



News Analysis (05 Jun, 2020)

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India-Australia Virtual Summit

Why in News

Recently, Prime Ministers of **India and Australia** held their **first virtual bilateral summit** and both **concluded nine agreements** including the **Comprehensive Strategic Partnership (CSP)** and the **Mutual Logistics Support Agreement (MLSA)**.

The two leaders are expected to meet in person at the extended **G-7 summit** which will be held in the USA later in 2020.

Key Points

- **Agreements:**
 - **Comprehensive Strategic Partnership:** Upgradation of the existing **2+2 dialogue** to the Ministerial level, elevating the **2009 bilateral Strategic Partnership** to a **CSP**.
 - India already has a **2+2 ministerial-level dialogues** mechanism with the USA and Japan, the other members of the **Quadrilateral grouping (QUAD)**.
 - **India has signed CSPs with** the United Kingdom, Indonesia, Vietnam and the United Arab Emirates (UAE) thus far, while **Australia has CSPs with** China, Indonesia and Singapore.
 - **Mutual Logistics Support Agreement:** Both sides agreed to continue to deepen and broaden **defence cooperation** by enhancing the scope and complexity of their military exercises and engagement activities to develop new ways to address shared security challenges.
 - It will **increase military interoperability** through defence exercises and allow both militaries the reciprocal use of bases, humanitarian and disaster relief cooperation, port exercises and passage exercises.
 - **India has such agreements with** the USA (**Logistics Exchange Memorandum of Agreement-LEMOA**), France, Singapore and South Korea.

- **Joint declaration on 'Shared Vision for Maritime Cooperation in the Indo-Pacific':**
The two sides announced a roadmap to harness opportunities and meet challenges together as **comprehensive strategic partners**.
- **Comprehensive Economic Cooperation Agreement (CECA):** The two sides decided to recommence suspended talks over the **India-Australia CECA** which has been suspended since 2015.
This move comes in the wake of **India opting out** of the **ASEAN-led Regional Comprehensive Economic Partnership (RCEP)**.
- **Australia-India Strategic Research Fund** to promote innovative solutions for responding to and treating **Covid-19** as well as other jointly determined priorities, to be preceded by a one-off **Special Covid Collaboration Round in 2020**.
- Both sides have decided to reflect on the recommendations of the ongoing evaluation of the international response over the **World Health Organisation's (WHO)** role in dealing with the Covid-19 **pandemic**.
Both countries will work together to **strengthen international institutions** to ensure they are **inclusive and rules-based**.
- **Framework arrangement on Cyber and Cyber-enabled critical technology cooperation:** Work together in the digital economy, cybersecurity and critical and emerging technologies.
- **Agreement on agriculture and related activities:** Agriculture was identified as an important pillar of both the economies with shared challenges and climatic conditions.
- **Memorandum of Understanding (MoU) on mining and processing critical and strategic minerals:** Cooperate **on new technologies for exploration and extraction of minerals** including Australian rare earth metals used for electronics, governance, vocational training and water management.
- **Untouched Issues:**
 - **Tensions between India and China** over the **standoff at the Line of Actual Control (LAC)** and Australia-China tensions over trade issues and differences over the handling of the pandemic.
 - There were no discussions on **including Australia in Malabar exercise**.
 - Both leaders had no discussions on **the RCEP**, even though earlier Australia had expressed hope that India would reconsider joining the trade agreement.

Way Forward

- **Shared values, shared interests, shared geography and shared objectives** are the bedrock of deepening India-Australia ties and the cooperation and coordination between the two countries have picked up momentum in recent years.
- Both India and Australia share a vision of a free, open, inclusive and rules-based Indo-Pacific region and cooperative use of the seas by adherence to international law including the **United Nations Convention on the Law of the Sea (UNCLOS)** and peaceful resolution of disputes rather than through unilateral or coercive actions.

Global Vaccine Summit

Why in News

Recently, the Prime Minister of India addressed the **virtual Global Vaccine Summit**.

The Summit was **hosted** by the **United Kingdom (UK)**. Almost 50 countries including the business leaders, UN agencies, civil society, government ministers, Heads of State and country leaders participated in the Summit.

Key Points

- **Purpose:**
 - The Summit was intended to urge nations around the world **to pledge funding for vaccinations** to protect the world from **future outbreaks of infectious diseases**.
 - The Summit was aimed at **raising USD 7.4 million** to immunise a further **300 million** children in the **world's poorest countries by 2025**.
- **India's Contribution:**
 - India has pledged **USD 15-million** as India's contribution to the Global Alliance for Vaccines and Immunizations (GAVI).
 - GAVI is an **international organisation** which brings together public and private sectors to create equal access to vaccines for children.
 - India had also mentioned that it has **shared its stocks of medicines with over 120 countries** in the wake of the pandemic.
- **The Status of Vaccination in India:**
 - India is the **world's foremost producer of vaccines** and contributes to the immunisation of about **60% of the world's children**.
 - India has also added **six vaccines** to its **Universal Immunization Programme (UIP)** to expand protection of vaccination in the country.
 - Universal Immunization Programme (UIP) was launched by the government in **1985**, to prevent mortality and morbidity in children and pregnant women against **12 vaccine-preventable diseases**.
 - Under UIP **free of cost vaccination** is provided against twelve vaccine-preventable diseases i.e. Tuberculosis, Diphtheria, Pertussis, Tetanus, Polio, Hepatitis B, Pneumonia and Meningitis due to Haemophilus Influenzae type b (Hib), Measles, Rubella, Japanese Encephalitis (JE) and Rotavirus diarrhoea.
 - The Country has also **digitised the vaccine supply chain** and an electronic intelligence network has been developed to monitor the integrity of the cold chain. But, recently the report released by the **World Health Organisation (WHO)** observed the **disruption of the Global Vaccination Programme in the country** in the wake of the Covid-19 pandemic.

Way Forward

- The Covid-19 pandemic has **exposed the limitations of global cooperation** and that for the first time in recent history, the human kind faces a clear common enemy.
- But GAVI is not just a global alliance but also a **symbol of international solidarity**. Thus, the whole world needs to stand together to come out of the pandemic.
- There is an urgent need to focus upon the **Global Vaccine Action Plan 2011-2020** that is a framework to prevent millions of deaths by 2020 through more equitable access to existing vaccines for people in all communities.

It is equally important for the countries to give importance to the United Nations Sustainable Development Goal 3 i.e. **Good Health and Well being**.

- There is a need for an immediate action plan to restart the vaccination programmes through **better health infrastructure** and **medical equipment** during the corona crisis.

Source:TH

World Environment Day

Why in News

The **World Environment Day** is observed on the **5th of June every year** for encouraging worldwide awareness and action to protect our environment.

- The day has been celebrated **since 1974** by **engaging governments, businesses, celebrities and citizens** to focus their efforts on a pressing environmental issue.
- **India** will be **focusing on the Nagar Van (Urban Forests)** in addition to the official theme of the World Environment Day.
- Further, the **Indian Navy** has also marked the day through various initiatives which are intended to **reduce its environmental footprint**.

Key Points

- **Description:**
 - The **theme** of World Environment Day 2020 is '**Celebrating Biodiversity**'—a **concern that is both urgent and existential**.
 - Almost **one million species are facing extinction** worldwide and thus there has never been a more important time to focus on **biodiversity**.
 - The day will be **hosted** in **Colombia** in **partnership with Germany**.

- **Initiatives by Indian Navy:**
 - Released '**Indian Navy Environment Conservation Roadmap**' (INECR) which is a guiding document and key enabler for progressively achieving a **green footprint**.
 - It has voluntarily implemented all six schedules of the **International Convention for the Prevention of Pollution from Ships (MARPOL) regulations**.
 - It covers **pollution of the marine environment** by ships from operational or accidental causes.
 - It lists various forms of marine pollution caused by oil, noxious liquid substances, harmful substances in packaged form, sewage and garbage from ships, etc.
 - Currently, it has been focussing on the **reduction of overall power consumption** through a progressive induction of energy efficient equipment.

Urban Forests

- **Description:**

An urban forest is a forest, or a collection of trees, that grow within a city, town or a suburb. In a wider sense, it may include any kind of woody plant vegetation growing in and around human settlements.
- **Significance:**
 - Biodiversity conservation has traditionally been considered confined to remote forest areas but with **increasing urbanization**, a **need has arisen to safeguard and save biodiversity in urban areas** also.
 - It concentrates on all tree-dominated as well as other green resources in and around urban areas, such as woodlands, public and private urban parks and gardens, street trees and square plantations, botanical gardens and cemeteries.
- **Benefits:**
 - It is expected to **create microclimate and reduce the urban heat island effect**.
An **urban heat island** is an urban area or metropolitan area that is significantly warmer than its surrounding rural areas due to human activities.
 - The urban forests play key roles in supporting water management in urban areas through management of the **urban hydrological cycle**.
 - Urban forests can **sequester huge amounts of carbon** by capturing carbon dioxide from the atmosphere.
- **Challenges:**
 - **Lack of appropriate tree planting spaces** due to increased urbanisation.
 - **Invasive non-native plant species** threatening urban forest ecosystems.
 - Lack of awareness among people.

- **Solutions:**

- Novel and innovative methods like that of the Japanese **“Miyawaki” method** of afforestation can be used to grow urban forests and expand the green cover in these areas.

Miyawaki is a technique pioneered by Japanese botanist Akira Miyawaki, that helps **build dense, native forests in a short time.**

- The increased **awareness about the urban forestry and management** of the same would help to increase the urban forest cover with increasing urbanisation.

Biodiversity

- **Importance of Biodiversity:**

- The theme for the **International Biodiversity Day for 2020** was **“Our solutions are in nature”**.

The theme highlights that **Biodiversity remains the answer to a number of sustainable development challenges.**

- Biodiversity is the variety and variability of life on Earth. Biodiversity is typically a measure of **variation at the genetic, species, and ecosystem level.**
- Human health ultimately depends upon **ecosystem products and services** (such as availability of freshwater, food and fuel sources) which are requisite for good human health and productive livelihoods.
- Biodiversity loss can have significant **direct human health impacts** if ecosystem services are no longer adequate to meet social needs.
- Indirectly, **changes in ecosystem services affect** livelihoods, income, local migration and, on occasion, may even cause political conflict.

- **Biodiversity in India:**

- India has nearly **8% of the global biodiversity.**
- The country is endowed with rich biodiversity having several species of animals and plants and hosts **4 of the 35 global biodiversity hotspots** which include:
 - **Himalaya:** Includes the entire Indian Himalayan region (and that falling in Pakistan, Tibet, Nepal, Bhutan, China and Myanmar)
 - **Indo-Burma:** Includes entire North-eastern India, except Assam and Andaman group of Islands (and Myanmar, Thailand, Vietnam, Laos, Cambodia and southern China)
 - **Sundalands:** Includes Nicobar group of Islands (and Indonesia, Malaysia, Singapore, Brunei, Philippines)
 - **Western Ghats and Sri Lanka:** Includes entire Western Ghats (and Sri Lanka)

Way Forward

- According to **‘State of India’ Environment 2020** report, for the **first time in the decade (2010-20)** the **top five global economic risks in terms of likelihood are all environmental** including **extreme weather, climate action failure, natural disaster and biodiversity loss.**

- Even the theme of World Environment Day recognises that human beings **cannot survive in isolation as biodiversity is important for the survival** of everyone.
- Thus, **intact and preserved structures of the environmental ecosystem** is the only way to maintain the resilience of nature. Otherwise, the codependent web of life will be threatened if its components are eroded one by one.

Source: PIB

TULIP: The Urban Learning Internship Program

Why in News

Recently, the Ministry of Human Resource Development, the Ministry of Housing & Urban Affairs, and **All India Council for Technical Education (AICTE)** have jointly launched an online portal called **The Urban Learning Internship Program (TULIP)**.

Key Points

- **Aim:** The program aims **to provide internship opportunities to 25,000 fresh graduates in all Urban Local Bodies (ULBs) and Smart Cities** across the country.
- **Concept:** TULIP has been conceived pursuant to the Budget 2020-21 announcement under the theme '**Aspirational India**' which laid emphasis on changing the **approach of education from 'doing by learning,' to 'learning by doing'**.
- **Area of Work:** The internship opportunities will be provided for 'Smart City' projects which range from positions in **urban planning, water supply, waste management, slum improvement** and **digital governance** among others.
- **Eligibility:** Applicants must be **Indian citizens** who have **completed their final year of college within the last 18 months** and **have a degree of** B. Tech, B planning, B. Arch, BA, BSc, BCom, LLB.
- **Duration:** Internship durations can range from eight weeks to one year.
- **Benefit:** It would help enhance the **value-to-market of India's graduates** and help create a **potential talent pool** in diverse fields.
TULIP would also **benefit ULBs and smart cities**. It will lead to **infusion of fresh ideas and energy** with engagement of youth in co-creation of solutions for solving India's urban challenges.
- The TULIP's launch is also an important stepping stone for fulfillment of MHRD and AICTE's goal of 1 crore successful internships by the year 2025.

Smart City Mission

- It is an **innovative** initiative under the **Ministry of Housing and Urban Affairs**, Government of India to drive economic growth and improve the quality of life of people by enabling local development and harnessing technology as a means to create smart outcomes for citizens.
- **Objective:** To promote cities that provide core infrastructure and give a decent quality of life to its citizens, a clean and sustainable environment and application of Smart Solutions.
- **Coverage and Duration:** The Mission covers **100 cities** for the duration of **five years** starting from the financial year (FY) 2015-16 to 2019-20.
- **Financing:** It is a **Centrally Sponsored Scheme**.

Way Forward

- Despite having a large number of skill development initiatives, the skill gap remains a big challenge in India. Therefore, there is a need to enhance the breadth and depth of these initiatives.
- The disconnect between education and industry broadly because of the traditional approach in education is another important aspect. Initiatives like TULIP is a welcome intervention specifically focusing on these aspects.

Source: PIB

Periodic Labour Force Survey 2018-19

Why in News

Recently, the **National Statistical Office (NSO)** released the Periodic Labour Force Survey (PLFS) for July 2018 to June 2019.

Key Points

- **Unemployment Rate:** India's **unemployment rate** fell to 5.8% during 2018-19 from 6.1% during the same period of 2017-18.
 - The urban unemployment rate reduced to 7.7% from 7.8%.
 - The rural unemployment reduced to 5% from 5.3%.
- **Labour Force Participation Rate:** The **labour force participation rate** rose to 37.5% during 2018-19 from 36.9% of 2017-18.
- **Female Participation Rate:** The **female participation rate** also improved going up to 18.6% in 2018-19 from 17.5% the year before.
- **Worker Population Ratio:** The **worker population ratio** also increased, to 35.3% as against 34.7% in the 2017-18.

- **Issues Involved:**
 - Unemployment was a concern in 2019 and it worsened in 2019-20 due to **Covid-19**.
 - According to the monthly Centre for Monitoring Indian Economy data, the unemployment rate in India shot up from 7.87% in June 2019 to 23.48% in May 2020.
- **Periodic Labour Force Survey (PLFS)**
 - PLFS is India's **first computer-based survey** launched by the National Statistical Office (NSO) in 2017.
 - It has been constituted based on the recommendation of **Amitabh Kundu**.
 - PLFS has two fold objective:
 - To estimate the key employment and unemployment indicators (viz. **Worker Population Ratio, Labour Force Participation Rate, Unemployment Rate**) in the **short time interval of three months** for the **urban areas only** in the **Current Weekly Status (CWS)**.
 - To estimate **employment and unemployment indicators** in both **usual status** and **CWS** in both **rural and urban areas annually**.
 - Before PLFS the NSSO (previous name of NSO) used to bring the data related to **employment and unemployment** based on its **quinquennial household socio-economic survey programme**.

Key Terms

- **Unemployment Rate (UR):** UR is defined as the percentage of persons unemployed among the persons in the labour force.
- **Labour Force Participation Rate (LFPR):** LFPR is defined as the percentage of persons in the labour force (i.e. working or seeking or available for work) in the population.
- **Female Labour Force Participation Rate:** It is the share of working-age women who report either being employed, or being available for work.
- **Worker Population Ratio (WPR):** WPR is defined as the percentage of employed persons in the population.
- **Activity Status:** The activity status of a person is determined on the basis of the activities pursued by the person during the specified reference period.
 - **Usual Status:** The activity status determined on the basis of the reference period of the last 365 days preceding the date of survey, it is **known as the usual activity status** of the person.
 - **Current Weekly Status (CWS):** The activity status determined on the basis of a reference period of the last 7 days preceding the date of survey is **known as the current weekly status (CWS)** of the person.

National Statistical Office

- NSO is the **central statistical agency of the Government** mandated under the **Statistical Services Act 1980** under the **Ministry of Statistics and Programme Implementation**.

- It is responsible for the development of arrangements for **providing statistical information services** to meet the needs of the Government and other users for information on which to base policy, planning, monitoring and management decisions.
 - The services include collecting, compiling and disseminating official statistical information.
 - All business operations in NSO are done in compliance with **international standards, procedures and best practices**.

Recent Government Initiatives to Tackle Unemployment

- The Union government has come up with an economic stimulus package under **Atma Nirbhar Bharat Abhiyan** to support the Indian economy and create jobs.
 - Under the **Pradhan Mantri Street Vendor's Atma Nirbhar Nidhi (PM SVANidhi)**, the Union Government is providing affordable loans to street vendors.
 - The government has allocated an additional fund of Rs 40,000 crore for **MGNREGA**, as part of the stimulus package.
 - The government is offering **credit guarantees for MSMEs** which will help them in getting loans easily and boost their functioning.
- Various other initiatives have also been taken by the government to support the economy which includes relaxation in Companies Act and **Insolvency proceedings, reforms in agri-marketing** etc.
- State governments have also come up with the initiative to support their economy and increase jobs.
 - Andhra Pradesh government's **'ReStart' programme** to support the Micro, Small and Medium Enterprise (MSME) sector in the State.
 - **Jharkhand has launched three employment schemes** to create wage employment for workers in rural areas.

Source: PIB

Boosting Infrastructure Along China Border

Why in News

Recently, the Ministry of Home Affairs (MHA) has announced to spend 10% funds of **the Border Area Development Programme (BADP)** only **to improve the infrastructure** along the **China border**.

Key Points

- **Enhancing Infrastructure:**
 - **The Border Area Development Programme (BADP)** has been allocated Rs. 784 crore for projects in areas of States/UTs inhabited along the **Indo-China border** i.e. **Arunachal Pradesh, Himachal Pradesh, Ladakh, Sikkim and Uttarakhand.**
 - The fund is distributed to the border States and Union Territories (UTs) depending on **various criteria** such as the **length of the international border and population.**
 - Under this, the projects for developing **strategically important villages and towns** in border areas will be given priority.
 - Construction of roads, bridges, primary schools, health infrastructure, playfields, irrigation works, etc. will be undertaken within 10 km of the border.
- **Role of Various Security Forces:**
 - Security Forces such as the **Border Security Force (BSF)**, deployed along the Bangladesh and Pakistan borders, **the Indo-Tibetan Border Police (ITBP)** on the China border, **the Sashastra Seema Bal along the Nepal border**, and the **Assam Rifles** stationed along the Myanmar border would provide independent feedback on the projects in the blocks concerned and may be tasked to conduct social audit of the works, it stated.
 - These forces will play a crucial role in **identification of the villages** and **implementation** of the related work.
- **Significance:**
 - **Bridging Socio-economic gaps:**
It is an important intervention of the Government to bring about development of border areas by supplementing the State Plan Funds to **bridge the gaps in socio- economic infrastructure** on one hand and **improving the security environment in border areas on the other.**
 - **Safe and Secure Borders:** It would create a **positive perception of care** and **encourage people to stay** on in the border areas **leading to safe and secure borders.**
This would help **integrate these areas with the hinterland.**
 - **Better Management of the Border:** In the light of the recent incident of face-off between India and China the creation of infrastructure is a strategic move for the better management of the border areas.
 - It will provide **faster mobility to troops and equipment** to the border with China.
 - India is continuing the infrastructure for better connectivity to the **Line of Actual Control** with China. E.g. the construction of a strategic tunnel in Uttarakhand as a part of the **Char Dham Pariyojana.**

The Border Area Development Programme (BADP)

- The BADP was launched by the Ministry of Home Affairs in **1986-87** as part of a **comprehensive approach to Border Management.**

- BADP was initiated in the border areas of the western region during **the Seventh Five Year Plan (1985-90)**, for ensuring balanced development of border areas through development of infrastructure and promotion of a sense of security among the border population.
- The States covered are Arunachal Pradesh, Assam, Bihar, Gujarat, Himachal Pradesh, Jammu & Kashmir, Manipur, Meghalaya, Mizoram, Nagaland, Punjab, Rajasthan, Sikkim, Tripura, Uttar Pradesh, Uttarakhand and West Bengal.

Way Forward

- For a very long time China has been claiming various parts of India as its territory. The infrastructure development would ensure the territorial integrity of India along the borders. There is also a need of strengthening the **Border Road Organisations (BRO)** so that projects can run without any hurdle.
- As the India-China border is witnessing the highest tensions since the Doklam stand-off in 2017, It is required that development projects must be implemented across the border to make it safe and secure for all.

Source: TH

Internal Displacement Caused by Disasters

Why in News

Recently, the '**State of India's Environment 2020 in Figures**' report was published by the **Centre for Science and Environment (CSE)**.

It states that India had **around 50 lakh internal displacements** caused by disasters and extreme weather conditions like **floods, cyclones and drought** in 2019.

Key Points

- **Major Findings related to Internal Displacement:**

- According to it, the **internal displacements** in India were the highest in the world in 2019.
 - **Internal Displacement** refers to the **forced movement of people** within the country they live in, **due to conflict, violence, development projects, natural disasters and climate change**.
 - It refers to the number of movements, not people, as individuals can be displaced several times.
- **Natural Disasters:** Displacements due to the flooding caused by the **south-west monsoon** and followed by **Cyclone Fani, Vayu, Bulbul** and **drought** conditions.
- **Forced Migration:** It has also caused many **migrants** to move for work from one state to another.
- **Impact of Covid-19:** Due to the impact of **lockdown** which was imposed to contain the **Covid-19 pandemic**, many workers migrated to their homes because of lack of employment and food.
- **2011 Census Data on Migrant Populations:**
 - There were over **45 crore migrants** in the country at the time, with the vast majority migrating within their own state.
 - In 2011, over **1.7 crore new migrants** had moved for employment purposes, mostly from rural to urban areas.

- **Other Findings:**
 - The **report outlines** the status of **sustainable development, livestock, forests, water, waste, air, land, wildlife and other natural resources, environmental crimes and global economic risk.**
 - **Sustainable Development Goals (SDGs):**
 - India faces major **challenges in achieving** all of the 17 SDGs, especially SDG1 (No Poverty) and SDG 6 (Clean Water and Sanitation).
 - **Forest Cover and Water Resources:**
 - Forest cover has shrunk in **38% of districts**, while **five out of 21 river basins** are now in a state of **absolute water scarcity.**
 - Only **Punjab** managed to get an average national ranking in the **management of water resources.**
 - **Status of Tigers:**
 - It notes that there were **747 tigers more in 2018 than in 2014.**
 - However, the **net area meant for tiger conservation shrunk** by 179 square kilometres.
 - **Environmental Crime:**
 - The report found that in 2018, total 35,196 environmental crimes were recorded in the country.
 - Majority of those **cases are pending for police verification and in various courts.**
 - **Global Risk:**
 - The **global risk** is determined **as an uncertain event or condition** that can cause **significant negative impact** on several countries or industries in the next ten years.
 - The **top 4 global risks in terms of likelihood** are all found to be environment related as **extreme weather, climate action failures, natural disaster and biodiversity loss.**
 - Under the **top 4 risks in terms of impact**, three were found to be environment related as **climate action failure, biodiversity loss, extreme weather.**
 - In terms of the severity of impact over the next 10 years the top risk is failure **of climate change mitigation and adaptation.**

Way Forward

- The report is an eye opener in terms of issues related to environment and biodiversity, development, poverty and internal migration and will help to understand their impacts.
- It would further facilitate better decision making in mitigating the related problems.
- There is an urgent need to take efforts towards conservation of environment, disposition of cases related to environmental crimes, providing livelihood to the migrants and achieving SDGs.
- For the same, the centre and all the states must collaborate to prevent any loss to the environment and humans as well.

Oil Spill in Siberia

Why in News

Recently, **Russia** has declared a **state of emergency** in its **Krasnoyarsk Region** after a power plant **fuel leaked** causing 20,000 tonnes of diesel oil to escape into **the Ambarnaya River**.

Krasnoyarsk Region is located in the vast and sparsely populated **Siberian peninsula** and the Ambarnaya river is part of a network that flows into the **environmentally sensitive Arctic Ocean**.



Key Points

- **Reasons for the Spill:**
 - The **thermoelectric power plant** which is located near **Norilsk city** (known as the country's **nickel capital**), around 3000 km northeast of Moscow, is **built on permafrost** which has **weakened** over the years owing to **climate change**.
This caused the **pillars that supported the plant's fuel tank to sink**, leading to a loss of containment.
 - According to a report, **Norilsk is one of the most heavily polluted places** on Earth.

- **Concerns:**

- The leak can have a serious **impact on the local ecology**.
The Ambarnaya river flows to the **Pyasino lake and river Pyasina**, which connects it to the **Kara Sea, a part of the Arctic Ocean**.
- The **most toxic components** of diesel fuel are light **aromatics** (benzene, toluene, ethylbenzene and xylene), which in significant quantities will nevertheless **dissolve in water** and **can in no way be collected**.
- **Damages** to the Arctic waterways due to the spill could be at least **over UDS 76 million**. The estimate does not include atmospheric damage due to **greenhouse gases** and **soil pollution**.
- According to the environmentalists, the river would be difficult to clean, given its **shallow waters and remote location**, as well as the magnitude of the spill.
- The **World Wildlife Fund** (WWF) described this as the **second-largest known oil leak** in modern Russia's history in terms of volume.
It is only exceeded by a crude oil spill in the **northwestern region of Komi** that took place over several months in **1994**.

- **Measures:**

- The declaration of the state of emergency would bring in **extra forces and federal resources for the clean-up efforts**.
- The Ambarnaya river is difficult to clean up because the **remote location has no roads**.
- **Boom obstacles** (an obstacle strung across a navigable stretch of water to control or block navigation) are placed in the river but they are **unable to contain the oil** because of **shallow waters**.
- There is a need to establish **monitoring of water quality** downstream up to the mouth of the Pyasina river.
Diesel fuel is **lighter** than oil so it is **likely to evaporate** rather **than sink** but it is **more toxic to clean up**.
- **Burning the fuel** would be **too risky** as it will generate a lot of **heat** and will lead to the **melting of ice**.
- It is recommended to **dilute the layer with reagents**.
A **reagent** is a substance or compound added to a system to cause a chemical reaction or added to test if a reaction occurs.

Permafrost

- The ground that remains frozen for two or more **consecutive years** is considered permafrost.
- Permafrost is composed of rock, soil, sediments and varying amounts of ice that bind elements together.
- Some permafrost is frozen for tens, hundreds or even thousands of years.

Source: IE
