

DAILY CURRENT AFFAIRS (DCA)

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HUMAN TRAFFICKING

News:

A plane carrying hundreds of Indian nationals who were held for days at an airport in France over **human trafficking** fears has arrived in India.

What is Human Trafficking?

- **Article 3** of the **Protocol to Prevent, Suppress and Punish Trafficking in Persons** of the United Nations defines Trafficking.
 - ♦ It is the recruitment, transportation, transfer, of persons, by means of threat or the use of force or other forms of coercion for the purpose of exploitation.

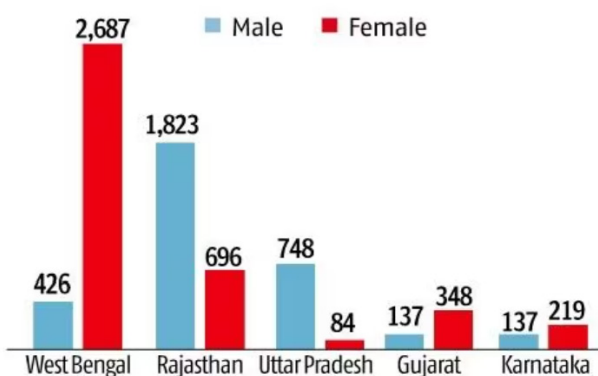
Classifications Of Human Trafficking

- Sex Trafficking
- Labour Trafficking
- Organ Trade Trafficking
- Forced Marriage Trafficking

Trafficking in India

- In 2022, **6,622 trafficking victims** were reported to have been identified; in addition, 694 were identified as potential victims.
- In 2021 Police filed charge sheets in **84.7 percent of the 2,189 cases** registered under the Anti-Human Trafficking Units (AHTUs) across the country in 2021.

Five states with most children trafficked



Causes:

1. **Commercial Demand for Sex:** The nature of sex trafficking is seen as an economic supply by the traffickers. Males request female prostitutes under this demand model, which creates a market for sex workers and ultimately encourages sex trafficking, illegal trade, and the coercion of people into the sex industry.

2. **Poverty and Unemployment:** Women may migrate voluntarily due to a lack of economic, educational, and social opportunities before becoming involuntarily trafficked for sex work.
3. **Globalization:** As globalization has opened the national borders for smooth exchange of goods and services, its economic impact has also pushed peoples especially women and children to migrate and be vulnerable to trafficking.
4. **Gender Based Discrimination:** Sons are traditionally regarded as more valuable, superior, and useful in a family than daughters in our patriarchal society. As a result, girls in this society have little to no access to education, which causes a gender gap in both literacy rates and potential income for boys and girls.

Impacts:

- **Direct impacts on victims:**
 - ♦ **Physical and psychological trauma:** Victims often suffer physical abuse and violence. This can lead to **post-traumatic stress disorder (PTSD)**.
 - ♦ **Loss of education and opportunities:** Many victims, especially children, are forced to drop out of school and miss out on educational opportunities.
 - ♦ **Social and economic marginalization:** Victims often face stigma and discrimination, making it difficult for them to reintegrate into society and seek support.
- **Wider societal impacts:**
 - ♦ **Violation of human rights:** Human trafficking is a fundamental violation of human rights, undermining basic freedoms and dignity.
 - ♦ **Fueling organized crime:** Trafficking networks operate across borders and are often linked to other criminal activities like drug trafficking and terrorism.
 - ♦ **Global implications:** Human trafficking is a global problem, impacting countries both as sources and destinations for victims.

Steps taken in India:

- Trafficking in Human Beings or Persons is prohibited under the Constitution of India under **Article 23 (1)**.
- **The Immoral Traffic (Prevention) Act, 1956 (ITPA)** is the premier legislation for prevention of trafficking for commercial sexual exploitation.

- **Criminal Law (amendment) Act 2013** has come into force wherein Section 370 and 370A IPC which provide for comprehensive measures to counter the menace of human trafficking.
- State Governments have also enacted specific legislations to deal with the issue. (e.g. **The Punjab Prevention of Human Smuggling Act, 2012**).
- **Anti Trafficking Cell (ATC)**: It was set up in the **Ministry of Home Affairs (MHA)** in 2006 to combat the crime of Human Trafficking.
- **UJJAWALA** : A Comprehensive Scheme for **Prevention of trafficking and Rescue, Rehabilitation and Reintegration of Victims of Trafficking and Commercial Sexual Exploitation**
- India has **ratified the United Nations Convention on Transnational Organised Crime (UNTOC)** and **SAARC Convention on Preventing and Combating Trafficking in Women and Children for Prostitution**.

The Trafficking of Persons (Prevention, Protection and Rehabilitation) Bill, 2018

- The Bill creates a law for investigation of **all types of trafficking**, and rescue, protection and rehabilitation of trafficked victims.
- The Bill provides for the establishment of investigation and rehabilitation authorities at the **district, state and national level**.
- **Anti-Trafficking Units** will be established to rescue victims and investigate cases of trafficking.
- **Rehabilitation Committees** will provide care and rehabilitation to the rescued victims.
- The Bill classifies certain purposes of trafficking as 'aggravated' forms of trafficking. These include trafficking for **forced labour, bearing children, begging, or for inducing early sexual maturity**.

Suggestions/Measures:

a) Prevention:

- **Raising awareness:** Public awareness campaigns and educational programs can help communities understand the signs of trafficking, identify potential victims.
- **Empowering vulnerable groups:** Providing education and vocational training to at-risk individuals, especially women and children.

- **Addressing root causes in long terms:** Tackling poverty, gender inequality, and lack of access to education can help address the underlying factors that make individuals vulnerable to trafficking.

b) Protection:

- **Victim identification and referral:** Training law enforcement, social workers, and healthcare professionals to identify potential victims and refer them to appropriate support services is crucial.
- **Safe houses and shelters:** Providing victims with safe havens where they can receive trauma-informed care, legal assistance, and counseling is essential for their recovery and reintegration.
- **Witness protection:** Ensuring the safety and security of victims who cooperate with law enforcement to prosecute traffickers is critical for effective investigations and accountability.
- **Mental health and psychosocial support:** Addressing the trauma and emotional distress experienced by victims through individual and group therapy is crucial for their long-term well-being.

c) Prosecution:

- **Strengthening law enforcement capacity:** Providing law enforcement agencies with specialized training and resources to investigate and prosecute human trafficking cases effectively is vital.
- **International cooperation:** Building international collaboration and information sharing among law enforcement agencies across borders can help dismantle trafficking networks and apprehend perpetrators.
- **Holding businesses accountable:** Enacting legislation that holds businesses responsible for preventing human trafficking within their supply chains can send a strong message of deterrence.
- **Asset seizure and confiscation:** Confiscating and utilizing resources gained through trafficking can weaken criminal organizations and provide funds to support victim recovery efforts.

d) Reintegration:

- **Vocational training and employment opportunities:** Providing victims with skills and support to re-enter the workforce and achieve economic independence to rebuild their lives.
- **Education and social support:** Access to education and social services can help victims heal from the trauma, reconnect with their communities, and rebuild their identities.

- **Long-term assistance:** Reintegration is a long-term process, providing victims with ongoing support and assistance to ensure their sustainable well-being.

Way Ahead:

- Trafficking in human beings, especially children, is a form of modern day slavery **and requires a holistic, multi-sectoral approach** to address the complex dimension of the problem.
- It is a problem that **violates the rights and dignity of the victims** and therefore requires essentially a '**rights perspective**', while working on its eradication.
- In the fight against trafficking, governmental organizations, non-governmental organizations, civil society, pressure groups and international bodies, **all have to play an important role and work in concert**. Law cannot be the only instrument to address complex social problems.

Source: **LM**

PERIODIC LABOUR FORCE SURVEY (PLFS) 2023

In Context

Periodic Labour Force Survey (PLFS) for the period of July – September 2023 has been published by the **Ministry of Statistics and Programme Implementation**.

About

- **The National Sample Survey Office (NSSO)** launched the Periodic Labour Force Survey (PLFS) in **2017**.
- The PLFS gives estimates of Key employment and unemployment Indicators like the **Labour Force Participation Rate (LFPR), Worker Population Ratio (WPR), Unemployment Rate (UR), etc.**
- The present Quarterly Bulletin is the twentieth in the series for the **quarter July – September, 2023**.

Indicators

- **Labour Force Participation Rate (LFPR):** LFPR is defined as the percentage of persons in labour force (i.e. working or seeking or available for work) in the population.
- **Worker Population Ratio (WPR):** WPR is defined as the percentage of employed persons in the population.

- **Unemployment Rate (UR):** UR is defined as the percentage of persons unemployed among the persons in the labour force.
- **Current Weekly Status (CWS):** The activity status determined on the basis of a reference period of last 7 days preceding the date of survey is known as the current weekly status (CWS) of the person.

Major Findings

- **Labour Force Participation Rate (LFPR) 15 years and above:** LFPR in urban areas **increased** from 47.9% in 2022 to 49.3% in 2023.
 - ♦ While for male, LFPR increased from **73.4% to 73.8%** during this period, for female, LFPR increased from **21.7% to 24.0%** during this period.
- **Worker Population Ratio (WPR) 15 years and above:** WPR in urban areas **increased** from 44.5% in 2022 to 46.0% in 2023.
 - ♦ For male, it increased from **68.6% to 69.4%** during this period and for females, it increased from **19.7% to 21.9%** during this period.
- **Unemployment Rate (UR) 15 years and above:** UR in urban areas **decreased** from 7.2% in 2022 to 6.6% in 2023.
 - ♦ For male, UR was 6.0% in 2023 while for females UR decreased from **9.4% 2022 to 8.6% in 2023**.

Women Participation in MGNREGS: Women participation in the [Mahatma Gandhi National Rural Employment Guarantee Scheme \(MGNREGS\)](#) was the highest in 10 financial years, with the proportion of women person-days in the total touching 59.25% during 2023-24.

Unemployment and Its Types in India

- **Unemployment** refers to the situation where individuals **who are willing and able to work cannot find suitable employment**.
- **Structural Unemployment:** Structural unemployment occurs when there is a mismatch between the jobs that are available and the people looking for work.
 - ♦ Lack of required skills and inadequate education often hinder job prospects for many individuals in India.
- **Cyclical Unemployment:** During an economic downturn, a shortfall of demand for goods and services results in a lack of jobs being available for those who want to work.

- **Seasonal Unemployment:** Many sectors in India, such as agriculture, experience seasonal variations in demand for labor.
- **Disguised Unemployment:** This occurs when more people are employed than necessary, commonly found in the agricultural and unorganized sectors of India.
- **Underemployment:** Underemployment refers to a situation where individuals are working in jobs that do not fully utilize their skills and qualifications. This can be prevalent in jobs that are below an individual's educational or skill level.

Measures Taken by Government of India to Address Unemployment

- **Pradhan Mantri Kaushal Vikas Yojana (PMKVY):** Launched in 2015 to provide skill development training to a large number of youth across the country, enabling them to take up industry-relevant jobs.
- **MUDRA Yojana:** The Pradhan Mantri Mudra Yojana aims to provide financial support to small and micro-enterprises, facilitating self-employment and job creation.
 - ♦ The scheme offers three categories of loans - Shishu, Kishor, and Tarun - based on the stage of business development.
- **Mahatma Gandhi National Rural Employment Guarantee Act, 2005:** It guarantees 100 days of wage employment in a financial year to rural households, with the aim of enhancing livelihood security in rural areas.
- **Pradhan Mantri Rozgar Protsahan Yojana (PMRPY):** To incentivize employers for generating new employment, the PMRPY scheme provides a contribution from the government towards the Employee Provident Fund (EPF) for new employees.
- **Startup India:** It aims to promote entrepreneurship and create a favorable ecosystem for startups, fostering innovation and job creation.
 - ♦ The initiative includes various measures, such as tax exemptions, funding support, and simplified regulatory processes for startups.

Source: **PIB**

PESTICIDE HAZARD

In Context

- Many farmers in **Maharashtra** suffer from the **pesticide poisoning**.

Data Analysis

- In 2017, reports of pesticide poisoning emerged from Maharashtra, drawing global criticism against India's pesticide regulation policies.
 - ♦ The Maharashtra government introduced a Bill in 2023, to amend the **Insecticide Act, 1968 in the State**.
- In 2021, **Pesticide Action Network (PAN) International** released a list of highly hazardous pesticides, of which over 100 are currently approved for use in India.

What is Pesticide?

- Pesticides are substances or mixtures of substances that are used to **prevent, destroy, repel, or mitigate pests**.
- **Pests can include** insects, rodents, fungi, weeds, and other organisms that can negatively impact agriculture.
- Pesticides are commonly used in agriculture to protect crops from pests and increase yields.
- The main categories of pesticides include:
 - ♦ **Insecticides:** Designed to control or kill insects.
 - ♦ **Herbicides:** Used to control or eliminate unwanted plants (weeds).
 - ♦ **Fungicides:** Target fungi and prevent or control fungal diseases.
 - ♦ **Rodenticides:** Designed to control rodents, such as mice and rats.
 - ♦ **Bactericides and Virucides:** Target bacteria and viruses, respectively.
 - ♦ **Nematicides:** Control nematodes, which are microscopic worms that can damage plant roots.

Concerns with Use of Pesticides in India

- **Health Risks:** Pesticide exposure can pose serious health risks to farmers, and communities living in close proximity to agricultural areas.
 - ♦ Short-term effects may include nausea, dizziness, and skin irritation, while long-term exposure may lead to chronic health problems, including respiratory issues and certain types of cancer.

- **Environmental Impact:** Runoff from fields treated with pesticides can contaminate water sources, leading to water pollution.
 - ◆ This contamination can harm aquatic ecosystems and affect non-target species.
- **Residue in Food:** Residues of pesticides can remain on crops and find their way into the food supply.
 - ◆ This can raise concerns about food safety and the potential for chronic exposure to low levels of pesticides through the diet.
- **Pesticide Misuse:** In some cases, pesticides are misused due to lack of awareness, inadequate training, or improper storage.
 - ◆ This can lead to overuse or incorrect application, exacerbating environmental and health risks.
- **Impact on Non-Target Organisms:** Beneficial insects, pollinators, and natural predators can be harmed by pesticide applications, disrupting ecosystems and agricultural sustainability.
- **Resistant Pests:** Over time, pests can develop resistance to certain pesticides, rendering them less effective. This can result in a cycle of increased pesticide use, which may further contribute to environmental and health issues.
- **Farmers' Economic Burden:** Some farmers face economic challenges associated with the high cost of purchasing pesticides.
 - ◆ This approach aims to reduce reliance on chemical pesticides and minimize their impact on human health and the environment.

- **Training and Education:** There has been an increased focus on providing training and education to farmers about safe and judicious pesticide use.
- **Regulatory Measures:** The government of India regulates the sale, distribution, and use of pesticides through the Insecticides Act, 1968.
 - ◆ The Central Insecticides Board and Registration Committee (CIB&RC) oversee the registration of pesticides, setting permissible limits for residues, and ensuring compliance with safety standards.
- **Research and Development:** Efforts are directed toward the discovery and promotion of safer and more environmentally friendly pesticide alternatives.
 - ◆ This includes the development of **biopesticides**, which are derived from natural sources such as plants, bacteria, and fungi.
- **Monitoring and Surveillance:** Regular monitoring and surveillance programs are conducted to assess pesticide residues in food, water, and the environment.
 - ◆ This helps in identifying areas of concern and taking corrective measures to mitigate risks.
- **Biopesticides:** The government is promoting use of biopesticides, which are generally safer than chemical pesticides
- **Grow Safe food"** Campaign has been initiated to create awareness about the safe and judicious use of pesticides among the various stakeholders

Steps Taken by Government of India to Address the Concerns

- **The Insecticides Act, 1968** and the **Insecticides Rules of 1971**, form the legal framework for the manufacture and use of pesticides.
 - ◆ The primary objective of these regulations is to ensure the quality of pesticides, their safe use, and protection of human health, animals, and the environment.
 - ◆ The Central Insecticides Board (CIB) and Registration Committee (RC) are central regulatory bodies responsible for the implementation of the Insecticides Act.
 - ◆ Pesticides must be registered with the Registration Committee before they can be imported, manufactured, formulated, sold, or distributed in India.
- **Promotion of Integrated Pest Management (IPM):** IPM involves a combination of biological, cultural, physical, and chemical control methods to manage pests in an environmentally sustainable manner.

Source: *TH*

INDIA-ASEAN RELATIONS

Context

- India and the Association of SouthEast Asian Nations (ASEAN) will begin negotiations to modernize their free trade agreement (FTA) to bring more balance in the pact.

ASEAN India Trade in Goods Agreement (AITGA)

- India signed an FTA in goods with ASEAN in 2009, which came into force in 2010.
 - ◆ A separate FTA in services was signed in 2014.

- The FTA between India and ASEAN is also known as the ASEAN India Trade in Goods Agreement (AITGA). The pact resulted in disproportionate benefits for ASEAN.

Trade deficit

- India's trade deficit with the ASEAN region was at **\$7.5 billion per annum** when the pact was implemented. This has ballooned to **\$43.57 billion in FY23**.
- In 2022-23, India's exports to the region were valued at **\$44 billion**, while its imports were at **\$87.57 billion**.
- ASEAN accounted for **11.3% of India's** global trade in 2022-23.

Revamping AITGA

- Changes in the Rules of Origin (ROO):** It will work in favor of India by increasing market access for some items as well as blocking possible re-routing of goods by China through the ASEAN countries.
 - ROO are the criteria to determine the origin of a product and establish if it qualifies for duty cuts under an FTA.
- Product specific rules (PSRs):** It will be introduced in the ROO chapter which can help India relax rules for certain items to increase exports. At the same time, loopholes could be blocked to check circumvention by China.
- Trade remedies:** The modernized AITGA will also have a chapter on trade remedies, which will seek to provide a safety net for domestic industry against unfair trade practices or unforeseen surges in imports of goods.

India-ASEAN Relations

- Defense Relations:** Recently The Republic of Singapore Navy (RSN) and the Indian Navy (IN) co-hosted the first ever ASEAN-India Maritime Exercise off the coast of Singapore.
- With **AIME-2023** India becomes the **4th ASEAN dialogue partner**, after Russia, China and the US to hold the ASEAN+1 maritime exercise.
- ASEAN-India Friendship Year:** The year 2022 marks the 30th Anniversary of **ASEAN-India Dialogue Relations** & the 10th anniversary of **India's Strategic Partnership with ASEAN**.
- Connectivity and Infrastructure:** Initiatives such as the **India -Myanmar-Thailand Trilateral Highway** and the **Kaladan Multimodal Transit**

Transport Project aim to improve physical connectivity between India and ASEAN, promoting trade and economic integration.

- Multi-level interaction:** In their relations at the apex is the annual summit which is **ASEAN-India Summit**. Further there are active engagement through ASEAN-led mechanisms, such as:
 - East Asia Summit,
 - ASEAN Regional Forum,
 - ADMM-Plus.
- Delhi Dialogue:** The 'Delhi Dialogue' (DD) mechanism hosted by India annually. It is traditionally inaugurated jointly by India and ASEAN at the Foreign Minister's level.
 - It serves as the main **Track 1.5** mechanism for engagement.
- Maritime Connectivity & Security:** India is surrounded by the Indian Ocean and ASEAN Countries have borders with Indo-Pacific waters. India is consciously working with ASEAN towards a vision of an open and inclusive Indo-Pacific in tandem with initiatives such as;
 - The Indo-Pacific Oceans Initiative (IPOI),
 - To ensure Security and Growth for All in the Region (SAGAR).
 - India and some of the ASEAN countries are also members of the **Indo-Pacific Economic Framework (IPEF)**.

Association of Southeast Asian Nations (ASEAN)

- About:** It is a political and economic organization aimed primarily at promoting economic growth and regional stability among its members.
- Members:** Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Vietnam.
- History:** It was established in **1967 in Bangkok, Thailand**, with the signing of the ASEAN Declaration (**Bangkok Declaration**) by the Founding Fathers of ASEAN: **Indonesia, Malaysia, Philippines, Singapore and Thailand**.
 - Brunei Darussalam** joined ASEAN in **1984**, followed by **Vietnam in 1995, Lao PDR and Myanmar in 1997**, and **Cambodia in 1999**.
- ASEAN Summit:** It is the highest policy-making body in ASEAN comprising the Head of States or Government of ASEAN Member States. Summit is held twice annually.
 - The First ASEAN Summit** was held in **Bali, Indonesia in 1976**.

Importance

- ASEAN holds strategic importance for India in terms of economic collaboration, political engagement, cultural ties, and regional security.
- Strengthening relations with ASEAN aligns with India's broader goal of enhancing its presence and influence in the Asia-Pacific region.
- India became an ASEAN Dialogue Partner in 1996.
 - ♦ ASEAN accounted for 11.3% of India's global trade in 2022-23.

Source: TH

WATER POLLUTION AND SANITATION SYSTEMS

Context:

It has been observed that widespread water contamination is a daunting challenge in India.

About Water Pollution:

- It refers to release of **unwanted substances** into subsurface groundwater or into water bodies like lakes, streams, rivers, estuaries, and oceans to a level which negatively impacts the beneficial use of the water or natural functioning of ecosystems.
- As water moves through its various domestic and non-domestic uses, it accumulates **natural as well as human-introduced impurities** – including organic matter, nutrients from detergents, pathogens such as bacteria, viruses, and parasites, and heavy metals from solvents and pesticides.
 - ♦ Dissolved oxygen (DO) levels drop, Biological Oxygen Demand (BOD) rises, aquatic species perish, eutrophication occurs, etc. as a result of water pollution.

Causes of Water Pollution:

- **Agriculture:** It is one of the primary sources of water pollution. Animal waste from farms and livestock operations, pesticides, and fertilisers wash nutrients and pathogens like bacteria and viruses into our waterways.
- **Untreated Water Discharge:** According to the United Nations, more than 80% of the world's wastewater flows back into the environment without being treated or reused.
- **Oil Spills:** Nearly half of the estimated 1 million tons of oil spills over into marine environments.

- **Radioactive Discharge:** These are generated by uranium mining, nuclear power plants and the hospitals that use radioactive materials for research and medicine.

Recent CPCB Findings:

- CPCB has identified 311 polluted river stretches on 279 rivers in 30 States/ UTs in the country based on indicator of organic pollution i.e. Biochemical Oxygen Demand (BOD) (3 mg/L) in the year 2022.
 - ♦ It was based on analysis of water quality data of 603 rivers on 1920 locations for the years 2019 and 2021.
- State-wise number of identified polluted river stretches identified in year 2022.

Key findings:

- 1103 out of 1920 locations (57%) were complying with BOD criteria
- All locations monitored on 324 rivers complying with BOD criteria
- 817 river locations on 279 rivers were exceeding BOD level of 3 mg/L

MEASURES TAKEN TO CONTROL WATER POLLUTION:

International Measures:

- International Conventions to Mitigate Marine Pollution;
- London Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (1972);
- United Nations Convention on Law of the Sea (UNCLOS).

India's efforts:

- Monitoring of water bodies, including assessment of their magnitude of pollution, are to be carried out by the State Governments themselves as per the provisions of the statutes on pollution control.
 - ♦ Role of Government of India is limited to laying down norms, providing technical support to the States.
- The National Water Quality Monitoring Programme (NWMP), Central Pollution Control Board (CPCB), in association with State Pollution Control Boards (SPCBs) and or Pollution Control Committees (PCCs), monitors water quality of lakes, ponds and tanks at different locations.

- **Sanitation Systems:** These play a pivotal role in safeguarding public health and the environment by managing used water; these systems encompass various types, from on-site solutions like twin pits and septic tanks to centralised sewer networks leading to treatment facilities.
 - ♦ It is designed to contain, convey, treat, and either dispose of or reuse the used water (given its value as a resource, the term 'used water' is preferred over 'wastewater') – ensuring good public health and reducing environmental pollution.
 - ♦ **On-site Sanitation Systems (OSS):** In rural areas or spacious urban residences, used water goes into **twin pits or septic tanks (also known as OSS)** connected below ground to toilets.
 - These types include bio-digester toilets, bio-tanks, and urine diversion dry toilets.
- Various initiatives like:
 - ♦ National River Conservation Programme (NRCP);
 - ♦ National Lake Conservation Programme (NLCP);
 - ♦ Atal Mission for Rejuvenation and Urban Transformation (AMRUT);
 - ♦ Smart Cities Mission;
 - ♦ Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS);
 - ♦ Repair, Renovation and Restoration (RRR) Schemes
- Pollution can be curbed by levying suitable costs.
 - ♦ These forward-looking changes would need revamped national and State institutions, and updated laws.
- The new paradigm for groundwater management is a socio-ecological challenge, where localism matters.
 - ♦ It warrants technical, economic, legal and governance remediation with space for active public participation and community regulatory options to maintain groundwater balance at the village/ watershed level.

The Central Pollution Control Board (CPCB):

- It is a **statutory** organisation, was constituted under the **Water (Prevention and Control of Pollution) Act, 1974.**
 - ♦ It was entrusted with the powers and functions under the **Air (Prevention and Control of Pollution) Act, 1981.**
- It serves as a field formation and also provides technical services to the **Ministry of Environment and Forests of the provisions of the Environment (Protection) Act, 1986.**
- **It aims** to promote cleanliness of streams and wells in different areas of the States by prevention, control and abatement of water pollution, and;

Source: *TH*

Way Forward:

- **Water being State subject**, preparation of guidelines etc normally falls under States' mandate, however as per **Central Ground Water Board (CGWB)** study, groundwater pollution is **mostly Geogenic in nature** and does not show significant change over the years.
- However, **Central Pollution Control Board (CPCB)** in association with State Pollution Control Boards/Pollution Control Committees (SPCBs/ PCCs) is implementing the provisions of the Water (Prevention & Control) Act, 1974 and the Environment (Protection) Act, 1986 in the country to prevent and control pollution in water.
- Steady urbanisation calls for a new management paradigm, augmenting sources of clean drinking water supply and treatment technologies that will encourage reuse.

CRUDE OIL PAYMENT IN RUPEE

Context

- Recently, India made the first-ever rupee payment for the purchase of crude oil from the United Arab Emirates (UAE).

About

- The initiative aligns with the Reserve Bank of India's move of 2022, allowing importers to pay in rupees and exporters to receive payments in the local currency.
- India and the UAE have signed a bilateral "Comprehensive Economic Partnership Agreement" (CEPA) in 2022.
- In July 2023, India formalised an agreement with the UAE for rupee settlements.

Oil Purchase of India

- **India** is the world's **third-largest energy consumer** and over **85 percent** of its oil needs are reliant on imports.
- **Oil Suppliers:** key oil suppliers of India include Iraq, Saudi Arabia, Russia, and the UAE, with West Asia contributing 58 percent of all supplies.
- India spent **\$157.5 billion** on purchase of crude oil in the financial year **2022-23**. Hence the value of the Indian rupee has been declining consistently.

What is Internationalization of rupee?

- 'Internationalization' implies that the rupee can be freely transacted by both resident and non-residents, and can be used as a reserve currency for global trade.
- It involves promoting the rupee for import and export trade, and then other current account transactions followed by its use in capital account transactions.

Mechanism of settlement in rupee

- International trade settlements in rupees at market-determined exchange rates requires Indian importers to make payments in 'rupee' which will be credited to a **Vostro account** (special rupee accounts in Indian banks) of the corresponding bank of the partner country, while Indian exporters will be paid from the balances in the designated Vostro accounts.
- **The surplus rupee balance** in the Vostro accounts can be used for investments in government securities, payments for projects and investments, and for export-import advanced flow management.

Benefits of the Rupee Payment

- The default payment currency for import of crude oil has been the US dollar for several decades, as it has high liquidity as well as lower hedging cost.
- The **rupee was the worst performing Asian currency in 2022**, witnessing a fall of around 10% against the greenback.
- Using the rupee for international trade transactions will help check the flow of dollars out of India and slow the depreciation of the currency.

Way Ahead

- The internationalization of the rupee will boost trade opportunities with sanctions-hit Russia and Iran and increase India's share in global trade.
- It will reduce the dollar demand and help in streamlining the transactions by eliminating currency conversions. This will also make the Indian economy less vulnerable to global currency shocks.

Source: **BS**

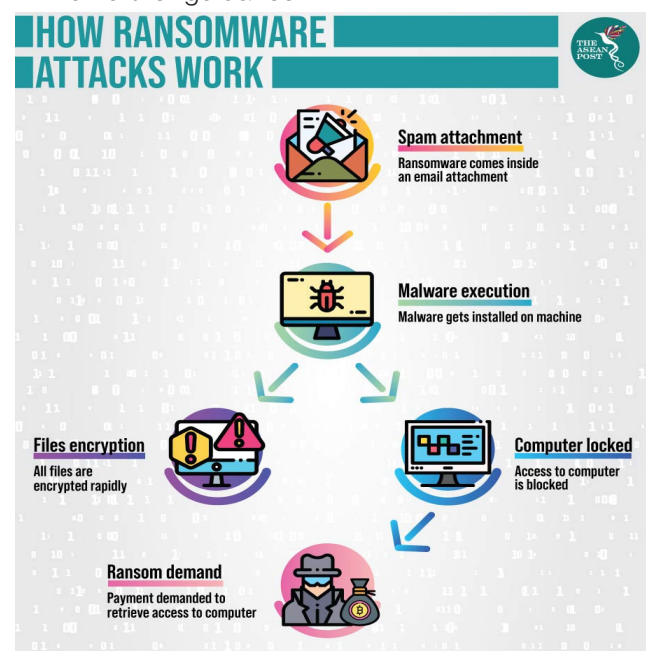
RANSOMWARE ATTACKS

News:

Recently, **IT services provider HCL Technologies** said that it was hit by a ransomware incident.

About the Ransomware:

- Ransomware is **extortion software** designed to lock or encrypt a device or data on a system and then demand a ransom for its release.
- The attacks follow a simple plan wherein **attackers gain access to a device or protected data in the cloud**.
- Depending on the nature of the ransomware, it **will then lock or encrypt devices**, data stored in the cloud, or the entire internal network of an organisation.
- Attackers usually **leave behind a message with instructions on the ransom amount**, mode of transfer, or instructions on how to contact them for further guidance.



Recent examples of Ransomware attack in India:

1. **AIIMS:** In 2022, the All India Institute of Medical Sciences (AIIMS) was hit by a ransomware attack. The attack encrypted patient data and demanded a ransom payment of **US\$1 million**. AIIMS refused to pay the ransom, and the attackers released the data on the dark web.
2. **Nagpur's Solar Industries Limited:** In 2023, Solar Industries Limited (SIL), an industrial and defense explosives manufacturer was hit by a ransomware attack. The hackers, who identified themselves as **BlackCat or ALPHV**, claimed to have stolen 2 terabytes of data from the company's servers.
3. **Fullerton India:** In 2023, Fullerton India, a NBFC, was targeted by a ransomware attack in April 2023. The attack was carried out by **Lockbit 3.0**, a ransomware group known for its sophisticated attacks and high ransom demands.

Ransomware attacks: a matter of concern

- A 2023 study conducted by **Sophos**, a cybersecurity company, showed that **73% of organisations reported being victims of ransomware attacks, up from 57%** the previous year.
- Of these, **77% of organisations reported that attackers succeeded in encrypting data, with 44% paying the ransom** to retrieve their data, a significant drop from 78% compared to the previous year.
- However, despite paying the ransom, **companies doubled their cost of recovery for the data held hostage** by threat actors compared to organisations that did not pay the ransom and relied on backups.
- Additionally, according to the **Indian ransomware report** released by **India's Computer Emergency Response Team (CERT-In)**, a **51% increase in ransomware incidents was reported in 2022**, with a majority of these attacks targeting data centres, IT, and TeS sectors in the country.

Challenges:

- **Evolving Tactics:** Ransomware actors constantly adapt and innovate their tactics, making it difficult to keep up with the latest threats.
- **Persistent Threat:** Attacks are often opportunistic and exploit existing vulnerabilities in outdated systems or human errors.

- **Data Encryption Complexity:** Ransomware encrypts data swiftly, making recovery difficult and time-consuming. Decryption tools may not be readily available, and even when available, their success is not guaranteed.
- **Financial Pressure:** Businesses under attack may feel compelled to pay the ransom quickly to minimize downtime and financial losses, even if it encourages future attacks.
- **Human Factor:** Social engineering attacks exploit human vulnerabilities like **curiosity, fear, or urgency** to trick users into clicking malicious links or downloading infected files.
- **Global Landscape:** Ransomware attacks often originate from countries with weak cyber laws, making it challenging to track down perpetrators and bring them to justice.
- **Resource Constraints:** Implementing robust cybersecurity measures and maintaining vigilance requires skilled personnel, advanced tools, and continuous investment, not all organizations can readily afford.
- **Balancing Security and Usability:** Implementing strict security measures can sometimes impede user experience and workflow.
- **Balancing Security and Privacy:** Security solutions involving data monitoring and access controls raise concerns about potential privacy violations. Finding the right balance between security and privacy is critical.

Preventive measures:

- **Software updates:** Regularly update operating system, applications, and firmware to patch vulnerabilities exploited by ransomware actors.
- **Antivirus and anti-malware:** Use reputable antivirus and anti-malware software with real-time protection and scheduled scans.
- **Backups:** Regularly back up your data to a secure offsite location disconnected from your network to ensure recovery in case of an attack.
- **Email security:** Be cautious with email attachments and links, especially from unknown senders. Use email filtering and anti-spam tools to block suspicious messages.
- **Employee training:** Educate employees about ransomware threats, phishing scams, and safe browsing practices to prevent them from falling victim to social engineering attacks.

- **Vulnerability assessments:** Regularly conduct vulnerability assessments to identify and address weaknesses in your systems before attackers exploit them.
- **Incident response plan:** Develop an incident response plan outlining steps to take in case of a ransomware attack, including containment, notification, recovery, and reporting.
- **Cybersecurity insurance:** Consider investing in cyber insurance to help mitigate financial losses incurred from a ransomware attack.

Conclusion:

- Addressing various challenges associated with evolving cyberthreats requires a **multi-layered approach combining technical solutions, employee training, international cooperation,** and continuous vulnerability assessments.
- There is no single solution, but by **acknowledging the inherent difficulties and diligently implementing preventative measures,** organizations can significantly improve their defense against ransomware attacks.

To know more about Government's initiatives against cyberattacks

Please click here <https://www.nextias.com/ca/editorial-analysis/25-02-2023/cyberattacks-are-rising-but-there-is-an-ideal-patch>

Source: **TH**

FACTS IN NEWS

PADMA AWARDS

Miscellaneous In News

Olympic medallist Bajrang Punia decided to return the Padma Shri award in protest over the Selection of the president of Wrestling Federation of India (WFI).

About the awards

- The Padma Awards are one of the **highest civilian honours** of India announced annually on the eve of Republic Day.
- The Awards are given in three categories:
 - ♦ Padma Vibhushan (for exceptional and distinguished service),
 - ♦ Padma Bhushan (distinguished service of higher order) and

- ♦ Padma Shri (distinguished service).
- ♦ The award seeks to recognize achievements in all fields of activities or disciplines where an element of public service is involved.
- **Process:** The Padma Awards are conferred on the recommendations made by the Padma Awards Committee, which is constituted by the Prime Minister every year. The nomination process is open to the public. Even self-nomination can be made.
 - ♦ The Padma Awards Committee is headed by the Cabinet Secretary and includes Home Secretary, Secretary to the President and four to six eminent persons as members. The recommendations of the committee are submitted to the Prime Minister and the President of India for approval.
- **Eligibility :** All persons without distinction of race, occupation, position or sex are eligible for these awards. However, Government servants including those working with PSUs, except doctors and scientists, are not eligible for these Awards.
 - ♦ The award is normally not conferred posthumously. However, in highly deserving cases, the Government could consider giving an award posthumously.
- **Areas of Recognition:** Art ,Social work ,Public Affairs ,Science & Engineering ,Trade & Industry ,Medicine ,Literature & Education ,Civil Service ,Sports ,Others
 - ♦ The award does not amount to a title and cannot be used as a suffix or prefix to the awardees' name

Do you know ?

- The Government of India instituted two civilian awards-Bharat Ratna & Padma Vibhushan in 1954.
 - ♦ The latter had three classes namely Pahela Varg, Dusra Varg and Tisra Varg.
 - ♦ These were subsequently renamed as Padma Vibhushan, Padma Bhushan and Padma Shri vide Presidential Notification issued on January 8, 1955.
- Bharat Ratna is the highest civilian award of the country. It is awarded in recognition of exceptional service/performance of the highest order in any field of human endeavour.

Source: **TH**

MV CHEM PLUTO

In News

Chemical tanker MV Chem Pluto was hit by a drone strike on Saturday (December 23), roughly 200 nautical miles (370 km) off the coast of Gujarat.

About

- MV Chem Pluto is a Liberia-flagged, Japanese-owned, and Netherlands-operated chemical tanker.
- It is a chemical/ oil tanker with a crew of 21 Indians and a Vietnamese.
- It had started its journey carrying crude from Al Jubail, Saudi Arabia and was expected to arrive in New Mangalore on December 25.
- It has been cleared for further operation by her company-in-charge at Mumbai.

Source: **IE**

STAGFLATION

In News

Reserve Bank of India (RBI) officials believe the risk of stagflation has lowered further to 1% compared with 3% in August based on available data.

About Stagflation

- It is an economic scenario where an economy faces both high inflation and low growth (and high unemployment) at the same time
- The idea became popular during the 1970s when the U.S. economy witnessed high price inflation due to the oil shock as well as an economic recession marked by negative economic growth.
- **Impacts** : It had the potential to destabilise the entire macroeconomic framework of an economy by creating an environment of uncertainty.
- **Suggestions** : Some economists suggest that policymakers should focus on boosting aggregate demand in the economy.
 - ♦ The central bank should further ease its policy stance and the government should spend more on infrastructure and other sectors to boost the economy.
 - ♦ Some advocate supply-side reforms to bring about genuine economic growth.

Source: **TH**

ZUARI BRIDGE

In News

Goa's Zuari Bridge become fully operational recently

About Zuari Bridge

- It is located on the Zuari river at Cortalim village on Margao-Panaji National Highway
- It is a 13.20-kilometer eight-lane bridge across Zuari river .
- It is India's second longest cable-stayed bridge.
- **Relevance** : It will have significant benefits for transport from North Goa to South Goa by strengthening connectivity for Mormugao Port Trust.
 - ♦ It aims to ease the traffic woes of the state.
 - ♦ It will serve to push tourism and commerce by enhancing connectivity.

Source: **PIB**

NATIONAL MATHEMATICS DAY

News:

Recently, National Mathematics Day was observed .

About National Mathematics Day

- It is observed on December 22 each year to commemorate the birth anniversary of the great Indian mathematician Srinivasa Ramanujan(1887-1920).
 - ♦ It was started in 2012.

About:

- Ramanujan was Born in the town of **Erode in Madras Presidency (Tamil Nadu)**.
 - ♦ As a child, his mathematical aptitude was apparent.
- By 1910, Ramanujan was gaining popularity in Madras' mathematical circles.
- He began sending his work to mathematicians in Britain.
 - ♦ His breakthrough arrived in 1913, when the **Cambridge-based GH Hardy wrote back**.
 - ♦ In 1917, Ramanujan was elected to be a member of the **London Mathematical Society**.
 - ♦ In 1918, he also became a **Fellow of the Royal Society**, becoming one of the youngest to ever achieve the feat.

Major Achievements:

- **Infinite series for pi:** In 1914, Ramanujan found a formula for infinite series for pi, which forms the basis of many algorithms used today.
 - ♦ Finding an accurate approximation of π (pi) has been one of the most important challenges in the history of mathematics.
- **Game theory:** Ramanujan discovered a long list of new ideas for solving many challenging mathematical problems that have given great impetus to the development of game theory.
 - ♦ His contribution to game theory is purely based on intuition and natural talent and is unmatched to this day.
- **Mock theta function:** He elaborated on the mock theta function, a concept in the field of modular forms of mathematics.
- **Ramanujan number:** 1729 is known as the Ramanujan number which is the sum of the cubes of two numbers 10 and 9.
- **Circle Method:** Ramanujan, along with GH Hardy, invented the circle method which gave the first approximations of the partition of numbers beyond 200.
 - ♦ This method contributed significantly to solving the notorious complex problems of the 20th century, such as Waring's conjecture and other additional questions.
- **Theta Function:** Theta function is a special function of several complex variables. German mathematician Carl Gustav Jacob Jacobi invented several closely related theta functions known as Jacobi theta functions. T
 - ♦ Theta function was studied extensively by Ramanujan who came up with the Ramanujan theta function, which generalizes the form of Jacobi theta functions and also captures general properties. Ramanujan theta function is used to determine the critical dimensions in Bosonic string theory, superstring theory, and M-theory.
- **Other notable contributions** by Ramanujan include hypergeometric series, the Riemann series, the elliptic integrals, the theory of divergent series, and the functional equations of the zeta function.

Source: [IE](#)

VIABILITY GAP FUNDING

Context:

- The Union Minister for Power and New & Renewable Energy has approved the scheme for **Viability Gap Funding (VGF)** for development of **Battery Energy Storage Systems (BESS)** with capacity of 4,000 megawatts hours (MWh).

More about the news:

- Under the scheme, VGF to the extent of up to 40% of capital cost for BESS shall be provided by the Union Government.
 - ♦ Public and private sector entities shall be selected through the bidding process.
- The project is approved for a period of **3 years (2023-24 to 2025-26)**.
- For passing on the scheme to consumers of the Discoms, at least 85% of the power from VGF-funded BESS projects shall be **first offered to Discoms** before making it available for others.

About the Viability Gap Funding (VGF) Scheme:

- Cabinet Committee on Economic Affairs (CCEA) in 2005 approved it for Financial Support to PPPs in Infrastructure as a **Central Sector Scheme**
- It is administered by the Department of Economic Affairs, Ministry of Finance .
- It aims at supporting infrastructure projects that are **economically justified** but **fall marginally short of financial viability**.
 - ♦ Support under this scheme is **available only for infrastructure projects** where private sector sponsors are selected through a process of competitive bidding.
- The **total VGF** under the scheme **does not exceed 20%** of the total project cost, however, the **Government may decide to provide additional grants** up to a limit of a further 20%.

Eligibility criteria for getting VGF:

- The PPP projects may be posed by the Union Ministries, State Government or Statutory Authorities (like Municipal Authorities and Councils), which own the underlying assets;
- The project should provide a service against payment of pre-determined tariff or user charge.

- This Scheme will apply only if the contract/concession is awarded in favour of a private sector company.
- The approval to projects is given prior to invitation of bids and actual disbursement takes place once the private entity has expanded his portion of the equity.
- The final VGF is determined through the bidding.

List of sectors permissible for VGF:

- **Public infrastructure** such as roads, airports Public amenities such as power, water supply, waste management Infrastructure projects in **Special Economic Zones (SEZ)** and **National Investment and Manufacturing Zones (NIMZ)**;
 - ♦ Education, health and skill development.

Source: **PIB**

NEMATOCYST

Context:

- Recent study found that the Nematocysts serve as potent weapons to hunt prey and fend off predators.

About the Nematocysts:

- **Nematocysts** are found in some animals, but especially jellyfish, corals, sea anemones, and hydras, that serve as potent weapons to hunt prey and fend off predators.
 - ♦ These are **special stinging cells** used to capture food.
- Each nematocyst **consists of a capsule** containing a **coiled**, thread-like tubule and a bulbous structure with toxins.
- **Predation and Defence:**
 - ♦ Nematocysts play a crucial role in the **feeding and defence strategies of cnidarians in particular.**
 - **Cnidarians** are animals that contain cells called **cnidocytes** that have been known to use a combination of toxins to ensure the success of its predatory or defensive efforts.
 - ♦ When stressed, the nematocyst **rapidly ejects the tubule**, often with an acceleration surpassing that of a bullet.

- ♦ This mechanism is **one of the fastest processes in the animal kingdom.**
- ♦ These are remarkable **cellular weapons** used for both **predation and defence.**
- **The toxins effects:** Paralytic; immobilising the prey; cytolytic (breaking down of cells).

Source: **TH**

GOOD GOVERNANCE DAY

In Context

- On the occasion of **Good Governance Day**, the Government launched the **Extended Version of Mission Karmayogi.**

Good Governance Day

- The day is celebrated on the **25th of December every year** on the birth anniversary of **former Prime Minister Atal Bihari Vajpayee.**
- **In 2014**, the government announced that December 25 would be celebrated as Good Governance Day.
- It was established with the slogan **“Good Governance through e-Governance.”**

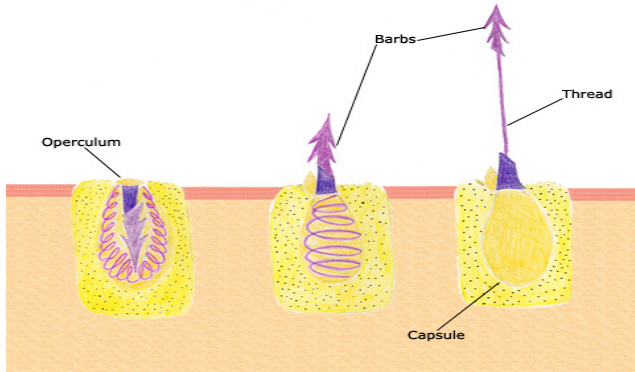
National Programme for Civil Services Capacity Building (Mission Karmayogi)

- In 2020, Government of India has launched Mission Karmayogi, a National Programme for Civil Services Capacity Building (NPCSCP).
- It is anchored by an apex body and **headed by the Prime Minister.**
- The programme aims at building a future-ready civil service with the right attitude, skills and knowledge, aligned to the vision of New India.

Extended Version of Mission Karmayogi :

- **My iGOT** delivers targeted training courses on the home page of individual officers facilitating a highly personalized capacity-building experience thereby ensuring a perfect fit between the individual and organizational learning needs.
- **Blended Programs on iGOT-Karmayogi** platform will facilitate equitable access to training methodologies across all levels to meet dynamic training needs of the officials.
- **Curated Programs on iGOT Karmayogi** are designed to cater to diverse learning needs of the Ministries/Departments and Training Institutions.

- **12 domain specific capacity building e-learning courses** have been developed in a span of two months as part of Annual Capacity Building Plan (ACBP) by Karmayogi Digital Learning Lab (KDLL) of DoPT.



- **VIKAS (Variable & Immersive Karmayogi Advanced Support)** is a new blended learning programme meant for capacity building of Middle management civil servants in the Central Secretariat.

Source: [PIB](#)

INS IMPHAL

In Context

- **Yard 12706 (Imphal), the third Project 15B stealth guided missile destroyer** has been commissioned into the Indian Navy.

About

- It is a **Visakhapatnam class** ship designed and constructed by the Indian Navy's in-house organization, the **Warship Design Bureau**.
- INS Imphal holds the distinction of being the **first warship named after a city in the Northeastern region**.
- **Features:** It has indigenous content of around **75 percent**, featuring **BrahMos** surface-to-surface missiles, medium-range surface-to-air missiles, indigenous anti-submarine rocket launchers, and a 76mm super rapid gun mount.

- It is a part of **Project 15B** and designed for combat under Nuclear, Biological, and Chemical (NBC) warfare conditions, it exhibits high automation, stealth features, and survivability.
- The ship can attain speeds exceeding 30 knots (56 km/hour).

Project 15 B

- The Project 15B class of ships are the next-generation stealth guided-missile destroyers of the Indian Navy, being built at the MDL, which are follow-on classes of the weapon intensive **P15A (Kolkata Class) Destroyers**.
- The four ships of the Project are christened after major cities from all four corners of the country, **viz. Visakhapatnam, Mormugao, Imphal and Surat**.

Source: [LM](#)

VEER BAAL DIVAS

Context

The Prime Minister addressed the program marking 'Veer Bal Diwas' at Bharat Mandapam in New Delhi.

About

The day is commemorated on December 26 to mark the martyrdom of **Sri Guru Gobind Singh's sons Sahibzadas Baba Zorawar Singh Ji and Baba Fateh Singh Ji**.

- They attained martyrdom after being sealed alive in a wall in **1705**, at an early age to defend the dignity and honor of Sikhism.
- The Guru's mother **Mata Gujari** and his two elder sons, **Sahibzaada Ajit Singh** and **Sahibzaada Jujhar Singh**, were also killed within a week.

Source: [PIB](#)