (2014-15) to 1.35% (2019-20).** |
| **General Government Expenditure (GGE)** | This is a proportion of the share of Government expenditures towards healthcare in the General Government Expenditures and indicates Government's priority towards healthcare. | In GGE the share of health sector spending has steadily increased from **3.94% to 5.02% between 2014-15 and 2019-20.** |
| **Total Health Expenditure (THE)** | THE constitutes current and capital expenditures incurred by Government and Private Sources including External funds. | In the Total Health Expenditure (THE) of the country between **2014-15 and 2019-20**, the share of GHE has increased from **29% to 41.4%.** |
| **Social Security Expenditure (SSE)** | It includes government-funded health insurance, medical reimbursement to government employees, and social health insurance programs. | The share of SSE on health has increased from 5.7% in 2014-15 to 9.3% in 2019-20. |
| **Private Health Insurance Expenditures (PHIE)** | PHIE constitute spending through health insurance companies where households or employers pay a premium to be covered under a specific health plan. | PHIE has increased from **3.4 % in 2013-14 to 7 % in 2019-20** estimates out of total Health Expenditure. |
| **External/ Donor Funding for health** | This constitutes all funding available to the country by assistance from donors. | It has increased from **0.3 % in 2013-14 to 0.5 % in 2019-20** out of total health expenditure. |

## Way Forward

- The state governments should move ahead in healthcare spending as percentage of their total budget to **about 8% which is currently 4-5% for many states,** adding that "this spending must be in line with the bigger picture of benefiting the citizens".
- It is important to persist with this **trend of expenditure on primary healthcare** so that promotive and preventive health, which mostly take place at primary level, can be focused upon.
- The Fifteenth Finance Commission recommends that the **public health expenditure of the Union and States should be increased together to reach 2.5% of** GDP (Growth Domestic Product) **by 2025.**
  - Currently, 20% of the population has social and private health insurance, while the remaining **30%, known as the "missing middle,"** have no health insurance.

What are the Initiatives Related to Healthcare?

- National Health Mission
- Ayushman Bharat.
- Pradhan Mantri Jan Arogya Yojana (AB-PMJAY).
- National Medical Commission
- PM National Dialysis Programme.
- Janani Shishu Suraksha Karyakram (JSSK).
- **Rashtriya Bal Swasthya Karyakram (RBSK).**

Source: PIB

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# Who's Tipping the Scales Report: IPES

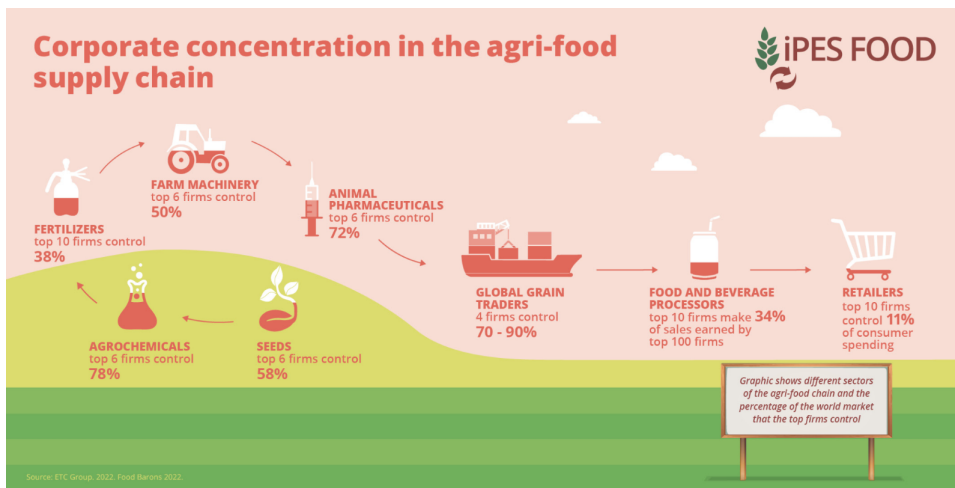**For Prelims:** Food Governance, Bluewashing, **CGIAR**, FAO, Bill and Melinda Gates Foundation, UN.

**For Mains:** Who's Tipping the Scales Report: IPES.

## Why in News?

Recently, a report has been released by the **International Panel of Experts on Sustainable Food Systems (IPES)** titled **"Who's tipping the scales",** highlights how corporate capture of global Food Governance is increasingly taking place in more visible ways and raising concerns over **Bluewashing.**

//

**Corporate concentration in the agri-food supply chain**

iPES FOOD

FERTILIZERS
top 10 firms control
38%

FARM MACHINERY
top 6 firms control
50%

ANIMAL PHARMACEUTICALS
top 6 firms control
72%

AGROCHEMICALS
top 6 firms control
78%

SEEDS
top 6 firms control
58%

GLOBAL GRAIN TRADERS
4 firms control
70 - 90%

FOOD AND BEVERAGE PROCESSORS
top 10 firms make **34%** of sales earned by top 100 firms

RETAILERS
top 10 firms control **11%** of consumer spending

Graphic shows different sectors of the agri-food chain and the percentage of the world market that the top firms control

Source: ETC Group, 2022, Food Barons 2022.

## What is Bluewashing?

- Bluewashing is using **misinformation to deceive consumers into thinking that a company is more digitally ethical** and secure than it really is.
    - It is just like greenwashing but focused more on social and economic responsibility **rather than the environment.**
    - Greenwashing is a form of deceptive marketing in **which a company falsely claims that its products,** policies, or programs are environmentally friendly or beneficial, while doing little or nothing to actually assist the environment in practice.
- The term 'bluewashing' was first used to **refer to companies who signed the United Nations Global Compact** and its principles but did not make any actual policy reforms.
    - It is often done by companies making vague or unsubstantiated claims about their data privacy and security or making claims about the safety and security of **Artificial Intelligence.**

## What are the Highlights of the Report?

- **Corporate Takeover of Food Governance:**
    - There has been a growing presence of firms in governance and spaces, staking claims to be legitimate actors.
    - Over recent decades, corporations **have succeeded in convincing governments that they must be central in any discussion** on the future of food systems.
    - Corporate partnerships provided a key source of funding for global food governance institutions and corporations with **greater influence over decision-making.**
- **Normalization of Corporate Role in Food Governance:**
    - The role of private corporations in food governance and decision-making has been normalized by **public-private partnerships and multi-stakeholder roundtables** while public governance initiatives have become heavily dependent on private funding.
        - The **UN Food Systems Summit, 2021** was described as a watershed moment in highlighting the importance of corporate influence in public health governance.
- **Concerns Over Corporate Influence:**
    - Civil society organizations, food scholars, and social movements have expressed concern that the **increased involvement of corporations in food governance could lead to a weakening** of the public good and impact the rights of people and communities.
- **Visible and Invisible Corporate Influence:**
    - Corporations have influenced global food governance in visible and invisible ways.
    - Corporate influence could be seen in global food systems platforms such as the **Global Alliance for Improved Nutrition,** the Food and Land Use Coalition, and the Scaling Up Nutrition Movement.

- Other less visible ways in which corporate influence was seen in food systems governance was how the **private sector enterprises provided political and institutional donations, shaped trading & investment rules** and research strategies, and other structural aspects of global food systems.
- **Causes of Increases Corporate Involvement:**
  - The Covid-19 pandemic, coupled with [Russia's invasion of Ukraine](#) and [Food Inflation,](#) **aggravated the issue of corporate involvement.**
  - Following these crises, governments and multilateral agencies have been facing fund crunches.
- **Incidences of Corporate Involvement:**
  - The **CGIAR (Consultative Group on International Agricultural Research)** relied-on funding from **private firms and private philanthropic institutions** connected to the food industry.
  - The [Bill and Melinda Gates Foundation](#) which was the CGIAR's 2nd largest donor in 2020 contributed around USD 100 million, which was far more than what was contributed by **individual governments including that of the USA.**
  - The [FAO](#) was also found to have closely collaborated with corporations through **industry partnerships throughout its history.** However, the details regarding these contributions were not readily available.

## What are the Challenges Related to Excessive Corporate Involvement in Global Food Governance?

- **Limited Accountability:**
  - Private players in the food system **may not be accountable to the public or to regulatory bodies,** which can lead to inadequate monitoring of food safety, quality, and sustainability.
  - Private players may also prioritize their profits over the public good, leading to **conflicts of interest that can compromise food safety,** quality, and sustainability.
- **Hyper-nudging:**
  - Excessive corporate involvement can retrieve everyday transactions data (digital wallets to automated food services), which they can combine with information harvested online to **manipulate people's eating habits.**
- **Unequal Distribution of Benefits:**
  - Private players may prioritize the interests of powerful actors, such as large-scale producers and retailers, **over small-scale farmers and consumers,** leading to unequal distribution of benefits from the food system.
- **Limited Transparency:**
  - Private players may not disclose important information about their practices, products, and policies, **making it difficult for stakeholders to assess the impacts** of their actions on food System.
- **Exacerbate Food Security:**
  - If the control of the Food System goes to **big data, technology and e-commerce platforms,** which may exacerbate food insecurity and further environmental degradation.
  - Artificial intelligence is re-engineering ecosystems, and robotic tractors and drones if rolled out **as fast as digital infrastructures allow.** Millions of rural dwellers **will be forced to migrate** to urban areas.

## What are the Recommendations?

- Create a robust conflict of **interest and grievance policies and new mechanisms grounded in** [Human Rights,](#) that allow people's organizations, social movements and other civil society actors to participate in food governance on their own terms.
- Build up autonomous processes and spaces for claims and proposals from people's organizations and social movements, especially those that build agency for marginalized communities.

# Paris Agreement and its Failure to Address the Climate Change

**For Prelims:** Paris Agreement, India's Nationally Determined Contribution Targets, United Nations Framework Convention on Climate Change, State of the Global Climate 2022 report

**For Mains:** Paris Agreement: Its failures and Way Forward

## Why in News?

Recently, the World Meteorological Organization (WMO) released its State of the Global Climate 2022 report which pointed out that the Paris Agreement on Climate Change has been ineffective in fulfilling its agenda.

- The Paris Agreement that serves as the centre point of ongoing global negotiation on climate change was inked in 2015.

## What has the Report Highlighted on Performance of Paris Agreement?

- **Inability to Achieve Climate Related Goals:**
    - After signing of the Agreement, the last eight years (2015-2022) have **consecutively been the warmest years on record globally.**
        - The situation could have been far worse if the La Nina weather event had not occurred in the past three years, which has a cooling effect on the weather system.
    - Globally updated Nationally Determined Contributions (NDCs) **to limit global warming to 1.5°C** have failed even to achieve 2°C target.
    - The Paris Agreement has **not been able to equitably phase out fossil fuels** predominantly responsible for the climate crisis.
    - Neither the NDCs nor the disaster risk reduction and climate risk management plans are in place to combat climate-induced extreme weather phenomena.
- **Suggestions:**
    - To complement the Paris Agreement, **a new global framework in the form of a Fossil Fuel Treaty** should be introduced.
    - Most industrialised and emission-belching countries should be made to follow the Paris Agreement's commitments.
    - **Accelerated climate action** with deeper, faster emissions cuts is needed as tools, the knowledge, and the solutions are available.
    - There is a **need to undertake massively scaled-up investments** in adaptation and resilience, **particularly for the most vulnerable countries and communities** who have done the least to cause the crisis.

## What is the Paris Agreement on Climate Change?

- It is a **legally binding global agreement** under the United Nations Framework Convention on Climate Change (UNFCCC) that was adopted in 2015. It was adopted in UNFCCC COP21.
- It aims to combat climate change and limit global warming to well below 2o C above pre-industrial levels, with an ambition to limit warming to 1.5o C.
- It replaced the Kyoto Protocol which was an earlier agreement to deal with climate change.
- The Paris Agreement sets out a framework for countries to work together to **reduce greenhouse**

**gas emissions, adapt to the impacts of climate change,** and **provide support to developing countries** in their efforts to address climate change.

- Under the Paris Agreement, each country is required to submit and update their **NDCs every 5 years,** outlining their plans for reducing greenhouse gas emissions and adapting to climate change.
    - NDCs are pledges made by countries to reduce their greenhouse gas emissions and to adapt to the impacts of climate change.
    - **India's updated NDCs:**



## UPSC Civil Services Examination, Previous Year Questions (PYQs)

### *Prelims:*

**Q. The term 'Intended Nationally Determined Contributions' is sometimes seen in the news in the context of (2016)**

(a) pledges made by the European countries to rehabilitate refugees from the war-affected Middle East
(b) plan of action outlined by the countries of the world to combat climate change
(c) capital contributed by the member countries in the establishment of Asian Infrastructure Investment Bank
(d) plan of action outlined by the countries of the world regarding Sustainable Development Goals

**Answer: b**

**Q. With reference to the Agreement at the UNFCCC Meeting in Paris in 2015, which of the following statements is/are correct? (2016)**

1. The Agreement was signed by all the member countries of the UN and it will go into effect in 2017.
2. The Agreement aims to limit the greenhouse gas emissions so that the rise in average global temperature by the end of this century does not exceed 2°C or even 1.5°C above pre-industrial levels.
3. Developed countries acknowledged their historical responsibility in global warming and committed to donate $1000 billion a year from 2020 to help developing countries to cope with climate change.

Select the correct answer using the code given below.

(a) 1 and 3 only

(b) 2 only
(c) 2 and 3 only
(d) 1, 2 and 3

**Answer: b**

## *Mains:*

**Q.** 'Climate change' is a global problem. How India will be affected by climate change? How Himalayan and coastal states of India will be affected by climate change? **(2017)**
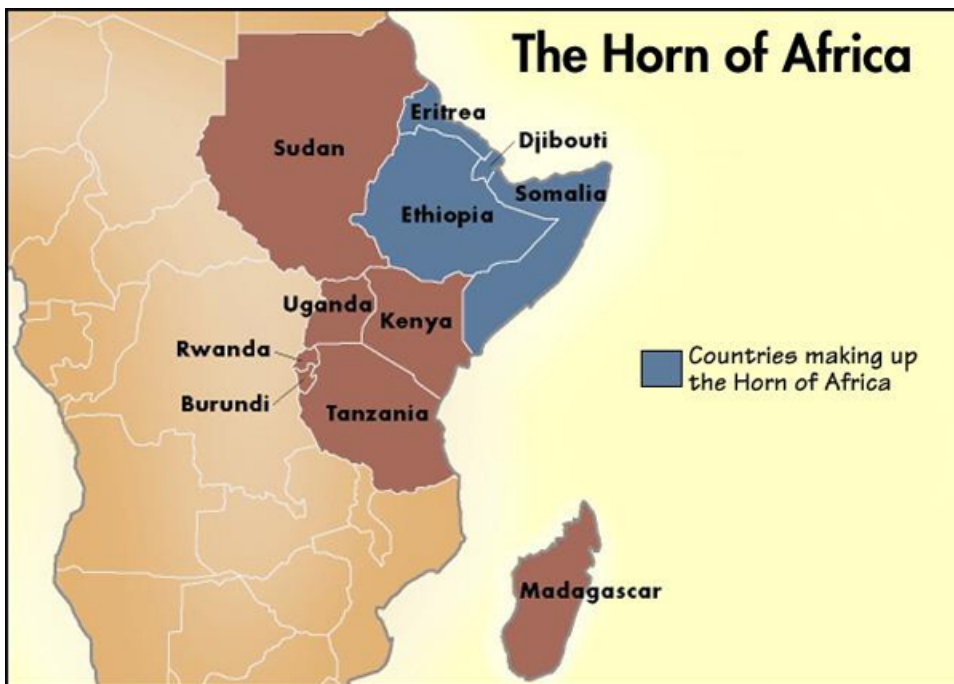
**Q.** Describe the major outcomes of the 26<sup>th</sup> session of the Conference of the Parties (COP) to the United Nations Framework Convention on Climate Change (UNFCCC). What are the commitments made by India in this conference? **(2021)**

**Source: DTE**

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# Rapid Fire Current Affairs

## Flash Floods in the Horn of Africa

Reports from organizations like the **United Nations Office for the Coordination of Humanitarian Affairs (UN-OCHA) and the Kenya Red Cross** show dire cases of flash floods in Kenya, Tanzania, and parts of Horn of Africa. The Horn of Africa is a **peninsula in Northeast Africa** that includes countries like **Somalia, Ethiopia, Eritrea, and Djibouti.** The floods come at a time when the countries in the Horn of Africa are struggling with a **sharp surge in** climate-linked disease **outbreaks, including diarrhoea, cholera, and measles.**



Flash floods are **sudden and intense floods** that occur when **heavy rainfall exceeds the capacity of**

**the soil and drainage systems to absorb it.** Flash floods can cause widespread damage to infrastructure, crops, livestock, and human lives. These events have a high peak and typically occur within six hours of the rainfall. The intensity and distribution of rainfall, **land use, topography, vegetation, soil type, and water content all affect the speed and location of flash flooding**. To mitigate the impact of flash floods, it is essential to **avoid living in valleys** and instead **live in areas on slopes with firm ground.**

**Read more:** [Landslide and Flash Floods](#)

## Underground Ammunition Storage Facility

The **Centre of Fire, Explosive and Environment Safety (CFEES)** an Indian defence laboratory of the [Defence Research and Development Organisation](#) has designed an **Underground Ammunition Storage Facility,** which **reduces the blast effect** on surrounding utilities during an explosion. The Design Validation Trial of this facility was successfully conducted recently, where 5,000 kgs of **[TNT (trinitrotoluene)](#)** was detonated in one of the chambers of the underground facility.

The unique design of the Underground Ammunition Storage Facility **reduces the required safety distances by up to 50%,** and the safety distance has been established up to 120 Metric Ton ammunition storage per chamber. The design ensures **higher safety of ammunition stored from any kind of aerial attack or sabotage.** This facility can be extensively used by the **Armed Forces for storage of all types of ammunition,** reducing the land footprint requirements, and providing enhanced safety of ammunition.

## Successful Trial of Air Droppable Container

The [Indian Navy](#) and the [Defence Research and Development Organisation (DRDO)](#) have **successfully tested an air droppable container** with a payload capacity of 150 kg, the container was dropped from an [IL 38SD aircraft](#) . The trial aimed to improve the **naval operational logistics** capabilities by providing a quick response to meet the **critical engineering stores' requirements for ships deployed** more than **2,000 kilometers from the coast.** It also aims to **reduce the need for ships to come closer to the coast to collect spares and stores.**

The container's development was a collaborative effort of three DRDO laboratories, including the [Naval Science and Technological Laboratory (NSTL)](#) in Visakhapatnam, the [Aerial Delivery Research & Development Establishment (ADRDE)](#) in Agra, and the [Aeronautical Development Establishment (ADE)](#) in Bengaluru. The successful test of the air droppable container will **enhance the Indian Navy's operational capabilities,** making it **easier and faster to provide critical supplies to ships** deployed far from the coast.

## India's First Undersea Tunnels

India's first undersea twin tunnels are set to open in Mumbai, after more than two years of work on the **Mumbai Coastal Road Project** by the Brihanmumbai Municipal Corporation. The tunnels are part of the **10.58-kilometer-long Coastal Road project that connects Marine Drive to the Bandra-Worli Sea Link.** The **2.07-kilometer-long tunnels** are **located 17-20 meters below sea level,** with a nearly 1-kilometer stretch running under the sea. The project **aims to reduce travel times** during peak hours from 45 minutes to just 10 minutes. **Six cross passages** will be provided in the tunnels, **four for pedestrians and two for motorists,** with each tunnel having three lanes. The tunnels were created with the help of the largest **tunnel-boring machine (TBM).**

## THE TWIN TUNNELS

Tunnels

Section under the sea

Girgaon

*Arabian Sea*

Priyadarshini Park

*The tunnels start at Girgaon and end at Breach Candy. They are a part of the Mumbai Coastal Road Project*

**2.07KM**
Total length of each tunnel

**1 KM**
Stretch that lies under the sea

**17-20M**
Depth of tunnels under the sea

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