

**GEOGRAPHY****Deforestation in Cerrado: Brazil**

Deforestation in 2021 rose to the highest level since 2015 in Brazil's Cerrado, prompting scientists to raise alarm over the state of the world's most species-rich savanna. Earlier, it was also found that the area deforested in Brazil's Amazon reached a 15-year high after a 22% jump from the prior year (2020).

**Key Points****About:**

- The Cerrado is spread across several states of Brazil and is one of the world's largest savannas, is often called an "upside-down forest" because of the deep roots its plants sink into the ground to survive seasonal droughts and fires.
- Cerrado is a major carbon sink that helps to stave off climate change.

**Destruction of Cerrado:**

- Destruction of these trees, grasses and other plants in the Cerrado is a major source of Brazil's greenhouse gas emissions, although it is far less densely forested than the more famous Amazon rainforest that it borders. Deforestation and other clearances of native vegetation in the Cerrado rose 8% to 8,531 square kilometers in the 12 months through July 2021.
- Scientists blame the government for encouraging deforestation with his pro-development rhetoric and for rolling back environmental enforcement.

**Savanna****About:**

- Savanna, also spelled savannah, vegetation type that grows under hot, seasonally dry climatic conditions and is characterized by an open tree canopy (i.e., scattered trees) above a continuous tall grass understory (the vegetation layer between the forest canopy and the ground).
- The largest areas of savanna are found in Africa, South America, Australia, India, the Myanmar (Burma)-Thailand region in Asia, and Madagascar.

**Environment of Savannas:**

- In general, savannas grow in tropical regions 8° to 20° latitudes from the Equator.
- Conditions are warm to hot in all seasons, but significant rainfall occurs for only a few months each year—about October to March in the Southern Hemisphere and April to September in the Northern Hemisphere.
- Mean annual precipitation is generally 80 to 150 cm although in some central continental locations it may be as low as 50 cm .
- The dry season is typically longer than the wet season, but it varies considerably, from 2 to 11 months. Mean monthly temperatures are about 10 to 20 °C in the dry season and 20 to 30 °C in the wet season.

**Sub-Divisions of Savannas:**

- Savannas may be subdivided into three categories—wet, dry, and thornbush—depending on the length of the dry season. In wet savannas the dry season typically lasts 3 to 5 months, in dry savannas 5 to 7 months, and in thornbush savannas it is even longer.
  - An alternative subdivision recognizes savanna woodland, with trees and shrubs forming a light canopy, tree savanna, with scattered trees and shrubs, shrub savanna, with scattered shrubs; and grass savanna, from which trees and shrubs are generally absent.
1. In spite of their differences, all savannas share a number of distinguishing structural and functional characteristics.
  2. Generally, they are defined as tropical or subtropical vegetation types that have a continuous grass cover occasionally interrupted by trees and shrubs and that are found in areas where bushfires occur and where main growth patterns are closely associated with alternating wet and dry seasons.
  3. Savannas can be considered geographic and environmental transition zones between the rainforests of equatorial regions and the deserts of the higher northern and southern latitudes.

**Vegetation:**

- Grasses and trees that grow in the savanna have adapted to life with little water and hot temperatures.

- Grasses, for example, grow quickly in the wet season when water is abundant and turn brown in the dry season to conserve water.
- Some trees store water in their roots and only produce leaves during the wet season.
- Due to frequent fires, grasses are short and close to the ground and some plants are fire resistant. Examples of vegetation in the savanna include wild grasses, shrubs, baobab trees, and acacia trees.

**Fauna:**

- It is home to many large land mammals, including elephants, giraffes, zebras, rhinoceroses etc. Other animals include baboons, crocodiles, antelopes etc.
- Many of the savanna biome animals are grazing herbivores that migrate through the region.

**INTERNATIONAL RELATION****Crisis in Sudan**

Recently, Sudan's civilian Prime Minister Abdalla Hamdok resigned, plunging the country into further turmoil. Mr. Hamdok, who was sacked by the military in October 2021 and reinstated a few weeks later as part of a deal, stepped down as anti-military protests continued to rock the country. Sudanese pro-democracy groups rejected Mr. Hamdok's deal with the military and demanded the Generals hand over power to an independent civilian authority.

**Key Points****Unstable Sudan:**

- Sudan is at a familiar deadlock, subject to the whims of a brutal military regime after a coup. On a continent with a bad record in this respect, Sudan is in a class of its own, with six coups and 10 failed attempts since independence in 1956.
- Since independence Sudan has been governed, with only occasional breaks, by an Arab elite in Sudan, bent on plundering the country's considerable wealth at the expense of its people.
- Their rule, exercised through the army, has been cloaked in the language of Islam; it is really a kleptocracy. Kleptocracy is a government whose corrupt leaders use political power to appropriate the wealth of their nation, typically by embezzlement or misappropriation of government funds at the expense of the wider population.
- The consequence is a country beset by wars and conflict between the centre and the immiserated peripheries. The army and its allied militias, notably the Rapid Support Forces, have used their power to carve out swathes of the economy for themselves, well beyond defence industries. Civilian rule, bringing transparency, as well as democracy, would threaten those financial interests.
- The victims of decades of misrule are ordinary Sudanese. Facing inflation rates of over 100%, almost a quarter of the population can barely feed themselves and millions live in refugee camps.
- By contrast, the elites seem to get by. Therefore the elites will fight to preserve the status quo.

**Current Crisis:**

- The churn has accelerated since General Omar al-Bashir, indicted for genocide, was toppled by a popular revolution in April 2019.
- Subsequently, the Sovereignty Council, an 11-member body comprising military and civilian leaders that replaced the military-led transition council, appointed Mr. Hamdok as Prime Minister.
- During the Sovereignty Council's rule, Sudan entered into a peace deal with rebel groups, banned female genital mutilation, made peace with Israel and reached out to international powers for economic assistance.
- During this period, the U. took the country off the list of state sponsors of terrorism. Reforms at home and international recognition suggested that Sudan was on a slow but steady transition into full democracy.
- The army struck back almost immediately, killing scores of people. An uneasy alliance of generals and technocrats, headed by Mr Hamdok, governed from August 2019 up to the coup October 2021. That so-called transitional government was supposed to pave the way to elections. They now look further off than ever.
- Since the recent coup (2021) the protestors have been protesting against the coup and for a democratic government.

**Russia and China Angle:**

- **Russia's Supplies:** An added complication is Russia's support for the generals. Wagner, a mercenary outfit acting in the interests of Russia, has supplied training for militias and other goodies. Russia has also shielded Sudan at the United Nations(UN), playing its usual spoiler role against the West.
- **China's Investments:** China's extensive investments in Sudan have also afforded army protection; China favours stability over good governance.

**Way Forward**

- The military is now in a difficult position. Given that the civil-military relationship is already at a breaking point.
  1. The UN estimates that at least a third of the country's 43 million people will need humanitarian assistance in 2022. What Sudan wants is a stable, responsive government that can urgently address the myriad problems the country faces.
  2. Ultimately, the price of a successful transition to democracy, which will have to include structural economic reforms, will likely entail some distasteful compromises on issues such as accountability and retention of Bashir-era assets.
- There should be a meaningful dialogue" between all Sudanese parties to "reach an inclusive, peaceful and lasting solution.
- But a genuine transition should also prevent the military from continuing to act as the country's ultimate authority, able to reset timetables and remove governing officials at will.

**POLITY****Right to Privacy**

Recently, a Judge of the Madras High Court has said that a recent order passed by another judge of the same court, mandating the installation of CCTV cameras inside spas [massage and therapy centres], appears to run counter to the Supreme Court's landmark judgement in K.S. Puttaswamy case (2017). In this case, the Supreme Court declared that the right to life and personal liberty guaranteed in Article 21 also implicitly includes a right to privacy.

**Key Points****About:**

- **Underlying Values:** This right to privacy is seen as possessing:
  1. Inherent value: It is important for every person's basic dignity.
  2. Instrumental value: It furthers a person's ability to live life free of interference.
- **Forms of Right to Privacy:** The privacy as guaranteed in Article 21 takes several different forms. It includes:
  1. A right to bodily autonomy,
  2. A right to informational privacy,
  3. A right to a privacy of choice.
- **Right to Relax:** Suspicion that immoral activities are taking place in spas cannot be a reason enough to intrude into an individual's right to relax, for it intrinsically is part and parcel of his fundamental right to privacy.
  1. Thus, the installation of CCTV equipment inside premises such as a spa would unquestionably go against a person's bodily autonomy.
  2. These are inviolable spaces where the prying eye of the State cannot be allowed to enter.
- **Doctrine of Separation of Powers:** The reach of the fundamental rights cannot be curtailed by any judicial measure.
  1. It held that, though no right can be absolute, restrictions can be put in place only by the legislature or the executive.
  2. Apart from it, the Supreme Court alone can do so in exercise of its power under Article 142.

**Right to Privacy****About:**

- Generally understood that privacy is synonymous with the right to be let alone.
- The Supreme Court described privacy and its importance in the landmark decision of K.S. Puttaswamy v. Union of India in 2017.
- The right to privacy is protected as an intrinsic part of the right to life and personal liberty under Article 21 and as a part of the freedoms guaranteed by Part III of the Constitution.

- The Puttaswamy judgement holds that the right to privacy is protected as a fundamental constitutional right under Articles 14, 19 and 21 of the Constitution of India.

**Restrictions (as stated in the Judgement):**

- The right may be restricted only by state action that passes each of the three tests:
  - First, such state action must have a legislative mandate.
  - Second, it must be pursuing a legitimate state purpose, and
  - Third, it must be proportionate i.e., such state action- both in its nature and extent, must be necessary in a democratic society and the action ought to be the least intrusive of the available alternatives to accomplish the ends.

**Step taken by Government:** Acknowledging the importance of privacy, the Government has presented the personal Data Protection Bill 2019 in the Parliament.

**PRELIMS FACT****IHU Variant of Covid-19**

Amid the spread of the Omicron Variant of coronavirus, the discovery of a new strain named 'IHU (Instituts Hospitalo-Universitaires)' that emerged in France raises fears across the world.

**Key Points****Discovery:**

- Its discovery was announced by researchers from Méditerranée Infection in Marseille, part of France's Instituts hospitalo-universitaires (IHU, or University Hospital Institutes) - hence the name.
- The first known case of the IHU variant was detected in mid-November 2021 in a man from France who had returned from Cameroon in Africa (the continent where Omicron was also discovered).

**About:**

- The variant is a sub-lineage of the B.1.640. It has been classified as B.1.640.2.
- The variant has 46 mutations and 37 deletions in its genetic code, more than Omicron. Many of these affect the spike protein.

**Spreading Rate:**

- Till now, only a dozen cases have been reported in France. No other country has detected any new cases of the new variant. It is certainly not as alarming as the spread of Omicron.
- While the large number of significant mutations in this variant has attracted the interest of researchers, and raised concerns among the public, the B.1.640 is not spreading at a rate that is unnerving.
- The World Health Organization (WHO) has not yet deemed this IHU variant a variant of interest, a variant of concern, or even a variant under investigation.

**DAILY ANSWER WRITING PRACTICE**

**Qns. Discuss the ways in which India can achieve its ambitious targets of net zero emissions by 2070. (250 words)**

**Ans:****Introduction**

Net-zero emission is the method of balancing the greenhouse gas emissions in the atmosphere by the greenhouse gas absorption from the atmosphere. In zero-carbon emission, the country will focus on limiting carbon emission. But in Net-zero carbon the country will focus on bringing the net carbon emission to zero.

**Body****Background**

At the 26th Conference of Parties (CoP26), Indian Prime Minister Narendra Modi declared a five-fold strategy — termed as the panchamrita — to achieve this feat. These five points include:

- India will get its non-fossil energy capacity to 500 gigawatt (GW) by 2030
- India will meet 50 per cent of its energy requirements from renewable energy by 2030
- India will reduce the total projected carbon emissions by one billion tonnes from now onwards till 2030
- By 2030, India will reduce the carbon intensity of its economy by less than 45 per cent
- So, by the year 2070, India will achieve the target of Net Zero.

**Challenges for India to achieve carbon neutrality**

- India is the world's third-biggest emitter of GHG.
- India's per capita CO<sub>2</sub> emissions – at 1.8 tonnes per person in 2015 – are around a ninth of those in the USA and around a third of the global average of 4.8 tonnes per person.
- India must also meet the aspirations of 1.4 billion people for faster economic development. This will limit India's development potential.
- Meeting the nation's existing target of 450 gigawatts of renewables by 2030 is already a massive lift. Hitting net zero will require an even more dramatic acceleration.
- By 2050, India's total electricity demand would be about 5500 to 6000 terawatt-hours (TWh), roughly a factor of five on today's level.
- In developed countries, emissions have already peaked. Their decision is only about the path to net-zero. Emerging economies like India, instead, will go through a high-growth phase with rising energy demand and emissions. So, before a net-zero year can be targeted, India must discuss options for its peaking year
- Many argue that net zero is not equitable and fair as it does not differentiate between developing and developed countries in sharing the burden of mitigation.
- Some also criticise mid-century net zero as allowing uncontrolled emissions today while relying on uncertain technologies to offset emissions in the future.
- Many net zero pledges are premised upon trading and offsetting emissions, allowing the rich to continue emitting and buying their way out.

**Measures needed:**

- **Focus on Energy Efficiency:** Will need energy efficient buildings, lighting, appliances and industrial practices to meet the net-zero goal.
- **Increased usage of Biofuels:** Can help reduce emissions from light commercial vehicles, tractors in agriculture. In aviation, the only practical solution for reducing emissions is greater use of biofuels, until hydrogen technology gains scale.
- **Transition towards Electric vehicles:** This will further help curb the carbon emissions.
- **Carbon Sequestration:** India will have to rely on natural and man-made carbon sinks to soak up those emissions. Trees can capture 0.9 billion tons; the country will need carbon capture technologies to sequester the rest.
- **Carbon Pricing:** India, which already taxes coal and petroleum fuels, should consider putting a tax on emissions to drive change.
- **Deploying lower-carbon Energy:** There are four main types of low-carbon energy: wind, solar, hydro or nuclear power. The first three are renewable, which means these are good for the environment – as natural resources are used (such as wind or sun) to produce electricity. Deploying lower carbon energy would help address both domestic and international climate challenges while simultaneously improving the economic well-being of India's citizens.
- **Mainstreaming Renewable energy:** India's energy mix is dominated by coal powered electric generation stations as of now. The need of the hour is increase the share of renewable energy in this energy mix.

**Way forward for India:**

- Given the massive shifts underway in India's energy system, we would benefit from taking stock of our actions and focusing on near-term transitions.
- This will allow us to meet and even over-comply with our 2030 target while also ensuring concomitant developmental benefits, such as developing a vibrant renewable industry.
- We can start putting in place the policies and institutions necessary to move us in the right direction for the longer-term and also better understand, through modelling and other studies, the implications of net-zero scenarios before making a net-zero pledge.
- It would also be in India's interest to link any future pledge to the achievement of near-term action by industrialised countries.
- That would be fair and consistent with the principles of the UNFCCC and also enhance the feasibility of our own actions through, for example, increasing availability and reducing costs of new mitigation technologies.

**DAILY QUIZ**

Q1. Consider the following statements about the Poshan Tracker:

1. It helps monitor services delivered at anganwadi centres.
2. The Government has spent ₹10,000 crore to develop the tracker.

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

Q2. Consider the following statements about Parvovirus:

1. It is a highly contagious viral disease affecting horse.
2. The virus has reported a 90 per cent mortality rate.

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

Q3. Consider the following statements about Organization of Islamic Cooperation:

1. It is the second largest inter-governmental organisation after the United Nations, with the membership of more than 80 countries.
2. It has permanent delegations to the United Nations and the European Union.
3. Its permanent Secretariat is in Jeddah, Saudi Arabia.

Which of the statements given above is/are correct?

- a) 1 and 2 only
- b) **2 and 3 only**
- c) 1 and 3 only
- d) 1, 2 and 3

Q4. The Justice Madan Lokur Commission, recently in the news, pertains specifically to

- a. Prudent fiscal policy and a fiscal discipline framework
- b. Reforms in the criminal justice system
- c. Enhancing the accountability and transparency of the Judiciary
- d. **None of the above**

Q5. The Education for Justice (E4J) initiative was launched by

- a. International Court of Justice
- b. International Criminal Court
- c. United Nations Office On Terrorism And Financial Crime
- d. **United Nations Office on Drugs and Crimes**