

GOVERNANCE**Ayushman Bharat Health Infrastructure Mission**

Recently, the Prime Minister launched the Ayushman Bharat Health Infrastructure Mission.

Key Points**About:**

- It is one of the largest pan-India schemes for strengthening healthcare infrastructure across the country. It is in addition to the National Health Mission.
- It will provide support to 17,788 rural Health and Wellness Centres in 10 'high focus' states and establish 11,024 urban Health and Wellness Centres across the country.
- Through this, critical care services will be available in all the districts of the country with more than five lakh population through exclusive critical care hospital blocks, while the remaining districts will be covered through referral services.
- Under the scheme, a national institution for one health, four new national institutes for virology, a regional research platform for WHO (World Health Organization) South East Asia Region, nine biosafety level-III laboratories, and five new regional national centres for disease control will be set up.

Objectives:

- To ensure a robust public health infrastructure in both urban and rural areas, capable of responding to public health emergencies or disease outbreaks.
- To establish an IT-enabled disease surveillance system through a network of surveillance laboratories at block, district, regional and national levels. All the public health labs will be connected through the Integrated Health Information Portal, which will be expanded to all states and UTs.

Significance:

- India has long been in need of an extensive healthcare system. A study ('State of Democracy in South Asia (SDSA)–Round 3') by Lokniti-CSDS in 2019 highlighted how access to public health care remained elusive to those living on the margins. The study found that 70% of the locations have public healthcare services. However, availability was less in rural areas (65%) compared to urban areas (87%).
- Schemes like Swachh Bharat Mission, Jal Jeevan Mission, Ujjwala, Poshan Abhiyan, Mission Indradhanush have saved crores of people from disease. More than 2 crore poor people got free treatment under Ayushman Bharat Yojana and many health related issues are being solved through Ayushman Bharat Digital Mission.

Other Related Initiatives:

1. PM Atmanirbhar Swasth Bharat Scheme.
2. Pradhan Mantri Swasthya Suraksha Yojana.
3. Jan Aushadhi Yojana.

SOCIAL ISSUE**Fighting Drug Addiction**

Recently, the Social Justice and Empowerment Ministry has recommended that the National Fund to Control Drug Abuse should be used to carry out de-addiction programmes, rather than just policing activities. A proposal to decriminalise possession of small quantities of drugs, as defined in the Narcotic Drugs and Psychotropic Substances (NDPS) Act, 1985, had also been sent to the Department of Revenue under the Finance Ministry. Once it is approved, persons caught with small quantities of drugs for personal use can be directed to rehab, instead of being prosecuted and sent to jail.

Key Points**National Fund to Control Drug:**

- The fund was created in accordance with a provision of the NDPS Act and had a nominal corpus of Rs. 23 crore.
- Under the NDPS Act, the sale proceeds of any property forfeited, grants made by any person and institution, and income from the investments of the fund, go towards the fund.

- The Act states that the fund would be used to combat illicit trafficking of narcotics, rehabilitating addicts, and preventing drug abuse.



Drug Addiction in India:

- The menace of drug addiction has spread fast among the youth of India.
- 1. India is sandwiched between two largest Opium producing regions of the world that is the Golden triangle on one side and the Golden crescent on other.
- 2. The golden triangle area comprises Thailand, Myanmar, Vietnam and Laos.
- 3. The golden crescent area includes Pakistan, Afghanistan and Iran.
- According to the World Drug Report 2021, prescription drugs and their ingredients or 'precursors' are being increasingly diverted for recreational use in India--the largest manufacturer of generic drugs in the world. India is also linked to shipment of drugs sold on the 19 major darknet markets analysed over 2011-2020.
- According to the National Crime Records Bureau's Crime in India 2020 report, a total of 59,806 cases were lodged under NDPS Act.
- According to the Social Justice Ministry and All India Institute of Medical Sciences (AIIMS) report on magnitude of substance use in 2019, there were:

3.1 crore cannabis users (of which 25 lakh were dependent users).

2.3 crore opioid users (of which 28 lakh were dependent users).

Other Related Initiatives:

- **Narco-Coordination Centre:** The Narco-Coordination Centre (NCORD) was constituted in November, 2016 and the scheme of "Financial Assistance to States for Narcotics Control" was revived.
- **Seizure Information Management System:** Narcotics Control Bureau has been provided funds for developing a new software i.e. Seizure Information Management System (SIMS) which will create a complete online database of drug offences and offenders.
- **National Drug Abuse Survey:** The government is also conducting a National Drug Abuse Survey to measure trends of drug abuse in India through the Ministry of Social Justice & Empowerment with the help of National Drug Dependence Treatment Centre of AIIMS.
- **Project Sunrise:** It was launched by the Ministry of Health and Family Welfare in 2016, to tackle the rising HIV prevalence in north-eastern states in India, especially among people injecting drugs.
- **NDPS Act:** It prohibits a person from producing, possessing, selling, purchasing, transporting, storing, and/or consuming any narcotic drug or psychotropic substance.
- The NDPS Act has since been amended thrice – in 1988, 2001 and 2014.
- 1. The Act extends to the whole of India and it applies also to all Indian citizens outside India and to all persons on ships and aircraft registered in India.

2. **Nasha Mukht Bharat:** Government has also announced the launch of the 'Nasha Mukht Bharat', or Drug-Free India Campaign which focuses on community outreach programs.

International Treaties and Conventions to Combat Drug Menace:

- India is signatory of the following International treaties and conventions to combat the menace of Drug Abuse:
 1. United Nations (UN) Convention on Narcotic Drugs (1961)
 2. UN Convention on Psychotropic Substances (1971).
 3. UN Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances (1988)
 4. UN Convention against Transnational Organized Crime (UNTOC) 2000.

Way Forward

- The stigma associated with drug taking needs to be reduced. Society needs to understand that drug-addicts are victims and not criminals.
- Certain crop drugs which have more than 50% alcohol and opioids need to be contained. Strict action is required from police officers and the excise and narcotics department to curb the problem of drug menace in the country.
- Radical political decisions like one of alcohol prohibition in Bihar may be another solution. When people do not exercise self-control, a state has to step in, as part of the Directive Principles of State Policy (Article 47).
- Education curriculum should include chapters on drug addiction, its impact and also on de-addiction. Proper Counselling is another alternative.

BIODIVERSITY & ENVIRONMENT**Net Zero Target of Saudi Arabia**

Recently, Saudi Arabia, one of the world's largest oil producers, announced that it will reach "net zero" greenhouse gas emissions by 2060.

The announcement came at the start of the kingdom's first-ever Saudi Green Initiative (SGI) Forum. SGI aims to raise the vegetation cover, reduce carbon emissions, combat pollution and land degradation, and preserve marine life.

Key Points**Saudi Arabia's Target:**

- Aims to reach zero-net emissions by 2060 under its circular carbon economy programme while maintaining its leading role in strengthening security and stability of global oil markets. That approach focuses on still unreliable carbon capture and storage technologies over efforts to actually reduce global reliance on fossil fuels.
- It would join a global initiative on slashing emissions of methane by 30% from 2020 levels by 2030, which both the United States and the European Union (EU) have been pressing (Global Methane Pledge).

Net Zero Target:

- **About:**
 1. Net-zero, also means carbon neutrality, is a state in which a country's emissions are compensated by absorption and removal of greenhouse gases from the atmosphere.
 2. It does not mean that a country would bring down its emissions to zero. That would be gross-zero, which means reaching a state where there are no emissions at all, a scenario hard to comprehend.
- **Concerns:**
 1. According to a recent report (Tightening the Net) by Oxfam International, announcing Net Zero Carbon Targets may be a dangerous distraction from the priority of cutting carbon emissions. Over 100 countries have set or are considering net-zero emissions or neutrality targets.

India's Case:

- India is now the fourth-largest emitter after China, United States and the European Union, and as per IPCC's Sixth Assessment Report, it will be among the most severely affected countries.

- India has committed to reducing the emission intensity of its Gross Domestic Product (GDP) by 33-35% by 2030 and having 175 gigawatt renewable energy capacity by 2030 under the Paris Agreement of 2016.
- India is not likely to follow the much-advocated net-zero plan but would rather dwell on improvising goals for the transition towards green energy.
- India believes in the principle of ‘common but differentiated responsibility’ , as per which the developed countries must take the first steps to reduce their emissions drastically. In addition, they should compensate the poorer countries by paying for the environmental damage due to their past emissions.
- According to a recent study by the think tank Council for Energy Environment and Water projects, for India to achieve the net zero target even by 2070, usage of coal, especially for power generation, will need to peak by 2040 and drop by 99% between 2040 and 2060.

Circular Carbon Economy

A circular carbon economy is a framework for managing and reducing emissions. It is a closed loop system involving 4Rs: reduce, reuse, recycle, and remove.

Reduce

Energy efficiency and flaring minimization are top actions toward mitigating climate change, as is fossil fuel reduction through substitution with lower carbon energy sources like renewables, hydropower, nuclear and bioenergy.

Reuse

CO2 has value and using innovative technologies to capture it means it can be reused as useful products, such as fuels, bioenergy, chemicals, building materials, food and beverages.

Recycle

CO2 is chemically transformed into new products such as fertilizer or cement, or other forms of energy such as synthetic fuels.

Remove

Using technology to capture and store CO2 is an important way to achieve large-scale reduction of emissions, while increasing photosynthesis by planting flora also contributes toward reduction.



IMPORTANT FACTS FOR PRELIM

Lake Tahoe: US

Drought fueled by climate change has dropped Lake Tahoe in the US below its natural rim and halted flows into the Truckee River. It is an historically cyclical event that's occurring sooner and more often than it used to.



Key Points

About:

- Lake Tahoe is the largest alpine lake in North America, and the second deepest lake in the US, with Crater Lake in Oregon being the deepest in the US.
- Alpine lakes are lakes or reservoirs at high altitudes, usually over above sea level or above the tree line.

Impact of Climate Change on Lakes:

- **Less Ice Cover:** Lakes are experiencing less ice cover, with more than 1,00,000 lakes at risk of having ice-free winters if air temperatures increase by 4 °C.
- **Increasing LSWT:** Lake Surface Water Temperatures have increased worldwide, which is similar to or in excess of air temperature trends.
- **Increase in Evaporation rate:** Global annual mean lake evaporation rates are forecast to increase 16% by 2100, with regional variations dependent on factors such as ice cover, stratification, wind speed and solar radiation. Lake stratification is the tendency of lakes to form separate and distinct thermal layers during warm weather.
- **Affecting Lake Water Storage:** Global lake water storage is sensitive to climate change, but with substantial regional variability, and the magnitude of future changes in lake water storage remains uncertain.

DAILY ANSWER WRITING PRACTICE

Qns. Explain in detail various landforms of glaciation and their significance. Analyse the threats posed by black carbon to glaciers? (250 words)

Ans:

Introduction

A glacier is a large mass of ice that is persistently moving under its own weight over the land or as linear flows down the slopes of mountains in broad trough-like valleys. Glaciers are formed in the areas where the accumulation of snow exceeds its ablation (melting and sublimation) over many years, often centuries. Glaciers move under the influence of the force of gravity.

Body

Key features of glacial landforms:

Erosional Landforms:

- **Cirque:**
 1. Cirques are horseshoe shaped, deep, long and wide troughs or basins with very steep to vertically dropping high walls at its head as well as sides.
 2. Cirques are often found along the head of Glacial Valley
 3. The accumulated ice cuts these cirques while moving down the mountain tops.
 4. After the glacier melts, water fills these cirques, and they are known as cirque lake.
- **Horns:**
 1. Horns form through head-ward erosion of the cirque walls.
 2. If three or more radiating glaciers cut headward until their cirques meet, high, sharp pointed and steep-sided peaks called horns form.
- **Aretes:**
 1. Arete is a narrow ridge of rock which separates two valleys.
 2. Aretes are typically formed when two glacial cirques erode head-wards towards one another
 3. The divides between Cirque side walls or head walls get narrow because of progressive erosion and turn into serrated or saw-toothed ridges referred to as aretes with very sharp crest and a zig-zag outline.
- **Glacial Valleys:**
 1. Glaciated valleys are trough-like and U-shaped with wide, flat floors and relatively smooth, and steep sides.
 2. When the glacier disappears, and water fills the deep narrow sections of the valley, a ribbon lake is formed.
- **Fjords/Fiords:**

1. A fjord or fiord is a long, narrow and steep-sided inlet created by a glacier
2. They are formed where the lower end of a very deep glacial trough is filled with sea water
3. Fjords are common in Norway, Chile, and New Zealand etc.

- **Hanging Valleys:**

1. A hanging valley is a tributary valley that is higher than the main valley. Hanging valleys are common along glaciated fjords and U-shaped valleys.
2. The main valley is eroded much more rapidly than the tributary valleys as it contains a much larger glacier
3. After the ice has melted tributary valley, therefore, hangs above the main valley
4. The faces of divides or spurs of such hanging valleys opening into main glacial valleys are quite often truncated to give them an appearance like triangular facets.
5. Often, waterfalls form at or near the outlet of the upper valley
6. Thus, the hanging valley may form a natural head of water for generating hydroelectric power

Depositional Landforms:

- **Outwash plains:**

1. An outwash plain is a plain at the foot of the glacial mountain
2. They are made up of fluvioglacial sediments, washed out from the terminal moraines by the streams and channels of the stagnant ice mass.
3. As it flows, the glacier grinds the underlying rock surface and carries the debris along.

- **Moraines:**

1. The unsorted coarse and fine debris dropped by the melting glaciers is called glacial till.
2. The long ridges of deposits of these glacial till is called as Moraines
3. Depending on its position, moraines are classified into be ground, lateral, medial and terminal moraine.

- **Eskers:**

1. An esker is a long, winding sinuous ridge of stratified sand and gravel
2. Eskers are frequently several kilometres long and, because of their peculiar uniform shape, are somewhat like railway embankments
3. When glaciers melt in summer, the water flows on the surface of the ice or seeps down along the margins or even moves through holes in the ice.
4. These waters accumulate beneath the glacier and flow like streams in a channel beneath the ice.
5. Such streams flow over the ground with ice forming its banks.

- **Drumlins:**

1. Drumlins are smooth oval shaped ridge-like features composed mainly of glacial till with some masses of gravel and sand.
2. The drumlins form due to the dumping of rock debris beneath heavily loaded ice through fissures in the glacier.
3. The long axes of drumlins are parallel to the direction of ice movement.
4. They may measure up to 1000m in length and 30-35 m or so in height.
5. One end of the drumlins facing the glacier called the stoss

Significance of Glaciers:

- **Glaciers and Thermo (heat) Haline (salt) Circulation:**The melting fresh water from glaciers alters the ocean, not only by directly contributing to the global sea level rise, but also because it pushes down the heavier salt water, thereby changing the currents in the ocean.
- **Glaciers and winds:**As the planet's air conditioner, the polar ice caps impact weather and climate dynamics, such as the jet stream.
- **Glaciers and climate change:**Glaciers are also early indicators of climate changes that will have a somewhat more delayed impact on other parts of the Earth system. Glaciers are sentinels of climate **change**.
- **Glaciers provide drinking water:**People living in arid climates near mountains often rely on glacial melt for their water for part of the year. e.g.: Ganges, Yangtze

- **Glaciers irrigate crops:**In Switzerland's Rhone Valley, farmers have irrigated their crops for hundreds of years by channelling meltwater from glaciers to their fields.
- **Glaciers help generate hydroelectric power:**Scientists and engineers in Norway, central Europe, Canada, New Zealand, and South America have worked together to tap into glacial resources, using electricity that has been generated in part by damming glacial meltwater.

Threats posed by Black Carbon:

- Black carbon results from the incomplete combustion of fossil fuels and biomass. BC is produced both naturally and by human activities as a result of the incomplete combustion of fossil fuels, biofuels, and biomass. Primary sources include emissions from diesel engines, cook stoves, wood burning and forest fires.
- The fine particles absorb light and about a million times more energy than carbon dioxide.
- It is said to be the second largest contributor to climate change after CO₂. But unlike CO₂, which can stay in the atmosphere for years together, black carbon is short-lived and remains in the atmosphere only for days to weeks before it descends as rain or snow.
- Black carbon absorbs solar energy and warms the atmosphere. When it falls to earth with precipitation, it darkens the surface of snow and ice, reducing their albedo (the reflecting power of a surface), warming the snow, and hastening melting.
- India is the second largest emitter of black carbon in the world, with emissions expected to increase dramatically in the coming decades, says an April 2019 study in the journal Atmospheric Research, with the Indo Gangetic plains said to be the largest contributor.

Conclusion

Glaciers are one of the most visible icons of the "cryosphere", the cold parts of the world where temperatures fall below the freezing point of water, a natural tipping point that profoundly changes the environment. From the Andes to the Himalayas, the loss of mountain glaciers is a real concern.

DAILY QUIZ

Q1. Consider the following statements about the Financial Action Task Force (FATF):

1. It is an inter-governmental body established in 1989 on the initiative of the OECD.
2. It is a "policy-making body" which works to generate the necessary political will to bring about national legislative and regulatory reforms in various areas.
3. The FATF Secretariat is housed at the OECD headquarters in Paris.

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

Q2. Consider the following statements about BharatNet:

1. It was originally launched in 2005 as the National Optical Fibre Network (NOFN) and renamed as Bharat-Net in 2012.
2. It seeks to provide connectivity to 2.5 lakh Gram Panchayats (GPs) through optical fibre.
3. It is a flagship mission implemented by Bharat Broadband Network Ltd. (BBNL).

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

Q3. With reference to UDAN (Ude Desh Ka Aam Nagrik) Scheme, consider the following statements:

1. It is aimed at enhancing connectivity to remote and regional areas of the country and making air travel affordable.
2. It is a key component of Centre's National Civil Aviation Policy and launched in June 2016.
3. It will be jointly funded by the central government and state governments.

Which of the statements given above is/are correct?

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

Q4. "Production Gap Report" is released by which of the following?

- a. International Energy Agency
- b. World Bank
- c. International Monetary Fund
- d. United Nations Environment Programme**

Q5. Consider the following statements about the Mawsmai cave:

1. It is the largest and longest cave system open to the public on the Indian subcontinent.
2. It was formed over the course of tens of thousands of years by the constant flow of underground water from the now-disappeared river Chitravathi.

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**