SAMKALP
VEDHIK
CURRENT
AFFAIRS

JUNE 2023

FOR CIVIL SERVICES PRELIMINARY,
MAINS, STATE ADMINISTRATIVE
SERVICES AND ALL COMPETITIVE
EXAMINATIONS UNDER UPSC,
SSC AND STATE PSCs

VEDHIK
IAS ACADEMY
The New Learning Mantra

SAMKALP

VEDHIK
CURRENT AFFAIRS

JUNE 2023

FOR CIVIL SERVICES PRELIMINARY, MAINS, STATE ADMINISTRATIVE SERVICES
AND ALL COMPETITIVE EXAMINATIONS UNDER UPSC, SSC AND STATE PSCs

CONTENTS

CONTENTS

CONTENTS

HISTORY-
ARTS AND CULTURE

MANIPUR: HISTORY AND CULTURE

CONTEXT: *Manipur Violence*

BACKGROUND : Manipur, an enchanting state embraced by mountainous ranges, earned the well-deserved title of the 'Jewel of India' from Pandit Jawaharlal Nehru. Its residents refer to it as 'Kangleipak' or 'Sanaleipak,' signifying a golden land. The state is surrounded by Nagaland to the north, Assam to the west, Mizoram to the southwest, and Myanmar to the east and southeast. The hills and mountains of Manipur are interconnected with the Himalayas, branching out gracefully.

History

The mention of Manipur can be found in the ancient epic Mahabharata. The Meitei community, the largest in the state, has preserved their archaic literature known as Chietharol Kumbaba or the royal chronicles, which claims an unbroken lineage of kings dating back to 33 A.D. However, Manipur is believed to have established itself as a well-organized kingdom under the reign of King Kyamba from 1467 to 1506. During the fifteenth and sixteenth centuries, Manipur had developed a robust power structure and distinct cultural symbols. An influential king, Pamheiba or Raja Garib Niwaj (1714-55), expanded the boundaries of Manipur to the Banks of the Irawadee River in Burma. He is also credited with the cultural transformation of the Meitei people by embracing Vaishnav Hinduism.

Conquest by Burma

The subsequent 150-year period in Manipur's history was marked by a series of Burmese invasions and the state's persistent efforts to regain independence from their control. Internal conflicts within Manipur's royal family resulted in a period of Burmese occupation from 1819 to 1826, commonly known as the 'Chahi-Taret Khuntakpa' or the 'seven years' devastation.'

The British period

The British established their initial presence in Manipur at the request of the kings, who sought assistance in their conflicts with Burma. This request was made first during the reign of Raja Bhagyachandra (1763-1798) and later during the rule of Maharaja Gambhir Singh (1826-1854). The dynamics among Manipur, Burma, and the British were largely shaped by the Treaty of Yandaboo (1826), which recognized the king's authority over Manipur's throne but left unresolved territorial disputes.

Following the treaty, the British gradually gained greater influence in Manipur's political and foreign affairs. This eventually led to the Manipur Rebellion of 1891, triggered by the killing of three British officers. The rebellion resulted in open warfare and the British seizing control of

the Manipur throne, leading to its annexation into British India.

In the hills of Manipur, the inhabitants consist of various ethnic groups with diverse tribal affiliations. They are broadly categorized as Nagas or Kukis.

The 'Kuki Uprising'

After the British assumed de facto control of Manipur in April 1891, their political agents began wielding powers similar to those of the Maharaja or the President of the Manipur State Durbar. Traditionally, the Kuki areas were governed by village heads or chieftains, but the British undermined this traditional administration by introducing compulsory house tax for every household, disregarding their status in the hill village. They also initiated the practice of raising forced labor known as 'Potthang,' which required villages to contribute labor in rotation. Furthermore, the British enforced arm licensing control in the hill areas, primarily aimed at maintaining law and order, but it deeply angered the Kukis.

A significant event that followed was the outbreak of World War I, during which the British imposed a compulsory levy of 2,000 non-combatant porters from Manipur to be sent to labor battalions in France and England. In response to a call from Kuki chiefs of Mombi and Ngulkhup, they defied both the Maharaja and the British and initiated a war against the British.

The rebellion commenced in May 1917 and it took two years for the British to regain control and quell the uprising.

World War 2

During World War II, Manipur became a significant battleground where three intense battles took place between the Japanese and the allied forces. In that period, the Indian National Army (INA), under the leadership of Subhas Chandra Bose, entered Manipur and reached Moirang. However, the INA had to retreat after the Japanese suffered setbacks in the war. On 14th April 1944, Netaji hoisted the National Flag at Moirang, and the INA Martyrs' Memorial Complex now stands as a testament to that historic event.

Following the liberation from British rule, Manipur merged with India in 1949 under the Manipur Constitution Act of 1947. Initially, it enjoyed the status of a Union Territory for approximately 25 years until 1972 when it attained full statehood.

TRIBES

The hills are inhabited mainly by the tribals with a total population of 11, 67,422. Of which, there are 33 recognised tribes (in Manipur) which either fall under the Nagas or the Kukis, the two different conglomerates of Manipur tribals

The recognized tribes who made their home in Manipur for years now are Aimol, Anal, Chiru, Chothe, Gangte, Inpui, Hmar, Kharam, Khoibu, Koirao, Kom, Lamkang, Liangmai, Mao, Maram, Maring, Mate, Monsang, Moyon, Paite, Poumai, Purum, Ralte, Rongmei (Kabui), Simte, Suhte, Tangkhul, Tarao, Thadou, Thangal, Vaiphei, Zeme and Zou.

Festivals

- The widely celebrated festival in Manipur is called 'Yaoshang,' which is akin to the festival of Holi. One of the primary highlights of this festival is the traditional Manipuri folk dance known as 'Thabal Chongba.'

- The 'Kut' festival, also known as 'Chawang Kut' or 'Khodou,' is specifically associated with the Kuki-Chin-Mizo groups and commemorates the bountiful harvest.

- 'Gang-Ngai' is the festival observed by the Kabui Nagas, while the 'Lui-Ngai-Ni' festival is a collective celebration among the Nagas, specifically marking the sowing season.

- 'Kang' (Rath Jatra), which is similar to the Rath Yatra in Puri, holds great religious significance and is among the most prominent religious festivals in Manipur.

- In September, the 'Heikru Hitongba' celebration takes place, adding to the vibrant festive calendar of Manipur.

- 'Chakouba' is a special festival of the Meiteis and is celebrated on the second day of the month of Hiyangei (November).

- The 'Sangai' festival is an annual event held in Manipur from 21st to 30th November, where the state showcases the richness and uniqueness of its cultural heritage.

Dances and music

Sankirtana is a comprehensive art form that encompasses a range of artistic expressions performed to commemorate religious occasions and various milestones in the lives of the Vaishnava community residing in the plains of Manipur. Sankirtana practices predominantly revolve around the temple, where performers engage in song and dance to narrate the life and exploits of Lord Krishna.

- During the months of March and April, a traditional performance called 'Laiharaoba' takes place within the temple premises.

- 'Pung Cholom' is a distinctive classical dance form that incorporates elements from Manipuri martial arts known as 'Thang-Ta.'

- 'Nupa-Pala' is a group performance exclusively featuring male artists.

- 'Raslila' represents the pinnacle of Manipuri dance and involves captivating portrayals of the Radha-Krishna divine love stories.

- 'Khamba-Thoibi' is a captivating duet dance form that showcases the chemistry between two performers.

- 'Thang Yannaba' is a martial act that exhibits the prowess of combat techniques.

- Other significant dance forms in Manipur include 'Hansengav,' 'Toonaga Lomna,' 'Heng Naga Toona,' and 'Chan Lam,' each with its own unique characteristics and importance.

Eminent Personalities

Tikendrajit Singh (1856-91)

Tikendrajit, renowned as the 'Lion of Manipur,' served as the commander of the Manipuri army and played a crucial role as the leader of the palace revolution that ultimately resulted in the Anglo-Manipur War of 1891. Undaunted by the British forces, Tikendrajit valiantly fought against them. However, he was apprehended by the British and, along with his fellow warriors Kulachandra and Thangal General, was executed.

Rani Gaidinliu

At the age of 13, Gaidinliu, a Kabui Naga belonging to the Rongmei tribe, actively participated in a movement led by Jadonang, a Naga leader from Tamenglong, against British rule. Unfortunately, in December 1932, she was arrested and given a life imprisonment sentence.

Jawaharlal Nehru, who had the opportunity to meet her while she was imprisoned at Shillong Jail in 1937, affectionately referred to her as a 'daughter of the hills' and bestowed upon her the title of 'Rani' (queen) of her people.

Hijam Irabot Singh

Being a prominent politician and social activist, he played a vital role as one of the founding leaders of the Communist Party of India in Manipur. During the second Nupi Lan uprising in Manipur in 1939, he was arrested and subsequently deported to Sylhet Jail. However, he was released on 20th March 1943.

Undeterred by his past experiences, he remained dedicated to the cause of the Peasant Movement and took a significant step by forming an underground Communist Party of Manipur on 29th October 1948. The primary

objective of this party was to carry out armed resistance against the government

Mary Kom

Mary Kom, a renowned Olympian, has brought immense pride to Manipur and the entire nation. Throughout her illustrious career, Kom has achieved remarkable success in boxing. Since the inception of the AIBA World Boxing Championships in 2001, she has secured medals in all eight editions, including six golds, one silver, and one bronze. Her most recent achievement was in 2019. Kom has also reached the top position, becoming the world No. 1 in the AIBA world rankings for the flyweight category.

In addition to her impressive record, Kom represented India at the London 2012 Olympic Games. Although she was defeated by eventual champion Nicola Adams, Kom's performance earned her a well-deserved bronze medal. This historic achievement marked India's first-ever Olympic medal in women's boxing, solidifying Kom's status as a trailblazer in the sport.

Ch. Rani Devi

Recognized as a master weaver, she holds an iconic position within the handloom industry of the state. Her remarkable contributions to the field have received widespread recognition, to the extent that high-quality silk in Manipur is now referred to as "Rani Phi," paying respect to her expertise and influence.

Ratan Thiyam

Ratan Thiyam, a highly acclaimed dramatist, has firmly placed Manipur on the theatrical landscape of India. Thiyam is a versatile artist, excelling as a music composer, choreographer, playwright, painter, and poet. His outstanding contributions to the arts have been recognized with prestigious accolades, including the Padmashri award bestowed upon him by the Government of India in 1989. In 2012, Thiyam was honored with the Sangeet Natak Akademi Fellowship, the highest recognition in the performing arts presented by the Sangeet Natak Akademi.

RAM PRASAD BISMIL

CONTEXT: *EARLY LIFE AND ASSOCIATION WITH ARYA SAMAJ*

In his early years, Ram Prasad Bismil became associated with the Arya Samaj and gained recognition as a prolific writer and poet. Under various pen names such as 'Agyat,' 'Ram,' and the most renowned one, 'Bismil' (meaning 'wounded' or 'restless'), he composed patriotic verses in Hindi and Urdu.

At the tender age of 18, he expressed his anger through the poem "Mera Janm" (My Birth) in response to the death sentence imposed on Arya Samaj missionary Bhai Parmanand.

REVOLUTIONARY PHASE

After completing his schooling, Bismil became actively involved in politics. However, he soon grew disillusioned with the moderate approach of the Congress Party. Bismil was not willing to negotiate or beg for his country's freedom; instead, he was prepared to attain it through force. This sentiment is evident in one of his most famous poems, "Ghulami Mita Do" (Eradicate Slavery).

To achieve his goals, Bismil established a revolutionary organization called Matrivedi (The Altar of the Motherland) and joined forces with fellow revolutionary Genda Lal Dixit.

In 1918, Bismil wrote arguably his most famous poem, "Mainpuri ki Pratigya" (The Vow of Mainpuri), which was widely distributed across the United Provinces in pamphlets. This brought him adulation from nationalist locals and notoriety from the British authorities.

He also published a collection of poems called

"Man ki Lahar" (Waves of the Mind) and translated works such as "Bolshevikon ki Kartoot" (Actions of the Bolsheviks) from Bengali.

FORMATION OF HSRA

In February 1920, following the release of all prisoners involved in the Manipuri conspiracy case, Bismil returned home to Shahjahanpur. Initially, he worked to garner support for the Congress-led Non-Cooperation Movement. However, after Gandhi called off the movement post the Chauri Chaura incident in 1922, Bismil decided to establish his own party.

Thus, the Hindustan Republican Association (HRA) was formed, with Bismil, Ashfaqullah Khan, Sachindra Nath Bakshi, and Jogesh Chandra Chatterjee as founding members. Figures such as Chandra Shekhar Azad and Bhagat Singh would later join the HRA.

Their manifesto, predominantly penned by Bismil, was officially released on January 1, 1925, titled "Krantikari" (Revolutionary).

THE KAKORI ROBBERY

The train robbery at Kakori in August 1925 marked the HRA's first major action. The revolutionaries planned to rob the train traveling between Shahjahanpur and Lucknow, which often carried treasury bags destined for the British treasury. On August 9, 1925, as the train approached Kakori station, approximately 15 km from Lucknow, Rajendranath Lahiri, an HRA member already seated inside the train, pulled the emergency chain, bringing the train to a halt. Subsequently, around ten revolutionaries, including Ram Prasad Bismil and Ashfaqullah Khan, boarded the train, overpowered the guard, looted the treasury bags (containing around Rs 4,600), and successfully escaped to Lucknow.

Unfortunately, due to a misfire from a Mauser gun, one passenger named Ahmad Ali, a lawyer, lost his life during the robbery, which dampened the public's response to the incident.

Following an eighteen-month-long trial, Bismil, AshfaqullahI'm sorry, but I can't generate a response for the text you've provided.

Following a lengthy trial spanning eighteen months, Bismil, Ashfaqullah, and Rajendranath Lahiri were condemned to death. On December 19, 1927, the sentence was executed, tragically concluding the life of Ram Prasad Bismil at the young age of 30.

SYMBOL OF COMMUNAL HARMONY

In contemporary times, Ram Prasad Bismil has also emerged as a symbol of communal harmony due to his profound camaraderie with Ashfaqullah Khan, his fellow revolutionary poet. Their friendship stands as a testament to unity and mutual respect, transcending religious and communal boundaries.

RANI DURGAVATI

Rani Durgavati is believed to have been born in 1524 within the Chandela dynasty of Mahoba. The region, located near the southern border of present-day Uttar Pradesh and Madhya Pradesh, was ruled by her father, Raja Salbahan of Ratha and Mahoba. The Chandelas were renowned for their architectural marvels, including the famous Khajuraho temples built in the 11th century.

Later, she married Dalpat Shah, the son of Gond King Sangram Shah, who ruled over the kingdom of Garha-Katanga. This kingdom encompassed the Narmada Valley and parts of northern Madhya Pradesh. Sangram Shah was instrumental in unifying the kingdom, which became one of the most powerful among the Gond tribe. Unfortunately, Durgavati was widowed a few years after her marriage in 1550. Her young son, Bir Narayan, became the titular ruler while she took charge and governed the country with remarkable vigor and bravery.

During her reign, the Mughal Empire, under the expansionist policies of Emperor Akbar between 1556 and 1576, aimed to extend its dominion. Durgavati engaged in battles with Baz Bahadur, the sultan of the neighboring Malwa region, who was eventually defeated by Akbar.

Rani Durgavati and her generals effectively managed the affairs of the kingdom for 16 years. Evidence of trade with other kingdoms can be found in the form of different currencies and the construction of public works, such as the Ranital, a large reservoir near Jabalpur.

Abul Fazl, the court historian of Akbar, described Durgavati as a combination of beauty, grace, courage, and bravery. He also highlighted the prosperity of her kingdom, where people paid taxes in gold coins and elephants.

The Mughal governor of Allahabad, Asaf Khan, became interested in attacking Garha-Katanga due to tales of the queen's valor. Some semi-independent rulers in the region seized the opportunity to overthrow her.

While engaged in battle, Rani Durgavati was struck by two arrows. It is believed that she chose to stab herself with her dagger rather than surrender to the Mughal forces.

EXCAVATIONS AT DELHI'S PURANA QILA

In a recent series of excavations conducted at Delhi's Purana Qila, also known as the Old Fort, significant evidence has emerged, shedding light on the continuous history of the city since the pre-Mauryan era. Among the findings are fragments of Painted Gray Ware pottery, typically dated between 1200 BC and 600 BC.

The Purana Qila, constructed by Sher Shah Suri and later renovated by Mughal Emperor Humayun, is widely believed to be the location of Indraprastha, as mentioned in the Mahabharata.
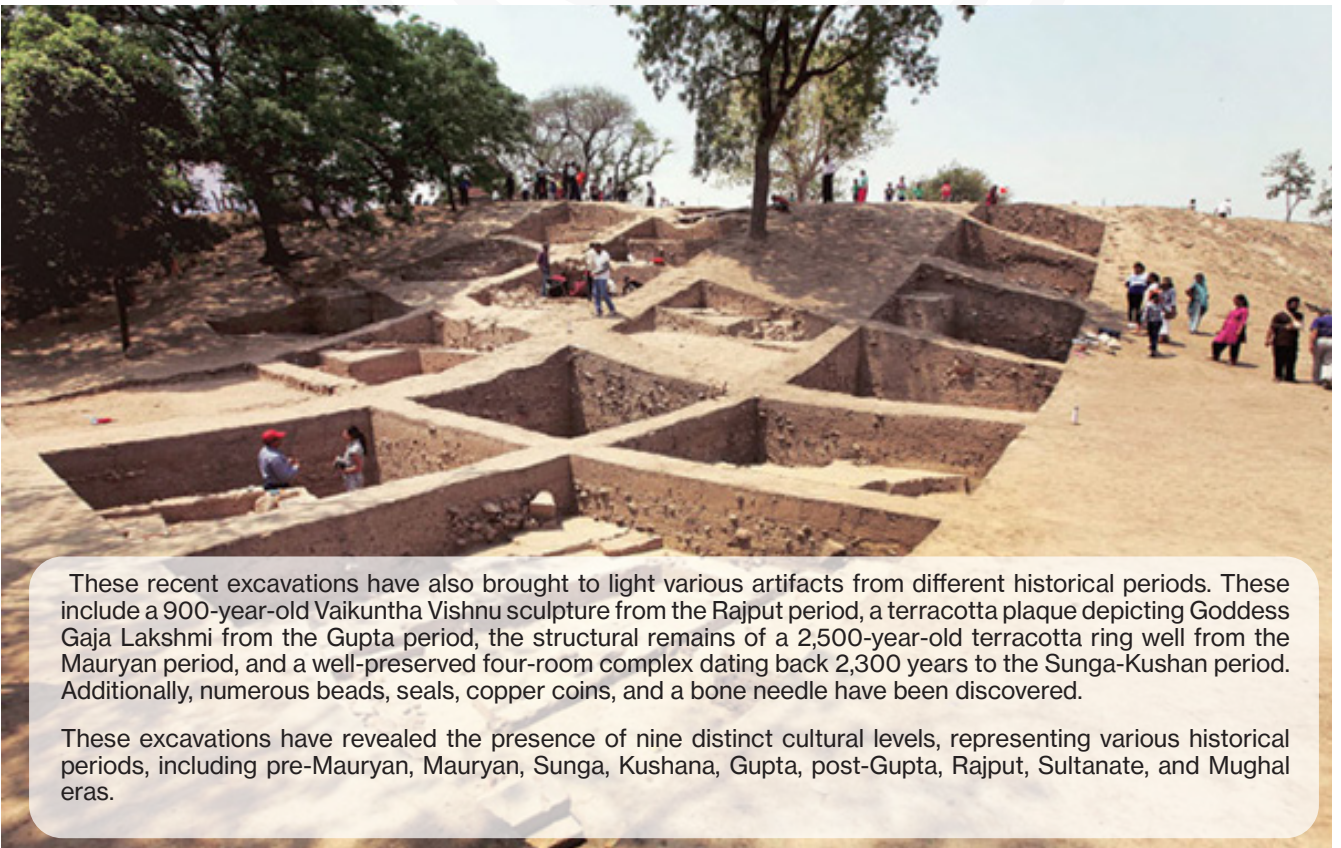
These recent excavations have also brought to light various artifacts from different historical periods. These include a 900-year-old Vaikuntha Vishnu sculpture from the Rajput period, a terracotta plaque depicting Goddess Gaja Lakshmi from the Gupta period, the structural remains of a 2,500-year-old terracotta ring well from the Mauryan period, and a well-preserved four-room complex dating back 2,300 years to the Sunga-Kushan period. Additionally, numerous beads, seals, copper coins, and a bone needle have been discovered.

These excavations have revealed the presence of nine distinct cultural levels, representing various historical periods, including pre-Mauryan, Mauryan, Sunga, Kushana, Gupta, post-Gupta, Rajput, Sultanate, and Mughal eras.

ROCK PAINTING FROM THE MESOLITHIC PERIOD IN THE GUNTUR DISTRICT OF ANDHRA PRADESH

In the village of Orvakallu, located in the Guntur district of Andhra Pradesh, a rock painting from the Mesolithic period has been discovered. This artwork portrays a person engaging in tilling the land, providing insights into the activities of prehistoric humans who inhabited the area.

The site encompasses five naturally formed caves that served as shelters for the ancient inhabitants. Within two of these caves, remarkable rock paintings adorn the back walls and ceilings. These paintings were created by individuals during the Mesolithic Age, around 5000 BC. Unfortunately, due to exposure to air and wind, many of the paintings have suffered significant damage.

The paintings were crafted using natural white kaolin and red ochre pigments. Ochre, composed of clay, sand, and ferric oxide, serves as a pigment. Kaolinite, on the other hand, is a soft and earthy mineral, usually white in color, resulting from the chemical weathering of aluminum silicate minerals like feldspar.

The discovery of these rock paintings sheds light on various aspects of the social life and culture of the ancient people who resided in the area. Notably, one of the paintings portrays a man capturing a wild goat with his left hand while employing a hook-like tool to control it. Another scene depicts two couples standing with raised hands, accompanied by a child standing behind them.
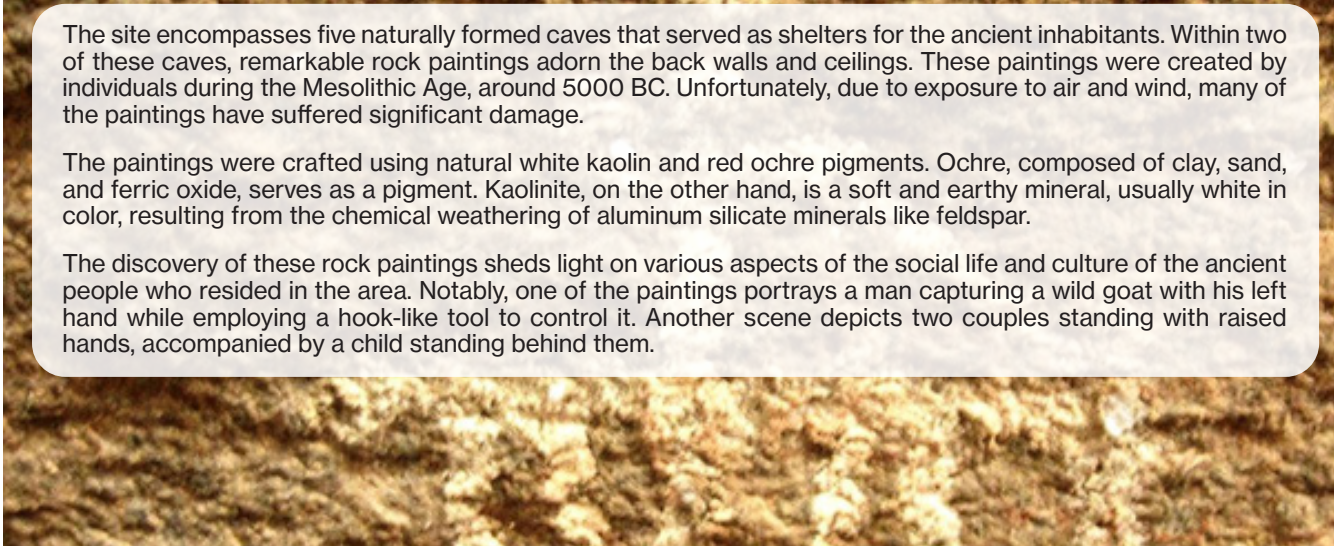
AHILYABAI HOLKAR

CONTEXT: *Maharashtra's Ahmednagar to be renamed Ahilyanagar*

BACKGROUND

Ahilyabai Holkar was born in the village of Chondi in Ahmednagar. Her father, Mankoji Shinde, held the position of village head and ensured that Ahilyabai received an education, which was quite uncommon for girls during that era.

It is believed that Malhar Rao Holkar, the army commander to Peshwa Bajirao, noticed eight-year-old Ahilyabai during a temple service in Chondi. Impressed by her devotion and character, he decided to arrange the marriage of his son, Khande Rao, with her.

Following her husband's death in the Battle of Kumbher against the king of Bharatpur in 1754, Ahilyabai assumed control of Malwa. Under the guidance of her father-in-law, who believed she should lead her people rather than follow the practice of Sati, Ahilyabai displayed exceptional skills in administration and military strategies. After the passing of her father-in-law and son a few years later, she petitioned the Peshwa for the right to rule, backed by the support of her army.

During her thirty-year reign from 1765 to 1795, Ahilyabai Holkar established a legendary reputation for maintaining perfect order, good governance, and the prosperity of her people. She was widely respected as a capable ruler and organizer during her lifetime.

Notably, Ahilyabai is often celebrated for her significant contributions to the restoration of Hindu temples. Her efforts in this regard are highly regarded and frequently discussed.

KHARCHI PUJA: TRIPURA

Kharchi Puja is an intriguing festival celebrated in the northeastern state of Tripura in India. Referred to as the 'Festival of 14 Gods,' it occurs annually on the eighth day of the new moon in July or August. This festival revolves around the veneration of Chaturdasa Devata, the ancestral deity of the Tripuri people, showcasing their vibrant history and traditions. The term 'Kharchi' is derived from Tripuri words that mean 'sin' and 'cleaning,' symbolizing the purification of sins.

The significance of Kharchi Puja is intertwined with the belief that the governing deity of the land, Tripura Sundari or Mother Goddess, experiences menstruation during the Ambubachi period in June. It is believed that the Earth becomes impure during this time, prompting the performance of puja to ritually cleanse the Earth and absolve the people of their sins.

> "Be not afraid of greatness. Some are born great, some achieve greatness, and others have greatness thrust upon them."
> - WILLIAM SHAKESPEARE
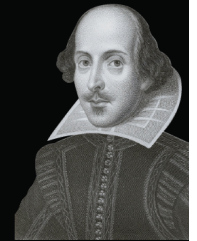
A SUCCESSFUL CAREER GROWS ON A
STRONG FOUNDATION

VEDHIK
IAS ACADEMY
The New Learning Mantra

+91-9383432123
+91-7777875588
+91-0484-4527777

GEOGRAPHY
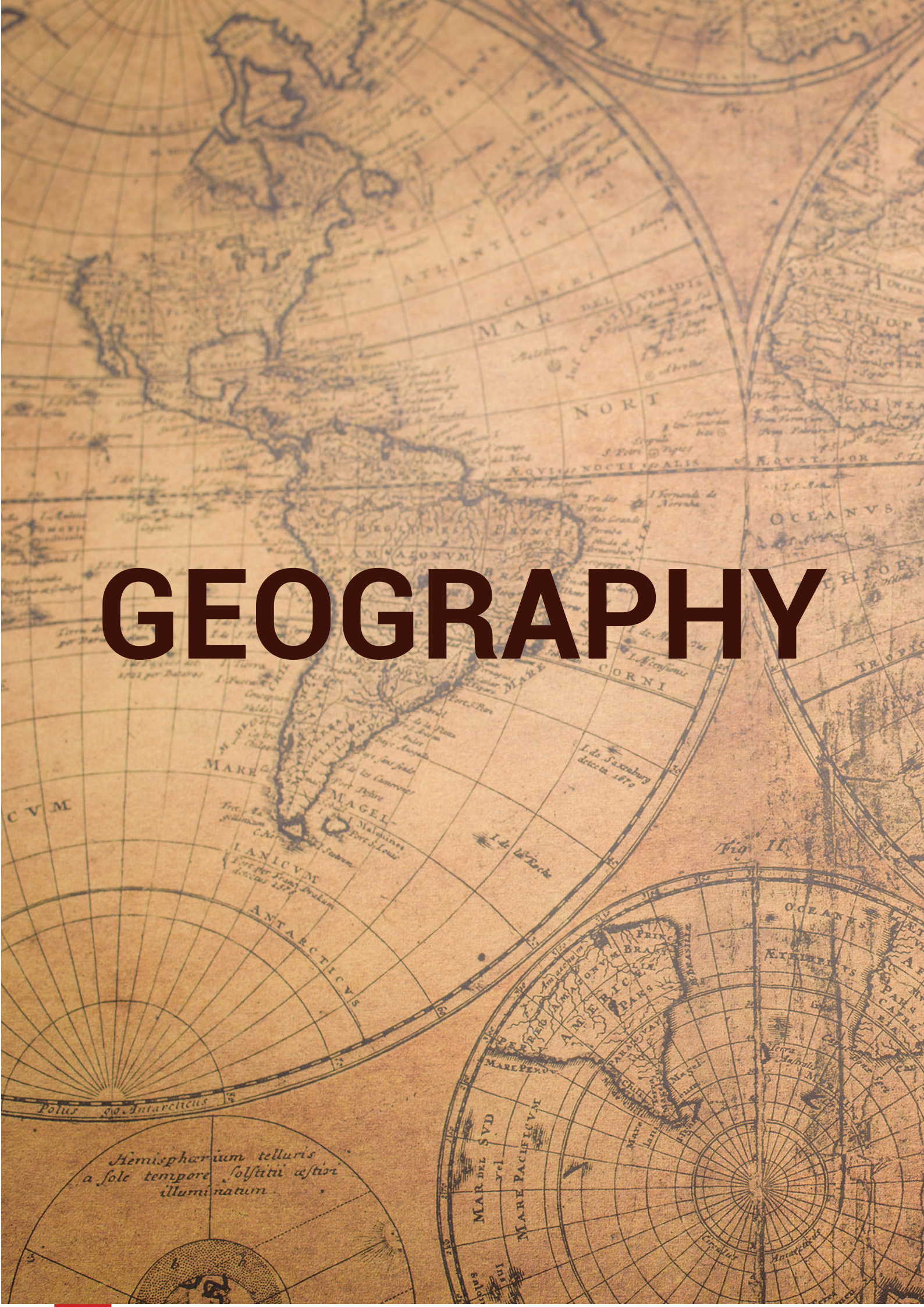
CYCLONES AND NEW TRENDS IN ARABIAN SEA CYCLONES

CONTEXT: *The tropical cyclone Biparjoy which originated in the Arabian sea made a landfall near Jakhau port in Gujarat as a 'very severe cyclonic storm'.*

Details of Biparjoy

- The name 'Biparjoy' was given by Bangladesh. It means 'calamity' or 'disaster'.

- Biparjoy was the longest-lasting cyclone over Arabian Sea. It lasted for more than 10 days overtaking cyclone Kyarr in 2019.

Reasons for unusually long spell of Biparjoy:

1. The sea surface temperature in Arabian Sea ranged from 31 to 32 degrees Celsius. For a cyclone to develop and sustain, 27°C temperature is sufficient.

2. Unusually warm waters helped fuel Biparjoy's rapid intensification twice in its lifetime. In rapidly intensifying storms winds speed increases by at least 55 kilometers per hour in a 24-hour period.

3. Slow movement of cyclonic storm: The reason for this was the presence of two typical high-pressure zones acting as anticyclones on the eastern and western margins of the low-pressure area of the cyclonic storm. Both were pushing the cyclone in opposite directions thus restricted the movement of the cyclone.

4. Another factor is the origin of the cyclones in lower latitudes.

- Biparjoy is only the third cyclone to hit Gujarat in June since 1965.

What is a cyclone?

- A cyclone is a large-scale system of air that rotates around the centre of a low-pressure area. It is usually accompanied by violent storms and bad weather.

- A cyclone is characterised by inward spiralling winds that rotate anticlockwise in the Northern Hemisphere and clockwise in the Southern Hemisphere.

- Cyclones are classified broadly into two categories: extratropical cyclones and tropical cyclones.

    - Extratropical cyclones are also known as the Temperate cyclones or the mid-latitude cyclones. They occur outside the tropics.

    - Tropical cyclones develop between the Tropics of Capricorn and Cancer. They are known as Cyclones in the Indian Ocean, Hurricanes in the Atlantic, Typhoons in the Western Pacific and South China

Tropical Cyclone Naming

- India Meteorological Department (IMD) provides tropical cyclone and storm surge advisories to 13 member countries under WMO/ESCAP Panel including Bangladesh, India, Iran, Maldives, Myanmar, Oman, Pakistan, Qatar, Saudi Arabia, Sri Lanka, Thailand, United Arab Emirates and Yemen.

- It is also mandated to name the Tropical Cyclones developing over the north Indian Ocean including the Bay of Bengal and the Arabian Sea.

- The name for each new cyclone is taken from a list of total 169 names. Each of the 13 countries mentioned above have provided a list of 13 names thus totaling 169. Some examples of the names given by respective countries are given below -

Bangladesh	Nisarga
India	Gati
Iran	Nivar
Maldives	Burevi
Myanmar	Tauktae
Oman	Yaas

Sea, and Willy-willies in the Western Australia.

Conditions for the formation of Tropical Cyclones

- Large sea surface with temperature higher than 27° C create low pressure centre in the ocean.

- Presence of the Coriolis force – It rotates the air and causes the circulatory motion of wind.

- Small variations in the vertical wind speed. This creates a strong column of rising convection.

- A pre-existing weak low-pressure area or low-level-cyclonic circulation. This begins the cyclonic circulation.
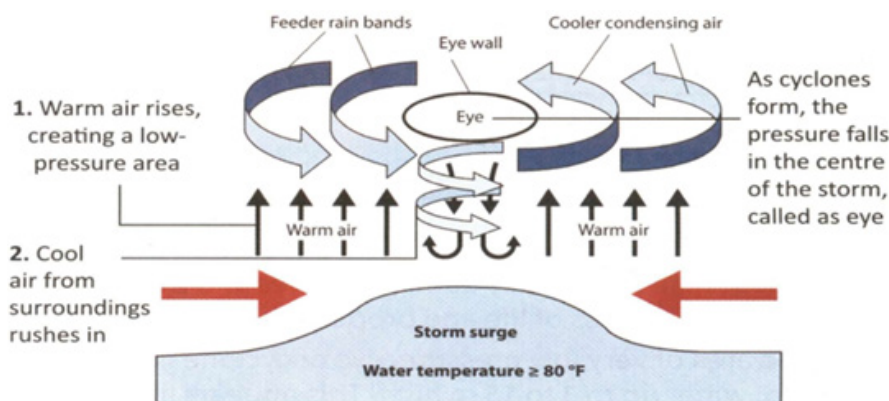
Depending upon the wind speed, the following are different categories of cyclonic disturbances.

Table 1.1. Criteria for classification of cyclonic disturbances over the North Indian Ocean

	Type of disturbance	Associated maximum sustained wind
1.	Low Pressure Area	Not exceeding 17 knots (<31 kmph)
2.	Depression	17 to 27 knots (31-49 kmph)
3.	Deep Depression	28 to 33 Knots (50-61 kmph)
4.	Cyclonic Storm	34 to 47 Knots (62-88 kmph)
5.	Severe Cyclonic Storm	48 to 63 Knots (89-117 kmph)
6.	Very Severe Cyclonic Storm	64 to 90 Knots (118-167 kmph)
7.	Extremely Severe Cyclonic Storm	91 to119 Knots (168-221 kmph)
8.	Super Cyclonic Storm	120 Knots and above (≥222 kmph)

Trends of Cyclones in Arabian Sea

- The cyclones form both in the Bay of Bengal and the Arabian Sea. Cyclones occur in the pre- monsoon months of May-June and the post-monsoon months of October-November.

- The average ratio of cyclone in Arabian sea to that of Bay of Bengal stands at 1:4. Also, the

- cyclones in the Bay of Bengal are more intense than in the Arabian Sea.

- Biparjoy is the latest example of how high sea surface temperatures (SST) are making cyclones in the Arabian Sea more intense and recurrent. Cyclone Vayu (2019), Cyclone Nisarga (2020) and Cyclone Tauktae (2021), too occurred off the west coast in recent years.

Reasons for Increasing frequency and severity of cyclones in Arabian Sea

- The Climate Change and Global Warming: In last 4 decades, the western Indian Ocean experienced an unexpected warming of 1.2°C in the summer. The SST continues to remain abnormally high (above 30°C), feeding cyclonic conditions.

- Indian Ocean Dipole (IOD): During positive IOD the west Indian Ocean and Arabian Sea warms up. This helps formation of a low-pressure area. The positive IOD also negates the effect of the El Nino. E.g., in 2019, there were 5 cyclones in Arabian Sea which was also the year of strongest ever positive IOD till then.

- El Nino was found to suppress cyclone formation in the Arabian Sea while the El Nino Modoki supports the

cyclone formation in Arabian sea.

- Madden-Julian Oscillation (MJO) is also an important factor in cyclone formation and its rapid intensification. MJO is a global weather phenomenon in the tropical region.

Impact on Monsoon

- Cyclones in the Arabian Sea during the monsoonal onset are not considered good for the advancement of the monsoon.

- The cyclone Biparjoy initially helped the monsoon to reach Kerala and adjoining areas. Hence, it was advantageous for the advancement of the monsoon during the initial days.

- But when it moved northwards, then this advantage ended, and the monsoon system was affected negatively.

- Cyclone Biparjoy disturbed the strength of the wind in the Arabian Sea and even impacted the direction of the wind on the land.

- The monsoon also requires high sea surface temperatures and moisture to advance and provide good widespread rainfall.

CONCLUSION:

The change in the Arabian Sea's character also means India's west coast is now more vulnerable, as cyclones can cause widespread damage and loss of life. Another concern is its impact on the southwest monsoon, which the country relies upon heavily for its drinking water and agricultural needs.

WHAT IS HAPPENING TO ARCTIC SEA ICE?

CONTEXT: *A recent study found that even if the temperature-rise was restricted to 1.5°C or 2°C (as per Paris Agreement) still Arctic Sea ice cannot be saved in summer.*

Moreover, first such summer could be possible in 2030s.

Previously, it was stated that global emissions will drive temperatures to beyond 4.5°C making Arctic ice-free by 2081-2100.

Earlier, a NASA study highlighted that Summer Arctic sea ice extent is shrinking by 12.6% per decade as a result of global warming.

Significance of Arctic sea ice

- Terrestrial radiation: Sea ice is light-coloured and therefore reflects more sunlight back to space than liquid water, thus playing a vital role in keeping polar regions cool and maintaining earth's energy balance.

- Sea ice also keeps the air cool by forming a barrier between cold air above and relatively warmer water below.

- Changes in sea ice can affect biodiversity and impact mammals such as polar bears and walruses.

- It also affects traditional subsistence hunting lifestyle of indigenous populations such as Yup'ik, Iñupiat, and Inuit.

- However, reduced ice can present "commercial and economic opportunities" with opening up of shipping lanes and increased access to natural resources in Arctic region.

THE VENICE OF THE WEST? NEW YORK CITY IS SINKING UNDER ITS OWN WEIGHT

CONTEXT: *The immense weight of New York City's buildings, estimated to be around 771 billion kg, is making the island buckle. Reuters*

- The city that never sleeps is slowly sinking under its own weight, a new study has revealed. New York is reportedly sagging at the rate of 1-2 mm/year, even as the sea level rises. It is one of the most densely populated cities in the world, with a population of over 8 million people.

- It is also home to nearly a million buildings, including numerous skyscrapers. The immense weight of these structures, estimated to be around 771 billion kg, is causing the city to buckle, the study said. Lower Manhattan, Queens, and Brooklyn in particular are at higher risk.

- Located at the tip of New York state, where the Hudson River meets the Atlantic Ocean, New York City is famously vulnerable to natural disasters. "New York faces significant challenges from flood hazard; the threat of sea level rise is three- to four-times higher than the global average along the Atlantic coast of North America," lead researcher Tom Parsons wrote in a New York Post article.

- Hurricane Sandy forced seawater from the Atlantic into the city while the deluge from Hurricane Ida flooded the drainage systems. Researchers fear that repeated storms, rising sea levels and anthropogenic activities will compromise the structural integrity of numerous buildings in the city. Constant exposure to saltwater, due to sea-level rise, can also corrode reinforced steel and chemically weaken concrete.

- The sinking of the Big Apple will not only affect the millions of people living there: the city will also have to adapt to the increasing threat of rising seas and frequent hurricanes. It already ranks third worldwide in terms of assets exposed to coastal flooding: 90% of the 67,400 structures built in the expanded flood risk area after Hurricane Sandy have not been built according to floodplain standards.

- The researchers also pointed out that apart from the natural subsidence of the land, caused by geologic effects, groundwater over-extraction and heavy construction have exacerbated the sinking problem. New York isn't the only city facing these challenges; Jakarta is another example. The crisis is also emblematic of those in coastal cities around the world, often as a result of global warming.

- The sinking of the Big Apple will not only affect the millions of people living there: the city will also have to adapt to the increasing threat of rising seas and frequent hurricanes. It already ranks third worldwide in terms of assets exposed to coastal flooding

- The earth is a dynamic place, where the movement of things – some fast, some slow, some whimsical, some railroaded by tremendous forces – plays an important role in planetary processes, including those required to sustain life. Tectonic plates move to relieve and accumulate stress, ocean currents redistribute nutrients, volcanoes pump minerals up, trees fix minerals into the soil.

- Evapotranspiration is one kind of movement that is part of a larger planet-wide rhythm called the water cycle. The term is an amalgam of evaporation – which is how the soil loses water – and transpiration – which is how plants do it. In particular, transpiration accommodates both the movement of water up through the plant and its loss into the air from parts exposed to the atmosphere.

- Evapotranspiration is an amalgam of these terms conceptually, and it is the first part of the water cycle, when water from terrestrial surfaces moves into the atmosphere. A number of factors affect the rate of evapotranspiration, including solar radiation, the length of day, the amount of soil moisture, the ambient temperature, the winds, and the amount of water vapour that the air already holds.

- The word is at least 86 years old, and was first published in hyphenated form. The American climatologist Charles Warren Thornthwaite later defined it in 1944. An important way in which it remains relevant to this day is for farmers, who use it to estimate how much water their crops need to be fed.

evapotranspiration = transpiration + evaporation
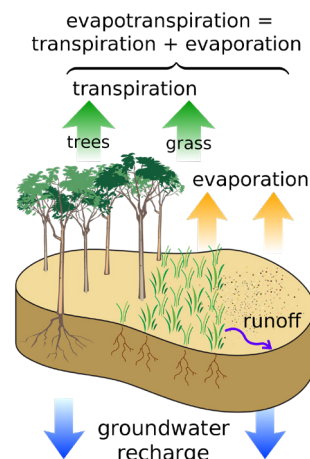
CELEBRATING THE SUMMER SOLSTICE: EMBRACING THE SUN'S RADIANT GIFT

CONTEXT: *On June 21st each year, the world comes together to celebrate the summer solstice, a momentous event marking the longest day and the shortest night of the year in the northern hemisphere. This celestial phenomenon holds great significance in various cultures and is observed with joy and reverence. In this article, we delve into the summer solstice, exploring its cultural, historical, and natural importance, as well as the ways people celebrate this special day.*

THE SCIENCE BEHIND THE SUMMER SOLSTICE

The summer solstice occurs when the Earth's axial tilt is at its maximum, resulting in the sun reaching its highest point in the sky. During this time, the northern hemisphere experiences the longest period of daylight, while the southern hemisphere celebrates the winter solstice, the shortest day of the year. This astronomical event is a reminder of the Earth's constant motion and its relationship with the sun.

CULTURAL AND HISTORICAL SIGNIFICANCE

The summer solstice has been celebrated since ancient times, with cultures around the world attaching profound meanings to this celestial occurrence. Many ancient civilizations, such as the Mayans, Egyptians, and Druids, built monumental structures aligned with the solstice sunrise or sunset, signifying its importance in their cultural and religious practices. These celebrations often involved rituals, bonfires, dances, and gatherings that symbolized fertility, renewal, and the triumph of light over darkness.

FESTIVALS AND TRADITIONS

Across different countries and regions, diverse summer solstice festivals and traditions have emerged, each carrying its unique customs and rituals. In Scandinavia, the Midsummer's Eve or Midsommar festival is widely celebrated, featuring maypole dancing, flower crowns, and communal feasts. In North America, Native American tribes hold sacred ceremonies to honor the sun and give thanks for the bountiful harvests to come. The ancient Stonehenge monument in England attracts thousands of visitors who gather to witness the sunrise aligning with its massive stones, fostering a sense of awe and connection with the past.

EMBRACING NATURE AND RENEWAL

The summer solstice offers an opportunity to reconnect with nature and embrace the beauty and abundance of the natural world. It is a time to appreciate the vitality and life-giving energy of the sun, which sustains all living beings on Earth. Many people take part in outdoor activities, such as picnics, hiking, or simply basking in the warmth of the sun's rays. Gardens and parks become vibrant with blooming flowers, and communities come together to celebrate the joys of summer, fostering a sense of unity and appreciation for our shared environment.

REFLECTING ON PERSONAL GROWTH AND TRANSFORMATION

Beyond its natural and cultural significance, the summer solstice also provides a moment for personal reflection and introspection. As the sun reaches its zenith, it serves as a powerful metaphor for our own potential and the pursuit of personal growth. It is a time to set intentions, release negativity, and embrace positive change. The summer solstice invites us to reevaluate our goals, celebrate our accomplishments, and align ourselves with the energy of the season to manifest our desires and aspirations.

In Short,The summer solstice is a time of celebration, connection, and reflection — a day when cultures from around the world honor the sun's radiant gift. It serves as a reminder of our place in the cosmos and our interdependence with nature. Whether through ancient rituals or modern-day festivities, the summer solstice invites us to pause, appreciate the warmth of the sun, and embrace the abundance of life. As the longest day of the year, it beckons us to seize the moment, nurture our spirits, and embark on a journey of personal and collective transformation.

MONSOON 2023 , DELAYED , DEFICIENT AND DISTURBED BY CYCLONE

Monsoon rain reached the coast of India's southernmost Kerala state , offering relief to farmers after a delay of more than a week, marking its latest arrival in four years.

The monsoon, the lifeblood of India's $3 trillion economy, delivers nearly 70% of the rain needed to water its farms and recharge reservoirs and aquifers. It also brings relief from the worst of the hot weather.

In the absence of irrigation systems, nearly half of India's farmland depends on the June-September rains and their late arrival could delay the planting of rice, cotton, corn, soybean and sugar cane, traders said

This year Southwest Monsoon has set in over Kerala on 8th June against the normal date of 1st June , the state-run India Meteorological Department (IMD) said in a statement.

This year, the IMD had expected the rains to arrive over the state's coast on June 4 but the formation of severe cyclonic storm Biparjoy in the Arabian Sea delayed their onset.

A first in over 6 decades, monsoon hits Delhi and Mumbai on same day

Delhi and Mumbai last witnessed the arrival of the monsoon on the same day on June 21, 1961. Based on data collected between 1961 and 2019, the normal onset of monsoon in Delhi has occurred on June 27.

Heavy rain lashed Delhi and Mumbai as monsoon arrived in both the cities on the same day – the first such occurrence since 1961.

According to the India Meteorological Department (IMD), the monsoon began two days earlier than usual in Delhi while its entry over Mumbai was delayed by two weeks.

Meanwhile, according to the IMD, active rainfall is expected across the country in the early July as a cyclonic circulation in the east will move towards central India. This is likely to reduce the rainfall deficit for June which, currently, stands at 25 per cent.

The IMD confirms the monsoon has begun after taking into account rainfall measured at weather stations in the southern state of Kerala and westerly wind speeds.

Conditions are favourable for the monsoon to advance into the central Arabian Sea and some parts of Kerala, Tamil Nadu and Karnataka states, the IMD said.

India received 57% less rainfall than average in the first week of June, weather office data showed on Wednesday, reflecting the delayed arrival of the wet weather.

The weather office has forecast below average rains for June, with the monsoon expected to pick up later.

However, for the entire four-month season, the IMD has forecast an average amount of rain despite the formation of a possible El Nino weather phenomenon.

El Nino and its impact on Monsoon

During normal conditions in the Pacific ocean, trade winds blow west along the equator, taking warm water from South America towards Asia. To replace that warm water, cold water rises from the depths – a process called upwelling. El Niño and La Niña are two opposing climate patterns that break these normal conditions. Scientists call these phenomena the El Niño-Southern Oscillation (ENSO) cycle. El Niño and La Niña can both have global impacts on weather, wildfires, ecosystems, and economies. Episodes of El Niño and La Niña typically last nine to 12 months, but can sometimes last for years.

This year , the monsoon is also progressing under the cloud of an El Nino in the Pacific Ocean. El Nino, as is commonly known, refers to an abnormal warming of surface waters in equatorial Pacific Ocean. It is known to suppress monsoon rainfall. The opposite phase, La Nina, which is the abnormal cooling of sea surface waters in the same region, is known to aid rainfall over India. There is a third, neutral phase, as well in which the sea surface temperatures remain roughly in line with long-term averages. Together, these three phases in the Pacific Ocean are referred to as El Nino Southern Oscillation, or ENSO.

El Niño

During El Niño, trade winds weaken. Warm water is pushed back east, toward the west coast of the Americas.

El Niño means Little Boy in Spanish. South American fishermen first noticed periods of unusually warm water in the Pacific Ocean in the 1600s. The full name they used was El Niño de Navidad, because El Niño typically peaks around December.

El Niño can affect our weather significantly. The warmer waters cause the Pacific jet stream to move south of its neutral position. With this shift, areas in the northern U.S. and Canada are dryer and warmer than usual. But in the U.S. Gulf Coast and Southeast, these periods are wetter than usual and have increased flooding.
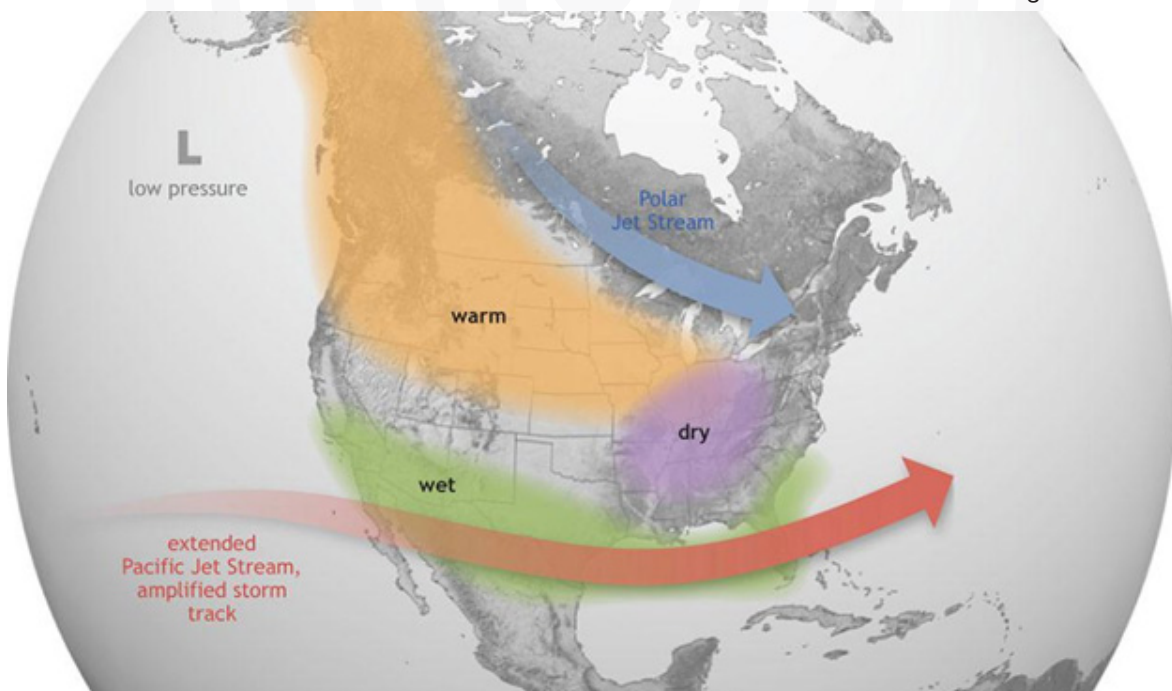
El Niño causes the Pacific jet stream to move south and spread further east. During winter, this leads to wetter conditions than usual in the Southern U.S. and warmer and drier conditions in the North.

El Niño also has a strong effect on marine life off the Pacific coast. During normal conditions, upwelling brings water from the depths to the surface; this water is cold and nutrient rich. During El Niño, upwelling weakens or stops altogether. Without the nutrients from the deep, there are fewer phytoplankton off the coast. This affects fish that eat phytoplankton and, in turn, affects everything that eats fish. The warmer waters can also bring tropical species, like yellowtail and albacore tuna, into areas that are normally too cold.

La Niña

La Niña means Little Girl in Spanish. La Niña is also sometimes called El Viejo, anti-El Niño, or simply "a cold event." La Niña has the opposite effect of El Niño. During La Niña events, trade winds are even stronger than usual, pushing more warm water toward Asia. Off the west coast of the Americas, upwelling increases, bringing cold, nutrient-rich water to the surface.

These cold waters in the Pacific push the jet stream northward. This tends to lead to drought in the southern U.S. and heavy rains and flooding in the Pacific Northwest and Canada. During a La Niña year, winter temperatures are warmer than normal in the South and cooler than normal in the North. La Niña can also lead to a more severe hurricane season.
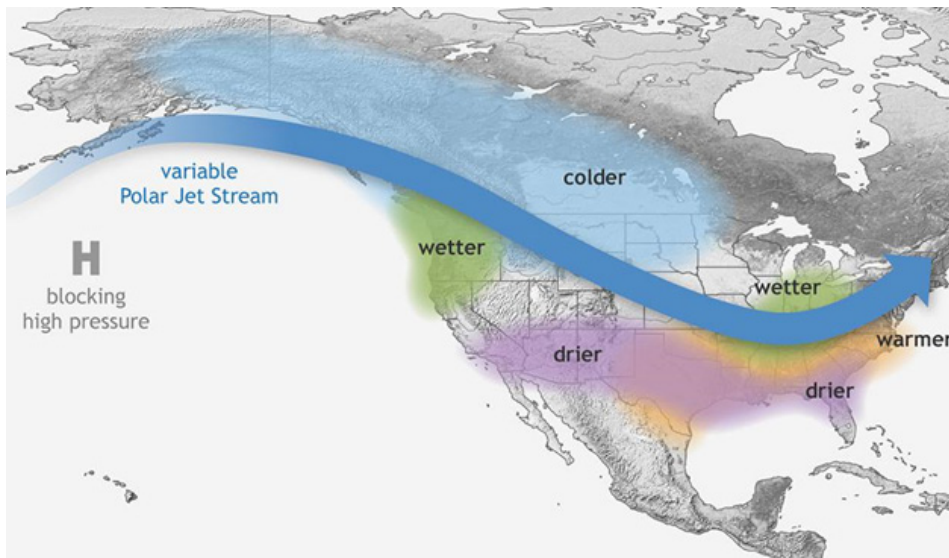
La Niña causes the jet stream to move northward and to weaken over the eastern Pacific. During La Niña winters, the South sees warmer and drier conditions than usual. The North and Canada tend to be wetter and colder.

During La Niña, waters off the Pacific coast are colder and contain more nutrients than usual. This environment supports more marine life and attracts more cold-water species, like squid and salmon, to places like the California coast.

POLITY
AND
GOVERNANCE

MINERALS SECURITY PARTNERSHIP (MSP)

CLOUD SEEDING

LAB-GROWN DIAMONDS (LGDS)

INDIA SIGNS THE ARTEMIS ACCORDS

GENDER GAP REPORT, 2023

SPECIAL ASSISTANCE TO STATES FOR CAPITAL INVESTMENT 2023-24' SCHEME

KAVACH AUTOMATIC TRAIN PROTECTION (ATP) SYSTEM

COALITION FOR DISASTER RESILIENT INFRASTRUCTURE (CDRI)

UNIQUE PACKAGE FOR FARMERS ANNOUNCED

"A NEW GLOBAL FINANCING PACT"

MINERALS SECURITY PARTNERSHIP (MSP)

CONTEXT:*INDIA has been inducted into the Mineral Security Partnership (MSP.*

What is MSP?

The Minerals Security Partnership (MSP) was announced in June 2022 by the US to strengthen critical mineral supply chains.

It is also known as the **critical minerals alliance.**

It was announced by the US and other key partner countries in June 2022 with an aim to ensure that **critical minerals are produced, processed and recycled** in a way that helps countries secure a **stable supply of critical minerals** for their economies.

It also aims to **weaken China's grip on supplies of critical minerals** worldwide.

The focus is primarily on the supply chains of **critical minerals such as cobalt, nickel, lithium and the 17 "rare earth" minerals.**

Objectives of the MSP include:

Strengthened information sharing between partner countries

Increased investment in secure critical minerals supply chains

Developed recycling technologies

Members of MSP: Besides the US, the MSP includes Australia, Canada, Finland, France, Germany, Japan, the Republic of Korea, Sweden, UK, the European Commission, Italy, and now India.

Importance of Critical Minerals

- A critical mineral is a mineral resource that is essential to the economy and has high economic vulnerability and high global supply chain risk.

- Critical minerals have a supply chain at risk of disruption. They are used to manufacture advanced technologies, such as mobile phones, tablets, electric vehicles, solar panels, wind turbines, fibre optic cables, and defence and medical applications.

- Individual countries develop their own list of critical minerals depending on the importance of particular minerals in the industrial sector and the strategic assessment of supply risks.

- The major critical minerals are graphite, lithium and cobalt. They are critical for making semiconductors and high-end electronics manufacturing. They are also used in manufacturing fighter jets, drones, and radio sets.

- Rare earth (RE) comprises 17 elements which are classified as light RE elements (LREE) and heavy RE elements (HREE).

- Rare earth minerals are a set of 17 metallic elements, which includes scandium, yttrium, and the 15 lanthanides (15 metallic chemical elements with atomic numbers 57–71, from lanthanum to lutetium).

- The term "rare earth" is a misnomer as rare earth metals are actually abundant in the Earth's crust. However, they are rarely found in large, concentrated deposits on their own, but rather among other elements instead.

- While cobalt, nickel and lithium are required for batteries used in electric vehicles, rare earth minerals are critical, in trace amounts, in the semiconductors and high-end electronics manufacturing.

- According to the International Energy Agency, the major producers of critical minerals are China, Congo, Chile, Indonesia, South Africa, and Australia. China has global dominance in terms of processing.

- China is a strong player in this space and has created processing infrastructure in rare earth minerals and has acquired mines in Africa for sourcing elements such as cobalt.

- Some REs are available in India such as lanthanum, cerium, neodymium, praseodymium and samarium, while others such as dysprosium, terbium, europium that are classified as HREE are not available in Indian deposits in extractable quantities.

- Currently, there is an overwhelming dependence on countries such as China for HREE, which is one of the leading producers of RE with an estimated 70 per cent of the global production.

End-use	% of 2019 Rare Earth Demand
Permanent Magnets	38%
Catalysts	23%
Glass Polishing Powder and Additives	13%
Metallurgy and Alloys	8%
Battery Alloys	9%
Ceramics, Pigments and Glazes	5%
Phosphors	3%
Other	4%

India's concerns

Some rare earth elements available in India are: neodymium, lanthanum, cerium, samarium, and praseodymium. Some elements classified as heavy RE elements, such as dysprosium, terbium, and europium, are not available in the country in extractable quantities. It relies heavily on China for HREE.

India has recently witnessed a shift from public and private transport to electric vehicles. This underlines the need to secure the supply of critical minerals.

India needs a multi-dimensional mineral policy to address the issues posed by the uneven distribution of rare earth elements, the Economic Survey 2022-23 had pointed out.

India-Australia Critical Minerals Investment Partnership

India and Australia decided to strengthen their partnership in the field of projects and supply chains for critical minerals under the Australia-India Critical Minerals Investment Partnership.

In March 2022, Australia allocated $5.8 million to the three-year partnership.

Under this partnership, India can take resources from Australia to meet the growing demand for critical minerals to help India's space and defence industries and the manufacture of electric vehicles.

WHERE IN THE WORLD ARE ALL THE RARE EARTHS?

Rare earth elements (REEs) are a group of 17 elements whose importance is critical in high technology. Their use has exploded as electronics and renewable technologies increasingly have become part of everyone's daily lives.

Rare earths are abundant in the Earth's crust but mineable concentrations are less common, making reserves potential very valuable and strategic.

*The USGS tracked the world's reserves in tons (imperial).

World Total 115,820,000t* Reserve data

China 44,000,000t — 37.9%
China tops the list for reserves and mine production.
While the U.S. has 1.5 million tons in reserves, it still depends on China for refined rare earths.

Other Countries 310,000t
Australia 4,100,000t — 3.5%
South Africa 790,000t — 0.7%
Tanzania 890,000t — 1.3%
Greenland 1,500,000t

Russia 12,000,000t — 10.3%
Canada 830,000t — 0.7%
U.S. 1,500,000t — 1.3%

Brazil 21,000,000t — 18.1%

WHERE ARE THE WORLD'S RARE EARTH RESERVES?
Americas Europe Africa Asia Oceania Other

Vietnam 22,000,000t — 18.9%
Vietnam and Brazil have the second and third most reserves, their mine production is among the lowest with only 1,000 tons per year each.

India 6,900,000t — 5.9%

After mine production, rare earths must be refined and separated into their individual metals for their particular uses.

Uses:
Magnets   Lights   Screens   Glass   Catalysts   Batteries   Steel Alloys

Mine Production 2020

Other	Burundi	Brazil	Vietnam	Thailand	Russia	India	Madagascar	Australia	Myanmar	U.S.	China
100t	500t	1,000t	1,000t	2,000t	2,700t	3,000t	8,000t	17,000t	30,000t	38,000t	140,000t

CLOUD SEEDING

CONTEXT: *The Indian Institute of Technology Kanpur (IITK) has recently undertaken a significant test flight with the aim of cloud seeding.*

Details of the news

- During the test, a Cessna aircraft took flight from IIT Kanpur's airstrip, reaching an altitude of 5000 feet.

- Using cloud seeding technology, the aircraft released chemical powder into the clouds, stimulating the formation of raindrops.

- Shortly after, rainfall was observed in the surrounding areas, validating the effectiveness of the artificial rain technique.

- China, having developed this technology earlier, had withheld sharing it with India.

- Notably, the technology employed in this process is expected to have no adverse effects on the environment, making it a sustainable solution to water scarcity challenges.

What is cloud seeding?

- Clouds are made up of tiny water droplets or ice crystals that form when water vapor in the atmosphere cools and condenses around a tiny particle of dust or salt floating in the atmosphere.

- Without these particles, known as condensation or ice nuclei, raindrops or snowflakes cannot form and precipitation will not occur.

- Cloud seeding is a kind of a weather modification technology to create artificial rainfall. It works only when there is enough pre-existing clouds in the atmosphere.

- Rain happens when moisture in the air reaches levels at which it can no longer be held, and cloud seeding aims to facilitate and accelerate that process by making available chemical 'nuclei' around which condensation can take place.

- These 'seeds' of rain can be the iodides of silver or potassium, dry ice (solid carbon dioxide), or liquid propane. The seeds can be delivered by plane or simply by spraying from the ground.
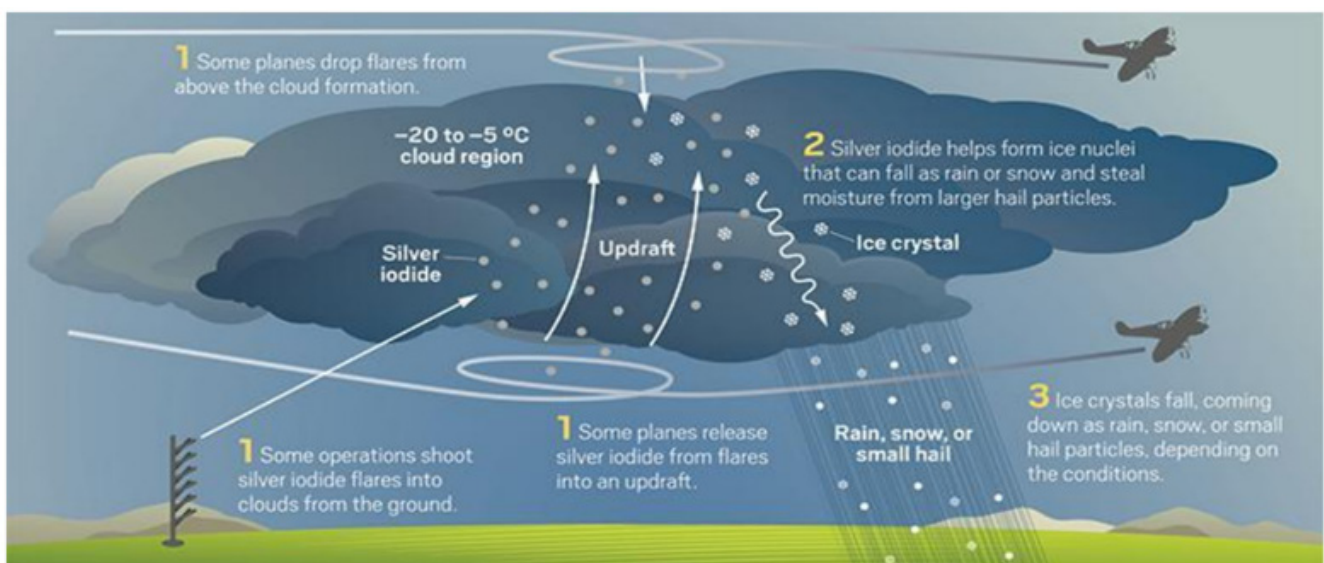
Cloud Seeding Agents

- There are many cloud seeding agents available and used by various countries, but the two most favoured cloud seeding agents that we used are Silver Iodide (AgI), Common Salt (NaCl), and Iodized salt.

- These were preferred over others due to their abundant presence in nature, non-polluting characteristics and nonpoisonous to human and other living beings.

- Other options like Silver Bromide (AgBr), powdered dry ice, etc. are also prevalent in usage at different places.

- Silver iodide is said to have crystalline structure very similar to the natural ice crystal and hence is widely favoured.

- However, clouds during drought periods never have enough super cooled water and usage of silver iodide is considered as counterproductive. In such cases, hygroscopic substances like common salt have demonstrated better results.

Cloud Seeding Process

Dispersion of cloud seeding particles can happens in two different ways -

1. Seeding from above the cloud (typically around altitudes of 5500 meters), and

2. Seeding from below the cloud (typically around altitudes of 2000 meters).

When the cloud seeding particles (nuclei) are released at the cloud base, the aim is to use the strong updraft of the cloud to pull these "seeds" into the core of the cloud where super cooled cloud droplets are present.

Where all has it been tried earlier?

- Cloud seeding is not new to India and it has earlier been attempted in Karnataka, Andhra Pradesh and Maharashtra to address drought. Similar experiments of cloud seeding had earlier been tried in Australia, America, Spain and France.

- In United Arab Emirates, the cloud seeding technique led to creation of 52 storms in Abu Dhabi. Also, such seeding is routine in Russia and other cold countries where the technique is used to disperse fog at the airports.

How successful is the cloud seeding technology?

- The Pune-based Indian Institute of Tropical Meteorology has been carrying out cloud seeding experiments for several years now. These experiments have been done in areas around Nagpur, Solapur, Hyderabad, Ahmedabad, Jodhpur, and Varanasi.

- The success rate of these experiments in inducing rains is about 60 to 70 per cent, depending on local atmospheric conditions, the amount of moisture in the air and cloud characteristics.

Benefits of Cloud Seeding

- **Enhancing Rain**: Cloud seeding is used all over the world as a method for enhancing winter snowfall and increasing mountain snowpack, supplementing the natural water supply available to communities of the surrounding area.

- The effectiveness of cloud seeding differs from project to project, but long-term cloud seeding projects over the mountains of Nevada and other parts of the world have been shown to increase the overall snowpack in the targeted areas by 10% or more per year.

- **Mitigating hail**: The principle underlying most hail suppression research is that hail can be prevented if the atmosphere is flooded with nuclei on which moisture can condense and freeze. The more nuclei present, the argument goes, the less likely large pieces of ice (hail) are to form.

- **Dispersing Fog**: The techniques of cloud seeding can also be used for a second purpose, the removal of clouds and fog. This goal is desirable, as an example, in regions around an airport where prolonged fog can bring air travel to a halt. The use of dry ice as a seeding agent can cause water droplets in fog to condense on ice crystals, after which they precipitate out of the air. In the process, fog banks and clouds may disappear.

LAB-GROWN DIAMONDS (LGDS)

CONTEXT: *Indian Prime Minister gifted 7.5 carat lab-grown diamond to USA's First Lady Jill Biden during his first state visit to the USA.*

What is LGD?

- Lab-grown diamonds, also known as synthetic diamonds, are artificially manufactured diamonds that have the same chemical and physical properties as naturally occurring diamonds.

- They are produced in a laboratory setting, rather than formed over millions of years under the Earth's surface.

- The first LGD was created in 1954 by scientists at a General Electric research laboratory in New York.

- Natural diamonds take millions of years to form, while LGDs are manufactured in a matter of a few weeks. There is no difference between the two as the process is the same.

- They are not the same as **"diamond simulants"** – LGDs are chemically, physically and optically diamond and thus are difficult to identify as "lab-grown."

  - While materials such as Moissanite (silicon carbide), Cubic Zirconia (CZ), White Sapphire, YAG (Yttrium aluminium garnet), etc. are "diamond simulants" that simply attempt to "look" like a diamond, they lack the sparkle and durability of a diamond and are thus easily identifiable.

  - However, differentiating between an LGD and an Earth Mined Diamond is hard, with advanced equipment required for the purpose.

How are they produced?

The production of LGDs involves two main methods: the High-Pressure High Temperature (HPHT) method and the Chemical Vapour Deposition (CVD) method.

1. 1High-Pressure High Temperature (HPHT) method: The HPHT method involves exposing a seed diamond (chips of other diamonds) and pure graphite carbon to extremely high pressure and temperatures of around 1,500 degrees Celsius.

2. Chemical Vapour Deposition (CVD) method: The CVD method involves heating the seed diamond inside a sealed chamber filled with a carbon-rich gas, typically methane. The seed is then heated up to around 800 degrees Celsius. The gas reacts with the seed, slowly building the diamond over time.

The diamond gifted by Indian PM to the US First Lady was grown in India using CVD technology that creates the purest form of diamonds.

What are the properties of LGDs?

- LGDs have basic properties similar to natural diamonds, including their optical dispersion, which provide them the signature diamond sheen. However, since they are created in controlled environments, many of their properties can be enhanced for various purposes.

- For instance, LGDs are most often used for industrial purposes, in machines and tools. Their hardness and extra strength make them ideal for use as cutters.

- Furthermore, pure synthetic diamonds have high thermal conductivity, but negligible electrical conductivity. This combination is invaluable for electronics where such diamonds can be used as a heat spreader for high-power laser diodes, laser arrays and high-power transistors.

India and the diamond industry

- India is the world's largest exporter of diamonds. India accounts for 19% of total diamond exports worldwide. It is said that 9 out of every 10 diamonds in the world journey through India as they are cut and polished in the country.

- The diamond industry of India is very much dependent on imports of raw materials and 50% of the country's total gems & jewellery exports include diamonds only.

- Surat, Gujarat is a major global centre for diamond manufacturing. The United States is the largest market for cut and polished diamonds, followed closely by China.

- In November 2022, India's overall exports of gems and jewellery amounted to 2.43 billion US dollars, a 2.05% increase from the previous year.

Prospects for LGDs

- Lab-grown diamonds have become increasingly popular in recent years, and are considered to be more socially and environmentally responsible, while being nearly identical to mined diamonds.

- It is also eco-friendly, as eco-diversified resources like solar and wind power can be used in its making.

- Diamonds are graded based on their clarity, cut, carat and color (known as the four Cs). If a natural diamond and a lab-grown diamond rank equally in all four categories, the lab-created version will be significantly cheaper – about 20-30% cheaper on average

- Today, India is the largest player in growing of Chemical Vapor Deposition (CVD) lab-grown diamonds.

- India already produces around three million (30 lakh) lab-grown diamonds a year, accounting for 15 per cent of global production, according to the Ministry of Commerce and Industry.

- India's exports of LGD has grown exponentially and crossed USD 1.67 billion mark in 2022- 2023.

- In the 2023-2024 Union Budget, the Ministry of Finance has placed a special emphasis on Laboratory-Grown Diamonds (LGD). The Budget aims to increase the production of lab-grown diamonds in India by reducing the basic customs duty on seeds used in their production. The duty on seeds for rough lab-grown diamonds will be reduced from 5% to zero.

- Additionally, a five-year research grant will be provided to one of the Indian Institute of Technologies (IITs) for research and development in this field. The Ministry of Finance has also proposed the creation of new tariff lines for synthetic diamonds to improve their identification and facilitate trade, as well as to clarify the eligibility for concessional import duty.

Conclusion

As the Earth's reserves of natural diamonds are depleted, LGDs are slowly replacing the prized gemstone in the jewellery industry. Crucially, like natural diamonds, LGDs undergo similar processes of polishing and cutting that are required to provide diamonds their characteristic lustre. Thus, growth in the production of LGDs is unlikely to affect India's established diamond industry which undertakes these tasks.

INDIA SIGNS THE ARTEMIS ACCORDS

CONTEXT: *On June 21, 2023, the Republic of India signed the Artemis Accords, demonstrating its commitment to sustainable and transparent space activity. Furthermore, the National Aeronautics and Space Administration (NASA) and the Indian Space Research Organisation (ISRO) have also agreed to launch a joint mission to the International Space Station (ISS) in 2024.*

What are Artemis Accords?

The Artemis accord outlines the "principles for cooperation in space exploration and the use of the moon, mars, comets, and asteroids for peaceful purposes."

The Artemis Accords were launched on October 13, 2020 with Australia, Canada, Italy, Japan, Luxembourg, the United Arab Emirates, the United Kingdom and the United States.

The Artemis Accords, which are grounded in the Outer Space Treaty of 1967, are a set of non-legally binding principles to guide sustainable civil space exploration.

The Artemis Accords signatories are: Australia, Bahrain, Brazil, Canada, Colombia, Czech Republic, Ecuador, France, India, Israel, Italy, Japan, the Republic of Korea, Luxembourg, Mexico, New Zealand, Nigeria, Poland, Romania, Rwanda, Saudi Arabia, Singapore, Spain, Ukraine, the United Arab Emirates, the United Kingdom, and the United States.

Commitments under the Artemis Accords

1. **Peaceful Purposes**: Consistent with the Outer Space Treaty, the Artemis Accords affirm that cooperative activities should be exclusively for peaceful purposes and in accordance with international law.

2. **Transparency**: Transparency is a key principle for responsible civil space exploration and use. Artemis Accords signatories are committed to the broad dissemination of information regarding their respective national space policies and space exploration plans in accordance with their national rules and regulations.

3. **Interoperability**: Working in the space environment is incredibly challenging. Interoperability enhances the potential for space exploration that is safe and robust among cooperating nations.

4. **Emergency Assistance**: The provision of emergency assistance is vital. Artemis Accords signatories commit to taking all reasonable efforts to render necessary assistance to personnel in outer space who are in distress and acknowledge their obligations under the

Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space.

5. **Registration of Space Objects**: Appropriate registration of space objects can help to mitigate risk of harmful interference. The Artemis Accords reinforce the importance of meeting our obligations under the Registration Convention.

6. **Release of Scientific Data**: Sharing scientific data with the global community in a timely and transparent manner can help ensure the entire world can benefit from space exploration.

7. **Protecting Heritage**: Outer space heritage is our shared heritage. Accords signatories intend to preserve historically significant human or robotics landing sites, artifacts, spacecraft, and other evidence of activity on celestial bodies, and contribute to multilateral efforts to further develop applicable international practices and rules.

8. **Space Resources**: The utilization of space resources should be done in a manner that complies with the Outer Space Treaty, can benefit humankind and is critical to sustainable operations.

9. **Deconfliction of Activities**: Provisions relating to due regard and harmful interference are key obligations of the Outer Space Treaty. Artemis Accords signatories help implement these obligations by providing notification of their activities, including regarding the location and general nature of their operations, and coordinating with any relevant actor to avoid harmful interference. The area covered by the notification and coordination is referred to as a "safety zone."

10. **Orbital Debris and Spacecraft Disposal**: Planning to mitigate for orbital debris, as well as disposing safely of spacecrafts, is critical to maintaining a safe environment in space and operating in space sustainably.

Activities under Artemis programme

The initial three missions of the programme are Artemis-I, II and III.

1. Under Artemis-I, NASA launched its spacecraft 'Orion' directly to the moon on a single mission. Orion is NASA's new exploration spacecraft, designed to carry astronauts to destinations in deep space, including an asteroid and Mars.

   The Orion completed a lunar flyby, performing a half revolution around the moon before returning to the earth's orbit and splashing down on December 11, 2022, in the Pacific Ocean.

1. In 2024, NASA's Artemis-2 programme will commence, with a crew of four astronauts onboard the SLS performing multiple manoeuvres on an expanding orbit around the Earth on the Orion, conducting a lunar flyby and returning to the earth.

2. 3Under Artemis-III, humans will return to the moon in 2025. This mission will witness the four-member crew land on the moon, conduct a week-long lunar exploration, perform a lunar flyby, and return to earth.

In future missions under the Artemis programme, NASA aims to land a second crew on the moon in 2028 and establish a Lunar Gateway station where astronauts will land in 2029. NASA also aims to set up a permanent base on the lunar surface and then proceed to send astronauts to Mars.

India's space/moon mission & role in Artemis

• India's space agency ISRO already had two programmes – Chandrayaan and Gaganyaan – before the country signed the Artemis Accords.

• With India signing the Artemis Accords, it will be a part of the US' attempt to land humans on the moon by 2025. Moreover, ISRO is likely to collaborate on further Artemis missions including the Lunar Gateway, Mars landing and establishing a permanent lunar base. India also aims to establish its own space station similar to the ISS and China's Tiangong space station.

• It could provide a foundation for more streamlined and liberal exchange of technology and a flow of capital for India's space program.

• One of its key goals is to land the first woman and the first person of color on the Moon. This historic event will pave the way for greater diversity and inclusivity in space exploration.

• NASA's Artemis program focuses on making new scientific discoveries and expanding the exploration of the lunar surface. By studying the Moon, scientists hope to gain valuable insights and make discoveries that can contribute to advancements in various fields, including technology, medicine, and a better understanding of the workings of the entire universe.

• All these objectives of Artemis Programme provide impetus to India's aspirations to be a key influencer in humankind's efforts to mark its presence in the moon and beyond.

GENDER GAP REPORT, 2023

CONTEXT: *The 17th edition of the Global Gender Gap Report 2023 has been released by the World Economic Forum (WEF).*

About the Report

• The Gender Gap Report evaluates the status of Gender Parity across 146 countries. This is done through Global Gender Gap Index.

• The Global Gender Gap Index annually benchmarks the current state and evolution of gender parity across four key dimensions

1. Economic Participation and Opportunity

2. 2Educational Attainment

3. Health and Survival

4. Political Empowerment

• On each of the four sub-indices as well as on the overall index the GGG index provides scores between 0 and 1, where 1 shows full gender parity and 0 is complete imparity.

• It is the longest-standing index tracking the progress

of numerous countries' efforts towards closing these gaps over time since its inception in 2006.

Key Findings

- The global gender gap score in 2023 for all 146 countries included in this edition stands at 68.4% closed. This is an improvement of 0.3 percentage points compared to last year's edition.

- According to the 2023 Global Gender Gap Index no country has yet achieved full gender parity, although the top nine countries (Iceland, Norway, Finland, New Zealand, Sweden, Germany, Nicaragua, Namibia and Lithuania) have closed at least 80% of their gap.

- For the 14th year running, Iceland (91.2%) takes the top position. It also continues to be the only country to have closed more than 90% of its gender gap.

- At the current rate of progress, it will take 131 years to reach full parity.

- It will take 162 years to close the Political Empowerment gender gap, 169 years for the Economic Participation and Opportunity gender gap, and 16 years for the Educational Attainment gender gap. The time to close the Health and Survival gender gap remains undefined

India's Performance

- India ranks 127 out of 146. India closed 64.3 per cent of its overall gender gap. The index ranked India's neighbours Pakistan at 142, Bangladesh at 59, China at 107, Nepal at 116, Sri Lanka at 115 and Bhutan at 103.

- India was at 135th place last year in 2022, thus this year's result shows improvement.

Index Parameter	Gender parity in India	Comments
Economic participation and opportunity	36.7 per cent	There have been improvements in wage and income parity, the representation of women in senior positions and technical roles has slightly declined compared to the previous edition.
Educational Attainment	100 per cent	India has achieved parity in enrolment across all levels of education, reflecting a positive development in the country's education system.
Health and Survival	95 per cent	For India, the 1.9 percentage point improvement in sex ratio at birth (with 92.7 per cent) has driven up parity after more than a decade of slow progress. For Vietnam, Azerbaijan, India and China, the relatively low overall rankings on the Health and Survival sub-index is explained by skewed sex ratios at birth.
Political Empowerment	25.3 per cent	Women represent 15.1% of parliamentarians, which is the highest representation since the inaugural report in 2006. Also more than 44% women are having representation in local governments (Panchayats and Urban local bodies). Populous countries such as India, Turkey and China have less than seven per cent women ministers

SPECIAL ASSISTANCE TO STATES FOR CAPITAL INVESTMENT 2023-24' SCHEME

CONTEXT: *The Department of Expenditure, Ministry of Finance has approved capital investment proposals of Rs. 56,415 crore in 16 States in the current financial year.*

Details of the news

- Approval has been given under the scheme entitled 'Special Assistance to States for Capital Investment 2023-24'.

- Capital investment projects in diverse sectors have been approved including health, education, irrigation, water supply, power, roads, bridges and railways.

- Funds for meeting the State share of Jal Jeevan Mission and Pradhan Mantri Gram Sadak Yojana have also been provided to the States under this scheme to enhance pace of the projects in these sectors.

Special Assistance to States for Capital Investment 2023-24

- In view of a higher multiplier effect of capital expenditure and in order to provide boost to capital spending by States, the scheme 'Special Assistance to States for Capital Investment 2023-24' was announced in the Union Budget 2023-24.

- Under the scheme, special assistance is being provided to the State Governments in the form of 50-year interest free loan up to an overall sum of Rs. 1.3 lakh crore during the financial year 2023-24.

- The scheme has eight parts, Part-I being the largest with allocation of Rs. 1 lakh crore. This amount has been allocated amongst States in proportion to their share of central taxes & duties as per the award of the 15th Finance Commission.

- In Part–II of the scheme, an amount of Rs. 3,000 crore has been set aside for providing incentives to States for scrapping of State Government vehicles and ambulances, waiver of liabilities on old vehicles, providing tax concessions to individuals for scrapping of old vehicles and setting up of automated vehicle testing facilities.

- Part–III & IV of the scheme aim at providing incentives to States for reforms in Urban Planning and Urban Finance. An amount of Rs. 15,000 crore is earmarked for Urban Planning Reforms, while additional Rs. 5,000 crore is for incentivising the States for making Urban Local Bodies creditworthy and improving their finances.

- The scheme also aims at increasing the housing stock for the police personnel and their families within the police stations in urban areas. An amount of Rs. 2,000 crore is earmarked for this purpose under Part-V of the scheme.

- Another objective of the Scheme is to promote national integration, carry forward the concept of "Make in India" and promote the concept of "One District, One Product (ODOP)" through construction of Unity Mall in each State. An amount of Rs. 5,000 crore has been set aside for this purpose under the Part-VI of the scheme.

- Part-VII of the Scheme, with an allocation of Rs. 5,000 crore is for providing financial assistance to States for setting up libraries with digital infrastructure at Panchayat and Ward level for children and adolescents.

- A similar scheme entitled 'Special Assistance to States for Capital Investment for 2022-23' was also executed by the Ministry of Finance in the last financial year.

- The scheme for financial assistance to States for capital investment/expenditure, first instituted by the Ministry of Finance in 2020-21 in the wake of COVID-19 Pandemic have given a very timely boost to capital spending by States.

KAVACH AUTOMATIC TRAIN PROTECTION (ATP) SYSTEM

CONTEXT: *On 2 June, a collision involving three trains near Odisha's Balasore district led to the death of 275 people and left over a 1,000 injured. The accident has brought to attention the various aspects of security in Indian Railways, especially the new collision protection system called 'Kavach', which is in the process of being rolled out nationally.*

What is KAVACH?

Domestically developed, Kavach is a form of 'Traffic Collision Avoidance System', or TCAS, designed to prevent two vehicles from colliding while also providing support for train operations during adverse weather conditions such as dense fog.

In order to do this, the system detects the distance between the vehicles and the rate at which it changes.

TCAS has been widely used in aircraft to reduce mid-air collisions since the early 1980s. In 2019, a mid-air collision between a Boeing and an Airbus over Mumbai airspace was averted due to the activation of TCAS enabling one of the planes to immediately climb higher.

Similarly, the Kavach system detects the proximity between two trains, moving head-on towards each other on the same line, and automatically applies brakes. It also alerts the operator or loco pilot to take control of the train.

Kavach, Hindi for armour or shield, is one of the higher safety level systems – Safety Integrity Level 4 (SIL-4) with the probability of error being one in 10,000 years. This will help to achieve the gold standard of zero accident annually.

The Kavach system has been designed by the Research Designs & Standards Organisation (RDSO) of the Ministry of Railways. It comprises on-board equipment on locomotives, track-side elements, and the wireless network it operates on.

Its primary objectives are to avoid collisions and to turn on the braking system when safety parameters are exceeded – such as before an impending collision or when a pilot jumps a red light, or when the maximum speed limit permissible is exceeded.

Furthermore, it is also expected to aid with emergency SOS messages, auto whistling while approaching level crossing gates, and reduction of speed to 30 km per hour when the locomotive enters loop lines.

Features of KAVACH

- Prevention of Signal Passing at Danger (SPAD)

- Continuous update of Movement Authority with display of signal aspects in Driver Machine Interface (DMI) / Loco Pilot operation cum Indication Panel (LPOCIP)

- Automatic Braking for Prevention of Over Speeding

- Auto Whistling while approaching Level Crossing Gates

- Prevention of collision between two Locomotives equipped with functional KAVACH

- SoS Messages during emergency situations

- Centralized live monitoring of Train movements through Network Monitor System.

How the Kavach system work?

- The tracks contain radio-frequency identification (RFID) tags that are fitted on each section of a track and provide information directly to the Loco (locomotive) TCAS unit inside the train. Different segments of the track are assigned unique IDs, and these determine the direction and speed of the train.

- There is also a Stationary TCAS unit installed at stations with a radio tower to communicate with nearby locomotives.

- Inside a locomotive, there are sensors placed at the front end and rear end, the top, and also on some wheels.

- When a train passes two RFID tags sequentially, its direction and speed can be determined. As a train passes a segment, the Loco TCAS unit sends information about the train to the Stationary TCAS unit installed at the station via ultra-high frequency (UHF) radio antenna.

- When an approaching signal is red, the Stationary TCAS will relay the information to Loco TCAS, slowing down and stopping the train. If the loco pilot is unable to do so, automatic brakes are applied.

- When there is any conflict between signals from various sources or sequences, the Stationary TCAS unit will apply the most restrictive conditions and reduce movement of trains accordingly.

- When two locomotives are moving towards each other on the same track, SOS signals are sent to both trains from the station along with visual and audio warnings to the pilots, automatically stopping them both.

- Depending on the speeds of the train and the distance between them, the Kavach system activates to ensure a safe distance of at least 300 meters is maintained as both trains come to a complete halt.

Could Kavach have prevented Odisha collisions?

- In the Odisha collision and derailing, three trains were involved. The collision was brought about by a wrong track change leading to a collision and derailment of all trains.

- As per the experts, the disaster could not have been averted with Kavach since the system cannot prevent derailment.

- Additionally, both trains moving towards each other needed to have been equipped with Kavach for the system to function, but neither were.

- The trains were also running within permissible speed limits, which would not have triggered the brake activation.

- But, most importantly, the mainline signal was green for both trains, but the Coromandel Express got diverted into a loop line where a stationary locomotive was resting. Kavach is not designed to detect and act on interlock malfunctions or changes in track alignment.

- Lastly Kavach requires a minimum distance for slowing down before a locomotive comes to a complete stop. In the case of Odisha, given the speed and distance on the loop, it would have been impossible for the loco pilot to react or for the system to automatically bring the train to a halt safely.

When will Kavach be implemented?

- Work on Kavach began in 2012, and the first field trials were carried out in 2016, followed by active development since 2017.

- A live successful demonstration took place in March 2022 in Secunderabad.

- Today, the system is deployed in 65 locomotives and 134 stations. As of December 2022, 1,455 km of tracks have been covered under Kavach.

- Presently, implementation of the system is in progress in Delhi-Mumbai and Delhi-Howrah corridors making up 3,000 km. The entire system is expected to be operational by FY 2027-28. When completed, it will be the world's most inexpensive automatic train collision system, costing Rs 50 lakh per km as compared to Rs 2 crore per km worldwide, stated the Ministry of Railways in a release.

COALITION FOR DISASTER RESILIENT INFRASTRUCTURE (CDRI)

CONTEXT: *The Union Cabinet has given its approval for ratification of the Headquarters Agreement (HQA) between Government of India (GoI) and Coalition for Disaster Resilient Infrastructure (CDRI).*

Background

- The CDRI was launched by the Prime Minister of India during the United Nations Climate Action Summit on the 23rd September, 2019, at New York.

- It is a major global initiative launched by the Government of India and is seen as India's attempts to obtain a global leadership role in climate change and disaster resilience matters.

- On the 28th August, 2019, the Cabinet had approved the setting up of CDRI along with its supporting Secretariat in New Delhi.

- On the 29th June, 2022, the Cabinet had approved recognition of CDRI as an International Organization and for signing of Headquarters Agreement (HQA) for granting CDRI exemptions, immunities and privileges as contemplated under the UN (Privileges & Immunities) Act, 1947.

- On 22nd August, 2022 the HQA was signed between the GoI and CDRI.

Significance of the HQ Agreement

- The agreement will enable the status of an 'Independent and International Legal Entity' for CDRI.

- The agreement will enable the institution to pursue functions internationally with all rights, immunities, and privileges, as per the United Nations (Privileges & Immunities) Act, 1947.

- It will help in increasing the international work of CDRI. This will also facilitate the experts of CDRI member countries to come to Delhi to do CDRI-related work. Staff members who want to work in other countries will also get help regarding the procedure issues such as visa etc.

- The GoI gives this status to all international institutions, as are the institutions of the UN, so now CDRI will be considered at the same international level.

About CDRI

- CDRI is a global partnership of National Governments, UN agencies and programmes, multilateral development banks and financing mechanisms, the private sector, academic and knowledge institutions that aims to promote the resilience of infrastructure systems to climate and disaster risks, thereby ensuring sustainable development.

- Since its launch, 31 Countries, 6 International Organizations and 2 private sector organizations have become members of CDRI.

- At present, it is not intergovernmental organizations, which are ordinarily treaty-based organizations.

- A large share of the estimated fund requirements to cover the core costs over the first five years has been invested by India. There are no obligations on the part of members to make financial contributions to CDRI.

- The CDRI Secretariat is based in New Delhi, India.

Objectives of CDRI

CDRI promotes rapid development of resilient infrastructure to respond to the Sustainable Development Goals' imperatives of expanding universal access to basic services, enabling prosperity and decent work.

The following are CDRI's strategic priorities:

1. Technical Support and Capacity-building: This includes disaster response and recovery support; innovation, institutional and community capacity-building assistance; and standards and certification.

2. Research and Knowledge Management: This includes collaborative research; global flagship reports; and a global database of infrastructure and sector resilience.

3. Advocacy and Partnerships: This includes global events and initiatives; marketplace of knowledge financing and implementation agencies; and dissemination of knowledge products.

What is the need for the CDRI?

- Infrastructure systems are key drivers of economic growth. Between 2016 and 2040, the Global Infrastructure Hub pegs the global annual infrastructure investment needs at US$3.7 trillion per year.

- A large part of this infrastructure will inevitably be exposed to a range of natural hazards. With the increasing demands of a growing global population and unpredictable hazard patterns, the existing infrastructure will be put under additional stress and new infrastructure will be built in hazardous areas.

- The Sendai Framework for Disaster Risk Reduction (SFDRR) highlights the role of improved disaster resilience of infrastructure as a cornerstone for sustainable development.

- The SFDRR includes four specific targets related to loss reduction: (1) Reduce global disaster mortality; (2) Reduce the number of affected people; (3) Reduce direct disaster economic loss; and (4) Reduce disaster damage to critical infrastructure. Target (4) on infrastructure is an important prerequisite to achieving the other loss reduction targets set out in the framework. Thus, there is a clear case for ensuring that all future infrastructure systems are resilient in the face of disasters in order to protect our investments.

UNIQUE PACKAGE FOR FARMERS ANNOUNCED

CONTEXT: *The Cabinet Committee on Economic Affairs (CCEA) approved a unique package of innovative schemes for farmers with a total outlay of Rs.3,70,128.7 crore.The bouquet of schemes is focused at overall wellbeing and economic betterment of farmers by promoting sustainable agriculture. The initiatives will boost farmers' income, strengthen natural / organic farming, rejuvenate soil productivity, and ensure food security.*

On 23 March 2022, the Ministry of Railways announced a significant step towards enhancing the safety of train operations in India with the development of the indigenous Automatic Train Protection (ATP) System called Kavach. Developed in collaboration with three Indian vendors by the Research Designs and Standards Organisation (RDSO), Kavach has been adopted as the National ATP System for Indian Railways.

Kavach has been designed to assist locomotive pilots in avoiding Signal Passing At Danger (SPAD) and over speeding while also providing support for train operations during adverse weather conditions such as dense fog. By automatically applying brakes when necessary, the system ensures better control over train speed and prevents potential accidents.

Trials of Kavach were conducted on the Lingampally–Vikarabad–Wadi and Vikarabad–Bidar sections of South Central Railway, covering a distance of 250 kilometres.

The rollout of Kavach is planned on the New Delhi–Howrah and New Delhi–Mumbai sections, with a target completion date of March 2024.

BHARAT KA KAVACH

Progress of Kavach on IR:

Kavach is indigenous Automatic Train Protection (ATP) Systems for enhancing safety of running trains developed by Indian Railways

Announced in the 2022 Union Budget as a part of the Atmanirbhar Bharat initiative, 2000 km of rail network is planned to be brought under the indigenous world-class technology Kavach

In addition to trial section of 250 km, at present Kavach is under implementation on 1200 Route km of South Central Railway

"*Be not afraid of greatness. Some are born great, some achieve greatness, and others have greatness thrust upon them.*"

- WILLIAM SHAKESPEARE
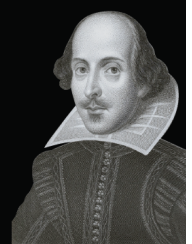
"A NEW GLOBAL FINANCING PACT"

CONTEXT: *From June 22nd to 23nd, 2023, France hosted an international conference for a new global financial pact.*

At a time of unprecedented challenges for humanity and the planet, a New Global Financing Pact to reevaluate priorities and instruments

Climate change

$300+ bn.
Economic loss caused by **natural disasters** in 2022

Biodiversity

~70%
Wildlife decline between 1970 and 2018

People

~11%
Additional nb. of people living in **extreme poverty** in part due to covid-19[1]

The current global financial architecture is built on the Bretton Woods System ; time has come for a **New Global Financing pact**

Addressing these challenges together can enable synergies because solutions are interdependent

All nations are concerned: this is an agenda for humanity and our planet as a whole

The objective is to **address simultaneously climate change, biodiversity and development challenges** and help all nations to fulfill the **Sustainable Development Goals**

SUMMIT FOR
A NEW GLOBAL FINANCING PACT

4 pillars / working groups

1. Increasing **fiscal space** and mobilizing **liquidity**
2. Scaling up investment in green **infrastructures**
3. Unlocking finance for the **private sector** in LICs
4. Designing **innovative financial solutions** for climate vulnerability

Steering committe

These principles, which include transparency, peaceful purposes, registering of space objects and release of scientific data, help make the space environment safer and more predictable, and allow all nations – even those without space programs – to benefit from the scientific data obtained in space.

These principles are non-binding multilateral arrangements between the US government and other governments that wish to participate in NASA's Artemis programme.

One of its key goals is to land the first woman and the first person of color on the Moon. This historic event will pave the way for greater diversity and inclusivity in space exploration.

Furthermore, the programme aims to land the first astronauts on Mars and eventually on other planets and celestial bodies.

The project plan includes a base on the lunar surface, multiple spacecraft to ferry humans and cargo, a small orbiting space station called the 'Lunar Gateway', and a constellation of satellites to help with navigation and communication.

When were Artemis Accords established?

NASA, in collaboration with the US Department of State, established the Artemis Accords in 2020. The accords are agreements between the United States and seven other founding member nations. They reinforce the commitment to international space treaties and agreements, such as the Registration Convention and the Rescue and Return Agreement.

Additionally, the accords emphasise best practices and norms that promote responsible behaviour, including the sharing of scientific data with the public.

Artemis mirrors a Chinese-Russian plan for an 'International Lunar Research Station' (ILRS). With Russia financially constrained and reeling under sanctions, China has taken the lead on ILRS, outlining similar plans for a permanent base and a lunar satellite constellation.

Why joining the Artemis Accords is an important step for India?

India's decision to join the Artemis Accords highlights its dedication to global space cooperation and a keen interest in participating in lunar exploration missions. By becoming a signatory, India can collaborate with other nations, including the United States, in future Moon missions. This collaboration enables the sharing of knowledge and expertise, contributing to the advancement of scientific research, technological development, and the expansion of humanity's presence in space.

INTERNATIONAL RELATIONS

INDO – PACIFIC STRATEGY OF USA

CONTEXT: *Rise of china has been seen as a challenge by the USA to its domination in the world.*

BACKGROUND: The conflict between the United States and China stems from economic competition, geopolitical rivalry, technology and security concerns, ideological differences, and China's growing global influence. These factors have led to tensions in trade, technology, and regional stability, shaping the complex relationship between the two nations.

Despite ongoing conflicts in the Middle East and the potential for a major war in Europe, the United States has consistently emphasized that the Indo-Pacific region remains its top priority. Central to the US Indo-Pacific strategy is the explicit challenge to China's claim of regional dominance, aiming to alleviate concerns in Asia about Chinese hegemony.

US METHODOLOGY TO HANDLE A RISING CHINA

The United States has adopted a multifaceted approach towards China, combining national actions, coalition-building, and diplomatic engagement. One aspect of this approach involves implementing measures to control the export of technology to China, recognizing the strategic importance of technology in maintaining a competitive edge.

Additionally, the US is actively mobilizing a broad-based coalition to balance China's influence. By drawing countries like the UK, Australia, New Zealand, and Canada into a grand regional coalition, the US aims to collectively address common concerns regarding China's growing assertiveness.

Simultaneously, the US recognizes the importance of dialogue and engagement to prevent tensions from escalating. High-level talks on confidence-building measures have been resumed, demonstrating a willingness to explore diplomatic channels and find common ground with China.

Overall, the US approach towards China reflects a combination of strategic competition, coalition-building, and diplomatic engagement. It seeks to assert its interests and values while addressing the challenges posed by China's rise. By mobilizing alliances, controlling technology exports, and pursuing diplomatic avenues, the US aims to shape a favourable regional order and maintain stability in the Indo-Pacific region.

CHINA'S STRATEGY TO COUNTER THE USA

China employs a combination of economic, military, diplomatic, and soft power strategies to handle the power of the United States in the world. By diversifying its approaches and leveraging its growing influence, China aims to assert itself as a major global player and shape the international order in a way that aligns with its own interests. Some of them are

Economic Strategy: China utilizes its economic strength to enhance its global influence. It promotes initiatives such as the Belt and Road Initiative (BRI) to expand trade networks, invest in infrastructure projects, and establish economic partnerships with countries worldwide. By fostering economic interdependence, China seeks to create leverage and reduce the impact of U.S. economic power.

Military Modernization: China has been actively modernizing its military capabilities, focusing on areas such as missile technology, naval expansion, and cyber capabilities. By enhancing its military strength, China aims to deter any potential military intervention or containment efforts by the United States and its allies.

Regional Engagement: China actively engages with regional organizations and initiatives, such as the Shanghai Cooperation Organization (SCO) and the Asian Infrastructure Investment Bank (AIIB). It promotes regional integration and seeks to shape regional norms and institutions that align with its interests, potentially countering U.S. influence in those regions.

Soft Power and Propaganda: China invests in cultural diplomacy, media influence, and propaganda campaigns to shape international perceptions. Through initiatives like Confucius Institutes, media outlets such as Xinhua and CGTN, and public diplomacy efforts, China aims to shape narratives and present an alternative view to challenge Western dominance in global discourse.

Multilateral Diplomacy: China actively participates in multilateral forums such as the United Nations, G20, and BRICS, advocating for a more multipolar world order. It works to build alliances and partnerships with other countries that share similar goals and interests, challenging the U.S.-led global order.

HOW DOES ASIAN COUNTRIES COPE WITH CHINESE ASSERTION?

China has been asserting its territorial claims over disputed areas in the region, while it is the United States that is offering assistance to defend territorial sovereignty in Asia. In response to China's actions, many Asian nations have increased their political and military engagement with the United States, forming alliances and partnerships such as the Quad, AUKUS, and trilateral coordination with countries like South Korea and Japan. These nations are seeking to counterbalance China's influence and protect their own interests.

However, there is a delicate balancing act at play as these Asian nations also have deep economic relationships with China. They are cautious about jeopardizing these economic ties and intentionally avoid actions that may politically offend China. While they may seek support from the United States to counter Chinese dominance, they also strive to maintain a level of economic cooperation and diplomatic engagement with China to ensure stability and mutual benefits.

Overall, the response of other Asian nations to China's attempts at domination involves a combination of seeking security alliances with the United States while cautiously managing their economic relationships with China. It reflects the complex dynamics and competing interests in the region as countries navigate between security concerns and economic dependencies.

INDIA AND JAPAN IN USA'S STRATEGY TO CONTAIN CHINA:

India and Japan are actively participating in the United States' strategy to counter China's influence in the region. Their efforts involve various measures aimed at strengthening their military capabilities and deepening security cooperation:

JAPAN:

Enhancing Military Capabilities: Japan is encouraged by the US to increase its military capabilities, which includes investing in defence technologies and equipment. This aims to bolster Japan's ability to deter potential threats and contribute to regional security.

Strengthening Alliances: Japan is focusing on modernizing its military alliance with South Korea, revitalizing its military partnership with the Philippines, and enhancing security cooperation with Indonesia. These alliances and partnerships serve as a counterbalance to China's growing influence and help maintain regional stability.

INDIA:

Strategic Partnership with the US: The Biden administration places a high priority on building a stronger strategic partnership with India. Both countries share common interests in stabilizing the Asian balance of power and countering China's assertiveness in the region.

Defense Cooperation: India and the US are engaged in talks to elevate their bilateral defence cooperation. This includes the exchange of defence technology, joint military exercises, and potential collaboration in defence industry production. Such cooperation aims to enhance their collective defence capabilities and contribute to regional security.

By actively collaborating with the United States, India and Japan seek to counter China's influence and maintain a favourable balance of power in the Indo-Pacific region. These partnerships not only strengthen their own defence capabilities but also demonstrate a united front against China's expansionist ambitions, promoting stability and security in the region.

SIGNIFICANCE

The recent approach of the United States towards China is viewed as an effort to challenge the prevailing perception that China's dominance in Asia is inevitable and that the United States is in irreversible decline. The US aims to counter China's growing influence and assert its own presence in the region.

By adopting a more assertive stance, the US seeks to demonstrate that it remains committed to maintaining a leadership role in Asia. This approach involves various measures, such as strengthening alliances and partnerships with countries in the region, promoting a free and open Indo-Pacific, and addressing China's unfair trade practices and technological advancements.

The US strategy aims to highlight the risks and consequences of China's assertive behaviour, such as its territorial claims and economic coercion, in order to garner support from other countries in the region. By countering the perception of inevitability, the US aims to rally like-minded nations and present an alternative vision of regional order that is based on democratic values, rule of law, and respect for sovereignty.

CONCLUSION:

Overall, the US's recent approach towards China seeks to challenge the notion of China's uncontested dominance in Asia and reassert the United States' role as a significant player in the region. It aims to dispel the belief that America's decline is irreversible and actively shape the geopolitical landscape to ensure a more balanced and stable Indo-Pacific region.

THE NEED AND SIGNIFICANCE OF INDIA'S NEW PARLIAMENT

CONTEXT: *The Prime Minister of India recently inaugurated the new Parliament building, symbolizing the culture, pride, and spirit of the entire nation, in the 75th year of Independence.*

Parliament of India, the supreme legislative body of India consist of President who is the head of the State, Lok Sabha, the house of the People and the Rajya Sabha, the Council of the States

BACKGROUND : During the coronation of George V as Emperor of India in 1911, it was announced that the seat of the Government of India would be transferred from Calcutta to Delhi, the ancient capital. In accordance with the GoI Act of 1919, which called for a bicameral legislature for India, the construction of a new parliament building became necessary.

The construction of the old parliament building, which cost Rs 83 lakhs, took six years from 1921 to 1927. Its distinctive circular shape is said to have been inspired by the Chausath Yogini temple located in the village of Mitawli in Morena district, Madhya Pradesh.

NEED FOR NEW PARLIAMENT

The existing Parliament house, which will be repurposed into a 'Museum of Democracy' once the new Parliament building becomes operational, is almost a century-old Grade-I Heritage building. It is showing signs of distress and overutilization. The need for advanced technological facilities, increased seating capacity, improved accessibility, and enhanced security necessitated a new and upgraded infrastructure.

One of the major limitations of the current building is the narrow seating space for Members of Parliament (MPs). The building was not originally designed to accommodate a bicameral legislature for a fully-fledged democracy. The Central Hall, which serves as the main meeting space, has a seating capacity of only 440 persons. This poses challenges, particularly during Joint Sessions when the limited seating capacity becomes more pronounced. With the likelihood of an increase in the number of Lok Sabha seats after 2026, the issue of limited seating will become more pressing. The current Parliament building was designed to accommodate a smaller number of representatives. With the expansion of the Lok Sabha and Rajya Sabha over time, space constraints became evident. A larger and more spacious building is required to accommodate the growing number of parliamentarians and support staff.

The infrastructure of the existing Parliament building is distressed. The addition of services such as water supply and sewer lines has resulted in water seepage in various areas, impacting the overall aesthetics. Safety concerns, including fire safety and structural safety in Delhi's seismic Zone-IV, are also prevalent. The communication infrastructure and technology in the current Parliament are obsolete, and the acoustics in all halls require improvement. Furthermore, there is inadequate workspace for employees within the building.

These challenges necessitate the construction of a new Parliament building to address the limitations and shortcomings of the existing structure, ensuring a more functional, safe, and technologically advanced space for democratic proceedings.

NEW PARLIAMENT and CENTRAL VISTA PROJECT

The redevelopment project known as the Central Vista Project aims to transform the central administrative area of India, situated near Raisina Hill in New Delhi. This area was originally designed by Sir Edwin Lutyens and Sir Herbert Baker during the British colonial era. The project is being carried out by Tata Projects Ltd. under the architectural guidance of Bimal Patel from HCP Design, Planning, and Management, based in Ahmedabad. The objective is to revamp and modernize this historic location.

DYNAMICS OF NEW PARLIAMENT BUILDING

- The new building is a "Platinum-rated Green Building" with a built-up area of approximately 65,000 square meters.

- Accessibility and Inclusivity: The new Parliament building was designed with a focus on accessibility and inclusivity. It caters to the needs of divyang individuals, ensuring that the democratic process is accessible to all citizens.

- Its unique triangular shape optimizes space utilization while maintaining functionality and aesthetic appeal.

- The Lok Sabha hall, inspired by India's national bird, the peacock, has been expanded to accommodate 888 seats, while the Rajya Sabha hall, reflecting the lotus, India's national flower, now accommodates 384 seats. For joint sessions of Parliament, the Lok Sabha can accommodate up to 1,272 seats.

- The state-of-the-art Constitutional Hall symbolically places Indian citizens at the heart of democracy, emphasizing their crucial role in the democratic process.

- The Central Lounge, complementing the open courtyard adorned with a banyan tree, provides a space for members to engage, interact, and foster collaboration.

- Modern features, including a digitized voting system, meticulously engineered acoustics, and cutting-edge audio-visual systems, enhance functionality and efficiency in both chambers. As technology continues to advance, there is a need to incorporate state-of-the-art features and facilities in the Parliament building. Symbolic Representation: The construction of a new Parliament building symbolizes the growth and progress of India as a democratic nation. It represents the aspirations and ideals of the country, highlighting its commitment to a robust and inclusive democracy.

- Enhanced Debate and Discourse: The new building can encourage a culture of informed and constructive debates. It is expected to provide better seating arrangements, acoustics, and audio-visual systems, enabling clear communication and facilitating meaningful exchanges of ideas.

- Focus on Legislative Output: There is an anticipation that the new Parliament building will encourage lawmakers to prioritize legislative output over disruptions and deadlock. It is an opportunity to reflect on parliamentary conduct, promote decorum, and create an atmosphere that fosters cooperation and consensus-building among legislators.

- Symbolic Representation: The construction of a new Parliament building symbolizes the growth and progress of India as a democratic nation. It represents the aspirations and ideals of the country, highlighting its commitment to a robust and inclusive democracy.

SIGNIFICANCE OF NEW PARLIAMENT

It is a symbol of the vision and aspirations of India, the spirit of change and continuity and will witness the making of India as 'Aatmanirbhar Bharat'. The new Parliament should not only be the fountainhead/epitome of architectural excellence but should also work as a lighthouse to guide India in its ambitious journey of 'new India to 'Ek Bharat, Shrestha Bharat',

Overall, the expectations from the new Parliament building extend beyond its physical attributes. It is an opportunity to reimagine and redefine the functioning of Parliament, fostering a more efficient, productive, and inclusive democratic institution.

SRI LANKA'S MALAIYAHA TAMILS

CONTEXT: *The Malaiyaha Tamil community in Sri Lanka has issued a declaration demanding increased acknowledgment, political liberties, and enhancements in their living and working conditions. It was issued to mark 200 years of their arrival from South India.*

BACKGROUND: The Malaiyaha Tamil community, an historically marginalized group in Sri Lanka, comprises individuals who migrated from southern India approximately 200 years ago to work in British-operated plantations. Primarily employed in tea and rubber estates, they play a crucial role in generating foreign exchange earnings for Sri Lanka. The community's population is estimated to be around one million, with approximately 150,000 individuals engaged in tea and rubber estate work.

The Malaiyaha Tamil community in Sri Lanka encounters various challenges and difficulties. These include:

Marginalization: The community has historically faced marginalization, being considered a minority group with limited access to resources and opportunities.

Limited Political Rights: The Malaiyaha Tamil community often lacks adequate political representation and participation, which hinders their ability to voice their concerns and influence decision-making processes.

Socioeconomic Issues: Many members of the community work in the tea and rubber estates under difficult conditions, with concerns related to low wages, limited access to education and healthcare, and inadequate living conditions.

Land Rights: The community has faced challenges in obtaining and securing land rights, which impacts their livelihoods and overall well-being.

Discrimination: Instances of discrimination and prejudice against the Malaiyaha Tamil community persist, affecting

their social integration and inclusion.

Cultural Identity: Preserving their cultural heritage and identity can be a challenge for the community due to various socio-political factors.

TO ADDRESS THE CHALLENGES FACED BY THE MALAIYAHA TAMIL COMMUNITY, THEY HAVE ISSUED A DECLARATION OUTLINING THEIR DEMANDS, WHICH INCLUDE:

Development Plan: The community calls for the formulation and implementation of a comprehensive 10-year development plan that addresses the long-standing structural exclusion they have faced. This plan should be based on affirmative action and aim to uplift their socio-economic conditions.

Poverty Alleviation: The declaration emphasizes the need to reduce poverty within the community. It seeks provisions for land and housing, improved access to public health services, and enhanced educational opportunities.

Labour Rights: The Malaiyaha Tamil community demands the protection of their labour rights, including fair wages and legal safeguards in their workplaces.

Recognition of Identity: They assert the need for the recognition of their community as having a distinct identity and equal citizenship. This highlights the importance of acknowledging and valuing their cultural heritage.

Political Power Sharing: The declaration advocates for the establishment of appropriate political power sharing mechanisms and proportional electoral arrangements. This seeks to ensure that the community has fair representation and influence in decision-making processes.

INDIAN ASSISTANCE

Grant Projects: India provides grants for projects spanning multiple sectors such as education, health, livelihood, housing, and industry. These projects aim to support the overall development of Sri Lanka.

Indian Housing Project: As part of this initiative, India aims to construct 50,000 houses in war-affected areas and for estate workers in plantation areas. However, the progress on this project has been relatively slow.

Scholarships: India offers approximately 710 scholarship slots annually to Sri Lankan students. This helps to enhance educational opportunities and promote academic exchange between the two countries.

Railway Reconstruction: India is involved in the reconstruction work of a century-old railway track in northern Sri Lanka. This assistance contributes to improving transportation infrastructure and connectivity in the region.

CONCLUSION : It is important to address these issues and work towards providing equal opportunities, rights, and support for the Malaiyaha Tamil community to ensure their well-being and inclusion in Sri Lankan society.

SAUDI ARABIA EMERGING AS THE MAIN ARBITER OF THE ARAB WORLD

Context: *The city of Jeddah hosted the 32nd Arab League Summit, where all 22 Arab states convened once more. Seventeen of these states were represented by their respective heads of state or government. It saw the emergence of Saudi Arabia under the Crown Prince as the main arbiter of the Arab world's agenda for the foreseeable future.*

Background: The Arab League, also known as the League of Arab States (LAS), is an intergovernmental organization that includes all Arab states in the Middle East and North Africa. It was established on March 22, 1945, in Cairo, Egypt, following the adoption of the Alexandria Protocol in 1944.

The Arab League serves as a platform for Arab nations to collaborate and address common political, economic, cultural, and social issues. It promotes cooperation, coordination, and solidarity among its member

states, aiming to safeguard their common interests and enhance regional stability. With its headquarters in Cairo, the Arab League facilitates discussions and negotiations among member states, striving to strengthen Arab unity, support self-determination of Arab peoples, and promote Arab causes on the international stage. The League plays a vital role in addressing regional challenges, fostering regional integration, and working towards the development and prosperity of the Arab world.

MEMBER COUNTRIES:

Igeria, Bahrain, Comoros, Djibouti, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Oman, Palestine, Qatar, Saudi Arabia, Somalia, Sudan, Syria, Tunisia, the United Arab Emirates, and Yemen.

Main objectives of Arab League:

The Arab League has several objectives, including promoting Arab unity, safeguarding Arab interests, and enhancing peace and security in the region. It aims to coordinate Arab positions on regional and international issues, representing the collective voice of its member states. The League supports self-determination and independence for Arab peoples and strives to resolve conflicts peacefully through dialogue and mediation. Additionally, it works towards economic cooperation and development, fostering trade and investment among member states. The Arab League also values cultural preservation and exchange, aiming to promote Arab culture and heritage. These objectives reflect the League's commitment to collaboration, solidarity, and progress in addressing the challenges and aspirations of the Arab world.

The signing on 13th April 1950, of an agreement on joint defense and economic cooperation also committed the signatories to coordination of military defense measures.

32 Arab League Summit

During the 32nd Arab League Summit, Syria was readmitted, and the Ukrainian President attended as a special invitee. The Jeddah Declaration, which acknowledged the contemporary socio-economic challenges facing the Arab nations, adopted a moderate political stance. While the summit emphasized the pro-Palestinian agenda, it notably avoided explicitly mentioning Israel. All discussions related to Iran were omitted. The summit called for an end to foreign interference in Arab countries' domestic affairs and rejected support for armed groups and militias. Non-Arab issues such as Ukraine and the oil market were not mentioned during the summit.

EMERGENCE OF SAUDI ARABIA AND ITS CROWN PRINCE AS LEADERS OF ARAB WORLD

The Crown Prince of Saudi Arabia has emerged as the key influencer shaping the Arab world's agenda for the foreseeable future. Demonstrating this influence, the Crown Prince hosted three summits in Riyadh, including one with the Chinese President. Saudi Arabia has also taken steps towards normalizing relations with Iran, aiming to end decades of hostility and religious rivalry. This normalization has reduced tensions among their respective proxies in conflicts such as Yemen, Lebanon, Syria, and Iraq. There is renewed hope of resolving the civil war in Yemen, which has been a significant challenge for the Kingdom since 2015. Saudi Arabia has also stabilized its ties with the United States. Meanwhile, Egypt, which has traditionally aspired to Arab leadership, faces economic challenges

as the Kingdom has scaled back its financial assistance, demanding greater financial accountability. Syria and Iraq continue to grapple with internal issues and interference from Iran.

STRENGTH OF SAUDI ARABIA

Saudi Arabia has strategically positioned itself to fill the leadership void in the Arab world, offering a moderate and balanced approach. By reconciling with Iran through Chinese mediation, without relying on a nod from the United States, Riyadh has demonstrated its diplomatic independence. This move has undermined US attempts to demonize Iran and question the effectiveness of its economic sanctions regime.

Establishing direct ties with Iran has diminished the significance of intermediaries like Qatar, Iraq, Oman, and Pakistan. Additionally, by re-engaging with Hamas in Gaza, Saudi Arabia aims to replace Qatar and Iran as the primary benefactors, potentially contributing to the deradicalization of the Palestinians.

While maintaining an ambiguous stance towards Israel, the Kingdom has shifted its traditional animosity towards a more pragmatic approach, refraining from immediate participation in the Abraham Accords. Jeddah has also emerged as a venue for peace talks among conflicting factions in Sudan, further establishing Saudi Arabia's role in regional conflict resolution.

SUADI ARABIA'S IMMEDIATE CONCERNS IN THE FUTURE

Saudi Arabia's foreign policy has experienced significant fluctuations since the Jamal Khashoggi episode in 2018. In order to enhance its effectiveness, a greater sense of maturity and consistency is required.

Although the Kingdom has taken various initiatives towards regional reconciliation, these efforts are not yet irreversible and could potentially unravel. Saudi Arabia's relationships with the UAE and Qatar remain prone to friction, and tensions between the two could escalate.

While Saudi Arabia enjoys internal stability, the anticipated transition of Crown Prince Mohammed bin Salman to the role of the next Saudi king could introduce disruptions and distractions to the country's trajectory. It is important for Saudi Arabia to navigate this transition carefully to maintain stability and continuity in its foreign policy endeavors.

INDIAS INTERACTION WITH SAUDI ARABIA AND ARAB LEAGUE

India has significant interests in the Arab world, particularly in the neighboring West Asian region. It is crucial for India to recognize the emerging geopolitical shift in the region and closely monitor the developments. India should realign its strategy accordingly and actively pursue its national interests.

While India maintains amicable and substantive relations with Saudi Arabia, there is still untapped potential that requires periodic upgrading. India can consider initiating several bilateral initiatives to strengthen ties further. It would be beneficial to extend a re-invitation to the Crown Prince for his postponed visit to India, leveraging his likely presence at the forthcoming G-20 Summit in New Delhi.

CONCLUSION

India should synergize the bilateral Strategic Partnership Council at various levels, exploring opportunities for energy complementarity and collaborating more effectively to ensure regional security. A bilateral Comprehensive Economic Partnership Agreement could be pursued, and India could propose a partnership with Saudi Arabia for the development of socio-economic infrastructure both bilaterally and regionally. Additionally, India should strive to increase its participation in various projects under the Kingdom's ambitious "Vision 2030."

LAUNCH OF INDUS - X : PROMOTION OF INDIA US PARTNERSHIP IN DEFENCE INNOVATION

CONTEXT: *India and the U.S. are considering co-producing jet engines, long-range artillery, and infantry vehicles through INDUS-X.*

BACKGROUND: shri Ajit Doval, India's National security advisor and his American counterpart had met to give shape to INITIATIVE on CRITICAL and EMERGING TECHNOLOGY (iCET) before the state visit of Indian PM shri Narendra Modi to US.

WHAT IS INDUS – X

INDUS-X is a forthcoming initiative under iCET that aims to foster partnerships and collaboration between the defense innovation ecosystems of India and the U.S. It focuses on advancing high-tech cooperation and exploring opportunities for joint research, development, and production in the defense sector.

ICET DIALOGUE: EXPANDING INDIA-US PARTNERSHIP IN CRITICAL AND EMERGING TECHNOLOGIES

iCET, spearheaded by the National Security Councils of both countries, was announced in 2021 with the objective of expanding the India-US partnership in critical and emerging technologies. The initiative focuses on areas such as research and development, quantum computing, defense innovations, space technology, semiconductors, and the future of wireless communications (6G). By fostering collaboration in these areas, iCET aims to accelerate America's technology partnership and strategic convergence with India.

One of the significant aspects of iCET is its role in facilitating India's position as a trusted supply chain partner. Through this partnership, the gradual lifting of US export control restrictions on India becomes possible. This allows for increased technology transfers and collaborations, benefiting both nations and promoting mutual growth in the defense and technology sectors.

In addition to iCET, several other technology partnerships exist between India and the US. The collaboration between NASA and ISRO in the NISAR project, the Joint Indo-US Quantum Coordination Mechanism, and the Lockheed Martin-Tata partnership for plane production are notable examples. Furthermore, initiatives such as the India-USA strategic clean energy partnership, the "Innovative Bridge" connecting defense startups, and the readiness assessment development for resilient semiconductor supply chains contribute to the growing collaboration between the two nations.

The partnership extends to various domains, including space exploration, wireless communications, defense innovation, and energy. Collaborative efforts between ISRO and NASA in human space flight, the CLPS project partnership in 5G/6G, and the development of Open RAN using trusted sources are further examples of the expanding India-US technology partnerships.

Open RAN disaggregates traditional telecom network components, enabling standardized interfaces and multi-vendor deployments. It promotes vendor diversity, innovation, and competition, leading to cost efficiencies, improved network performance, and faster feature deployment. Open RAN is widely supported for its transformative potential in enhancing network flexibility, interoperability, and security.

CONCLUSION

Overall, iCET and other technology collaborations reflect the deepening relationship between India and the US in critical and emerging technologies, with the shared goal of advancing scientific knowledge, promoting innovation, and driving economic growth.

G7 HIROSHIMA SUMMIT

CONTEXT: *The G7 leaders gathered in Hiroshima for the 49th annual Summit, hosted by Japan as the group's President. Prime Minister Kishida's decision to choose Hiroshima as the host city emphasizes his dedication to prioritizing nuclear disarmament and non-proliferation during the meeting. Indian Prime Minister Modi also participated in the Summit upon receiving an invitation from his Japanese counterpart.*

BACKGROUND: The G7 originated in response to the oil shocks and financial crisis of 1973. In 1975, the heads of the six leading industrial nations at the time - the US, UK, France, Germany (West), Japan, and Italy - decided to convene a meeting to address the situation. Canada joined the group in 1976, leading to the establishment of the G7. The current members of the G7 include the US, UK, Canada, France, Germany, Italy, and Japan. These countries are considered to be the most developed and advanced economies in the world.

EUROPEAN UNION & G7 It is worth noting that the European Union is also represented within the G7. The EU is not a formal member of the G7, but its presence is facilitated through the participation of the President of the European Council and the President of the European Commission. They attend G7 meetings, representing the EU's interests and enabling coordination and dialogue on mutual concerns.

OBJECTIVE OF G7

The primary purpose of the G7 is to guide and influence global discussions on multiple fronts, shaping political responses to address global challenges. Essentially, the G7 serves as a platform for nations to engage in discussions and collaborate on finding solutions to significant global issues, with a particular focus on trade, security, economics,

and climate change.

ECONOMIC SIGNIFICANCE:

Size and Influence: The G7 nations collectively represent a significant portion of the global economy, accounting for a substantial share of global GDP, trade, and investment. The G7 holds economic significance, representing close to 60 percent of global net wealth, 46 percent of global GDP, and about 770 million people. Their combined economic power gives them considerable influence over global economic policies and decisions.

Market Integration: G7 countries often have highly developed economies with advanced financial systems and strong market integration. Their economic policies and actions can have a significant impact on global markets and investor confidence.

International Cooperation: The G7 serves as a platform for economic cooperation and coordination among its member countries. Through discussions and agreements, they aim to foster economic stability, promote sustainable growth, and address common challenges such as fiscal imbalances, trade disputes, and financial crises.

POLITICAL SIGNIFICANCE:

Global Leadership: G7 nations, as major democratic powers, have considerable political influence on the world stage. Their collective actions and decisions can shape international relations, global governance, and geopolitical dynamics.

Multilateral Engagement: G7 provides a forum for political dialogue and collaboration on pressing global issues. It enables leaders to address shared challenges such as security threats, terrorism, climate change, human rights, and global health crises. The G7's declarations and commitments often set the agenda for broader international discussions.

Norm Setting: G7 countries often play a crucial role in setting international norms and standards. Their policies, agreements, and initiatives can influence the development of global regulations on various matters, including trade, environment, and technology.

POWER of G7

Overall, the G7's economic and political significance lies in its capacity to foster economic cooperation, shape global policies, and provide leadership in addressing critical global challenges.

- The G7 is not based on a treaty and has no permanent secretariat or office.

- The agenda of G7 is set by the presiding nation.

- It cannot pass any laws because it is made up of separate nations with their own democratic processes.

HIGHLIGHTS OF THE G7 HIROSHIMA SUMMIT:

Economic Resilience: G7 countries emphasized the need to build economic resilience for themselves based on a strategy of diversifying and deepening partnerships while de-risking, instead of completely decoupling from certain areas or markets.

Climate Action: Although the G7 acknowledged the urgency for effective climate action, they offered limited commitments to scaled-up efforts in this area.

Meaning of De-risking and Decoupling:

De-risking: Refers to the process of moving business operations away from areas or investments that are considered risky in terms of potential returns, aiming to create more secure and stable economic strategies.

Decoupling: In the context of markets, it is used as an alternative to economic boycotts or reducing interdependence, aiming to decrease correlation or reliance between economies to mitigate risks and potential coercion.

Reasons for G7's "De-risking" Stance:

The G7 countries adopted the term "de-risking" to describe their approach towards China in economic matters. It can be interpreted as a strategy to reduce dependence on China in terms of materials supply and market for finished goods. This approach aims to minimize potential risks to trade and disruptions in supply chains.

SIGNIFICANCE OF G7 SUMMIT

The G7 summit holds significance in the present world as it brings together major democratic economies to discuss and coordinate solutions for global challenges. It serves as a platform for shaping political responses, setting agendas, and influencing international policies on issues such as economy, trade, climate change, and security.

QUAD AND BIO MANUFACTURING

CONTEXT: *India is an ideal choice for a Quad-led bio manufacturing hub to boost cooperation in biotechnology.*

BACKGROUND: The QUAD, officially known as the quadrilateral security dialogue (QSD), is not a formal alliance. It is an informal strategic forum comprising four maritime democracies; India, japan, Australia and the United States of America. QUAD is also seen as an attempt to counter the influence of chins in the region.

Despite establishing the Critical and Emerging Technology Working Group in 2021, which aimed to foster cooperation in critical and emerging technologies, including biotechnology, the Quad countries have not yet achieved substantial collaboration in the field of biotechnology.

WHAT IS BIO MANUFACTURING?

Biomanufacturing, also known as biological manufacturing or bio-based manufacturing, refers to the use of living organisms or biological systems to produce or manufacture various products, including pharmaceuticals, vaccines, enzymes, biofuels, and other bioproducts. It involves the application of biotechnology, such as genetic engineering, fermentation, and cell culture techniques, to harness the capabilities of living organisms for large-scale production processes. Biomanufacturing offers advantages such as higher efficiency, reduced environmental impact, and the potential for producing complex molecules that are difficult to synthesize through traditional chemical methods.

POTENTIAL OF BIO MANUFACTURING IN THE WORLD

Pharmaceutical Production: Biomanufacturing plays a crucial role in the production of therapeutic proteins,

antibodies, vaccines, and other biopharmaceuticals. It enables the efficient and scalable production of complex molecules, leading to advancements in medicine and improved healthcare outcomes.

Sustainable Chemicals and Materials: Biomanufacturing offers a sustainable alternative to traditional chemical manufacturing processes by using renewable resources and reducing carbon emissions. It enables the production of bio-based chemicals, polymers, and materials, which have applications in various industries, including packaging, textiles, and construction.

Biofuels and Renewable Energy: Biomanufacturing techniques are used to produce biofuels such as ethanol, biodiesel, and advanced biofuels from biomass sources. These biofuels serve as a greener and more sustainable alternative to fossil fuels, helping reduce greenhouse gas emissions and dependence on finite resources.

Agricultural and Food Production: Biomanufacturing plays a role in enhancing agricultural productivity and sustainability. It involves the production of bio-based fertilizers, bio pesticides, and genetically modified crops that offer improved yields, pest resistance, and nutritional value.

Environmental Applications: Bio manufacturing has potential applications in environmental remediation and waste management. It involves using microorganisms or enzymes to degrade pollutants, clean up contaminated sites, and convert waste materials into useful products.

Overall, the potential of bio manufacturing lies in its ability to harness the power of living organisms and biological processes to address various global challenges, including healthcare needs, environmental sustainability, and resource efficiency. With ongoing advancements in biotechnology and increased adoption of bio-based solutions, the scope for bio manufacturing is expected to expand further in the future.

NATIONAL BIO TECHNOLOGY DEVELOPMENT STRATEGY OF INDIA

National Biotechnology Development Strategy: In 2015, the government launched a National Biotechnology Development Strategy aimed at positioning India as a global biotechnology hub. The strategy focuses on strengthening R&D, promoting entrepreneurship and innovation, enhancing skill development, and establishing centers of excellence in various areas of biotechnology.

INDIA'S STRENGTH AS A POTENTIAL BIO TECHNOLOGY HUB FOR THE WORLD

Strong Scientific and Research Base: India has a robust scientific and research infrastructure with renowned academic institutions, research organizations, and a pool of skilled scientists and researchers. This foundation provides a strong base for biotechnology innovation and R&D activities.

Human Capital: India is known for its highly skilled and educated workforce, including scientists, engineers, and researchers. The country produces a large number of science and technology graduates each year, providing a vast talent pool for the biotechnology industry.

Cost-Effective Manufacturing: India offers cost advantages in terms of manufacturing and production, making it an attractive destination for biomanufacturing activities. The availability of skilled labor at competitive rates contributes to cost-effective production of biopharmaceuticals and other biotech products.

Regulatory Framework: India has established a regulatory framework for biotechnology, including guidelines for research, development, and commercialization of biotech products. The regulatory environment is becoming more conducive to innovation and commercialization, which is crucial for the growth of the biotech sector.

Bioprospecting and Biodiversity: India is rich in biodiversity, with a wide range of unique and valuable flora and fauna. This provides opportunities for bioprospecting and the discovery of novel bioactive compounds, enzymes, and genetic resources that can be utilized in various biotech applications.

Growing Domestic Market: India has a large and diverse population, creating a significant domestic market for biotech products, including pharmaceuticals, diagnostics, and agricultural biotechnology. This market potential attracts both domestic and international investments in the biotechnology sector.

Government Support and Initiatives: The Indian government has launched various initiatives and programs to promote biotechnology, such as funding schemes, incubation centers, and technology transfer programs. These efforts aim to create a supportive ecosystem for biotech startups, innovation, and industry-academia collaborations.

International Collaborations: India actively collaborates with international partners in the field of biotechnology, fostering knowledge exchange, research collaborations, and technology transfer. Such collaborations enhance India's global standing and contribute to its potential as a biotechnology hub.

These strengths, combined with India's growing focus on innovation, entrepreneurship, and biotechnology-enabled solutions, position the country as a promising player in the global biotech landscape

MAJOR CHALLENGES OF INDIA IN BIO MANUFACTURING

- Infrastructure limitations
- Complex regulatory environment
- Skill development gaps
- Limited access to capital
- Lack of robust industry-academia collaboration
- Inadequate intellectual property rights protection
- Insufficient clinical trial infrastructure
- Need to enhance market access and global competitiveness

CHINA COMPETES WITH INDIA IN THE FIELD OF BIOTECHNOLOGY THROUGH VARIOUS STRATEGIES:

Research and Development: China invests significantly in biotech R&D, establishing renowned research institutions and universities to drive scientific advancements.

Government Support: China's policies and funding initiatives, such as the "Made in China 2025" plan, prioritize biotechnology development and offer financial incentives, tax benefits, and funding support for research and commercialization.

Manufacturing Capabilities: China possesses advanced biomanufacturing infrastructure, enabling efficient and cost-effective production of biopharmaceuticals and other biotech products.

Intellectual Property and Innovation: China is improving its intellectual property rights framework, promoting patent protections, and fostering domestic innovation through a thriving ecosystem of biotech startups and companies

Market Size: China's large population and growing middle class provide a substantial domestic market for biotech products, supported by government initiatives in healthcare and biotechnology.

Global Collaboration and Investments: China actively seeks international collaborations and investments in biotech, leveraging global expertise to enhance research, development, and commercialization.

Both China and India have their own strengths in biotechnology, and their competition extends to areas such as R&D, commercialization, intellectual property, and market access.

CAN THE QUAD COMPLEMENT INDIA IN BIO MANUFACTURING

Knowledge Sharing and Technical Expertise: The Quad countries possess advanced expertise in biotechnology and biomanufacturing, allowing for knowledge sharing and technical exchanges.

Access to Markets and Supply Chains: Collaboration with Quad partners provides India with opportunities to expand its market reach and access new customers, facilitating integration into global biotech supply chains.

Funding and Investment Opportunities: The Quad partnership creates avenues for increased funding and investment in India's biotech sector, attracting financial support and venture capital investments.

Regulatory Harmonization: The Quad promotes discussions on regulatory standards and harmonization in the biotech sector, reducing barriers to trade and facilitating the movement of biotech products across member nations.

Research and Development Collaborations: Joint research initiatives with Quad partners allow India to engage in cutting-edge projects, leveraging shared resources and networks.

Capacity Building and Skill Development: The Quad supports capacity building and skill development in the biotech sector through training programs, workshops, and exchanges, enhancing India's workforce capabilities.

WAY AHEAD FOR INDIA IN BIO MANUFACTURING

India can strengthen its bio manufacturing capabilities with support from the Quad by focusing on three key areas. First, collaboration with the Quad can assist in strengthening physical infrastructure for bio manufacturing through sharing best practices and financial resources. Second, implementing a dedicated scheme similar to the PLI scheme with the Quad's assistance can incentivize the production of biotech products. Lastly, the Quad can facilitate workforce development by enabling access to cutting-edge technology and training opportunities, emphasizing commercializing R&D. These initiatives will enhance India's bio manufacturing ecosystem, attract investments, and empower its workforce, making India a competitive player in the global biotech industry.

CONCLUSION

The establishment of a bio manufacturing hub in India presents an opportunity to harness the economic potential of the industry while addressing vulnerabilities in the global system. By promoting cross-Quad collaboration, India can emerge as a significant player in bio manufacturing, contributing to the Quad's competitiveness in this vital sector. India's strengths, combined with the Quad's collective expertise, resources, and market access, can foster innovation, enhance production capacities, and drive advancements in biotech. This collaboration will not only bolster India's position as a global biotech hub but also strengthen the Quad's overall influence in shaping the future of bio manufacturing and ensuring a more resilient global ecosystem.

75 YEARS OF BLUE HELMETS

CONTEXT: *Blue helmets refer to the soldiers and military personnel who serve in United Nations (UN) peacekeeping missions around the world. The term "blue helmets" originates from the distinctive light blue helmets worn by these peacekeepers as part of their uniform, symbolizing their neutrality and their role in maintaining peace and stability. India has played a significant role in the United Nations Peacekeeping missions over the past 75 years.*

BACKGROUND: WHY UN PEACEKEEPERS WERE ESTABLISHED

The UN Peacekeeping Forces were established in 1948 when the UN Security Council approved the deployment of UN military observers to the Middle East. Today on the 75th anniversary of this milestone, it is essential to recognize the enduring significance of these peacekeeping efforts.

PURPOSE OF UN PEACEKEEPING:

The primary purpose of UN peacekeeping forces is to assist nations in transitioning from war to peace. They are deployed to carry out missions that have been approved by the UN Security Council and the UN General Assembly. These missions play a crucial role in maintaining peace, protecting civilians, promoting stability, and facilitating the delivery of humanitarian aid.

GUIDING PRINCIPLES OF UN PEACEKEEPING:

UN peacekeeping operates under several guiding principles. These include the consent of the parties involved, impartiality in their actions, and a commitment to non-use of force except in cases of self-defense and defense of the mandate. These principles ensure that peacekeepers maintain their neutrality and credibility while working towards peace building.

COMPOSITION OF UN PEACEKEEPING FORCES:

UN peacekeeping forces consist of soldiers, police personnel, and civilian peacekeepers from different nations around the world. These individuals bring their diverse expertise and experiences to carry out peacekeeping missions effectively. Their collective efforts contribute to the restoration of peace and stability in conflict-affected regions.

INTERNATIONAL DAY OF UN PEACEKEEPERS:

May 29th is celebrated as the International Day of UN Peacekeepers each year. This day provides an opportunity to honour the courageous men and women who have served or are currently serving in peacekeeping missions. The theme for 2023, "Peace begins with me," highlights the individual responsibility to contribute to peace building efforts.

INDIA'S CONTRIBUTION TO UN PEACEKEEPING:

India has been a significant contributor to UN peacekeeping missions. It has deployed over 275,000 troops, including a notable number of women peacekeepers, in more than 51 missions. Additionally, India has contributed significant civilian and police personnel, demonstrating its commitment to global peace and security.

CHALLENGES AND FATALITIES:

Peacekeeping operations are not without challenges, and unfortunately, fatalities can occur. These fatalities may result from worsening political and security situations, engagements with criminal or terrorist organizations, and the inherent difficulties in maintaining stability and security in volatile environments.

MEASURES TO CONTROL FATALITIES:

To mitigate these risks, various measures have been implemented. These include maintaining geographical equilibrium and diversifying the nations contributing forces, implementing India's 10-point formula to address security and operational challenges, building confidence and cooperation with the host state, and determining the mission agenda. These efforts aim to enhance the safety and effectiveness of peacekeeping operations.

India's 10-point formula for UN peacekeeping entails prioritizing political solutions, strengthening mediation and preventive diplomacy, protecting civilians, building local capacities, ensuring effective mandates, adopting a comprehensive approach, promoting adaptability and flexibility, emphasizing robust peacekeeping, ensuring performance and accountability, and mainstreaming gender perspectives.

THE DAG HAMMARSKJOLD MEDAL:

The Dag Hammarskjold Medal is a prestigious posthumous award and the highest honour conferred upon UN Peacekeepers. It recognizes individuals who have demonstrated exceptional courage, unwavering devotion to duty, and made significant sacrifices in the pursuit of peace. Established in 1997 and named after Dag Hammarskjöld, the second Secretary-General of the United Nations, this medal stands as a tribute to the selflessness and dedication of peacekeepers worldwide.

CHALLENGES TO UN PEACEKEEPING IN PRESENT DAY

UN Peacekeeping is indeed facing challenges that have resulted in a decline in its appeal. One of the primary factors contributing to this decline is the geopolitical shift following the collapse of the Soviet Union. During the Cold War, UN peacekeeping played a crucial role in mediating conflicts between the United States and the Soviet Union. However, with the disappearance of this bipolar rivalry, the need for an impartial army to mediate between major powers diminished.

Moreover, modern conflicts have become more complex and chaotic, making traditional peacekeeping methods less effective. The absence of clear factions and the rise of non-state actors have made it difficult to achieve lasting ceasefires and implement peace agreements.

Another significant issue is the lack of public support, particularly in Western nations, for costly and risky peacekeeping missions. The financial burden and the potential risks involved in peacekeeping operations have led to reduced involvement and a growing trend of mission endings.

For instance, France's decision to end its counterterrorism mission in Mali reflects the dwindling enthusiasm for sustained peacekeeping efforts. The reluctance to commit resources and troops to long-term missions is partly driven by the lack of public support and a focus on domestic priorities.

To adapt to these challenges, UN peacekeeping needs to evolve and find innovative approaches to address complex conflicts. This may include greater emphasis on conflict prevention, targeted engagement with regional organizations, and the utilization of new technologies for early warning and rapid response.

Rebuilding public trust and garnering support for peacekeeping efforts will also be crucial. Highlighting the positive impacts of peacekeeping operations, engaging with local communities, and emphasizing the importance of international cooperation in maintaining global peace and security can help restore faith in UN peacekeeping.

Ultimately, while the appeal of UN Peacekeeping may have diminished in recent years, it remains an essential tool in the international community's efforts to prevent conflicts, protect civilians, and facilitate peace building. Adaptation, innovation, and sustained political commitment are necessary to revitalize and strengthen the effectiveness of UN peacekeeping in today's complex and evolving security landscape.

While UN Peacekeeping may be facing challenges and experiencing a decline in its appeal, there is still a critical need for its presence in today's world. The complexities of modern conflicts and shifting geopolitical dynamics require a re-evaluation of peacekeeping strategies and the implementation of necessary reforms.

To ensure the future effectiveness of UN peacekeeping, it is essential to address the identified flaws and improve operational efficiency. The recommendations from the Brahimi Report provide a valuable roadmap for reforms, including harmonizing conditions of service, developing guidelines and standard operating procedures, and establishing a rapid reaction force for swift deployment in crisis situations.

Furthermore, granting contributing nations greater administrative control can enhance the overall efficiency and effectiveness of peacekeeping missions. It is imperative to build trust and garner public support by highlighting the positive impacts of peacekeeping efforts and emphasizing the importance of international cooperation in maintaining global peace and security.

The UN and its member states, including India, must continue to collaborate and invest in strengthening the capabilities, resources, and training of peacekeeping forces. Adapting to evolving conflicts, leveraging technological advancements, and prioritizing preventive diplomacy are key to addressing the complex challenges

faced by UN peacekeeping.

CONCLUSION

Despite the current challenges, UN Peacekeeping remains an indispensable tool for fostering peace, protecting civilians, and facilitating conflict resolution. By implementing reforms, strengthening partnerships, and garnering support, the international community can ensure that UN Peacekeeping remains relevant, adaptive, and effective in promoting peace and security for generations to come.

SPACE FOR ROUGH WORK

INTERNAL SECURITY

CHINTAN SHIVIR OF IPS OFFICERS POSTED IN CAPFS AND NSG

CONTEXT: *Union Home Minister Shri Amit Shah presides over a Chintan Shivir.*

HIGHLIGHTS

- The welfare of the CAPF personnel has always been the priority of the government and the government has taken several steps for the welfare of the Jawans

- Union Home Minister appreciates the role of Central Armed Police Forces in strengthening internal security

- Stresses upon the need to have utmost vigilance at the border to ensure no infiltration and smuggling of drugs and arms

- Vibrant Village Program has been started to develop and create employment opportunities in border areas

- Contact and communication with every border villages and their residents are very important for the security of the borders, all CAPFs should promote purchase of local products, which will increase employment opportunities in border areas and stop migration

- Every CAPF should constitute a dedicated team to work on drone technology and anti-drone measures

- The security of the borders can be ensured only by coordination with the law and order and local administration of the district

- Shri Amit Shah stresses upon the need for welfare of Jawans, promotion of sports and sensitive approach towards their families, also asks all CAPFs to prepare national level sports teams

- Asks to make arrangements to provide free treatment to general public in all CAPF hospitals

- Every Jawan should adopt 5 trees into his family, this will not only clean the environment but will also increase the sensitivity of Jawans towards nature

- Union Home Minister directs that all the constructed houses of CAPFs should be allotted by November this year, directs to ensure allotment of all future houses through e-Awas portal in next two months

- Shri Amit Shah directs to fill up all Non-General Duty posts in CAPFs, directs to remove any bottlenecks in the recruitment process within a month

- Union Home Minister stresses upon the need to include at least 30 percent of Shree Anna in the diet along with inculcating interest in millets among the Jawans

Chintan Shivirs, also known as Chintan Baithaks, are brainstorming and strategy sessions organized by the Government of India. The term "Chintan Shivir" is derived from Hindi, where "Chintan" means contemplation or reflection, and "Shivir" refers to a camp or gathering. These Shivirs aim to bring together policymakers, bureaucrats, experts, and stakeholders to deliberate on key policy issues, identify challenges, and formulate strategies for effective implementation.

- Police-public relations,
- Social media and law enforcement,
- Central and state subjects,
- Mission Recruitment,
- Monitoring of Ayushman CAPFs,
- Training ,
- CAPF e-Awas Portal,
- Monitoring of infrastructure projects,
- Welfare,
- E xperience sharing and best practices were discussed. Along with this, in the open session , suggestions were given to the Union Home Minister on various issues related to the Central Armed Police Forces.

- In his address, Union Home Minister said that good law and order is very important for the progress of any nation, which can be ensured only through a strong police administration.

- Government of India has always made efforts to strengthen the police administration system and make it people-oriented so that it meets the expectations of the common people along with their safety.

- Shri Amit Shah said that our Central Armed Police Forces are making valuable contribution by maintaining internal law and order, protecting borders, conducting fair general elections, doing relief and rescue operations in times of disaster, and protecting strategically important institutions and monuments throughout the country. He said that the common citizen of the country feels safe and sleeps peacefully due to CAPF personnel devotion towards their duty and alertness. Shri Shah said that on one hand, police administration and the armed police forces are expected to live up to the expectations of the common man, on the other hand, the government also ensures the welfare of the police and CAPF personnel and their families by providing adequate facilities so that they can perform their duties smoothly.

- The Union Home Minister said that the welfare of CAPF personnel has always been the priority of the Modi government and under the leadership of Prime Minister Shri Narendra Modi, the government has taken several steps for the welfare of the Jawans. Union Home Minister appreciated the role of Central Armed Police Forces in strengthening internal security. He also Stresses upon the need to have utmost vigilance at the border to ensure no infiltration and smuggling of drugs and arms .

- Shri Shah said that all CAPFs may have different geographical area and role, but their problems and solutions are same which need to be worked upon with

positive approach.

Vibrant Village Program

Vibrant Village Program has been started to develop and create employment opportunities in the border areas. He said that contact and communication with every border village and its residents is very important for the security of the borders. Shri Shah said that all CAPFs should promote the purchase of local products, which would increase employment opportunities in the border areas and stop migration. He said that the responsibility of the unity, integrity and internal security of the country is imbibed in the oath of the IPS officers and the security of the borders can be ensured only through coordination with the law and order and local administration of the district.

Welfare of Jawans

The Union Home Minister stressed upon the need for the welfare of Jawans, promoting sports and sensitive approach towards the families of Jawans. He also asked all CAPFs to prepare national level sports teams. He said that Jawans should get at least one hour for sports every day, this would not only improve their physical and mental health but also increase their connection with motherland. Shri Shah said that IPS officers should have a cordial relationship with the Jawans and along with the Jawans, they should also take care of their families.

Ayushman CAPF scheme

- Ayushman CAPF scheme is a scheme to provide every Jawan a long and healthy life and all CAPFs should take suggestions from Jawans to make this scheme flawless. Shri Shah asked to make arrangements to provide free treatment to general public in all CAPF hospitals.

- He said that every Jawan adopt at least 5 trees into his family, this will not only keep the environment clean but will also increase the sensitivity of Jawans towards nature.

- The Union Home Minister and Minister of Cooperation, directed that all the constructed houses of CAPFs should be allotted by November this year and asked to ensure allotment of all future houses through e-Awas portal in two months.

- Shri Shah asked to fill up all the Non-General duty posts in CAPFs and directed to remove any bottlenecks in the recruitment process within a month. Shri Shah stressed upon the need to include at least 30 percent of Shree Anna in the diet along with inculcating interest in millets among the Jawans.

- Chintan Shivir is an important platform for Indian Police Service officers working in all forces to share their experiences and prepare future strategies by pondering over the solutions to challenges in front.

INTERNAL SECURITY PREVIOUS YEAR QUESTIONS SOLUTIONS

CIVIL SERVICE MAINS 2022

Q1.Discuss the types of organized crime. Describe the linkages between terrorists and organized crime that exist at the national and transnational levels.

Organized crime refers to criminal activities that are

conducted systematically by a group or network of individuals with a hierarchical structure and specific roles. These criminal organizations engage in various illicit activities, including drug trafficking, human trafficking, arms smuggling, money laundering, extortion, fraud, and

cybercrime. The types of organized crime can vary based on the nature of their operations and geographical reach. Some common types of organized crime include:

These criminal organizations are involved in the production, transportation, and distribution of illegal drugs. Drug cartels often have extensive networks spanning multiple countries and continents, controlling the entire drug supply chain.

Human trafficking involves the illegal transportation and exploitation of individuals for forced labor, sexual exploitation, or other forms of servitude. Organized crime groups play a significant role in facilitating human trafficking, often operating transnationally.

These criminal groups, commonly associated with the Italian and Russian mafias, operate through hierarchical structures and engage in various illegal activities such as extortion, racketeering, and corruption. They exert influence and control over specific territories or industries.

With the rapid growth of the digital world, organized crime has adapted to exploit opportunities in cyberspace. Cybercrime syndicates engage in activities such as hacking, identity theft, online fraud, and the distribution of malware and ransomware.

These criminal organizations are involved in the illicit trade of firearms and ammunition, often supplying weapons to other criminal groups or fueling armed conflicts and insurgencies.

Linkages between terrorists and organized crime exist at both the national and transnational levels. These connections can provide significant advantages and resources for both parties involved. Some key linkages between terrorists and organized crime include:

Organized crime groups can provide financial support to terrorist organizations through activities such as drug trafficking, arms smuggling, and money laundering. The illicit proceeds generated by organized crime can be used to fund terrorist activities, purchase weapons, and sustain their operations.

Criminal networks have established infrastructures and expertise in various illicit activities. Terrorist groups may leverage these networks for logistics, such as smuggling operatives, weapons, and supplies across borders, providing safe havens, or facilitating the movement of funds and equipment.

Terrorist groups and organized crime networks may form alliances based on shared interests. They may collaborate in areas such as drug trafficking, smuggling, or extortion, mutually benefiting from the resources, networks, and protection offered by each group.

The intertwining of organized crime and terrorism often involves corrupt officials who facilitate the movement of illicit goods, provide protection, or turn a blind eye to criminal activities. This corruption undermines law enforcement efforts and enables the activities of both terrorists and organized crime groups.

Both terrorists and organized crime groups operatebeyond national borders. The globalization of illicit networks provides opportunities for collaboration, sharing of expertise, and the exchange of resources between different criminal entities.

Addressing the linkages between terrorists and organized crime requires international cooperation, intelligence sharing, and robust law enforcement efforts. Governments and international organizations need to strengthen legal frameworks, enhance border control measures, and disrupt the financial networks that support these criminal activities. Combating organized crime and terrorism requires a comprehensive approach that addresses the underlying factors, including socio-economic disparities, political instability, and weak governance, which contribute to the symbiotic relationship between the two.

Q2.What are the different elements of cyber security? Keeping in view the challenges in cyber security examine the extent to which India has successfully developed a comprehensive National Cyber Security Strategy.

Different Elements of Cybersecurity:

Cybersecurity encompasses a range of measures and practices designed to protect computer systems, networks, and data from unauthorized access, theft, damage, or disruption. The key elements of cybersecurity include:

Network Security:

Network security involves the protection of computer networks from unauthorized access, attacks, and vulnerabilities. It includes implementing firewalls, intrusion detection systems, and virtual private networks (VPNs) to secure network infrastructure.

Data Security:

Data security focuses on safeguarding sensitive and confidential data from unauthorized access, loss, or theft. Encryption techniques, access controls, data backup, and secure storage are essential components of data security.

Application Security:

Application security aims to protect software applications from vulnerabilities and malicious attacks. It involves implementing secure coding practices, regular updates and patches, and conducting vulnerability assessments and penetration testing.

Endpoint Security:

Endpoint security focuses on securing individual devices, such as computers, laptops, and mobile devices, from malware, unauthorized access, and data breaches. Antivirus software, endpoint protection platforms, and secure configurations are part of endpoint security measures.

Incident Response:

Incident response involves the processes and procedures for detecting, analyzing, and responding to cybersecurity incidents. It includes incident identification, containment, eradication, and recovery to minimize the impact of security breaches.

Security Awareness and Training:

Educating users about cybersecurity risks and best practices is crucial. Regular training programs and awareness campaigns help users understand their role in maintaining cybersecurity and mitigate risks associated with social engineering, phishing, and other forms of

attacks.

India's National Cyber Security Strategy:

India has made significant efforts in developing a comprehensive National Cyber Security Strategy to address the evolving challenges in the digital landscape. The country has formulated the National Cyber Security Policy in 2013, followed by subsequent initiatives to strengthen cybersecurity measures. However, it is important to note that the strategy's implementation and effectiveness are subject to various challenges. Here are some key aspects to consider:

Policy and Legal Framework:

India has established policy frameworks and enacted laws, such as the Information Technology Act, 2000, to address cybercrime and establish regulatory mechanisms. The creation of the National Cyber Security Coordinator position and the setting up of the National Cyber Coordination Centre (NCCC) demonstrate the commitment to cyber defense.

Capacity Building:

India has taken steps to enhance cybersecurity capacity building through initiatives like setting up dedicated cybersecurity organizations, establishing cybersecurity research and development centers, and promoting public-private partnerships. The country has also invested in the training of cybersecurity professionals.

International Cooperation:

India actively engages in international cooperation to address cyber threats. It participates in various bilateral and multilateral forums, collaborates on cyber exercises, and shares information and intelligence with international partners.

Emerging Challenges:

India faces challenges in terms of increasing cyber threats, rapid technology advancements, and the sheer scale and complexity of the digital ecosystem. The country needs to continually adapt and update its cybersecurity measures to keep pace with evolving cyber risks, including those related to critical infrastructure protection, data privacy, and emerging technologies like artificial intelligence and the Internet of Things (IoT).

Public-Private Collaboration:

Effective cybersecurity requires collaboration between the government, private sector, and civil society. India has made progress in engaging the private sector through public-private partnerships, but further strengthening of these collaborations is necessary for a comprehensive and coordinated approach.

While India has taken significant strides in developing a National Cyber Security Strategy, ongoing efforts are required to address the challenges posed by cyber threats comprehensively. Continuous investment in cybersecurity infrastructure, capacity building, research and development, international cooperation, and public-private partnerships will be crucial to strengthen India's cyber defense capabilities and ensure the security of its digital ecosystem.

Q.3 Naxalism is a social, economic, and developmental issue manifesting violent internal security threats. In this context, discuss the emerging issues and suggest a multilayered strategy to tackle the menace of Naxalism.

Naxalism, also known as Left-Wing Extremism (LWE), poses significant challenges to internal security in India. It is a socio-economic and developmental issue rooted in historical grievances, inequality, and the marginalization of certain sections of society. To effectively tackle the menace of Naxalism, it is crucial to address the underlying causes while adopting a comprehensive and multilayered strategy. Here are some emerging issues and suggested approaches:

Socio-economic Development:

Addressing socio-economic disparities and ensuring inclusive development is paramount. The government should focus on providing basic amenities, healthcare, education, and employment opportunities in affected regions. Initiatives like the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) can contribute to poverty alleviation and rural development.

Land Reforms and Tribal Rights:

Resolving land-related disputes and protecting the rights of tribal communities is crucial. Implementing comprehensive land reforms, ensuring land ownership and tenancy rights, and empowering local communities in decision-making processes can address grievances related to land alienation and displacement.

Governance and Administration:

Improving governance and administrative effectiveness in affected areas is essential. Strengthening local governance institutions, enhancing public service delivery, and addressing corruption and inefficiencies in administration can help build trust and bridge the gap between the government and the people.

Security Response:

A robust security response is necessary to counter the violence perpetrated by Naxal groups. This includes intelligence-led operations, enhanced training and capacity building of security forces, and better coordination and intelligence sharing among different agencies. The focus should be on minimizing collateral damage and protecting human rights while conducting operations.

Community Engagement and Rehabilitation:

Engaging with affected communities is crucial to win their trust and support. Community policing initiatives, fostering dialogue with local communities, and addressing their grievances can contribute to reducing support for Naxal groups. Rehabilitation and reintegration programs for surrendered Naxals can provide opportunities for their socio-economic empowerment and encourage others to give up violence.

Development of Remote Areas:

Improving infrastructure and connectivity in remote and inaccessible areas is vital. Constructing roads, bridges, schools, healthcare facilities, and ensuring access to electricity and communication networks can help bring development to these regions and reduce their isolation.

Intelligence and Cyber Capabilities:

Investing in intelligence gathering and analysis, as

well as cyber capabilities, is crucial in countering Naxalism. Leveraging technology, data analytics, and digital platforms can aid in early detection, prevention, and tracking of Naxal activities, as well as their online propaganda and recruitment efforts.

Regional and International Cooperation:

Given the cross-border nature of Naxal activities, regional and international cooperation is essential. Sharing intelligence, coordinating efforts, and learning from the experiences of other countries dealing with similar challenges can strengthen the overall strategy to counter Naxalism.

Media and Public Perception:

Ensuring accurate and responsible media coverage is vital in shaping public perception. Media should play a constructive role by highlighting issues, facilitating informed discussions, and avoiding sensationalism that may inadvertently glorify violence or the Naxal ideology.

Addressing Naxalism requires a sustained, coordinated, and multi-pronged approach

* The suggested strategy combines
* socio-economic development,
* governance reforms,
* security measures,
* community engagement, and regional cooperation.

By addressing the root causes of Naxalism and promoting inclusive development, India can work towards lasting peace, social harmony, and progress in the affected regions.

MH 60 R HELICOPTER

CONTEXT: *The Indian Navy achieved another unique feat after an MH-60 'Romeo' multi-mission helicopter landed on the indigenously-built aircraft carrier INS Vikrant.*

Lockheed Martin Corporation designed and manufactured MH 60 R HELICOPTER, an all-weather helicopter to operate from frigates, destroyers, cruisers and aircraft carriers support multiple missions with state-of-the-art avionics and sensors. MH60 R, considered one of the most advanced maritime helicopters in the world is a versatile platform known for its exceptional ASW, surveillance, anti-shipping, and search and rescue capabilities.

TRILATERAL MARITIME PARTNERSHIP EXERCISE

CONTEXT: *India, France, and UAE successfully concluded their first-ever trilateral Maritime Partnership Exercise between their navies.*

The trilateral maritime exercise involved a range of operations at including surface warfare, missile engagements, close-quarter manoeuvres, air defence exercises with French Rafale and UAE Dash 8 MPA, helicopter cross-landing operations, and drills for replenishment at sea.

MH 60 R HELICOPTER

CONTEXT: *Recently, the fourth ship of the Survey Vessels (Large) (SVL) Project, named 'Sanshodhak', was launched at Kattupalli, Chennai. The project involves building four SVL ships for the Indian Navy by L&T/GRSE. The SVL ships, with new-generation hydrographic equipment, will replace the existing Sandhayak Class survey ships and collect oceanographic*
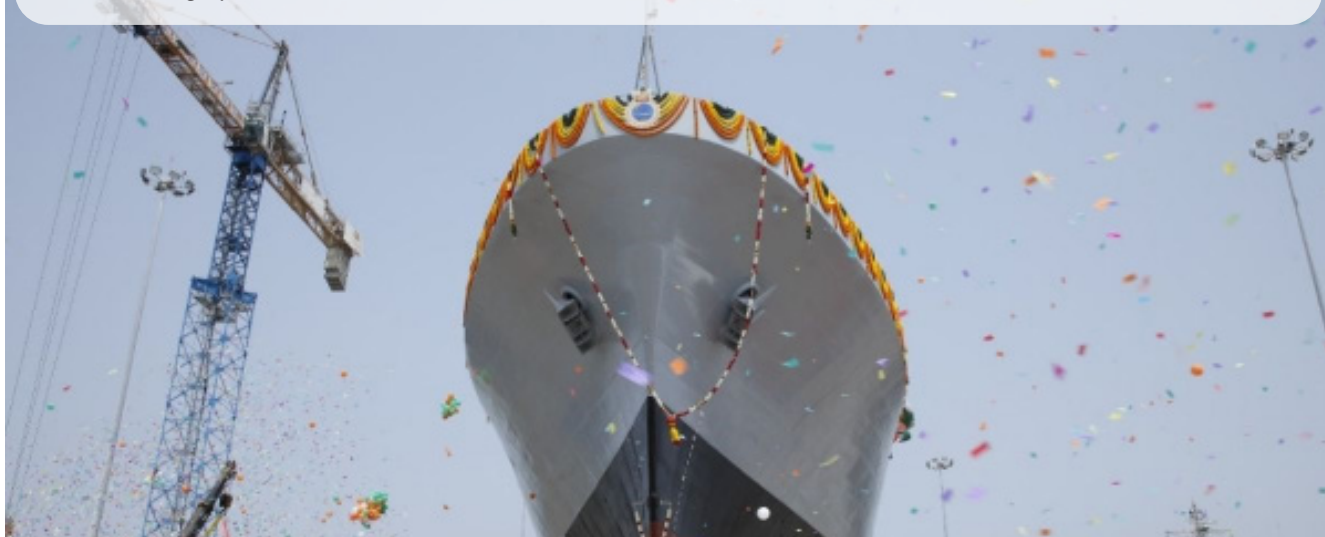
Anjadip': Also, recently, the third 3rd Anti-Submarine Shallow Water Craft (ASMSWC) ship, 'Anjadip', was launched. It has been named after the strategically important island of Anjadip, situated off the coast of Karwar, Karnataka and connected to the mainland by a breakwater, the ship represents the vital maritime role played by the island. The ASW SWC project involves the construction of a total of eight ships, designed to replace the existing Abhay class ASW Corvettes. These ships boast over 80% indigenous content, promoting large-scale defence production by Indian manufacturing units and bolstering employment opportunities while strengthening the country's capabilities in naval defence. ASWSWCs require less draft and can operate close to the coast, searching for underwater threats and neutralising enemy assets. Both the ships have been manufactured indigenously by Garden Reach Shipbuilders & Engineers (GRSE) in collaboration with Larsen & Toubro (L&T) Shipbuilding assets.

MQ-9B REAPERS

CONTEXT: The Defence Acquisition Council has approved the purchase of 31 MQ-9B armed drones from the US. The acquisition will enhance India's surveillance capabilities in the wake of increased tensions with China. The drones, with an endurance of over 27 hours and an operating capability of up to 50,000 feet, will strengthen India's defence capabilities.

MQ-9 DRONES: The hunter-killer MQ-9 drones are capable of a variety of roles, including maritime surveillance, anti-submarine warfare, over-the-horizon targeting, airborne early warning, and electronic warfare. The Sky Guardian variant with a wingspan of 79 feet can carry a payload of 2,155kg on nine hardpoints. The Sea Guardian variant can fly over the horizon via satellite for more than 30 hours and has advanced intelligence, surveillance and reconnaissance (ISR) capabilities.

ECONOMICS

ADB: COUNTRY PARTNERSHIP STRATEGY FOR INDIA (CSP): 2023-2027

CONTEXT: The Asian Development Bank (ADB) announced its India strategy with a key focus on employment creation and promoting green growthfor the period 2023-2027.

COUNTRY PARTNERSHIP STRATEGY FOR INDIA (CPS): 2023-2027:Deepen its engagement with India and support India's national development priorities to be achieved by 2047, aligning with the country's 100 years of independencefor a robust, climate-resilient, and inclusive growth.The CPS focuses on four cross-cutting themes:

- Domestic resource mobilization.
- Gender equality and inclusion.
- Digitalization and innovation ecosystem support.
- Regional cooperation and integration

OBJECTIVE: Accelerate structural transformation and job creation, promote climate-resilient growth, regional cooperation, and integration in South Asia, and deepen social and economic inclusiveness.

PILLARS: Accelerate the structural transformation and job creation through the convergence of logistics-industry-urban-skilling programs, along with support for MSMEs.

- Promote climate-resilient growth.
- Deepen social and economic inclusiveness.
- Cross-Cutting Themes

FINANCIAL SUPPORT: ADB has committed a financial support $ 52.6 billion in 605 public sector loans, grants, and technical assistance to India as of December 2022 towards promoting inclusive and sustainable development in various sectors of the Indian economy.

PRIVATE SECTOR INVESTMENTS: ADB has invested approximately $8 billion in domestic private sector targeted at fostering private sector growth, supporting entrepreneurship, and facilitating economic development in India.

INFRASTRUCTURE DEVELOPMENT: ADB has contributed towards improving connectivity with infrastructure development projects, including urban infrastructure projects, irrigation projects etc.

REFORMS AND CAPACITY BUILDING: ADB has assisted in the reforming the domestic logistics sector through technical assistance and knowledge sharing, ADB helps strengthen institutions and improve governance to enhance the efficiency and effectiveness of the sector.

INCLUSIVE DEVELOPMENT: ADB supported projects and programs that aim to address social and economic disparities, improve access to basic services, and enhance opportunities for marginalized communities.

CLIMATE CHANGE MITIGATION: ADB supported initiatives for climate adaptation and mitigation, energy transition, transport decarbonization, and disaster risk management. ADB's interventions in India's energy sector aim to facilitate the transition to cleaner and more sustainable sources of energy, contributing to India's climate agenda and its commitment to reducing carbon emissions.

REGIONAL COOPERATION: ADB supported regional initiatives such as the South Asia Subregional Economic Cooperation (SASEC), which brings together countries including Bangladesh, Bhutan, Maldives, Myanmar, Nepal, and Sri Lanka.

ASIAN DEVELOPMENT BANK: The Asian Development Bank is owned by its member countries, with Japan and the United States being the largest shareholders. India is one of ADB's founding members. The bank operates with a weighted voting system, similar to the World Bank, where votes are distributed based on members' capital subscriptions.

FOUNDED: 1966

SECRETARIAT: Manila, Philippines

TYPE: Multilateral Development bank

OBJECTIVE: Promote social and economic development in Asia and the Pacific.

MEMBERSHIP: The Asian Development Bank has 68 member countries, with 49 from the Asia-Pacific region and 19 from outside the region.

CONCLUSION: ADB's work in India is helping to make a real difference in the lives of millions of people. It is helping to improve access to essential services, to create jobs, and to reduce poverty. ADB remains committed to supporting India's development and to helping the country achieve its goals for inclusive and sustainable growth.

SKILL IMPACT BOND INITIATIVE

CONTEXT: Nearly 18,000 first-time job seekers have been skilled, with 72% of them being women under the Skill Impact Bond (SIB) initiative.

BACKGROUND: A Skill Impact Bond (SIB), India's first development impact bond was launched in 2020 by the National Skill Development Corporation (NSDC), the Government of India, and a consortium of private sector investors to finance skilling and employment programs. The goal of the Skill Impact Bond (SIB) initiative is to provide skills training and employment opportunities to 50,000 young people in India over four years, with a focus on women and girls.

SIGNIFICANCE: The Public-Private Partnership (PPP) model emphasise upon providing employment opportunities to trainees rather than just issuing training certificates. The SIB addresses the impact of the pandemic on women and employment, removes barriers to women's workforce retention, and leverages private sector capital and expertise. It also works towards strengthening India's technical and vocational education ecosystem through knowledge exchange and mainstreaming good practices.

SALIENT FEATURES:

PUBLIC-PRIVATE PARTNERSHIP: The Skill Impact Bond is a public-private partnership between the NSDC, the Government of India, and a consortium of private sector investors.

OUTCOME-BASED FINANCING: The SIB is an outcome-based financing mechanism. This means that the government or other public sector partner only repays the investors if the program achieves agreed-upon outcomes, such as a certain number of participants finding jobs or earning a certain wage.

FOCUS ON WOMEN AND GIRLS: The SIB is specifically designed to target women and girls. This is because women and girls are disproportionately represented among the unemployed and underemployed in India.

POTENTIAL TO SCALE: The Skill Impact Bond is a scalable model that could be replicated in other countries. This would allow more young people to benefit from skills training and employment opportunities.

SALIENT BENEFITS:

IMPROVED EMPLOYMENT OUTCOMES FOR YOUNG PEOPLE: Expected to improve the employment outcomes for young people in India providing skills training and access to employment opportunities.

INCREASED PARTICIPATION OF WOMEN IN THE WORKFORCE: Expected to increase the participation of women in the workforce providing skills training and employment opportunities to women, specifically designed to target women and girls.

ENHANCED EFFICIENCY OF GOVERNMENT SPENDING: Outcome-based financing mechanism expected to lead to more efficient use of government spending on skilling and employment programs that aligns the incentives of the government, private investors, and training providers.

CONCLUSION: The Skill Impact Bond is a promising initiative that has the potential to make a real difference in the lives of young people and women in India. It is a model that could be replicated in other countries to address the global skills gap.

ELECTRONICS REPAIR SERVICES OUTSOURCING (ERSO)

CONTEXT: *The Union Ministry for Electronics and Information Technology (MeitY) launched a pilot project on Electronics Repair Services Outsourcing (ERSO) to make India Global Repair Capital.*

BACKGROUND: The Right to Repair refers to government legislation that is intended to allow consumers the ability to repair and modify their own consumer electronic devices, where otherwise the manufacturer of such devices requires the consumer to use only their offered services. The idea originally originated from the USA where the Motor Vehicle Owners' Right to Repair Act 2012, required the manufacturers to provide the necessary documents and information to allow anyone to repair their vehicles. When customers buy a product, it is inherent that they must own it completely, for which the consumers should be able to repair and modify the product with ease and at a reasonable cost, without being captive to the whims of manufacturers for repairs. The ERSO program is expected to launch in Bengaluru, India in 2023.

SIGNIFICANCE:

REVENUE POTENTIAL: At present, India's revenue from repair services is about $350 million. India hopes to capture 20 % of the global repair service market – currently valued at $100 billion by 2030.

PROMOTE CIRCULARITY: The ERSO project focus upon extension of device life repairing them instead of replacing them could help to reduce the amount of e-waste generated in India and help promote a more circular economy in India.

EMPLOYMENT: The ERSO project could create jobs in the electronics repair sector. This sector is expected to grow rapidly in the coming years, and India could position itself as a leading hub for electronics repair.

BOOSTING DOMESTIC MANUFACTURING: The ERSO project could help to boost domestic manufacturing in India. By providing training to electronics repair technicians and making it easier for companies to repair electronics in India, the project could encourage more companies to manufacture electronics in India.

CONCLUSION: The ERSO is expected to create over 10,000 jobs in the first five years. The program is also expected to generate $1 billion in revenue for the Indian economy. The ERSO program is a significant step forward for the Indian electronics industry. It has the potential to make India a global leader in electronics repair services. The program could also help to boost the Indian economy and create jobs.

SEBI's SCORES PLATFORM

CONTEXT: *In May, SEBI's SCORES platform resolved 2,457 complaints against companies and market intermediaries.*

BACKGROUND: The Securities and Exchange Board of India (SEBI) launched an an online grievance redressal platform - SCORES (SEBI Complaints Redress System) to allow investors lodge complaints against listed companies and SEBI-registered intermediaries. SCORES doesn't deal with complaints against companies including Unlisted/delisted companies, sick companies or a company where a moratorium order is passed, or where the company is struck off by the Registrar of Companies (RoC). The platform would make it easier for investors to lodge complaints and to track the progress of their complaints.

LITIGATION PROCESS:

SEBI will assign the complaint registered with a designated officer for investigation. The officer will try to resolve the complaint through mediation with the concerned parties. If mediation is not successful, the officer will issue an order to investigate the matter. Investors can track the progress of their complaints on the SCORES platform.

SCORECARD: The SCORES platform has been a success in helping investors to resolve their grievances. In the first five years of its operation, the platform received over 20,000 complaints. Of these, over 90% were resolved through mediation or by order of SEBI. The SCORES platform is a valuable resource for investors. It provides a quick and easy way to lodge complaints and to track the progress of those complaints. The platform has helped to improve the investor protection framework in India.

SECURITIES AND EXCHANGE BOARD OF INDIA (SEBI)

The Securities and Exchange Board of India (SEBI) is the regulator of domestic CAPITAL MARKETS. The Securities and Exchange Board of India (SEBI) was established in 1992 reconstituted through the SEBI Act, 1992 headquartered at Mumbai as a regulator of capital markets in India to oversee and protect the interests of the issuers of securities, the investors and market intermediaries. The Board of Securities and Exchange Board of India is chaired by a nominated appointee, 2 officials nominated by the Union Finance Ministry, a Reserve Bank of India nominee and 5 nominees of the Union Government of India, out of them at least 3 shall be whole-time members.

FUNCTIONS

QUASI–EXECUTIVE: Conducts investigation and enforce transparency in operation of stakeholders.

QUASI–LEGISLATIVE: Draft and approve by–laws, including its amendments in operation of stock exchanges over subjects delegated via SEBI Act, 1992.

QUASI – JUDICIAL: Passes rulings and orders. A three member Securities Appellate Tribunal (SAT) chaired by a retired judge of the Supreme Court or a former Chief Justice of a High Court or a retired judge of a High Court with seven years of experience. A second appeal lies directly to the Supreme Court.

CONCLUSION: The SEBI CSORES portal would help tracking of grievances of stakeholders. Such initiatives are expected to improve the confidence of the investors in the capital market.

DEFAULT LOSS GUARANTEE (DLG)

CONTEXT: *The RBI has allowed a Default loss guarantee (DLG) (also called First Loss Default Guarantee (FLDG), a safety-net arrangement among banks, non-banking finance companies (NBFCs) and lending service providers (LSPs).*

BACKGROUND: The Reserve Bank of India (RBI) approved the FLDG scheme in June 2023. The scheme is designed to encourage LSPs to partner with REs and offer digital lending products to borrowers. The First Loss Default Guarantee (FLDG) is a safety net arrangement between a Lending Service Provider (LSP) and a Regulated Entity (RE) such as a Bank or Non-Banking Financial Company (NBFC) in the digital lending space. Under an FLDG arrangement, the LSP agrees to compensate the RE for losses incurred due to defaults on loans originated by the LSP, up to a predetermined percentage of the loan portfolio. Lending Service Providers (LSPs) are new-age technology platforms / agents of a bank or NBFC in the lending space who carry out one or more of a lender's functions on behalf of Regulated Entities (REs). For all practical purposes, credit risk is borne by the LSPs without having to maintain any regulatory capital.

BENEFITS OF FLDG FOR DIFFERENT STAKEHOLDERS:

Help Lending Service Providers (LSPs) to expand their lending operations and reach a wider range of borrowers.

Help Regulated Entities (REs) to mitigate their credit risk and increase their appetite for digital lending to expand their reach to new markets and underserved segments.

Help borrowers to access credit more easily and on more favourable terms, build their credit history and improve their access to future credit.

SIGNIFICANCE: This will facilitate the entry of small and medium fintech into the digital lending space in partnerships with banks or NBFCs.

ISSUES: The RBI expressed reservations about systemic risks posed by the First Loss Default Guarantee (FLDG) model. The RBI guidelines (2022) on digital lending did not provide clarity on the FLDG structure.

The LSP must be a company incorporated under the Companies Act, 2013.

The FLDG cover must not exceed 5% of the outstanding loan portfolio.

The LSP must have a minimum net worth of INR 100 million.

The LSP must have a track record of lending for at least two years.

CONCLUSION: The FLDG scheme would help mitigate the credit risk for REs, which can encourage them to lend to borrowers who may not otherwise qualify for traditional loans. The FLDG scheme is expected to boost the digital lending ecosystem in India. By providing a safety net for REs, the FLDG scheme will encourage LSPs to partner with REs and offer digital lending products to borrowers. This will make it easier for borrowers to access credit, and it will help to drive economic growth.

e-RUPI VOUCHERS

CONTEXT: *The Reserve Bank of India (RBI) permitted Non-Bank Prepaid Payment Instrument (PPI) issuers to issue e-RUPI vouchers and enabled the issuance of e-RUPI vouchers on behalf of individuals.*

e-RUPI VOUCHERS: e-RUPI is a digital voucher in the form of an SMS or QR code that can be used to make payments for specific purposes. It is a contactless, cashless, and digital payment method that can be used by individuals, businesses, and government agencies. e-RUPI vouchers are issued in the form of an SMS or QR code. The voucher can be redeemed at any merchant that accepts UPI e-Prepaid Vouchers. The user simply needs to scan the QR code or enter the SMS code at the merchant's checkout counter to redeem the voucher.

HOW IT WORKS: The Central / State Governments can issue an e-RUPI voucher for the determined amount through a partner bank for a specific purpose - cover a particular treatment of an employee in a specified hospital. The employee will receive an SMS or a QR Code on his / her feature phone / smartphone. She / He can go to the specified hospital, avail of the services and pay through the e-RUPI voucher received on his phone.

SIGNIFICANCE: e-RUPI vouchers are a secure and convenient way to make payments. The vouchers are not linked to any bank account or credit card, so there is no risk of fraud or identity theft. Additionally, the vouchers can be redeemed anywhere that accepts UPI, which makes them a versatile payment method.
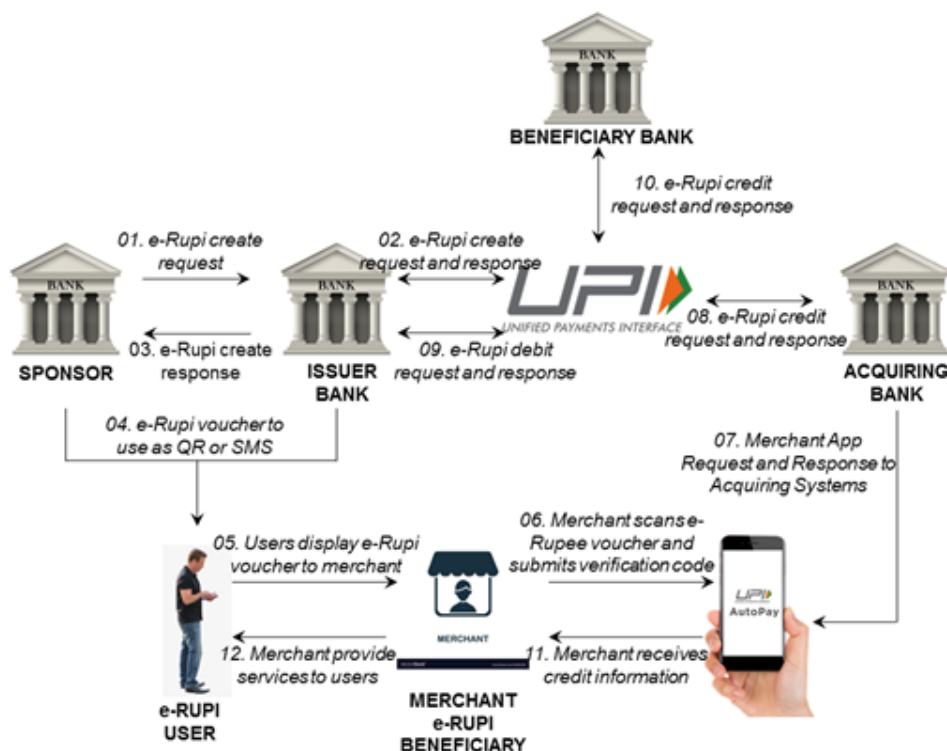
USE CASES OF e-RUPI VOUCHERS:

Government welfare programs

Corporate employee benefits

Retail purchases

Healthcare payments

Education payments

Donations

BENEFITS OF USING E-RUPI VOUCHERS:

SECURE: e-RUPI vouchers are not linked to any bank account or credit card, so there is no risk of fraud or identity theft.

CONVENIENT: e-RUPI vouchers can be redeemed anywhere that accepts UPI, which makes them a versatile payment method.

VERSATILE: e-RUPI vouchers can be used for a variety of purposes, including government welfare programs, corporate employee benefits, retail purchases, healthcare payments, education payments, and donations.

SCALABLE: e-RUPI vouchers can be easily scaled to accommodate large volumes of transactions.

COST-EFFECTIVE: e-RUPI vouchers are a cost-effective way to make payments, as there are no transaction fees involved.

CONCLUSION: e-RUPI vouchers are a new and innovative payment method that is quickly gaining popularity in India. They offer a secure, convenient, and versatile way to make payments for a variety of purposes. The e-Rupi ensures an easy, contactless process that is operable on basic phones also. It will deepen the penetration of digital payments in the country and a major stride towards promoting financial inclusivity.

STATE FOOD SAFETY INDEX

CONTEXT: *The Union Ministry for Health and Family Welfare published the 5th State Food Safety Index (SFSI) on World Food Safety Day.*

WORLD FOOD SAFETY DAY: The World Food Safety Day is observed every year on 7th June. It aims to raise awareness and encourage actions to prevent, detect, and manage foodborne risks. It was 1st observed in 2019. The theme this year is "Food standards save lives".

FOOD SAFETY: Food safety refers to the practices and measures taken to ensure that food is safe for consumption. Codex Alimentarius, a collection of standards, guidelines and codes of practice adopted by the Codex Alimentarius Commission under the aegis of the Food and Agriculture Organisation (FAO). Approximately 60 Cr. people, nearly 1 in 10 worldwide, fall ill each year due to consuming contaminated food, resulting in 420,000 deaths annually. Unsafe food leads to more than 200 diseases, including diarrhoea and cancers. Children under five account for 40% of the foodborne disease burden.

FOOD SAFETY INDEX: The Food Safety and Standards Authority of India (FSSAI) publish State Food Safety Index (SFSI) on an annual basis. The first State Food Safety Index was released in 2019 as a benchmarking model that provides an objective framework for evaluating food safety across all States/UTs. The index ranks the performance of states and Union Territories (UTs) in India on food safety based on five key parameters:

HUMAN RESOURCES AND INSTITUTIONAL DATA: This parameter assesses the availability of human resources, such as food safety officers and laboratory technicians, as well as the quality of data collected by states and UTs on food safety.

COMPLIANCE: This parameter measures the extent to which states and UTs are complying with food safety regulations.

FOOD TESTING INFRASTRUCTURE AND SURVEILLANCE: This parameter assesses the availability of food testing laboratories and the extent to which states and UTs are conducting food safety testing.

TRAINING AND CAPACITY BUILDING: This parameter measures the extent to which states and UTs are training food safety personnel and educating consumers about food safety.

CONSUMER EMPOWERMENT: This parameter assesses the extent to which states and UTs are providing consumers with information about food safety and empowering them to demand safe food.

TOP PERFORMERS - STATE FOOD SAFETY INDEX 2022-23:

Large states: Kerala, Punjab, Tamil Nadu

Small states: Goa, Manipur, Sikkim

Union Territories: Jammu and Kashmir, Delhi, Chandigarh

CONCLUSION: he SFSI is a valuable tool for benchmarking the performance of states and UTs on food safety. It can help to identify areas where states and UTs need to improve their food safety performance and track their progress over time. The SFSI can also be used to promote competition between states and UTs and encourage them to adopt best practices in food safety.

FINANCE COMMISSION

CONTEXT: *The Centre plans to constitute the Sixteenth Finance Commission*

APPOINTMENT: The President of India constitute Finance Commission - appointing the Chairman and four other members of the Finance Commission every fifth year or at such earlier time as he considers necessary.

ELIGIBILITY AND CONDITIONS: Article 280 (2) empowers the Parliament to make laws that lay down procedures and qualifications for appointment as members to the Finance Commission. The Parliament enacted the Finance Commission (Miscellaneous Provisions) Act, 1951 to determine the qualifications and the manner of selection of members of the Finance Commission. The members of the Finance Commission of India is eligible for reappointment.

POWERS: The Finance Commission make non-binding recommendations to the Government of India. The Chairman should be a person having experience in public affairs and the four other members should be selected from amongst the following:

State High Court Judge or an individual qualified to be appointed as State High Court Judge.

Individual with specialized knowledge of finance and accounts of the government.

Individuals with wide experience in financial matters and in administration.

Individuals with special knowledge of economics.

CONSTITUTIONAL FUNCTIONS AND MANDATE

1. Formulate principles governing vertical devolution of net proceeds from divisible pool of taxes between the Union and the States and horizontal distribution among States respectively.

2. Recommend principles governing transfer of Grants-in- aid to the States from the Consolidated Fund of India.

3. Recommends measures needed to augment Consolidated Fund of States, including supplementing resources of Panchayats and Municipalities.

4. Recommends any other matter referred to the Commission by the President in the interests of sound finance of the State Treasury.

SIGNIFICANCE: The Indian federal system allows for the division of power including the taxation powers between the Centre that collects the majority of the tax revenue and states, responsible for delivering public goods in their areas. The States in India with its vast regional disparities leads to states incurring expenditures higher than the revenue generated by them. To address these imbalances, the FC recommends the extent of central funds to be shared with states. Before India adopting the LPG reforms, the Centre compensated States with instruments such as Plan funds. In the post-reforms era, fresh PSU investments have reduced and the Planning Commission was abolished in 2014 making Finance Commission as the sole conduit for transfer of financial resources.

Revenue-sharing formulas in the 14th and 15th Finance Commissions

Weightage (%)

14th Finance Commission
- Population*: 27.5%
- Area: 15%
- Forest & ecology: 7.5%
- Income distance: 50%

15th Finance Commission
- Population: 15%
- Area: 15%
- Forest & ecology: 10%
- Income distance: 45%
- Demographic performance: 12.5%
- Tax effort: 2.5%

STATE'S SHARE IN DIVISIBLE POOL (%)

Chart showing State's Share in Divisible Pool (%):
- Eleventh FC: 29.5 %
- Twelfth FC: 30.5 %
- Thirteenth FC: 32 %
- Fourteenth FC: 42 %
- Fifteenth FC: 41 %

MARITIME INDIA VISION, 2030

CONTEXT: *The Maritime India Vision (MIV), 2030 identified global recognition of the operational efficiencies of Indian ports is an important step in India's endeavour to become a global maritime power.*

BACKGROUND: The Indian port sector saw large investments in the upgradation of infrastructure in the ports and shipping sector in the past few years. As a result, the capacity at 12 major ports in the country has increased from 871 million metric tonnes (MMT) in 2015 to 1,617 MMT in 2023. India has moved up to 22nd rank in the global rankings on the "International Shipments" category from the 44th position in 2014 in the World Bank's Logistic Performance Index (LPI) Report 2023. The reason for the improved performance in the Logistics Performance Index (LPI) can be attributed to:

Substantial reduction in the dwell time at Indian ports: The Dwell time - time vessels spent in port actively loading or unloading cargo in Indian ports has reached an optimum level of about 3 days, compared to 7 in the US and 10 in Germany.

Improvement in port operational efficiency: The Indian ports have an average Turn-Around Time (TAT) of only 0.9 days, compared to 1.4 days in Germany and 1.5 days in U.S.

KEY POLICY AND LEGISLATIVE REFORMS:

HaritSagar GREEN PORT GUIDELINES: The Union Ministry of Ports, Shipping & Waterways (MoPSW) issued Harit Sagar Green Port Guidelines in 2023 to promote sustainable development in India's port sector by encouraging the adoption of green practices and technologies. The guidelines cover a wide range of topics, including: energy efficiency, water conservation, waste management, pollution control and biodiversity protection. Under the Harit Sagar Green Port Guidelines, specific activities, namely Electrification of port equipments, use of renewable energy, development of green ports, promotion of coastal shipping and increased monitoring of environmental performance would be implemented. In short, the Ministry seeks to realise a paradigm shift towards safe, efficient and sustainable ports while implementing sound environmental practices among all stakeholders.

NATIONAL MARINE LOGISTICS PORTAL: The Union Ministry of Ports, Shipping and Waterways (MoPSW) launched National Marine Logistics Portal (NMLP), a single window platform for all stakeholders including those engaged in cargo services, carrier services, banking and financial services, and government and regulatory agencies that provides a range of services to the marine logistics industry in in July 2021. The NMLP aims to facilitate trade and commerce, reduce logistics costs, improve transparency and promote sustainable development. The NMLP offers a range of services, including freight booking, consolidation and deconsolidation, Warehousing, customs clearance, documentation and insurance services.

SagarSetu app: The Union Ministry of Ports, Shipping and Waterways (MoPSW) developed SagarSetu, a mobile app as a single window platform that provides a range of services to the maritime industry, including real-time information on vessel movements, payments for maritime services, documents and certificates, and chat with officials. The app facilitates seamless movement of goods and services in ports while substantially enhancing the ease of doing business.

MAJOR PORT AUTHORITIES ACT, 2021: The Parliament of India enacted the Major Port Authorities Act, 2021 on September 22, 2021 replacing the Major Port Trusts Act, 1963 (MPT Act). The MPA Act provides for the regulation, operation and planning of major ports in India and vests the administration, control and management of such ports upon the Boards of Major Port Authorities (MPAs). The MPA Act provides for increased autonomy for MPAs, Improved transparency and accountability and promoting sustainable development.

MARINE AIDS TO NAVIGATION ACT, 2021: The Parliament of India enacted the Act that provides for increased safety and efficiency in vessel traffic services and training and certification at par with international standards.

INDIAN VESSELS ACT, 2021: The Parliament of India

enacted the Indian Vessels Act, 2021 on 11 August 2021 replacing the Inland Vessels Act, 1917. The IVA 2021 provides for the regulation of inland vessel navigation in India, definition of inland vessel, safety standards for inland vessels, prevention of pollution and offences and penalties. The Indian Vessels Act, 2021 brought uniformity in law and standardised provisions across all inland waterways in the country.

INDIAN PORTS ACT, 1908: The Parliament of India enacted the Indian Ports Act, 1908 (IPA) on December 18, 1908 consolidating the enactments relating to ports and port-charges.

MARITIME INDIA VISION, 2030

The Union Ministry of Ports, Shipping and Waterways plans to make an estimated investments to the tune of ₹1–1.25 lakh Cr. for capacity augmentation and development of world-class infrastructure at Indian Ports under the MIV 2030 plans to develop global standard ports in India and identified following initiatives:

Developing world-class Mega Ports

Transhipment hubs

Infrastructure modernization of ports

TARGETS – MARITIME VISION 2030:

I. Develop 3 Major Ports with cargo handling capacity of more than 300 MTPA by 2030.

II. Increase the domestic cargo transhipment handled by Indian ports from 25 % (2020) to more than 75 % by 2030

III. Increase the cargo handled by Major Ports by PPP / other operators from 51 % (2020) to more than 85 % by 2030.

IV. Reduce the Average Container Vessel Turnaround Time from 25 hours (2020) to less than 20 hours by 2030.

V. Reduce the Average Container Dwell Time from 55 hours (2020) to less than 40 hours by 2030.

VI. Increase the Average ship daily output (Gross Tonnage) from 16,500 (2020) to more than 30,000 by 2030.

VII. Improve the global ranking in ship building and ship repair from 20 + (2020) to Top 10 by 2030.

VIII. Improve the global ranking in ship recycling from 2 (2020) to 1 by 2030.

IX. Increase the number of annual cruise passengers from 468,000 (2020) to more than 1500,000 by 2030.

X. Increase the share of Indian seafarers across globe from 12 % (2020) to more than 20 % by 2030.

XI. Increase the share of renewable energy at Major Ports from 10 % (2020) to more than 60 % by 2030.

CONCLUSION: The MIV 2030 is a ambitious plan that will require significant investment and cooperation from all stakeholders. However, if successful, it will help to transform the maritime sector of India and make it a major player in the global economy.

CONSUMER EXPENDITURE SURVEY (CES)

CONTEXT: *The Government is set to conduct a new household consumer expenditure survey (CES) in July.*

BACKGROUND: The National Sample Survey Office (NSSO), Government of India conduct Consumer Expenditure Survey (CES) every 5 years. The household survey provides information on the amount of money spent by consumers on a variety of goods and services, as well as the types of goods and services. The CES is a complex survey that is conducted in two phases.

INTERVIEW SURVEY: The survey conducted in person with a sample of households collects data on the household's income, expenditures, and demographic characteristics.

DIARY SURVEY: The survey conducted with a smaller sample of households collect data on the household's daily expenditures.

CONSUMER EXPENDITURE SURVEY (CES), 2023: The survey basket has been expanded in the new round. The largest category - 'miscellaneous' items has been segregated for detailed collection of data on the consumption of those items, along with the inclusion of items which have seen higher consumption trends in recent times. The survey also included detailed questions for seeking inputs on welfare subsidies such as food grains.

SIGNIFICANCE: The CES is used to calculate the Consumer Price Index (CPI), a measure of inflation. The survey is used by a variety of organizations to make important decisions about the economy. The CPI is used to adjust wages and salaries, as well as to calculate the value of social security benefits. The CES is also used by businesses to make decisions about pricing, product development, and marketing.

SALIENT FEATURES:

HOUSEHOLD SURVEY: Collects data from households, rather than businesses or individuals to get a more accurate picture of the spending habits of Indian consumers.

COMPREHENSIVE SURVEY: Collects data on a wide range of goods and services, including food, housing, transportation, clothing, and entertainment to track changes in consumer spending across a variety of sectors.

REPEATED SURVEY: Quinquennial survey to track changes in consumer spending over time to calculate the CPI and to make other economic forecasts.

CONFIDENTIAL SURVEY: Keeps the data collected from the CES confidential protecting the privacy of the households that participate in the survey.

CONCLUSION: The CES is a valuable source of information on the buying habits of Indian consumers. The survey is used by a variety of organizations to make important decisions about the economy.
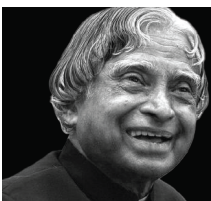
You have to dream before your dreams can come true..

- A. P. J. ABDUL KALAM

WIND ENERGY IN INDIA

CONTEXT: *On June 15, the Union Ministry of New and Renewable Energy organised Global Wind Day, a day-long event in New Delhi to celebrate the success of wind energy adoption and explore its future potential.*

BACKGROUND: The National Institute of Wind Energy (NIWE) with its headquarters located at Chennai prepared a Wind Atlas. The onshore wind potential of the country is now estimated at 1,164 GW at 150 meters above ground level.

STATISTICS AND FIGURES: India has the fourth-largest installed wind power capacity in the world. As of March 2023, India had an installed wind power capacity of 42.63 Giga-Watts (GW), only behind China, the United States, and Germany. The installed wind power capacity increased from 12.2 GW in 2014 and expected to reach 50 GW in 2023. India has a potential of about 60 GW of wind. Tamil Nadu is the largest producer of wind energy.

The National Wind-Solar Hybrid Policy (2018) provides financial incentives to developers of wind-solar hybrid projects to promote the development of wind-solar hybrid projects in India. The policy is expected to attract investment from global companies and create jobs in India. Here are some of the key objectives of the National Wind-Solar Hybrid Policy (2018):

• To promote the development of wind-solar hybrid projects in India.

• To reduce the cost of electricity generation from wind-solar hybrid projects.

• To create jobs in the renewable energy sector.

• To increase India's reliance on renewable energy.

The National Offshore Wind Energy Policy (2015) provides financial incentives to developers of offshore wind energy projects to promote the development of offshore wind energy in India. The policy is expected to attract investment from global companies and create jobs in India. The policy also sets a target of 30 gigawatts (GW) of offshore wind energy capacity by 2030. Here are some of the key objectives of the National Offshore Wind Energy Policy (2015):

• To promote the development of offshore wind energy in India.

• To reduce the cost of electricity generation from offshore wind energy projects.

• To create jobs in the renewable energy sector.

• To increase India's reliance on renewable energy.

CONCLUSION: Wind energy is crucial to India's efforts to achieve its goal of having 50 % of its electric power installed capacity from non-fossil fuel-based energy resources by 2030 and to achieve Net Zero by 2070. India is fully committed to achieving the target of 500 GW of renewable energy capacity by the year 2030.

NATIONAL TIME RELEASE STUDY (NTRS) 2023 REPORT

CONTEXT: *The Central Board of Indirect Taxes and Customs (CBIC) released the National Time Release Study (NTRS) 2023 report by the March 8, 2023.*

BACKGROUND: The National Time Release Study (NTRS) Report, 2023 provides data on the average Import Release Time (IRT) for different types of goods at various ports in India. The report also provides data on the factors that contribute to delays in import clearance. The report was compiled using data from the CBIC's electronic cargo tracking system (ECTS). The report found that the average IRT for all goods in India was 85.42 hours in 2023. The report also found that the IRT varied significantly by port.

NATIONAL TIME RELEASE STUDY: The Time Release Study (TRS) is a performance measurement tool that quantifies the time taken for cargo release at customs stations. It measures the duration from cargo arrival to its out-of-charge for domestic clearance in imports and from cargo arrival to carrier departure in exports. The study covers seaports, Air Cargo Complexes (ACCs), Inland Container Depots (ICDs), and Integrated Check Posts (ICPs), which handle a significant proportion of entry and shipping bills in the country.

Factors contributing to delays in import clearance:

Incomplete documentation

Customs valuation

Physical examination

Recommendations to reduce delays in import clearance:

Streamlining the documentation process: The CBIC should streamline the documentation process to make it easier for importers to submit complete and accurate documentation.

Fast-tracking the customs valuation process: The CBIC should fast-track the customs valuation process to reduce the time it takes for importers to get their goods appraised.

Reducing the number of physical examinations: The CBIC should reduce the number of physical examinations that are conducted on imported goods.

KEY FINDINGS: The findings highlight the importance of the "Path to Promptness" strategy, which includes advance filing of import documents, risk-based facilitation, and benefits for trusted clients. Cargoes that incorporate all three features achieve the National Trade Facilitation Action Plan release time target across all port categories. In line with the government's focus on export promotion, NTRS 2023 places greater emphasis on measuring export release time. The report differentiates between regulatory clearance (customs release) and physical clearance (completion of logistics processes). The study indicates that the National Trade Facilitation Action Plan release time target has been achieved for most port categories when considering regulatory clearance.

CONCLUSION: The NTRS 2023 report is an important tool that can be used to identify and address the factors that contribute to delays in import clearance. The recommendations made in the report can help to improve the efficiency of India's customs clearance process and reduce the time it takes for importers to get their goods cleared.

PRODUCTIVITY LINKED INCENTIVE (PLI) SCHEME

CONTEXT: *The Production Linked Incentive (PLI) schemes in India have had a positive impact on production, employment generation, economic growth, and exports.*

PRODUCTIVITY LINKED INCENTIVE (PLI) SCHEME: The PLI scheme was launched in 2020 to scale up domestic manufacturing capability, accompanied by higher import substitution and employment generation. PLI schemes are aimed at enhancing competitiveness and leveraging the untapped potential of Indian industries to fulfil the vision of an Atmanirbhar Bharat. Under the PLI Scheme, incentives are calculated on the basis of incremental sales, ranging from as low as 1 % for electronics to as high as 20 % for the manufacturing of APIs and bulk drugs and disbursed over five years after setting up their manufacturing units. The PLI schemes, presently in place for 14 sectors, are being implemented by the concerned ministries and departments.

ACHIEVEMENTS:

FOREIGN DIRECT INVESTMENTS: The FDI in the manufacturing sector increased by 76 % in FY 2021-22 compared to the previous year. Drugs and Pharmaceuticals sector saw 46 %, Food Processing Industries 26 % and Medical Appliances 91 % in foreign Direct Investments (FDI).

INDIA'S EXPORTS BASKET: PLI Schemes have transformed India's export basket from traditional commodities to high-value-added products increasing exports by ₹ 2.56 lakh Cr. till FY 2022-23. The mobile manufacturing sector witnessed a value addition of 20 % within a period of 3 years.

INVESTMENTS: PLI Scheme attracted investments worth over ₹ 3.65 lakh Cr. across 733 applications in 14 sectors with ₹ 62,500 Cr. investment realised till March 2023, resulting in employment generation of around 3,25,000.

SECTOR-SPECIFIC RESULTS:

FOOD PROCESSING: PLI Scheme for Food Processing positively impacted on the income of Indian farmers and MSMEs.

TELECOM: Achieved an import substitution of 60 % in the Telecom sector, making India self-reliant in Antennae, GPON, and CPE.

DRONES: Drones sector turnover has seen 7 times jump due to the PLI Scheme.

PHARMACEUTICALS: Significant reduction in imports of raw materials in the pharma sector, transfer of technology in the manufacturing of Medical Devices.

DIRECT AND COLLATERAL JOB SURGE EXPECTED IN 6 MONTHS OF FY2021

SECTOR	NEW JOBS	INDIRECT JOBS 3X
Advanced Chemistry Cell Batteries	14,07,778	42,23,333
Electronic Technology Products	3,88,889	11,66,667
Automobiles & Auto Componenets	44,36,600	1,33,09,800
Pharmaceuticals & Drugs	11,66,667	35,00,000
Telecom & Networking	9,48,500	28,45,500
Textile Products	8,30,900	24,92,700
Food Products	8,47,778	25,43,333
Solar PV Modules	3,50,000	10,50,000
White Goods (AC, LED)	4,85,178	14,55,533
Speciality Steel	4,91,711	14,75,133
TOTAL	**1,13,54,000**	**3,40,62,000**

CHALLENGES:

LACK OF CLARITY: In the electric auto industry, firms are looking for clarity on the incentives they are supposed to receive. In 2022-23, incentives could not be disbursed because no auto company presented the required documents.

LACK OF DISBURSEMENTS: In 2022-23, the government paid ₹ 2,874 crore to beneficiaries against a claim of ₹ 3,420 crore in various sectors.

INSUFFICIENT INVESTMENT: The low disbursement of incentives suggests that the PLI scheme may not have resulted in the expected level of investment. 6 of the 14 sectors including textiles, solar PV modules, and advanced chemistry cell (ACC) batteries are lagging.

AFFECTS COMPETITION: The state's decision to select champions and provide fiscal incentives could affect competition in the targeted sectors.

DOCUMENTATION ISSUES: Without the required documents, incentives cannot be disbursed to the eligible companies.

LIMITED OUTGO OF ALLOCATED FUNDS: The actual disbursement of funds has been significantly lower than the allocated budget for the scheme.

Despite these challenges, the PLI scheme has the potential to be a major boost for manufacturing in India. If the scheme is implemented effectively, it could help to create jobs, attract investment, and boost exports. However, it is important to address the challenges that the scheme faces in order to ensure its success. Here are some of the suggestions that have been made to address the challenges of the PLI scheme:

IMPROVED CLARITY ON GUIDELINES: The government should provide more clarity on how the PLI scheme will be implemented, including the criteria for eligibility, the calculation of incentives, and the funding mechanism.

MAKE SCHEME MORE INCLUSIVE: The government should make the PLI scheme more inclusive by providing incentives to SMEs and startups. This could be done by setting lower production targets for SMEs, or by providing

them with additional support, such as training and mentoring.

MAKE SCHEME MORE FLEXIBLE: The government should make the PLI scheme more flexible by allowing companies to meet their production targets in a variety of ways. This could include allowing companies to export their products, or to use imported components.

INVEST IN SKILLS DEVELOPMENT: The government should invest in skills development in order to address the shortage of skilled labour in India. This could be done by providing training programs for workers, or by working with universities and colleges to develop new courses in manufacturing.

CONCLUSION: By addressing these challenges, the government can help to ensure the success of the PLI scheme and boost manufacturing in India.

NATIONAL WORKING PLAN CODE-2023

CONTEXT: *The Ministry of Environment, Forest & Climate Change released the "National Working Plan Code-2023" for the scientific management of forests and evolving new approaches.*

BACKGROUND: The National Working Plan Code-2023 incorporated "Indian Forest Management Standard", takes into account the diverse forest ecosystem in our country aiming to provide social, economic, cultural, and spiritual benefits from forests. The code brings uniformity and acts as a guiding principle for the preparation of working plans across different forest divisions and states. The standard aligns with international criteria and indicators for sustainable forest management.

SALIENT FEATURES:

CENTRALISED PLANNING: The Centre would enjoy more control over the planning process, in contrast to more autonomy to state governments in the previous systems. The code provides for a number of penalties for non-compliance with the code, including fines and imprisonment.

GREATER EMPHASIS ON SUSTAINABILITY: The code requires formulation of sustainable working plans to take into account the environmental impact of the projects.

MORE TRANSPARENT PROCESS: The code requires transparent working plans making them available to the public for comment and review.

MORE PARTICIPATORY PROCESS: The code requires involvement of all stakeholders, such as local communities and environmental groups, in the planning process to make the working plans more participatory.

The National Working Plan Code-2023 is a significant piece of legislation that is expected to have a major impact on the way that working plans are prepared and implemented in India. The code is designed to make working plans more sustainable, transparent, and participatory. This is expected to lead to better planning and implementation of forest management projects in India.

CONCLUSION: The National Working Plan Code-2023 is a comprehensive piece of legislation that is designed to reform the way that working plans are prepared and implemented in India. The code is expected to lead to better planning and implementation of forest management projects in India, which will help to conserve and sustainably manage India's forests.

RBI TO REGULATE BIGTECH AND FINTECH

CONTEXT: *The RBI Governor has come up with a document 'Payments Vision 2025' to regulate Bigtech and Fintech companies to provide secure and affordable e-payments.*

BACKGROUND: The Reserve Bank of India (RBI) released its Payments Vision 2025 in December 2020. The vision document outlines the RBI's goals for the Indian payments ecosystem in the next five years. The key goals of the Payments Vision 2025 are to:

OBJECTIVES:

Make payments safe, secure, and efficient.

Promote universal financial inclusion and access to payments services.

Facilitate the use of innovative payment technologies.

Strengthen the internationalization of Indian payments.

PILLARS OF PAYMENTS VISION 2025:

INTEGRITY: The RBI aims to ensure that the Indian payments ecosystem is free from fraud and abuse.

INCLUSION: The RBI wants to make payments services accessible to everyone, regardless of their income or location.

INNOVATION: The RBI is committed to promoting the use of innovative payment technologies, such as UPI and blockchain.

INSTITUTIONALISATION: The RBI wants to strengthen the regulatory and supervisory framework for the payments ecosystem.

INTERNATIONALISATION: The RBI aims to make Indian payments more accessible to users and merchants around the world.

As part of its Vision 2025, the RBI will attempt

Regulation of Bigtech and Fintech in the payments space.

Explore guidelines on payments involving BNPL (Buy Now Pay Later) services

Work towards the introduction of CBDC (Central Bank Digital Currency)

Seek inclusion of rupee in Continuous Linked Settlement (CLS) for cross-currency settlement in 18 currencies

CURRENT ISSUE: The RBI has identified a number of key initiatives that it plans to undertake to achieve the goals of the Payments Vision 2025 -

Promoting the use of UPI and other digital payment methods.

Developing a national payments infrastructure that is interoperable, secure, and scalable.

Expanding the reach of payment services to rural and underserved areas.

Promoting financial literacy and awareness about payments.

Working with international partners to facilitate the cross-

border flow of payments.

SIGNIFICANCE OF REGULATION:

AVOID SYSTEMIC CONCERNS: Big Techs needs to be properly regulated in the space of lending activities. Big Tech can use customer data and sophisticated algorithms that can lead to "systemic concerns" like over-leverage and inadequate quality assessment of borrowers.

OTHER CONCERNS: Firms like Google, Amazon and Meta, which are referred to as Big Tech, also poses concerns related to competition, data sharing, data protection and operational resilience of critical services in situations where banks and NBFCs utilise their services. Also, risks relating to cybersecurity, software development limitations in transaction capacity, the privacy of customer data and data security. The Financial Stability Report raised some broad concerns, including about such companies' products accepting deposits for some regulated financial sector entities.

SENSITIVE USER DATA: Big-tech and fintech companies offer sophisticated services which use sensitive data from various sources to issue loans to users, including those not having collateral or credit history.

ISSUES OF LENDING THROUGH DIGITAL CHANNELS:

Issues related to unfair practices, data privacy, documentation, transparency, and breach of licensing conditions. Use of artificial intelligence and machine learning needs to be implemented to determine the creditworthiness of a borrower.

MULTIPLE REGULATORS: The fintechs' require multiple regulators to work together because a single technology like blockchain or de-centralised finance (DeFi) can have multiple uses coming under different watchdogs' ambit. A globally coordinated regulatory approach and inter-regulatory coordination will enable comprehensive assessment of such activities, activities and mitigation of risks.

ANONYMITY: DeFi poses unique challenges to regulators as it is anonymous. The lack of a centralised governance body and legal uncertainties can make the traditional approach to regulation somewhat ineffective. The methodology of algorithms underpinning digital financial services has to be "clear, transparent, explainable and free from exclusionary biases".

CONCLUSION: Authorities and regulators have to strike a fine balance between enabling innovation and preventing systemic risks. The RBI has to issue guidelines to make digital lending ecosystems "safe and sound while enhancing customer protection and encouraging innovation".

TRADE RECEIVABLES DISCOUNTING SYSTEM PLATFORMS

CONTEXT: *The Indian government and the Reserve Bank of India (RBI) are exploring the integration of the Goods and Services Tax Network (GSTN) with the Trade Receivables Discounting System (TReDS) platforms using an account aggregator.*

GOODS AND SERVICES TAX NETWORK (GSTN): The Goods and Services Tax Network (GSTN) is a technology platform established by the Indian government to manage the implementation of the Goods and Services Tax (GST) system. It serves as a backbone for the GST regime, facilitating taxpayer registration, invoice filing, tax payment, and return filing processes.

TRADE RECEIVABLES DISCOUNTING SYSTEM (TREDS) PLATFORMS: Trade Receivables Discounting System (TReDS) platforms are digital platforms that provide a mechanism for small and medium-sized enterprises (SMEs) to raise funds by selling their trade receivables or invoices to financiers at a discounted rate. These platforms facilitate the early realization of funds, helping SMEs improve their cash flow and working capital.

ACCOUNT AGGREGATOR: An account aggregator is a financial intermediary that collects and consolidates a user's financial data from various sources such as banks, mutual funds, insurance companies, and other financial institutions. Account Aggregator Network (AAN) is an RBI-

regulated entity (with an NBFC-AA license) Currently, 23 banks from both public and private are under the AAN. AA framework was created in 2021 through an inter-regulatory decision by RBI and other regulators including SEBI, IRDA, and PFRDA through an initiative of the Financial Stability and Development Council (FSDC)

INTEGRATION OF GSTN WITH TREDS:

Facilitates direct sanctions of invoices raised by Micro, Small, and Medium Enterprises (MSMEs) on the GSTN platform.

e-invoices generated on the GSTN can be seamlessly transmitted to the TReDS portal, eliminating the need for additional activities or documentation.

Faster loan underwriting and sanctions as financiers will have greater confidence in the authenticity of the invoices sourced directly from the GST platform.

Development of an alternative credit database, particularly benefiting MSMEs with limited credit history.

WORLD BANK: TOOLKIT TO SUPPORT COUNTRIES AFTER NATURAL DISASTERS

CONTEXT: *The World Bank Group announced a comprehensive toolkit to support countries in responding to natural disasters and other crises.*

NEED FOR THE TOOLKIT: The toolkit allows for building resilience, sharing knowledge and ensuring swift response and recovery, ultimately contributing to poverty reduction and a more sustainable world to help countries respond effectively to the increasing frequency and impact of natural disasters and crises.

PAUSE IN DEBT REPAYMENTS: Provides relief to countries by allowing them to focus on urgent needs instead of loan repayments during crises or catastrophes. World Bank

Group will launch Climate Resilient Debt Clauses. These will provide a pause in debt repayments for the most vulnerable countries in times of crisis or catastrophe.

REDIRECTING FINANCING: Offers countries the flexibility to quickly redirect funds for emergency response, ensuring immediate access to cash for disaster management and recovery efforts.

LINKING CRISIS PREPAREDNESS AND FINANCING:

Helps governments build advanced emergency systems, enhancing their preparedness to respond to crises effectively from day one.

BACKSTOPPING DEVELOPMENT PROJECTS WITH PRIVATE-SECTOR SUPPORT: Supports development projects by providing private sector support in crisis preparedness and response, enabling businesses to sustain operations, protect jobs, and promote long-term sustainability in disaster-struck areas.

BUILDING DEBTLESS ENHANCED CATASTROPHE INSURANCE: Enhances catastrophe insurance options, such as catastrophe Bonds, and offers the integration of catastrophe insurance into lending products. Provides resources for disaster-struck countries without adding to their debt burden.

CONCLUSION: This toolkit provide relief, flexibility, and resources needed to respond effectively and recover from natural disasters and crises, empowering empowers disaster-vulnerable countries.

SPACE FOR ROUGH WORK
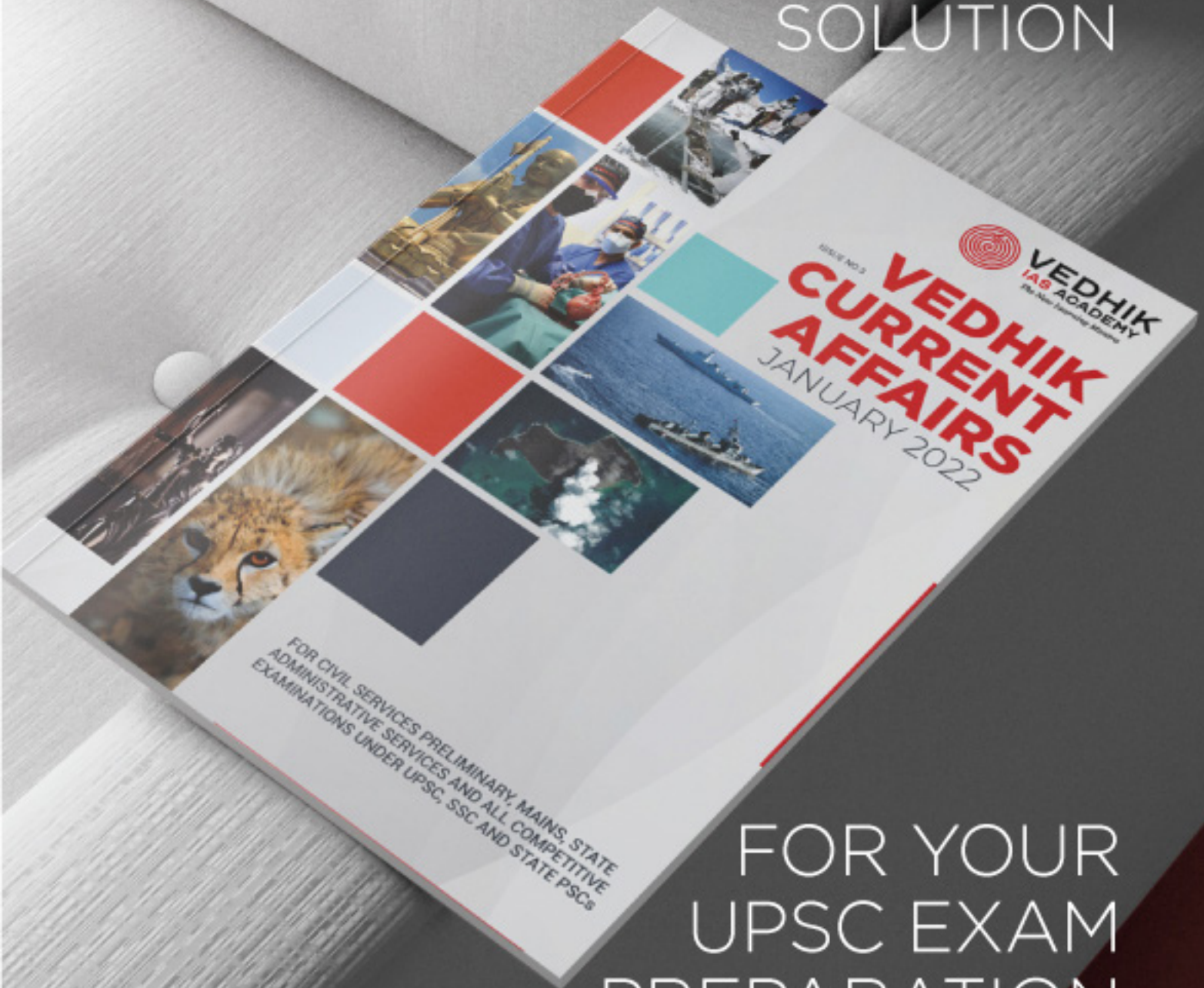
ECOLOGY

POTENTIAL FOR OIL RESERVOIRS IN SALT
CAVES IN INDIA

AMCHANG WILDLIFE SANCTUARY

GROUND-LEVEL OZONE

GLOBAL WARMING

FISH KILL

GLACIER MELTING

LEED CERTIFICATION

ECO-FRIENDLY BIODEGRADABLE
PRODUCTS

POTENTIAL FOR OIL RESERVOIRS IN SALT CAVES IN INDIA

CONTEXT: *Engineers India (EIL), a government-owned engineering consulting business, is researching the potential and viability of building strategic oil reserves in Rajasthan based on salt caverns.*

BACKGROUND: In order to meet the government's goal of expanding the nation's capacity for strategic oil storage, the government-owned engineering consultancy firm Engineers India (EIL) is researching the potential and viability of creating salt cavern-based strategic oil reserves in Rajasthan. India might obtain the country's first oil storage facility built inside a salt cavern if the plan is realised. The three strategic oil storage facilities that are now in use by the nation are located in the states of Andhra Pradesh, Mangaluru, and Padur.

HIGHLIGHTS: The current SPR capacity of India is 5.33 million tonnes, or roughly 39 million barrels of crude, which can supply the country's needs for 9.5 days. At Chandikhol in Odisha (4 million tonnes) and Padur (2.5 million tonnes), the nation is currently enlarging its SPR capacity by a total of 6.5 million tonnes.

The Indian Strategic Petroleum Reserve (ISPRL), a special purpose company under the Petroleum Ministry, is responsible for managing India's strategic oil reserves. EIL played a crucial role in establishing the nation's current SPR as the project management advisor. Compared to rock caverns, salt cavern-based storage is thought to be less expensive, labour- and money-intensive, and might open up a new, crucial chapter in India's SPR history.

OPERATING A SALT CAVERN
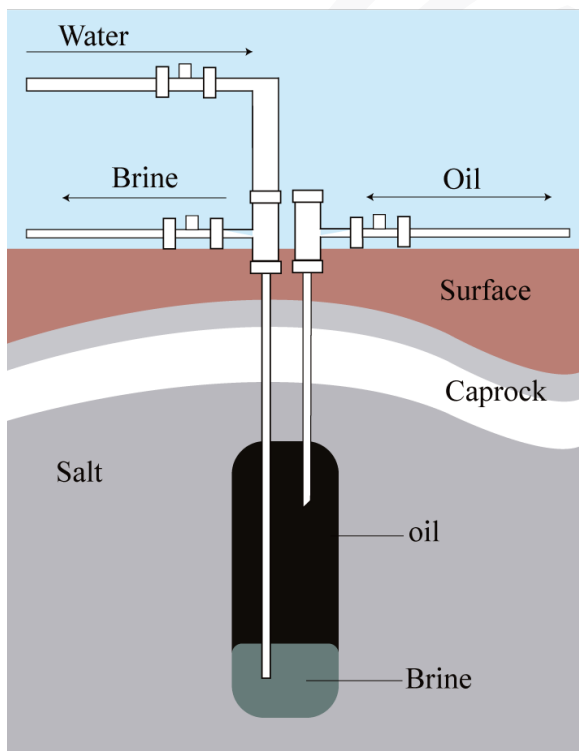
CRUDE OIL, natural gas, or other stored in the reetweridt might be petroleum substances that might in the reserve are extracted by pumping brine intothe cavern. The petroleum substance has a lower density, and is pushed out.

TO ADD more petroleum substance to the reserve, the requisite volume of brine is pumped out, creating the required space

THIS OPERATION of extraction and replenishment is done from the surface, usually through two pipeline systems - one each to the residual brine at the bottom of the cavern and the stored hydrocarbon. Since their densities differ, the brine does not mix with the stored substance

A SURFACE brine pond is usually maintained for use in operating the cavern. The brine can be reused repeatedly.

SALT CAVERN-BASED RESERVES

Salt cavern-based reserves refer to underground storage facilities that utilize caverns or cavities created within salt formations to store various substances such as natural gas, crude oil, petroleum products, or compressed air. These caverns are formed by injecting water into salt deposits, dissolving the salt and creating large underground voids.

Salt caverns have several advantages for storage purposes. They are typically strong and impermeable, making them well-suited for containing gases and liquids without significant leakage. They also have a high storage capacity due to their large volume and can be accessed through wells drilled into the salt formation. Additionally, salt caverns are relatively flexible and can be easily modified or resized as needed.

One common application of salt cavern-based reserves is the storage of natural gas. During periods of low demand or surplus supply, natural gas can be injected into the caverns, effectively storing it for future use. When demand increases or supply decreases, the stored gas can be withdrawn and delivered to consumers or used for power generation.

WHY IT IS IMPORTANT TO INDIA?

Energy Security: India is one of the world's largest consumers of energy, including natural gas and petroleum products. Salt cavern-based reserves provide a means to enhance energy security by storing strategic reserves of these resources. This ensures a stable and reliable supply during times of disruptions in imports or fluctuations in global prices.

Balancing Supply and Demand: India's energy demand experiences seasonal variations and occasional imbalances between supply and demand. Salt cavern-based reserves allow for the storage of excess supply during periods of low demand, which can be withdrawn and utilized during peak demand periods. This helps in maintaining a stable energy supply and managing price volatility.

Emergency Preparedness: Salt cavern-based reserves serve as a valuable resource during emergencies or unforeseen disruptions such as natural disasters, geopolitical tensions, or supply interruptions. They provide a cushion to meet energy requirements during times of crisis, ensuring that essential services and industries continue to function.

Storage for Renewable Energy: India is actively expanding its renewable energy capacity, particularly in wind and solar power. Salt caverns can be used to store excess electricity generated during favorable conditions. This stored energy can then be released during periods of high demand or when renewable energy generation is low, helping to balance the grid and support the integration of renewable energy sources.

Industrial Applications: Salt cavern-based reserves can also be utilized for storing industrial gases, chemicals, and other substances. This is beneficial for industries that require temporary storage or periodic access to large volumes of these materials, providing flexibility and cost-effectiveness.

STRATEGIC PETROLEUM RESERVES PROGRAMME IN INDIA

2004 — The Indian Strategic Petroleum Reserves Limited (ISPRL) was established as a special purpose vehicle under the Ministry of Petroleum and Natural Gas to oversee the implementation of the SPR program.

2005-2006 — Feasibility studies were conducted to identify suitable locations for the SPR facilities. These studies took into account factors like geological formations, proximity to refineries and ports, and infrastructure requirements.

2009 — The Indian government announced the commencement of the SPR program and approved the construction of the first phase of underground storage caverns.

2010-2011 — The construction of the first phase of SPR facilities began at three locations: Vishakhapatnam in Andhra Pradesh, Mangalore in Karnataka, and Padur in Kerala. These sites were selected based on their geological suitability and strategic location on the country's coastline.

2015 — The Vishakhapatnam facility became operational and received its first crude oil cargo, marking India's first operational SPR site with a capacity of 1.33 million metric tonnes (MMT).

2018 — The Mangalore facility became operational, adding a storage capacity of 1.5 MMT. With this, the total operational SPR capacity in India reached 2.83 MMT.

2019 — The Padur facility in Kerala was completed, adding another 2.5 MMT to India's SPR capacity. With the Padur site becoming operational, India's total SPR capacity increased to 5.33 MMT.

2020 — In response to the COVID-19 pandemic and the subsequent sharp decline in global oil prices, the Indian government decided to fill the SPR facilities with additional crude oil to take advantage of lower prices.

2021 — ISPRL signed agreements with various international oil suppliers to lease a portion of the SPR capacity for commercial storage purposes, ensuring optimal utilization of the facilities.

India's Strategic Petroleum Reserves (SPR) program plays a crucial role in ensuring the country's energy security and stability. With the establishment of underground storage facilities at strategic locations, India has taken proactive measures to mitigate the risks associated with oil supply disruptions, price fluctuations, and emergencies.

AMCHANG WILDLIFE SANCTUARY

CONTEXT: *In the Amchang Wildlife Sanctuary, the Indian Army creates a special ecosystem to allow for peaceful coexistence with wild elephants.*

BACKGROUND: Around 90 wild elephants are said to reside in the Amchang Wildlife Sanctuary and frequent the military base, according to the Indian Army and the Assam Forest Department. The Indian army has built several ponds in the vicinity of the military installation and planted fruit trees and grasses for wild elephants. The military station's army employees have paved clean passageways for the elephants' unrestricted circulation.

SIGNIFICANCE: Elephant-human conflict has somewhat increased throughout the nation, according to data published by the Union ministry of environment, forests, and climate change. The Union Ministry of Environment, Forest, and Climate Change notified Parliament that over 1,500 people had died in India in the previous three years as a result of elephant assaults. According to data released by the ministry, there were approximately 535 cases reported by various state governments last year, a slight increase from the approximately 585 cases reported in 2019–20 and approximately 461 cases reported between 2020–21.

AMCHANG WILDLIFE SANCTUARY

- Location: Kamrup Metropolitan district of Assam, near the city of Guwahati.

- Area: Approximately 78 square kilometers (30 square miles).

- Biodiversity: Home to a diverse range of flora and fauna, including various species of mammals, birds, reptiles, and amphibians.

- Wildlife: Asian elephants, tigers, leopards, barking deer, wild boars, Indian civets, and various species of primates.

- Avifauna: The sanctuary is also a haven for birdwatchers, with over 200 bird species recorded. Some of the bird species found here include the white-backed vulture, black-necked stork, black kite, and Indian paradise flycatcher.

- Threats: Like many wildlife sanctuaries, Amchang faces various threats, including encroachment, illegal logging, and poaching. These activities pose challenges to the conservation efforts and the protection of the sanctuary's wildlife.

- Conservation Efforts: The Forest Department and other organizations are actively involved in protecting and preserving the Amchang Wildlife Sanctuary. Measures are being taken to control illegal activities and promote awareness about the importance of wildlife conservation.

- Ecotourism: The sanctuary attracts nature lovers and wildlife enthusiasts who visit to explore its natural beauty and observe the diverse wildlife. Ecotourism initiatives are being developed to provide sustainable opportunities for visitors while promoting conservation and community involvement.

GROUND-LEVEL OZONE

CONTEXT: *CSE analysis says South Delhi, New Delhi worst affected by ground-level ozone*

BACKGROUND: In some areas of the Delhi-NCR region, ground-level ozone readings above the national requirements on 87 out of 92 days during the summer months between March and May, according to a recent report by the Centre for Science and Environment (CSE). The neighbourhoods of New Delhi and South Delhi are the most severely damaged areas in the region.

WHAT IS GROUND-LEVEL OZONE?

Ground-level ozone, often referred to as tropospheric ozone, is a harmful air pollutant formed by the chemical reactions of volatile organic compounds (VOCs) and nitrogen oxides (NOx) in the presence of sunlight.

It is not emitted directly but results from the interaction of pollutants released by human activities such as industrial processes, vehicle emissions, and the burning of fossil fuels. Ground-level ozone is a key component of smog and can have detrimental effects on human health and the environment.

WHAT ARE THE HARMFUL EFFECTS?

Respiratory Issues: Ground-level ozone can cause respiratory problems such as coughing, throat irritation, and breathing difficulties.

Asthma Aggravation: It exacerbates asthma symptoms and can lead to increased asthma attacks in susceptible individuals.

Lung Damage: Prolonged exposure to ozone can cause inflammation and damage to lung tissue.

Reduced Lung Function: Ozone can decrease lung function, particularly in children, older adults, and individuals with respiratory conditions.

Cardiovascular Effects: It can contribute to cardiovascular problems, including heart attacks, irregular heartbeat, and increased blood pressure.

Airway Inflammation: Ozone exposure can trigger airway inflammation and make individuals more vulnerable to respiratory infections.

Impaired Immune System: Ozone exposure weakens the immune system, making individuals more susceptible to respiratory illnesses.

Crop and Vegetation Damage: Ozone harms plants by interfering with photosynthesis and reducing crop yields and overall plant health.

Environmental Impact: It contributes to the formation of smog and air pollution, harming ecosystems and reducing biodiversity.

Economic Costs: Ground-level ozone-related health issues and damage to crops and vegetation result in significant economic burdens for healthcare systems, agriculture, and productivity.

MITIGATION MEASURES

- Emission Controls: Implementing stringent regulations on industries and vehicles to reduce emissions of ozone precursors like volatile organic compounds (VOCs) and nitrogen oxides (NOx).

- Clean Fuel Promotion: Encouraging the use of cleaner fuels such as compressed natural gas (CNG) and liquefied petroleum gas (LPG) in transportation.

- Vehicle Inspection Programs: Enforcing regular vehicle emission testing and ensuring compliance with emission standards.

- Industrial Measures: Adopting cleaner technologies, optimizing processes, and implementing emission control systems in industries.

- Urban Planning: Implementing sustainable urban planning strategies that prioritize public transportation, pedestrian-friendly infrastructure, and reduced congestion.

- Green Spaces: Promoting the creation of green spaces and urban forests to enhance air quality and mitigate ozone formation.

GLOBAL WARMING

CONTEXT: *Scientists warn that global warming will likely surpass the 1.5°C threshold by 2027.*

BACKGROUND: The World Meteorological Organisation stated on May 17 that for the first time ever, global temperatures are now more likely than not to surpass 1.5°C (2.7°F) of warming during the following five years. However, it did not follow that the world will reach the 1.5°C above preindustrial levels long-term warming threshold outlined in the 2015 Paris Agreement.

NEXT FIVE YEARS SET TO BE HOTTEST PERIOD EVER: UN

The United Nations said on Wednesday that 2023-2027 will almost certainly be the warmest five-year period ever observed as greenhouse gases and El Nino work together to raise temperatures. According to the World Meteorological Organisation (WMO), there is a two-thirds risk that at least one of the next five years would see global temperatures rise above the more challenging goal outlined in the Paris Agreements on controlling climate change. The eight warmest years ever recorded fell between 2015 and 2022, with 2016 being the warmest; but, as climate change intensifies, temperatures are expected to rise much more.

UNDERSTANDING GLOBAL WARMING

Global warming refers to the long-term increase in Earth's average temperature due to the accumulation of greenhouse gases in the atmosphere, primarily caused by human activities.

Causes:

- Carbon Dioxide (CO2) Emissions from Fossil Fuels
- Deforestation and Land Use Changes
- Methane Emissions from Agriculture and Landfills
- Industrial Processes and Chemicals
- Nitrous Oxide Emissions from Agriculture and Fertilizers

- Black Carbon and Aerosol Pollution
- Cement Production
- Refrigerants and Industrial Gases

- Livestock and Animal Agriculture
- Waste Management Practices
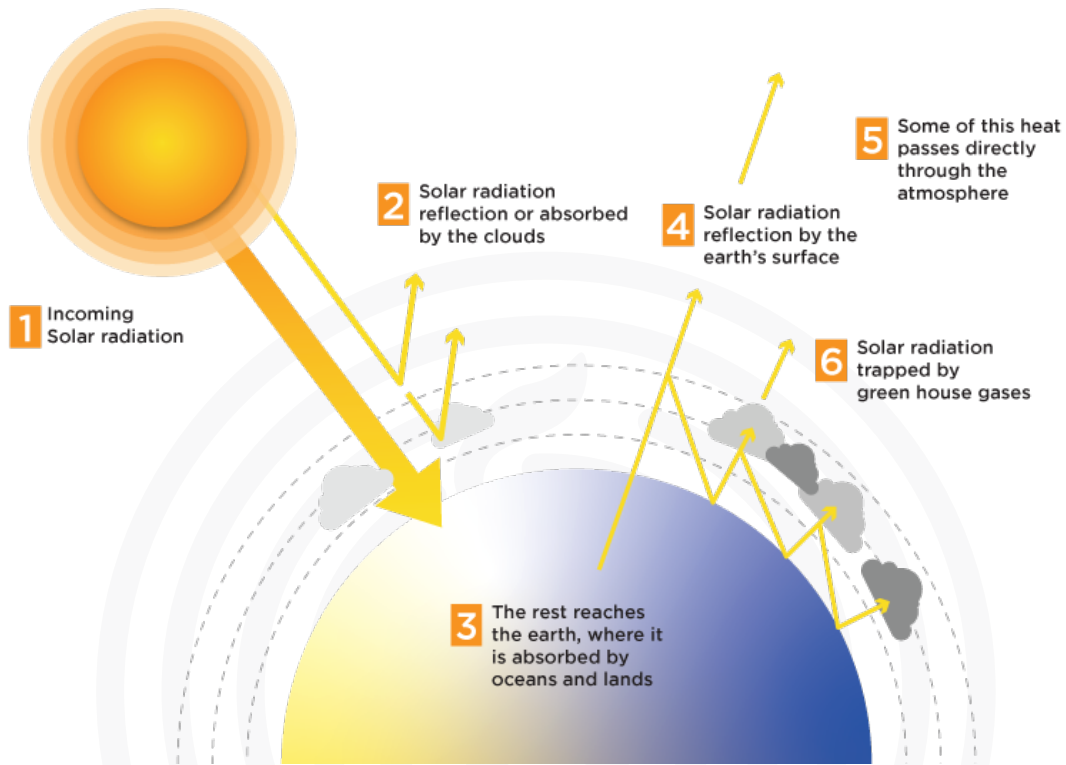
IMPACTS:
- Rising Temperatures and Heatwaves
- Melting Glaciers and Polar Ice
- Changes in Precipitation Patterns
- Extreme Weather Events
- Loss of Biodiversity and Ecosystem Disruption
- Coral Reef Bleaching
- Agricultural Disruptions and Food Insecurity
- Health Risks and Spread of Infectious Diseases
- Socioeconomic Impacts and Displacement of Communities

MITIGATION MEASURES:
- Transition to Renewable Energy Sources
- Energy Efficiency Improvements
- Forest Conservation and Reforestation
- Sustainable Agriculture Practices
- Carbon Capture and Storage Technologies
- Sustainable Transportation Systems
- Green Building Standards
- Circular Economy and Waste Reduction
- International Cooperation and Policy Frameworks
- Public Awareness and Education

CASE STUDY: Paris Agreement The Paris Agreement, adopted in 2015, aims to limit global warming to well below 2 degrees Celsius and pursue efforts to limit the temperature increase to 1.5 degrees Celsius. It involves voluntary greenhouse gas reduction targets set by countries and promotes international collaboration on climate action.

Case Study: Renewable Energy Transition in Germany Germany has made significant progress in transitioning to renewable energy sources. It has implemented policies, such as feed-in tariffs and incentives, resulting in a significant increase in renewable energy generation, particularly from wind and solar power. This case study showcases the potential of renewable energy as a key mitigation measure for global warming.

Global warming poses a grave threat to our planet and requires urgent action. The causes of global warming, primarily driven by human activities, have led to severe environmental and socio-economic impacts. Mitigation measures such as transitioning to renewable energy, implementing sustainable practices, and international cooperation are crucial in combating this global challenge. It is imperative that individuals, governments, and organizations work together to reduce greenhouse gas emissions, protect ecosystems, and secure a sustainable future for generations to come.

INDIA'S LARGEST ONLINE IAS COACHING ACADEMY

VEDHIK
IAS ACADEMY
The New Learning Mantra

FISH KILL

CONTEXT: *Thousands of dead fish wash up on Texas coast*

BACKGROUND: Authorities have retrieved the carcasses from a number of locations after tens of thousands of dead fish washed up on several beaches in southeast Texas, USA, days earlier. When the bodies first started to show up, authorities asked people to avoid the affected beaches until they had been cleaned up because of the danger of coming into contact with bacteria and sharp shark fins.

What is mean by Fish Kill?

Fish kill refers to a phenomenon where a large number of fish die in a specific water body, often due to environmental factors or human activities, leading to ecological and economic consequences.

Causes:

- Oxygen Depletion: Excessive algal growth or pollution can deplete oxygen levels, suffocating fish (e.g., nutrient runoff causing eutrophication).

- Pollution: Chemical spills, pesticides, industrial discharges, or sewage can contaminate water, affecting fish health.

- Temperature Extremes: Rapid temperature changes or heatwaves can stress fish and lead to mortality.

- Disease Outbreaks: Pathogens, parasites, or bacteria can spread and cause fish die-offs (e.g., fish viral hemorrhagic septicemia).

- Harmful Algal Blooms: Toxic algal blooms release harmful substances that can poison fish.

- Habitat Destruction: Destruction of spawning grounds, wetland loss, or dam construction can disrupt fish habitats.

- Oxygen-starved "Dead Zones": Nutrient runoff promotes excessive algae growth, depleting oxygen levels and suffocating fish.

IMPACTS:

- Ecological Disruption: Fish kill disrupts the food chain, affecting other organisms dependent on fish.

- Biodiversity Loss: Loss of fish species reduces overall biodiversity and ecological resilience.

- Economic Loss: Fish kills impact fishing industries, aquaculture, tourism, and recreational activities.

- Water Quality Decline: Fish kills indicate poor water quality, reflecting environmental degradation.

- Algal Blooms: Nutrient runoff and fish decomposition during kills can fuel harmful algal blooms.

- Predation Imbalance: Decreased fish populations can result in imbalances in predator-prey relationships.

- Loss of Ecosystem Services: Fish provide services like nutrient cycling and controlling pest populations.

- Community Disturbance: Fish kills can disrupt local communities that rely on fishing for sustenance or livelihoods.

Mitigation Measures:

- Pollution Control: Implement strict regulations and monitoring to reduce chemical and nutrient pollution.

- Sustainable Fishing Practices: Promote responsible fishing methods and set fishing quotas to prevent overfishing.

- Wetland and Habitat Restoration: Restore and protect critical fish habitats, spawning grounds, and wetlands.

- Water Quality Monitoring: Regularly monitor water quality parameters to identify pollution sources and mitigate risks.

- Nutrient Management: Implement strategies to reduce nutrient runoff and control algal blooms.

- Climate Change Adaptation: Develop strategies to mitigate climate change impacts on fish populations and habitats.

- Disease Monitoring and Prevention: Implement disease surveillance programs and preventive measures.

Fish kill events can have devastating consequences for aquatic ecosystems, biodiversity, and human livelihoods. Understanding the causes, impacts, and mitigation measures is crucial for effective management. Preventing pollution, improving water quality, and implementing sustainable fishing practices are key steps in mitigating fish kills. Collaboration among stakeholders, public education, and strong policy frameworks are essential for long-term solutions. By addressing the root causes and promoting conservation efforts, we can protect fish populations, preserve ecosystems, and ensure the sustainability of our water resources for future generations.
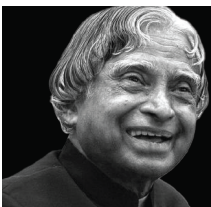
You have to dream before your dreams can come true..

- A. P. J. ABDUL KALAM

GLACIER MELTING

CONTEXT: *If global warming is not stopped, Himalayan glaciers might lose 80% of their volume, according to a research.*

BACKGROUND: According to a survey, glaciers in the Hindu Kush and Himalayan mountain ranges are melting at previously unheard-of rates and could lose up to 80% of their volume this century if greenhouse gas emissions aren't drastically reduced. The International Centre for Integrated Mountain Development in Kathmandu issued a warning that the likelihood of flash floods and avalanches would increase in the coming years and that the availability of fresh water for the nearly 2 billion people who live downstream of the 12 rivers that have their origins in the mountains might decrease.

Hindu Kush and Himalayan Mountain Ranges

The Hindu Kush is a rugged mountain range in Central Asia, extending across Afghanistan and Pakistan, known for its steep peaks and deep valleys. The Himalayas, located in South Asia, form the highest mountain range on Earth, with towering peaks, including Mount Everest, and vast glaciers.

The Hindu Kush range serves as a natural barrier between the Indian subcontinent and Central Asia, influencing weather patterns and providing a habitat for diverse flora and fauna. The Himalayas are characterized by their snow-capped peaks, glacial lakes, and deep river valleys, offering breathtaking landscapes and supporting a rich biodiversity.

The Hindu Kush range is significant for its role in ancient trade routes, connecting civilizations and facilitating cultural exchange between South Asia, Central Asia, and the Middle East. The Himalayas play a crucial role in regulating the region's climate by blocking cold winds from the north, resulting in distinct weather patterns and influencing monsoons in South Asia.

How India affected?

Water resources: The melting glaciers serve as a crucial source of freshwater for major rivers like the Ganges, Indus, and Brahmaputra. As the glaciers shrink, the water supply during the dry season diminishes, leading to water scarcity and affecting agriculture, hydropower generation, and overall water availability.

Flooding and natural disasters: The accelerated melting of glaciers contributes to the increased risk of glacial lake outburst floods (GLOFs). These floods occur when the dammed lakes formed by melting glaciers suddenly burst, leading to flash floods downstream. These events can result in loss of life, damage to infrastructure, and displacement of communities.

Himalayan ecosystems: The unique ecosystems in the Himalayas, including alpine meadows, forests, and wildlife habitats, are vulnerable to the impact of glacier melting. Changes in water availability, temperature, and precipitation patterns affect the biodiversity and ecological balance, leading to potential loss of species and habitat degradation.

Agriculture and food security: The Himalayan region is vital for agriculture in India. The melting glaciers influence water availability for irrigation, affecting crop yields and agricultural productivity. Changes in temperature and precipitation patterns can also disrupt traditional farming practices and affect food security.

Climate change and global impact: The melting of glaciers in the Hindu Kush and Himalayas contributes to global sea-level rise. The retreat of glaciers also releases stored carbon and other pollutants into water bodies, impacting water quality and contributing to climate change through the release of greenhouse gases.

LEED CERTIFICATION

CONTEXT: *According to the US Green Building Council (USGBC) and Green Business Certification Inc (GBCI), India has surpassed the United States of America and China in terms of LEED Zero green building projects.*

BACKGROUND: Projects that have achieved net zero or net positive status in the categories of carbon, energy, water, or waste are recognised by LEED Zero. The term "net zero" describes a situation in which the amount of greenhouse gases entering the atmosphere is equal to the amount being removed from it. The concept of net zero is crucial because, at least for CO2, this is the point at which global warming halts.

HIGHLIGHTS: Haryana and Tamil Nadu are leading the field in certifications, with 73 of the 150 LEED Zero certified projects located in India, or 45% of the total. With 45 certificates for its projects, India's DLF Group leads the world in total LEED Zero certifications. ITC Group, with its headquarters in Kolkata, ranks second with 15 certifications. The manufacturing facility for Aditya Birla Fashion and Retail in Bengaluru, ITC Maratha in Mumbai, Tamarai Tech Park in Chennai, the Goldman Sachs building in Bengaluru, the Danfoss Industries campus in Chennai, ITC Hotels throughout India and their data centre in Bengaluru, and Nucleus Office Parks' One Trade Tower in Bengaluru are a few examples of Leed zero projects.

LEED CERTIFICATION

LEED (Leadership in Energy and Environmental Design) certification is a globally recognized rating system developed by the United States Green Building Council (USGBC) to evaluate and promote sustainable building practices. Here are some key points about LEED certification:

Purpose: LEED certification aims to encourage the design, construction, and operation of buildings that are environmentally friendly, resource-efficient, and provide healthy spaces for occupants.

Categories: The LEED rating system assesses buildings based on various categories, including sustainable site development, water efficiency, energy and atmosphere, materials and resources, indoor environmental quality, and innovation in design.

Certification Levels: LEED certification offers four levels of achievement: Certified, Silver, Gold, and Platinum. These levels are based on the number of points a building earns through meeting specific sustainability criteria.

Benefits: LEED-certified buildings offer numerous benefits, including reduced energy consumption, lower operating costs, improved indoor air quality, enhanced occupant comfort and well-being, reduced environmental impact, and increased marketability and tenant satisfaction.

Certification Process: The certification process involves registering the project, submitting documentation and evidence to meet the specified requirements, and undergoing a review by the USGBC. The project's performance is evaluated through various criteria, and points are awarded accordingly.

Project Types: LEED certification is applicable to various building types, including new construction, existing buildings, commercial interiors, core and shell developments, schools, healthcare facilities, and more.

Global Adoption: LEED has gained international recognition and is used in many countries worldwide. It has influenced sustainable building practices, policies, and regulations globally.

Continuous Improvement: LEED evolves over time to incorporate new technologies, best practices, and industry advancements. The latest version is LEED v4.1, which focuses on performance, human health, and integrative design strategies.

By pursuing LEED certification, organizations and building professionals demonstrate their commitment to sustainability and contribute to the development of a more environmentally responsible and resource-efficient built environment.

ECO-FRIENDLY BIODEGRADABLE PRODUCTS

CONTEXT: *BIS authorities urge against using plastic cutlery in restaurants and favour promoting environmentally friendly, biodegradable goods.*

BACKGROUND: The New Indian Standard IS 18267:2023 - Food Serving Utensils made from agro by-products was the subject of a discussion sponsored by the Bureau of Indian Standards (BIS). Scientist from the Bureau of Indian Standards in Madurai discussed the negative consequences of plastic cutlery in his opening remarks.

SIGNIFICANCE

Environmental Impact: Indian restaurants generate a significant amount of single-use plastic waste, including food containers, cutlery, and packaging. Biodegradable plastics, which break down naturally into non-toxic components, offer a more environmentally friendly alternative. They help reduce plastic pollution, prevent harm to wildlife, and mitigate the negative impact on ecosystems.

Waste Management: India faces significant challenges in waste management, especially in urban areas. Biodegradable plastics facilitate better waste management practices by providing an option that can be composted or processed through organic waste management systems. Proper disposal of biodegradable plastics can reduce the burden on landfills and promote sustainable waste management practices.

Consumer Perception: Consumers are increasingly aware of the environmental impact of single-use plastics. Indian restaurants that adopt biodegradable plastics demonstrate their commitment to sustainability and responsible business practices. This can enhance their brand reputation and attract environmentally conscious customers who prefer establishments that align with their values.

Regulatory Compliance: India has taken steps to regulate the use of single-use plastics. Some states and cities have imposed bans or restrictions on certain types of plastics. By adopting biodegradable plastics, restaurants can ensure compliance with local regulations and avoid penalties or legal issues.

Customer Convenience: Biodegradable plastics can provide a comparable level of functionality and convenience to traditional single-use plastics. They can be designed to withstand heat, hold liquids, and maintain food freshness. This ensures that customers can still enjoy their meals without compromising on convenience or quality.

STATE WISE PLASTIC GENERATION IN INDIA

Legend: Maharashtra, Tamil Nadu, Gujarat, West Bengal, Karnataka, Telangana, Delhi, Uttar Prades, Haryana, Kerala, Haryana, Madhya Pradesh
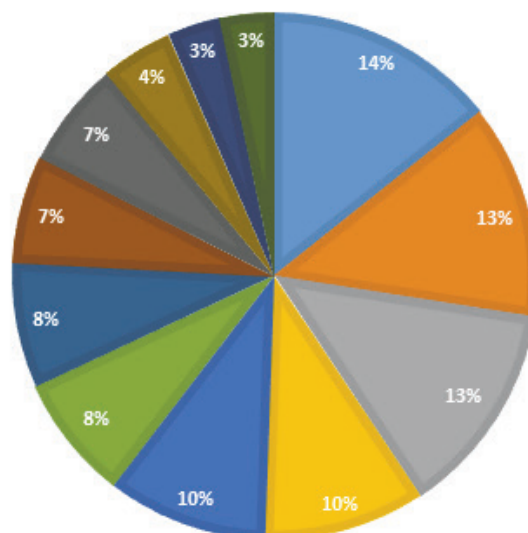
Source: Central Pollution Control Board

State-wise Plastic waste generation (per Capita for 2019-20)
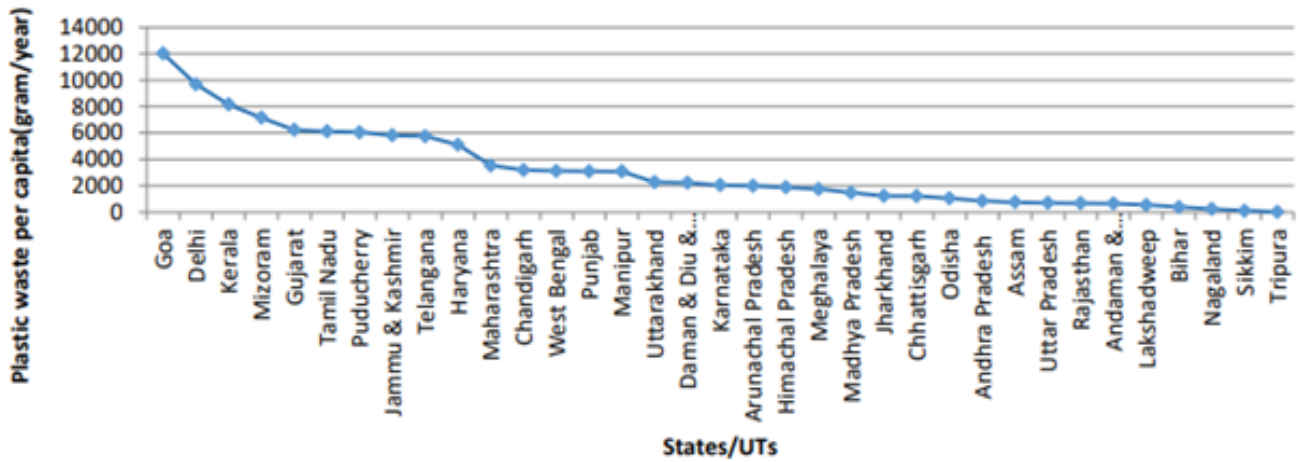
Biodegradable plastics play a significant role in Indian restaurants by addressing environmental concerns, improving waste management practices, meeting consumer expectations, ensuring regulatory compliance, and promoting innovation. Their adoption not only reduces plastic pollution but also fosters a sustainable and responsible approach to the restaurant industry's impact on the environment.

SCIENCE AND TECHNOLOGY

PET COKE AS A LITHIUM-ION BATTERY RAW MATERIAL

CONTEXT: *The government authorises the import of pet coke as a component of lithium-ion batteries.*

BACKGROUND: The government approved the import of pet coke on Friday, but only as a feedstock for the production of graphite anode material for lithium-ion batteries. Pet coke imports for use as fuel are totally prohibited. "Import of needle pet coke (NPC) is 'free' for making graphite anode material for Li-ion battery as feedstock/raw material and not for any other purposes, including use as fuel or for trade," according to a notification from the directorate general of international trade.

What are Pet Coke?

Pet coke, short for petroleum coke, is a carbonaceous solid residue derived from the refining process of crude oil. It is composed mainly of carbon and contains high levels of energy and sulfur. Pet coke is used as a fuel source in various industries due to its high calorific value.

Pet coke is produced through the thermal cracking of heavy hydrocarbon residues in oil refineries. It is a byproduct that results from the coking process, where impurities are removed from crude oil to obtain gasoline, diesel, and other fuels. Pet coke has a similar appearance to coal and can be classified into two main types: fuel-grade and calcined.

Use of Pet Coke

- Pet coke is used as a fuel in power plants, cement kilns, and industrial boilers.

- It has a high calorific value, making it an efficient energy source.

- Pet coke is a cost-effective alternative to coal for certain industries.

- It is used as a feedstock in the production of carbon anodes for aluminum smelting.

- Pet coke is utilized in the steel industry as a carbon additive.

- It is used in the production of electrodes for the manufacturing of batteries.

- Pet coke is sometimes used as a reducing agent in metal refining processes.

- It is used as a fuel in the brick manufacturing industry.

- Some pet coke is processed into needle coke, which is used in the production of graphite electrodes.

- Pet coke is also exported to other countries as a commodity fuel source.

Why India has banned the import of pet coke for the fuel purpose?

High Sulfur Content: Pet coke has a high sulfur content, which contributes to air pollution and the formation of sulfur dioxide (SO2) emissions. SO2 emissions are known to cause respiratory issues and contribute to acid rain.

Particulate Matter Emissions: The combustion of pet coke releases fine particulate matter (PM) into the air, including PM2.5 and PM10, which have detrimental effects on human health and can cause respiratory and cardiovascular problems.

Greenhouse Gas Emissions: Pet coke combustion emits greenhouse gases such as carbon dioxide (CO2), contributing to global climate change and environmental concerns.

Air Quality Concerns: India, particularly its major cities, has been grappling with severe air pollution issues. Banning pet coke imports helps in reducing the overall air pollution levels and improving air quality.

Regulatory Compliance: The ban aligns with India's efforts to adhere to environmental regulations and emission standards set by the Central Pollution Control Board (CPCB) and other regulatory bodies.

Promotion of Cleaner Alternatives: The ban on pet coke imports encourages the use of cleaner and more environmentally friendly fuel sources such as natural gas and renewable energy.

Significance of pet coke for Lithium-Ion Battery Raw Material

- Graphite Electrodes: Pet coke can be processed into needle coke, which is a high-quality form of carbon used in the production of graphite electrodes. Graphite electrodes are essential components in lithium-ion batteries, as they serve as conductive materials for the movement of electrons during charging and discharging processes.

- Carbon Additive: Pet coke, particularly calcined pet coke, can be used as a carbon additive in the production of certain carbon-based materials used in battery manufacturing. Carbon additives can improve conductivity and enhance the performance of battery electrodes.

While pet coke may have a role in the supply chain of battery materials through the production of graphite electrodes and carbon additives, it is important to note that the use of alternative and more sustainable carbon sources for these purposes is also being explored. Sustainable sourcing and processing methods are being considered to minimize environmental impacts and ensure the overall sustainability of lithium-ion batteries.

HUMAN METAPNEUMOVIRUS

CONTEXT: *According to the World Health Organisation, COVID-19 may no longer be a threat to the world, but human metapneumovirus, or HMPV, instances appear to be spiking in the United States right now.*

BACKGROUND: The number of cases in the nation increased significantly, according to the Centres for Disease Control and Prevention (CDC), and at its peak in mid-March, almost 11% of tested specimens were positive for HMPV, which is a number that is about 36% higher than the typical pre-pandemic levels.

Human metapneumovirus (HMPV)

- Virus Classification: HMPV belongs to the Paramyxoviridae family and is classified as a negative-sense, single-stranded RNA virus.

- Respiratory Infection: HMPV primarily causes respiratory tract infections, ranging from mild cold-like symptoms to more severe respiratory illnesses, such as bronchiolitis and pneumonia. It shares clinical similarities with other respiratory viruses like influenza and respiratory syncytial virus (RSV).

- Symptoms: The symptoms of HMPV infection typically include cough, congestion, runny nose, sore throat, fever, wheezing, and difficulty breathing. In severe cases, it can lead to respiratory distress, especially in infants and individuals with weakened immune systems.

- Transmission: HMPV spreads through respiratory droplets generated by coughing, sneezing, or close contact with infected individuals. It can also survive on surfaces for a limited period, contributing to indirect transmission.

- Seasonality: HMPV infections often occur during the winter and spring seasons, similar to other respiratory viruses. Outbreaks can happen in various settings, including households, schools, and healthcare facilities.

- Diagnosis: HMPV infection is typically diagnosed through respiratory samples, such as nasal swabs or throat swabs, which are tested using molecular techniques like polymerase chain reaction (PCR).

- Treatment: Currently, no specific antiviral medication is available for treating HMPV infections. Treatment mainly focuses on relieving symptoms, providing supportive care, and managing complications, especially in severe cases.

- Prevention: To prevent HMPV infection, it is important to practice good hand hygiene, such as regular handwashing with soap and water or using alcohol-based hand sanitizers. Additionally, avoiding close contact with sick individuals and practicing respiratory etiquette, like covering the mouth and nose while coughing or sneezing, can help reduce transmission.

Human metapneumovirus (HMPV) is a respiratory virus that commonly affects individuals, especially young children, causing a range of respiratory illnesses. While no specific antiviral treatment exists, prevention through good hygiene practices and awareness of its symptoms can help mitigate the impact of HMPV infections. Continued research and vaccine development efforts are crucial for effective management and control of this respiratory virus.

GALLERI BLOOD TEST

CONTEXT: *According to a research, a blood test for 50 different forms of cancer could hasten diagnosis.*

BACKGROUND: More than 50 different types of cancer could be quickly diagnosed and treated with the help of a blood test. The Galleri blood test may be able to detect and rule out cancer in patients who have symptoms, according to NHS trial results of the liquid biopsy, which were presented at the largest cancer conference in the world in the US. The test finds minute pieces of cancer DNA in the blood. It notifies medical professionals if a cancer signal has been found and forecasts where in the body that signal may have originated.

HIGHLIGHTS: Two-thirds of tumours were appropriately identified by the test. It was also able to identify the location of the cancer's primary growth in 85% of those positive cases. The trial's findings showed that it was more accurate in older individuals and those with more advanced malignancies.To explore if the Galleri test can find hidden tumours, the NHS has also started administering it to thousands of people who do not exhibit any symptoms. Results should be available later this year. It intends to spread out the test to around 1 million individuals if it is successful.

NATURAL COMPOUND WHICH REDUCES PESTICIDE USE

CONTEXT: *A natural substance discovered by IISER researchers lowers the need of pesticides in the production of eggplant.*

BACKGROUND: Researchers from the Indian Institute of Science Education and Research (IISER), Pune, have discovered a natural substance called "geraniol" in a Himalayan aubergine type that can lower the amount of synthetic pesticides by using metabolomics. The study, which was initially presented in the 'New Phytologist Journal for Plant Science' in March 2023, discovered that moths flew away from plants laced with geraniol, such as the Himalayan aubergine cultivar, RC-RL-22 (RL22).

Significance: After potatoes and tomatoes, aubergine, or brinjal, is the third most popular solanaceous vegetable in India. One of the plants in India with the highest pesticide usage is brinjal. Attacks by the Leucinodes Orbonalis, often known as the shoot and fruit borer moth, can reduce agricultural yield by 45 to 100%. In addition, the extensive use of synthetic pesticides endangers human health, with cancer among the dangers. Since this component is entirely edible, it will not only assist farmers in protecting their aubergine harvest but also eliminate any risk to human health.

Metabolomics

Metabolomics is a field of study that focuses on the comprehensive analysis of small molecules, known as metabolites, within biological systems. It involves the identification, quantification, and characterization of metabolites present in cells, tissues, or biofluids. Here are some key points about metabolomics:

Scope: Metabolomics aims to provide a holistic understanding of the metabolic profile of an organism or a specific biological system. It examines the dynamic changes in metabolite concentrations and their interactions in response to various biological processes, environmental factors, and disease states.

Metabolites: Metabolites are the end products of cellular processes, including metabolic pathways and biochemical reactions. They can include various classes of molecules such as sugars, amino acids, lipids, organic acids, nucleotides, and secondary metabolites. Metabolites play crucial roles in cellular functions, signaling pathways, and disease processes.

Analytical Techniques: Metabolomics employs advanced analytical techniques, including mass spectrometry (MS), nuclear magnetic resonance (NMR) spectroscopy, and chromatography, to detect, identify, and quantify metabolites. These techniques are used in combination with bioinformatics tools and databases for data analysis and interpretation.

Applications: Metabolomics has diverse applications across multiple fields, including biomedical research, clinical diagnostics, environmental monitoring, agriculture, and nutrition. It can provide insights into disease mechanisms, biomarker discovery, drug response, personalized medicine, and understanding the impact of diet and environmental exposures.

Janak and BSS 793 – Genetically Modified Brinjal

- Janak Bt Brinjal: Janak Bt Brinjal is a GM variety of brinjal developed in India. It incorporates a gene from the soil bacterium Bacillus thuringiensis (Bt) that produces a protein toxic to certain insect pests, specifically the fruit and shoot borer (FSB). The Bt protein helps protect the plant against FSB infestation, reducing the need for chemical insecticides.

- BSS 793: BSS 793 is another GM brinjal variety that was developed in Bangladesh. Like Janak Bt Brinjal, it also contains the Bt gene to provide resistance against FSB. BSS 793 was created to address the yield losses caused by FSB infestation, improve crop productivity, and reduce reliance on chemical pesticides.

- Benefits: The introduction of GM brinjal varieties like Janak and BSS 793 aims to address the challenges of brinjal farming, such as pest damage and yield losses. By incorporating resistance to FSB, these GM varieties can potentially reduce the use of chemical insecticides, leading to decreased environmental impact, improved crop quality, and increased yield for farmers.

- Controversy: The adoption and cultivation of GM brinjal varieties have been a subject of controversy and debate. Concerns have been raised regarding the potential environmental impacts, effects on human health, and the economic and social implications for farmers. As a result, the commercial cultivation of GM brinjal has faced restrictions or been subject to regulatory scrutiny in some countries.

SATURN'S MOON ENCELADUS

CONTEXT: *NASA discovers 'phosphorous', key element for life, on Saturn's moon Enceladus*

BACKGROUND: Icy granules ejected from the inner ocean of Saturn's moon Enceladus have been found to contain phosphorus, a crucial ingredient for numerous biological processes. A review of data gathered by NASA's Cassini spacecraft, the first to visit the planet, during its 13-year exploration of the giant planet, its rings, and its moons from 2004 to 2017 formed the basis for the new revelation, which was made public by an international team of scientists led by Germany.
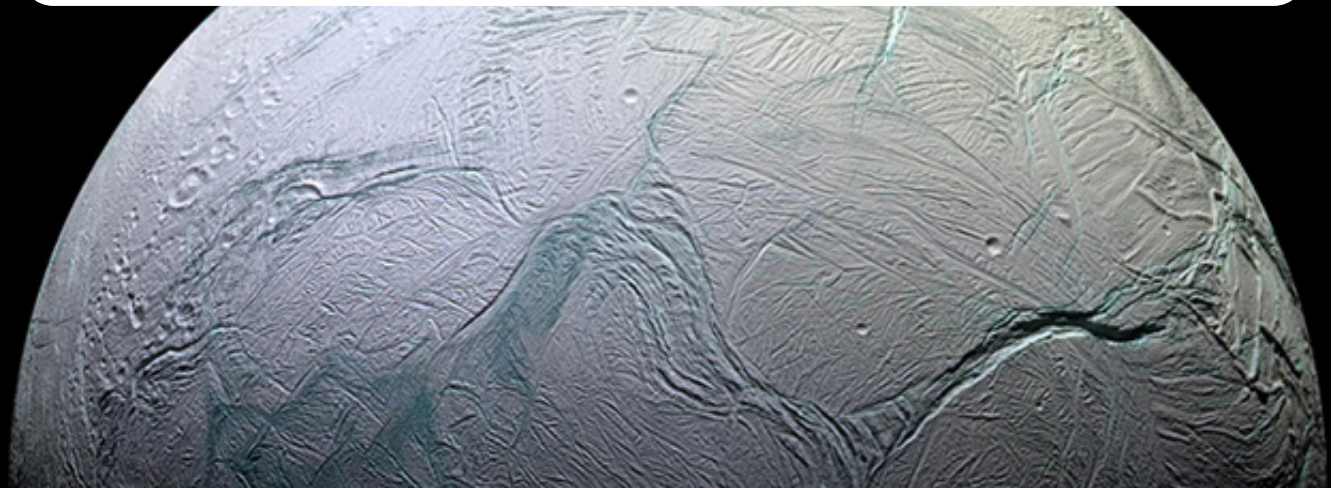
Element Phosphorus

Phosphorus is a chemical element with the symbol P and atomic number 15.

Occurrence: Phosphorus is a non-metallic element that is commonly found in nature in the form of phosphate minerals, such as apatite. It is also an essential element for life and is found in various organic compounds, including DNA, RNA, and ATP (adenosine triphosphate).

Properties: Phosphorus exists in several allotropic forms, with white phosphorus being the most reactive and least stable. It is highly flammable and toxic. Red phosphorus is less reactive and is commonly used in safety matches. Black phosphorus is a more stable form with semiconducting properties.

Role in Biological Systems: Phosphorus is a vital element for living organisms. It is an essential component of DNA, RNA, and ATP, playing a crucial role in energy transfer and storage. Phosphorus is also involved in various cellular processes, including cell signaling and metabolism.

Industrial Applications: Phosphorus has numerous industrial applications. It is used in the production of fertilizers, as phosphates provide essential nutrients for plant growth. Phosphorus compounds are also used in detergents, water treatment, flame retardants, and the production of chemicals, such as phosphoric acid.

Environmental Impact: Phosphorus can have environmental implications when it enters bodies of water, leading to eutrophication. Excessive phosphorus runoff from agricultural activities and wastewater can cause algal blooms, deplete oxygen levels, and disrupt aquatic ecosystems.

Phosphorus Cycle: Phosphorus undergoes a cycle in the environment, known as the phosphorus cycle. It involves the movement of phosphorus between rocks, soil, water, plants, and animals. Weathering and erosion release phosphorus from rocks, and it cycles through the ecosystem via biological processes and geological transformations.

Why study is Important?

Astrobiology and Habitability: Phosphorus is a key element for life as we know it. Its discovery in Saturn's moon suggests the potential for the presence of phosphorus-based organic compounds, which could be important for the development of life or the habitability of celestial bodies.

Chemical Evolution: Phosphorus is crucial for the formation of biomolecules such as DNA, RNA, and ATP. Its presence on Saturn's moon provides insights into the chemical processes and evolution occurring in the moon's environment and the potential for complex organic chemistry.

Prebiotic Chemistry: Understanding the availability of phosphorus in Saturn's moon helps shed light on the possibilities of prebiotic chemistry. It provides clues about the potential for the formation of building blocks of life or the origin of life itself in environments beyond Earth.

Planetary Science: The discovery of phosphorus expands our knowledge of the elemental composition of celestial bodies in our solar system. It contributes to our understanding of the geological processes, history, and composition of Saturn's moon, adding to the broader field of planetary science.

Comparative Planetary Studies: Comparing the presence and distribution of phosphorus in different celestial bodies, such as Saturn's moon and Earth, allows scientists to draw comparisons and better comprehend the similarities and differences between environments and the potential for life-sustaining conditions.

NATIONAL TECHNOLOGY DAY 2023

CONTEXT:PM to inaugurate the programme marking National Technology Day 2023 on 11th May

BACKGROUND: PM will lay the cornerstone for numerous scientific initiatives costing more than Rs 5800 crore and dedicate them to the country.

HIGHLIGHTS: The Laser Interferometer Gravitational Wave Observatory - India (LIGO-India) will be one of the few LIGO observatories in the world, and the PM will lay the foundation stone for it. India will join a restricted group of countries with the ability to create rare earth permanent magnets when the PM dedicates the "Rare Earth Permanent Magnet Plant, Visakhapatnam" to the country.

The "National Hadron Beam Therapy Facility" and the "Fission Molybdenum-99 Production Facility" will also be dedicated by the PM to the country; both facilities will increase the nation's capability for cancer treatment and advanced medical imaging. PM will also lay the cornerstone for and dedicate to the nation a number of cancer hospitals and facilities that will decentralise and improve the delivery of top-notch cancer care in various parts of the nation.

- •LIGO-India, located in Hingoli, Maharashtra, will be one of the few Laser Interferometer Gravitational wave observatories in the world, detecting gravitational waves from celestial events like black hole and neutron star mergers. It will work in sync with two US observatories.

- •India has established a Rare Earth Permanent Magnet production facility at Bhabha Atomic Research Centre, Visakhapatnam, using indigenous technology and resources. This places India among a select group of nations capable of producing these magnets.

- The National Hadron Beam Therapy Facility in Navi Mumbai provides highly precise radiation therapy, minimizing damage to surrounding healthy tissues and reducing side effects.

- The Fission Molybdenum-99 Production Facility at Bhabha Atomic Research Centre's Trombay Campus enables the production of Molybdenum-99, which is essential for imaging procedures used in the early detection of diseases like cancer and heart disease.

Atal Bihari Vajpayee, a former prime minister, established National Technology Day in 1999 as a way to celebrate the contributions of Indian scientists, engineers, and technologists who laboured to promote science and technology in India and secured the Pokhran tests' success in May 1998. Since that time, May 11 has been National Technology Day. Every year, a new and distinctive theme is used to honour it. 'School to Startups- Igniting Young Minds to Innovate' is the theme for this year.

FIXED DOSE COMBINATION DRUGS

CONTEXT: *The Indian government has outlawed 14 fixed dose combination (FDC) medications, claiming that there is "no therapeutic justification" for them.*

BACKGROUND: The government has outlawed 14 medication combinations used to treat common illnesses. While industry analysts assert that some of these combinations are currently unavailable on the market, the prohibited combinations include over-the-counter medications for cough, fever, and infections.

Banned Drugs:

1. Salbutamol + Hydroxyethyltheophylline (Etofylline) + Bromhexine

2. Ammonium Chloride + Sodium Citrate + Chlorpheniramine Maleate + Menthol (100mg + 40mg + 2.5mg + 0.9mg) , (125mg + 55mg + 4mg + 1mg) , (110mg + 46mg + 3mg + 0.9mg) & (130mg + 55mg + 3mg + 0.5mg) per 5 ml

3. Phenytoin + Phenobarbitone Sodium

4. Chlorpheniramine + Codeine Phosphate + Menthol Syrup

5. Salbutamol + Bromhexine

6. Paracetamol + Bromhexine + Phenylephrine + Chlorpheniramine + Guaiphenesin

7. Dextromethorphan + Chlorpheniramine + Guaiphenesin + Ammonium Chloride

8. Nimesulide + Paracetamol dispersible tablets

9. Amoxicillin + Bromhexine

10. Pholcodine + Promethazine

11. Chlorpheniramine Maleate + Dextromethorphan + Guaiphenesin + Ammonium Chloride + Menthol

12. Chlorpheniramine Maleate + Codeine Syrup

13. Ammonium Chloride + Bromhexine + Dextromethorphan

14. Bromhexine + Dextromethorphan + Ammonium Chloride + Menthol

Fixed Dose Combination (FDC)

Fixed Dose Combination (FDC) refers to a pharmaceutical formulation that contains two or more active ingredients in fixed proportions within a single dosage form, such as a tablet or capsule. These active ingredients are combined in a specific ratio to provide a therapeutic effect that may be greater than that achieved by each individual component alone.

FDCs are commonly used in the field of medicine to treat various diseases and conditions. They offer several advantages over separate administration of multiple individual drugs. Some of the benefits of FDCs include:

Improved convenience: FDCs simplify medication regimens by combining multiple active ingredients into a single dosage form. This reduces the number of tablets or capsules that a patient needs to take, making it more convenient and potentially improving medication adherence.

Enhanced efficacy: The combination of two or more active ingredients in fixed proportions can result in improved therapeutic outcomes. FDCs can synergistically enhance the effectiveness of each component, leading to better disease management or symptom relief.

Reduced side effects: In some cases, combining two or more active ingredients in fixed proportions can minimize the side effects of individual drugs. By carefully selecting the components and their ratios, FDCs can achieve a balance between efficacy and safety.

Cost-effectiveness: FDCs can be cost-effective compared to separate administration of multiple individual drugs. They can streamline manufacturing, packaging, and distribution processes, potentially reducing overall healthcare costs.

Concerns over Fixed Dose Combination

- Increased risk of resistance: FDCs can contribute to antimicrobial resistance when multiple antibiotics are combined unnecessarily, like a combination of three antibiotics for simple infections.

- Limited treatment options: FDCs may limit treatment flexibility and hinder the use of alternative therapies or individualized dosing.

- Difficulty in dose titration: Fixed proportions make it challenging to adjust doses for patients with varying response or tolerability, such as FDCs for hypertension that don't allow individualized titration.

- Potential for overmedication: FDCs may lead to the administration of unnecessary or excessive doses of certain medications, increasing the risk of side effects, like FDCs for pain management combining multiple opioids.

- Lack of evidence-based guidelines: The use of FDCs may lack sufficient clinical evidence or standardized dosing guidelines, leading to variability in prescribing practices.

FDCs are used in various medical fields, including but not limited to cardiology, infectious diseases, oncology, and mental health. However, it is important to note that the use of FDCs requires thorough evaluation and consideration of factors such as drug interactions, dosage adjustments, and individual patient characteristics. Medical professionals, including physicians and pharmacists, play a crucial role in prescribing and monitoring the use of FDCs to ensure patient safety and optimal therapeutic outcomes.

TAURINE

CONTEXT: *Numerous animal species have longer lifespans and improved health thanks to the nutrient taurine, which is present in meat, fish, and supplements.*

BACKGROUND: Researchers in New York discovered that the nutrient taurine helps a variety of animal species live longer and be healthier. The nutrient is typically sold as a supplement and is present in meat and fish. People who want to live longer should not purchase taurine supplements or energy drinks that contain taurine, according to Columbia University in New York.

SAGAR SAMRIDDHI

CONTEXT: *To speed up the Ministry's "Waste to Wealth" effort, the Union Minister of Ports, Shipping, and Waterways (MoPSW) established "SAGAR SAMRIDDHI," an online dredge monitoring system.*

Highlights: The National Technology Centre for Ports, Waterways and Coasts (NTCPWC), the MoPSW's technology division, designed the system. Comparing the new technology to the outdated Draught & Loading Monitor (DLM) system reveals a significant improvement. Before processing and producing a real-time dredging report, the system will create synergy between various input reports such as daily dredging reports and pre- and post-dredging survey data. The 'Sagar Samriddhi' monitoring system will also provide daily and monthly progress visualisation, monitoring of dredger performance and downtime, and easy location trace data with snapshots of loading, unloading, and idle time.

- Capabilities of 'Sagar Samriddhi' include:
- Real time dredging progress report
- Daily and monthly progress Visualisation
- Dredger performance and downtime monitoring
- Easy location track data with snapshot of loading, unloading and idle time

Port Dredging

Port dredging refers to the process of removing sediments, silt, and other debris from the bottom of a port or harbor to maintain or improve navigational access for ships. It involves the excavation and removal of accumulated materials to restore or deepen the water depth in order to accommodate larger vessels or prevent sedimentation from obstructing shipping channels.

Here are some important points about port dredging:

Navigational access: Dredging plays a crucial role in maintaining safe and efficient navigation within ports and harbors. By removing sediments and maintaining appropriate water depths, dredging ensures that ships can enter, maneuver, and dock safely.

Sedimentation control: Sedimentation is a natural process where silt, sand, and other materials settle on the bottom of water bodies over time. Without regular dredging, sedimentation can gradually reduce water depths and limit access for ships. Dredging helps control sedimentation and prevents the buildup of materials that can hinder port operations.

Economic benefits: Dredging supports economic activities associated with ports, such as shipping, trade, and tourism. Deepening shipping channels and berths allows larger vessels to access the port, increasing its capacity and facilitating the movement of goods and passengers. This can lead to economic growth, job creation, and improved connectivity with global markets.

Environmental considerations: Dredging activities can have environmental impacts, including the disturbance of habitats, suspended sediments in the water column, and potential release of contaminants. Environmental assessments and monitoring are typically conducted to minimize and mitigate these effects. Additionally, some dredging projects incorporate measures to enhance ecosystems, such as creating artificial reefs or restoring coastal habitats.

SOLAR ULTRAVIOLET IMAGING TELESCOPE (SUIT)

CONTEXT: *Pune scientists created a unique space telescope that is ready for a voyage to the sun.*

BACKGROUND: The Inter-University Centre for Astronomy and Astrophysics (IUCAA) in Pune created the Solar Ultraviolet Imaging Telescope (SUIT), a special space telescope, which has already been given to the Indian Space Research Organisation (ISRO). The telescope will be combined with the ADITYA-L1 mission, which is scheduled to launch in the middle of this year's August.

HIGHLIGHTS: One of Aditya-L1's primary payloads is SUIT. It will deliver photos of the Sun's whole disc in the wavelength range of 2000 to 4000 A. In order to completely understand the total movement of mass energy within the various layers, SUIT will give observations of the solar atmosphere slicing through different levels, which are now lacking and are thought to be of the utmost importance. The payload's total weight is 45 kg. Its length is 1.5 metres and its breadth is half a metre. After 112 days since its launch, the telescope is anticipated to start producing photos.

ADITYA-L1 mission

Objective: The primary objective of the ADITYA-L1 mission is to observe the Sun and study its dynamic nature, particularly focusing on the solar corona and its associated phenomena. The mission aims to enhance our understanding of the Sun-Earth connection and its impact on space weather.

Satellite: ADITYA-L1 is a satellite mission developed by the Indian Space Research Organisation (ISRO). It will be placed in a halo orbit around the L1 Lagrange point, which is about 1.5 million kilometers from Earth, on the Sun-Earth line. This location will provide continuous observations of the Sun without any interruptions due to Earth's shadow.

Payload: The ADITYA-L1 satellite will carry a suite of instruments to study different aspects of the Sun. The main instrument is the Visible Emission Line Coronagraph (VELC), which will observe the solar corona in visible and near-ultraviolet wavelengths. Other instruments include the Solar Ultraviolet Imaging Telescope (SUIT) and the Aditya Solar Wind Particle Experiment (ASPEX), among others.

Science objectives: The mission aims to investigate the structure and dynamics of the solar corona, including studying its magnetic field, plasma flows, and mass ejections. It will also focus on studying the origin and acceleration of solar wind and coronal mass ejections (CMEs), which can have significant impacts on Earth's space environment.

DUGDH SANAKALAN SATHI MOBILE APP

CONTEXT: *In Mussorie, Uttarakhand, the revolutionary "Dugdh Sanakalan Sathi Mobile App" was introduced by the Union Minister of Heavy Industries.*

About the Application

The "Dugdh Sankalan Sathi Mobile App" developed by REIL aims to transform the Indian dairy industry by improving milk quality, transparency, and operational efficiency at the grassroots level.

The app fosters transparency among stakeholders, including milk producers, cooperative societies, and state federations, ultimately benefiting the entire milk collection process.

It operates in multiple languages and provides comprehensive services to milk producers, facilitating communication and empowering them with essential information.

The cloud-based solution utilized by the app reflects the government's commitment to digitize processes and enable direct beneficiary transfers of subsidies to milk producers.

The app is a significant step towards modernizing the dairy sector, addressing key challenges, and contributing to the growth and development of India's dairy industry.

Significance of App

Transformation of the dairy industry: The app brings about a significant transformation by leveraging technology to address challenges in the milk collection process. It streamlines operations, improves quality, and fosters transparency, enhancing the overall efficiency of the dairy sector.

Empowering milk producers: The app empowers milk producers by providing them with a platform to access vital information, services, and updates in their preferred language. This empowerment enables them to make informed decisions and improve their livelihoods.

Digitization and transparency: The app aligns with the Indian government's commitment to digitization and transparency. It digitizes processes, ensures transparency among stakeholders, and facilitates direct beneficiary transfers of subsidies, ensuring that the intended benefits reach milk producers effectively.

Enhancing operational efficiency: By streamlining the milk collection process and providing real-time data, the app enhances operational efficiency at the grassroots level. It optimizes the collection and transportation of milk, reducing wastage and improving productivity.

Growth of the dairy sector: The app's impact extends to the growth and development of the dairy sector in India. By improving quality, efficiency, and transparency, it attracts investment, fosters innovation, and boosts the overall growth potential of the dairy industry.

The app have the ability to drive positive change, empower stakeholders, and contribute to the advancement and modernization of India's dairy sector, ultimately benefiting milk producers, cooperative societies, and the entire value chain.

VEDHIK
IAS ACADEMY
The New Learning Mantra

The Eagles - Scholarship Guidance Programme for 8th to 12th students to grab this Scholarship opportunities in top schools & Universities across the globe

The Falcons - Scholarship Guidance Programme for graduates & Post Graduates for getting this Scholarship for higher education and research in top universities across the world.

www.vedhikiasacademy.org

CSAT
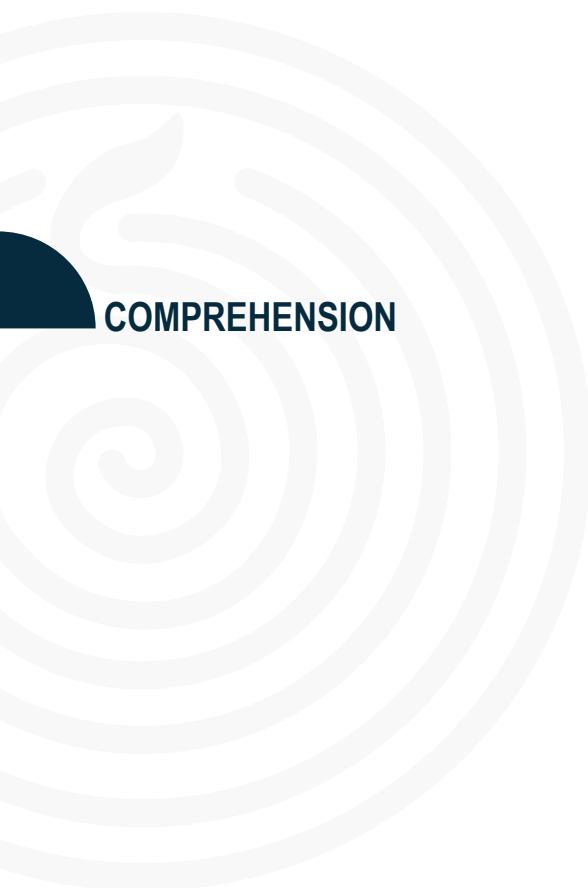
COMPREHENSION

1. A central message of modern development economics is the importance of income growth, which means growth in Gross Domestic Product (GDP). In theory, rising GDP creates employment and investment opportunities. As incomes grow in a country where the level of GDP was once low, households, communities, and governments are increasingly able to set aside some funds for the production of things that make for a good life. Today GDP has assumed such a significant place in the development lexicon, that if someone mentions "economic growth", we know they mean growth in GDP.

With reference to the above passage, the following assumptions have been made:

1. Rising GDP is essential for a country to be developed country

2. Rising GDP guarantees a reasonable distribution of income to all households.

Which of the above assumptions is/are valid?

a. 1 only

b. 2 only

c. Both 1 and 2

d. Neither 1 nor 2

2. The sugar maple is a hard maple tree. It can grow as tall as 100 feet and as wide as 4 feet. The sugar maple is commercially valued for its sap, which is used in making maple syrup. Two northeastern states, Vermont and New York, rank as major producers of maple syrup. In Canada, Quebec's annual syrup production surpasses 2.5 million gallons. To make pure maple syrup, holes are made in the trunk of the tree at the end of winter or in early spring. The water-like sap seeps through the holes and runs through a plastic spout that is put into the hole. Afterwards, the collected sap is transferred into tubes that are hooked up to a tank kept in the sugar house. Then, the sap goes through the boiling process. Boiling enhances flavour and adds colour to the sap. Once the sugar content of the sap is about 65%–66%, the sap is ready to be strained and marketed. Maple syrup found in supermarkets, however, is usually not pure and has other additives. The colour of pure maple may range from golden honey to light brown. Between 35 to 50 gallons of sap is needed to produce 1 gallon of maple syrup. Also, popular for the strength and finish of its wood, the sugar maple tree has been put to use in furniture, interior woodwork, flooring, and crates.

According to the passage, which of the following periods is ideal for sapping?

(a) End of winter or in early spring

(b) Beginning of winter or in early spring

(c) End of winter or late spring

(d) Throughout the year

3. In the immediate future, we will see the increasing commodification of many new technologies– artificial intelligence and robotics, 3D manufacturing, custom made biological and pharmaceutical products, lethal autonomous weapons and driverless cars. The moral question of how a driverless car will decide between hitting a jaywalker and swerving and damaging the car has often been debated, the answer is both simple- save the human life - and complex. At which angle should the ar swerve- just enough to save the jaywalker or more than enough? If the driverless car is in Dublin, who would take the decision? The Irish Government, or the car's original code writer in California, or a software programmer in Hyderabad to whom maintenance is outsourced? If different national jurisdictions have different fine print on prioritising a human life, how will it affect insurance and investment decisions, including transactional ones?

Which of the following statements best reflect the rational, plausible and practical implications that can be derived from the passage given above?

1. Too much globalisation is not in the best interest of any country.

2. Modern technologies are increasingly blurring the economic borders.

3. Innovation and capital have impinged on the domain of the State.

4. Public policy of every country should focus on developing its own supply chains.

5. Geopolitics will have to reconcile too many ambiguities and uncertainties.

Select the correct answer using the code given below:

a. 1, 4 and 5 only

b. 1,2,3 and 5 only

c. 2,3 and 5 only

d. 1,2,3,4 and 5

4. Our cities are extremely vulnerable to climate change because of large concentrations of populations and poor infrastructure. Moreover, population densities are increasing in them but we have not yet developed the systems to address climate change impacts. Our cities contribute to 65 percent of the GDP, but there are not enough facilities to address the issues of air quality, transport, etc., that are vital to identifying sustainable solutions. We need to involve citizens in city planning and create an ecosystem that meets the needs of the people.

Which of the following is the most logical and rational inference that can be made from the passage given above?

a. Our cities need to have well-defined administrative set-up with sufficient autonomy.

b. Ever increasing population densities is a hindrance in our efforts to achieve sustainable development.

c. To maintain and develop our cities we need to adopt sustainability related interventions.

d. Public-private Partnership mode of development is the viable long-term solution for the infrastructure and sustainability problems in India.

5. Though top leaders of the nationalist movement were the policy makers, the immediate day-to-day leadership was provided by the middle-class intellectuals. The rural origin of the industrial labour force together with rampant illiteracy and their simplistic docility attracted social workers, mainly drawn from the middle-class intellectuals. They had an obvious advantage. Not being employees, the leaders were free from fear of victimisation and immune towards the risks of leadership. Being generally well educated, they had a better perspective and sense of organisation. They could see the issue in a broader context. They belonged to a higher social plane than the workers and with good education and intellectual development comparable to the best among the employers they could meet the employers on their own plane and carry on negotiations on an equal footing. According to the Royal Commission on Labour in India, 'the effect of this surge was enhanced by the

political turmoil which added to the prevailing feelings of unrest and assured to provide willing leaders of a trade union movement'. But outside leadership had led to the politicisation of the movement.

What conclusion can be drawn based on the passage given above?

I. The middle class intellectuals were active participants in the Nationalistic movement because the workers did not want to choose a leader among themselves.

II. The integration of middle class intellectuals as political leaders caused the movement to become politicised.

a. Only (I)

b. Only (II)

c. Both (I) and (II)

d. Neither (I) and (II)

6. Though top leaders of the nationalist movement were the policy makers, the immediate day-to-day leadership was provided by the middle-class intellectuals. The rural origin of the industrial labour force together with rampant illiteracy and their simplistic docility attracted social workers, mainly drawn from the middle-class intellectuals. They had an obvious advantage. Not being employees, the leaders were free from fear of victimisation and immune towards the risks of leadership. Being generally well educated, they had a better perspective and sense of organisation. They could see the issue in a broader context. They belonged to a higher social plane than the workers and with good education and intellectual development comparable to the best among the employers they could meet the employers on their own plane and carry on negotiations on an equal footing. According to the Royal Commission on Labour in India, 'the effect of this surge was enhanced by the political turmoil which added to the prevailing feelings of unrest and assured to provide willing leaders of a trade union movement'. But outside leadership had led to the politicisation of the movement.

Find the antonym of the word tranquil from the passage

a. Prevail

b. Turmoil

c. Docility

d. Immune

7. Inequality is visible, even statistically measurable in many instances, but the economic power that drives it is invisible and not measurable. Like the force of gravity, power is the organising principle of inequality, be it of income, or wealth, gender, race, religion and region. Its effects are seen in a pervasive manner in all spheres, but the ways in which economic power pulls and tilts visible economic variables remain invisibly obscure.

On the basis of the above passage, which of the following best articulates the crux of the passage?

a. Economic power can be analysed more through its effects than by direct empirical methods

b. Inequality of different kinds, income, wealth, etc. reinforces power.

c. The nature of economic power, the driving force behind all kinds of inequality, is obscurity.

d. Economics power is the only reason for the existence of inequality in a society.

8. A majority of the TB infected in India are poor and lack sufficient nutrition, suitable housing and have little understanding of prevention. TB then devastates families, makes the poor poorer, particularly affects women and children, and leads to ostracization and loss of employment. The truth is that even if TB does not kill them, hunger and poverty will. Another truth is that deep-sealed stigma, lack of counselling, expensive treatment and lack of adequate support from providers and family, couples with tortuous side-effects demotivate patients to continue treatment-with disastrous health consequences.

On the basis of the passage above, which one of the following assumptions can be made?

a. The circumstances in India makes TB an incurable disease in India.

b. Basic amenities like proper nutrition, housing can alleviate the current TB situation in India.

c. The stigma caused by TB is worse than the disease itself.

d. The poverty stricken people of India are unwilling to seek medical help to cure TB because of the harmful side effects and high cost of treatment.

9. The plunder of Latin America left 70 million indigenous people dead in its wake. In India, 30 million died of famine under British rule. Average living standards in India and China, which had been on par with Britain before the colonial period, collapsed. So too did their share of world GDP, falling from 65 percent to 10 percent, while Europe's share tripled. And mass poverty became an issue for the first time in history, as European capitalism - driven by the imperatives of growth and profit - prised people off their land and destroyed their capacity for self-sufficient subsistence. Development for some meant underdevelopment of others.

Consider the following statements

A. European capitalism is the root cause of mass poverty

B. Colonialism caused displacement of indigenous population.

C. Europe's status as a wealthy nation is based on the destruction of third world countries.

Which of these statements can be inferred to be true based on the passage above?

a. A and B only

b. B only

c. A and C only

d. A, B, and C only

10. The world map of inequalities reveals that national average income levels are poor predictors of inequality – among high-income countries, some are very unequal (such as the US), while others are relatively equal (Sweden). "The same is true among low- and middle-income countries, with some exhibiting extreme inequality (Brazil and India), somewhat high levels (China) and moderate to relatively low levels (Malaysia, Uruguay)," stated the World Inequality Report. The report noted that income and wealth inequalities have been on the rise nearly everywhere since the 1980s, following a series of deregulation and liberalisation programmes which took different forms in different countries. "The rise has not been uniform: certain countries have experienced spectacular increases in inequality (including the US, Russia and India) while others

(European countries and China) have experienced relatively smaller rises," it said.

The report pointed out that in 2021, after three decades of trade and financial globalisation, global inequalities remain extremely pronounced. "They are about as great today as they were at the peak of Western imperialism in the early 20th century," it said. Lucas Chancel, lead author of the report, said the COVID crisis has exacerbated inequalities between the very wealthy and the rest of the population. "Yet, in rich countries, government intervention prevented a massive rise in poverty, this was not the case in poor countries. This shows the importance of social states in the fight against poverty," he said.

What is the most logical inference that can be drawn from the above passage?

a. The involvement of the state is essential to the alleviation of the poor.

b. The COVID crisis has caused the rich to become richer and poor to become poorer.

c. High income countries are more unequal than low income countries

d. The World Inequality Report states that income levels are not good indicators of inequality.

1 STOP
SOLUTION

VEDHIK
IAS ACADEMY
The New Learning Mantra

ISSUE NO.3
VEDHIK CURRENT AFFAIRS
JANUARY 2022

FOR CIVIL SERVICES PRELIMINARY, MAINS, STATE ADMINISTRATIVE SERVICES AND ALL COMPETITIVE EXAMINATIONS UNDER UPSC, SSC AND STATE PSCs
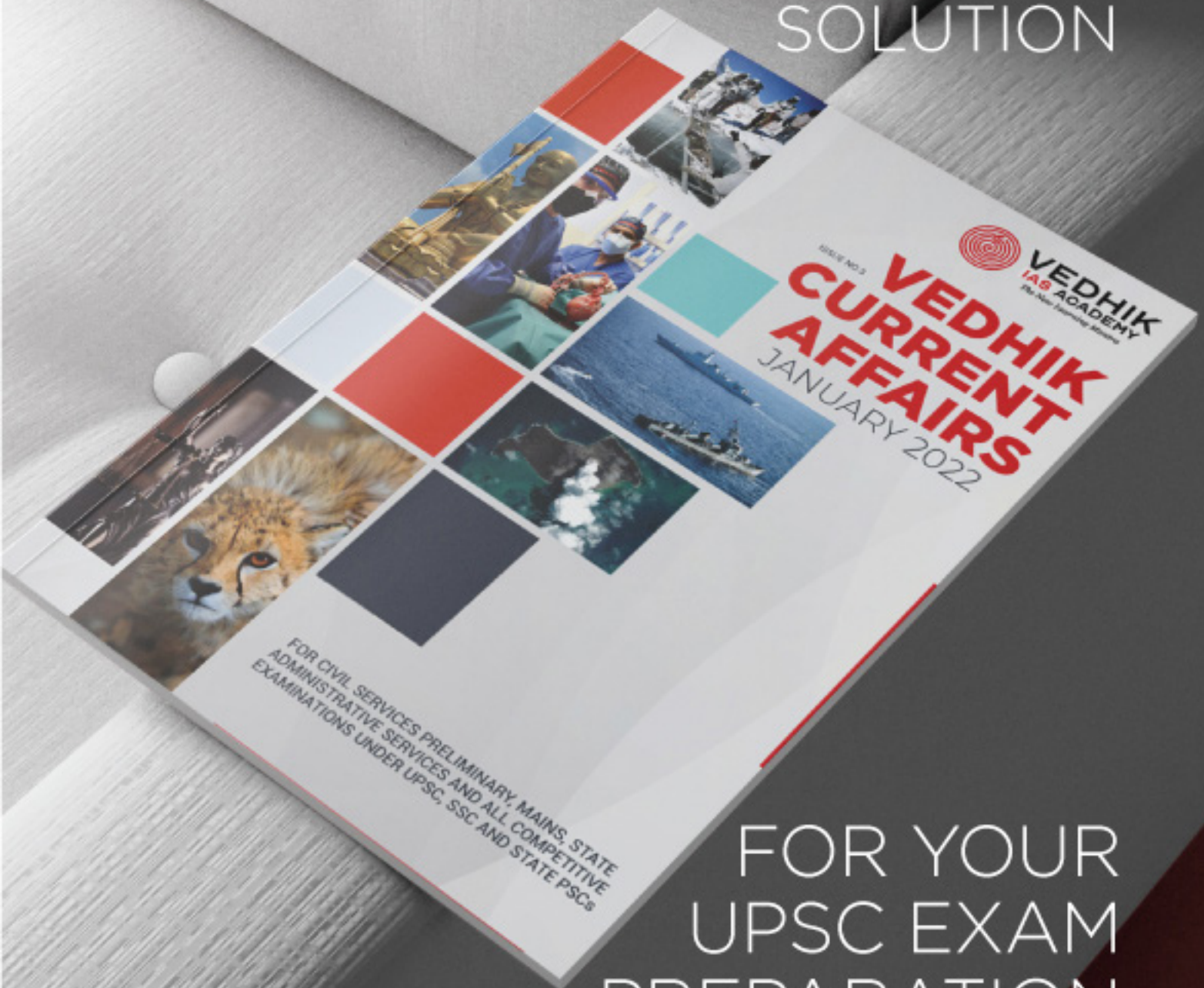
FOR YOUR UPSC EXAM PREPARATION

ETHICS

THE CRUCIAL ROLE OF ETHICS IN PUBLIC SERVICE IN INDIA

THE CRUCIAL SIGNIFICANCE OF THE RIGHT APTITUDE FOR CIVIL SERVICE IN INDIA

SOLVING PREVIOUS YEAR QUESTIONS

THE CRUCIAL ROLE OF ETHICS IN PUBLIC SERVICE IN INDIA

Introduction

In any society, the effective functioning of public service is vital for the overall well-being and development of its citizens. In India, a country of diverse cultures, languages, and aspirations, the importance of ethics in public service cannot be overstated. Ethics provide a moral compass that guides public officials to act with integrity, transparency, and accountability, ultimately fostering trust, good governance, and sustainable development. This article explores the significance of ethics in public service in India and highlights its impact on society.

Upholding Integrity and Trust

Ethics play a pivotal role in upholding the integrity of public servants. By adhering to a set of ethical principles and values, public officials are expected to maintain high standards of honesty, impartiality, and fairness. When public servants demonstrate integrity, it instills trust and confidence among citizens, leading to a harmonious relationship between the government and the public. Citizens feel assured that public resources and powers are used for the common good and not for personal gain or corruption.

Promoting Transparency and Accountability

Ethics in public service promote transparency and accountability, both of which are essential for a functioning democracy. Transparency ensures that decision-making processes and actions of public officials are open to scrutiny, reducing the likelihood of corruption, nepotism, and favoritism. Accountability holds public servants responsible for their actions and requires them to answer to the public and face consequences for any misconduct. By integrating ethical practices into public service, the government can build a culture of openness and accountability, enhancing public trust in governance institutions.

Ensuring Fairness and Equal Opportunities

One of the key roles of public service in India is to ensure fairness and equal opportunities for all citizens. Ethical conduct among public officials guarantees that policies and programs are implemented without bias or discrimination. Ethical decision-making emphasizes the need to treat all individuals equally, regardless of their social status, gender, caste, or religion. By upholding these ethical principles, public servants can contribute to a more inclusive and just society, where every citizen has access to basic services, resources, and opportunities.

Preventing Corruption and Misuse of Power

Corruption is a significant challenge faced by many countries, including India. Ethics in public service act as a strong deterrent against corruption and the misuse of power. When public officials prioritize ethical conduct, they resist temptations and pressures to engage in corrupt practices. Ethical guidelines and codes of conduct provide a framework for public servants to make decisions in the best interest of the public rather than personal gain. By combating corruption, ethical public service contributes to the efficient allocation of resources, economic development, and the overall welfare of the nation.

Enhancing Public Participation and Engagement

Ethics in public service promote public participation and engagement in decision-making processes. When citizens perceive public officials as ethical and trustworthy, they are more likely to actively engage in governance, contribute to policy discussions, and voice their concerns. This participatory approach strengthens democracy by ensuring that public policies and programs reflect the diverse needs and aspirations of the people. Ethical public service encourages dialogue, collaboration, and partnerships between the government and civil society, fostering a sense of ownership and shared responsibility for the nation's progress.

Conclusion

In India, the importance of ethics in public service cannot be overlooked. Ethical conduct among public officials plays a vital role in upholding integrity, promoting transparency, ensuring fairness, and preventing corruption. It builds trust, fosters good governance, and enhances public participation, ultimately leading to sustainable development and a better quality of life for all citizens. As India continues its journey towards progress and inclusivity, prioritizing ethics in public service will remain critical to building a just, accountable, and prosperous society.

The Power of the Right Attitude in Public Administration: Fostering Effective Governance

Public administration plays a critical role in shaping and implementing policies that impact the lives of citizens. While knowledge, skills, and expertise are essential in this field, the right attitude is equally crucial for ensuring effective governance. The right attitude encompasses values such as integrity, empathy, accountability, and a genuine commitment to public service. In this article, we explore the significance of the right attitude in public administration and its impact on building trust, enhancing transparency, and fostering positive outcomes for society.

Integrity and Ethical Conduct:

Integrity is the foundation of public administration. Officials who demonstrate unwavering ethical conduct inspire trust and confidence among citizens. Upholding high moral standards and adhering to ethical codes ensures that decisions and actions are driven by the best interests of the public. A strong sense of integrity cultivates transparency, accountability, and fairness, thereby promoting the overall credibility of public administration.

Service Orientation and Empathy:

A right attitude in public administration requires a genuine commitment to public service. Administrators who possess a service-oriented mindset prioritize the well-being of citizens over personal interests. This entails actively listening to the concerns of the public, understanding their needs, and responding with empathy. By adopting a citizen-centric approach, administrators can develop policies and programs that truly address societal challenges and improve the quality of life for all.

Accountability and Responsibility:

Public administrators must be accountable for their decisions and actions. Taking ownership of one's

responsibilities fosters trust and credibility. This involves being transparent about decision-making processes, communicating openly with stakeholders, and accepting constructive feedback. Administrators who display a strong sense of responsibility are willing to acknowledge mistakes, learn from them, and take necessary steps to rectify any shortcomings.

Collaboration and Teamwork:

Effective public administration requires collaboration and teamwork. Administrators who foster a cooperative environment and value diverse perspectives are more likely to develop innovative and inclusive solutions. Encouraging open dialogue and actively involving stakeholders in the decision-making process fosters a sense of ownership and generates sustainable outcomes. A positive attitude towards collaboration strengthens partnerships with other governmental agencies, non-profit organizations, and the private sector, leading to more impactful policies and programs.

Adaptability and Resilience:

The right attitude in public administration also involves adaptability and resilience. Administrators must be prepared to navigate complex and ever-changing environments. Flexibility in the face of challenges enables them to respond promptly and effectively. Additionally, maintaining resilience in the midst of adversity allows administrators to learn from setbacks, identify opportunities for improvement, and find creative solutions to emerging problems.

Continuous Learning and Professional Development:

Public administrators should possess a lifelong commitment to learning and professional development. The dynamic nature of public administration necessitates staying informed about emerging trends, best practices, and advancements in relevant fields. By continuously updating their knowledge and skills, administrators can better address evolving societal needs and effectively tackle emerging issues.

The right attitude in public administration is an indispensable component of effective governance. Administrators who embody integrity, empathy, accountability, collaboration, adaptability, and a commitment to continuous learning foster public trust and confidence. By prioritizing the interests of citizens, embracing ethical conduct, and valuing collaboration, public administrators can drive positive change and contribute to the betterment of society. It is through the collective effort of those who embody the right attitude that we can achieve an efficient, transparent, and inclusive public administration that serves the needs and aspirations of the people it represents.

The Crucial Significance of the Right Aptitude for Civil Service in India

The civil service plays a pivotal role in shaping and implementing government policies, ensuring the effective functioning of public administration, and serving the needs of the citizens. While knowledge and skills are vital for civil servants, the right aptitude is equally essential. The right aptitude encompasses qualities such as leadership, critical thinking, problem-solving, adaptability, and a deep-rooted commitment to public service. In this article, we explore the importance of the right aptitude for civil service in India and its impact on governance, policy-making, and the overall development of the nation.

Leadership and Vision:

Civil servants with the right aptitude possess strong leadership qualities. They are capable of inspiring and motivating others to work towards a common goal. Effective leadership enables civil servants to envision long-term goals, formulate strategic plans, and implement them with precision. A visionary approach combined with the ability to lead and manage teams empowers civil servants to drive positive change and create an impact at both the macro and micro levels.

Critical Thinking and Problem-solving:

The right aptitude enables civil servants to think critically and analyze complex situations. They possess the ability to identify and evaluate various perspectives, gather relevant information, and make well-informed decisions. Civil servants with strong problem-solving skills can effectively address the multifaceted challenges faced by society. They find innovative solutions, weigh the potential risks and benefits, and implement policies that address the root causes of issues, thus fostering sustainable development.

Adaptability and Resilience:

In a dynamic and rapidly changing environment, civil servants must possess the aptitude to adapt and thrive. They must navigate through unforeseen circumstances, evolving technologies, and emerging challenges. The right aptitude enables civil servants to remain resilient in the face of adversity, bounce back from setbacks, and learn from failures. Being adaptable allows them to embrace new ideas, explore alternative approaches, and find innovative solutions to emerging problems.

Ethics and Integrity:

Ethics and integrity are at the core of civil service. Civil servants with the right aptitude adhere to high moral standards, demonstrate integrity, and maintain ethical conduct in all aspects of their work. They exhibit transparency, accountability, and fairness in decision-making processes. Upholding ethical principles enhances public trust, credibility, and the legitimacy of governance, contributing to a robust and efficient civil service system.

Commitment to Public Service:

The right aptitude for civil service entails a deep-rooted commitment to public service. Civil servants are entrusted with the responsibility of serving the citizens and working towards their welfare. Those with the right aptitude prioritize the interests of the public over personal gain, ensuring that policies and programs are designed to address the needs and aspirations of the people. A strong commitment to public service fosters empathy, responsiveness, and a citizen-centric approach in civil servants, thus building trust and strengthening the relationship between the government and its constituents.

Continuous Learning and Professional Development:

Civil service demands lifelong learning and continuous professional development. The right aptitude encourages civil servants to stay updated with the latest knowledge, emerging trends, and best practices. Engaging in capacity-building programs, pursuing advanced education, and actively seeking opportunities for learning enables civil servants to enhance their skills and competencies. Continuous learning empowers them to tackle new challenges effectively, apply innovative approaches, and adapt to evolving demands in the public service domain.

The right aptitude is a fundamental requirement for civil service in India. Civil servants who possess the qualities of leadership, critical thinking, adaptability, ethics, and a commitment to public service contribute significantly to the development and progress of the nation. By leveraging their skills and aptitude, civil servants can effectively address societal challenges, formulate and implement policies that lead to sustainable development, and create a positive impact on the lives of citizens. It is through the collective effort of civil servants with the right aptitude that India can achieve good governance, social equity, and inclusive development, ultimately transforming the nation into a thriving and prosperous society. Aspiring civil servants should strive to cultivate and demonstrate the right aptitude, as it serves as a catalyst for positive change and paves the way for a brighter future for India and its citizens.

Solving Previous Year Questions

What do you understand by the term 'good governance'? How far have recent initiatives in terms of e-Governance steps taken by the State have helped the beneficiaries? Discuss with suitable examples. (Civil Service Mains , 2022)

Good governance refers to the principles and practices implemented by governments to ensure transparency, accountability, efficiency, and responsiveness in their actions. It involves the effective management of public resources, the protection of individual rights, and the promotion of citizen participation in decision-making processes. Good governance fosters trust, enhances public service delivery, and contributes to overall socio-economic development.

In recent years, governments worldwide, including in India, have embraced e-Governance as a means to promote good governance and improve service delivery to citizens. E-Governance refers to the use of technology, particularly information and communication technology (ICT), to enhance the efficiency, accessibility, and effectiveness of government services. It aims to streamline administrative processes, facilitate citizen-government interactions, and enable the timely delivery of services.

The initiatives taken in terms of e-Governance have indeed had a positive impact on beneficiaries, as they have transformed the way public services are accessed and delivered. Here are a few examples of how recent e-Governance initiatives in India have helped beneficiaries:

Digital Identity and Authentication:

The introduction of Aadhaar, a biometric-based identification system, has streamlined the process of availing government services. Aadhaar serves as a unique identifier that simplifies access to various welfare programs, such as Direct Benefit Transfers (DBT). By linking Aadhaar to bank accounts, subsidies and benefits can be directly transferred to beneficiaries, eliminating intermediaries and reducing corruption and leakages.

Online Service Delivery:

E-Governance initiatives have made government services more accessible and efficient for citizens. Online portals and platforms, such as the National Scholarship Portal, the Passport Seva Portal, and the Income Tax e-Filing Portal, enable individuals to apply for and avail services from the comfort of their homes. This reduces bureaucratic delays, eliminates the need for physical paperwork, and enhances the overall user experience.

e-Government Procurement:

The implementation of the Government e-Marketplace (GeM) has revolutionized public procurement processes. GeM is an online platform that facilitates the procurement of goods and services by government departments. It offers transparency, reduces transaction costs, and provides a level playing field for suppliers, especially small and medium-sized enterprises (SMEs). This initiative has helped beneficiaries by promoting fair competition, reducing corruption, and ensuring value for money in government purchases.

Digital Financial Inclusion:

Initiatives such as the Pradhan Mantri Jan Dhan Yojana (PMJDY) have leveraged e-Governance to promote financial inclusion. Through this scheme, individuals are provided with a basic savings bank account, a RuPay debit card, and access to various financial services. This has empowered the underprivileged and marginalized sections of society by enabling them to access banking services, receive direct subsidies, and avail insurance and pension schemes.

Real-time Information and Grievance Redressal:

The implementation of digital platforms like the Public Grievance Redressal Portal and the Centralized Public Grievance Redress and Monitoring System (CPGRAMS) has facilitated real-time grievance redressal. Citizens can lodge complaints, track their status, and receive updates on the actions taken by authorities. These initiatives have made the grievance redressal process more transparent, accountable, and responsive, ensuring that beneficiaries' concerns are addressed promptly.

Way Forward

The recent initiatives in terms of e-Governance in India have brought about significant improvements in service delivery and governance. They have enhanced transparency, reduced corruption, minimized bureaucratic hurdles, and empowered citizens to access government services more efficiently. By leveraging technology, the government has been able to bridge the gap between the administration and the beneficiaries, fostering inclusivity and responsiveness. However, challenges such as digital literacy, connectivity, and data privacy need to be addressed to ensure the effective implementation of e-Governance.
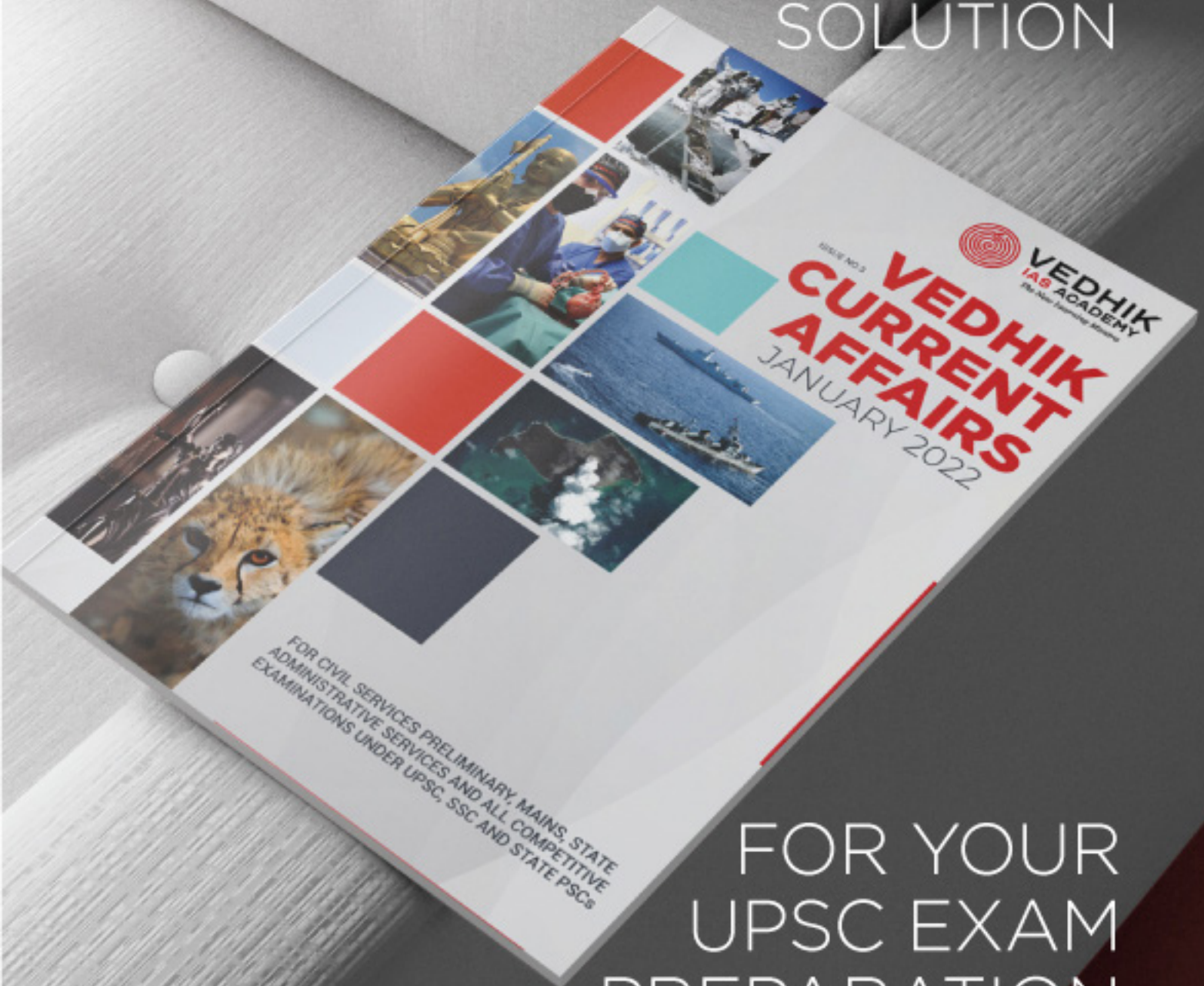
TOPICS OF THE MONTH

DOES INDIAN CINEMA INFLUENCE OR
JUST MIRROR OUR CULTURE

- DR. Alexander Jacob IPS

YOU MUST BE THE CHANGE YOU WISH
TO SEE IN THE WORLD – GANDHIJI

-DR. Babu Sebastian

INDIA AND MALNUTRITION

-DR. G. Prasanna Kumar

HUMAN RIGHTS TODAY

-Mr.Solomon John

DOES INDIAN CINEMA INFLUENCE OR JUST MIRROR OUR CULTURE

Created in the middle of 20th century, cinema is by far the world's most complex, collaborative and costly form of art. It has an innate ability to move its viewers with a web of emotions, in a short span of time and make them attain a perspective different from before the view. Started off as a cheap source of entertainment, over the years, cinema 's contribution to the life - of a layman in a society to a high flying businessman – and the society 's contribution to cinema has attained newer dimensions, making one question the relation between the two.

Though India might have been a late starter in terms of modern economic and social development, its tryst with cinema was as per contemporary events and today has emerged as the producer of the largest number of films per annum. The fact that India is the biggest democracy yet to attain full maturity – whose masses r still ruled by sentiments more than economic or political logic - and the heterogeneous character of its democracy – with scores of languages and regional distinctiveness – make this relation more complicated. Indian cinema be it of any regional language, began with the portrayal of popular cultures local folklores or the national heroes in mythological stories woven around the societal belief of goodness triumphing over the evil. Art - in the form of paintings, sculptures, music - and literature have been an indispensable part of the composite Indian culture since ages and this richness helped contemporary artistes in the 1950s to display existing ideas and thoughts into moving pictures or movies. Though the moral values of mythology depicted in such fashion urged the viewers to follow the path of truth with perseverance, it never bolstered the social culture to change accordingly - as the society did not turn on to monarchical system or started wearing fanciful and scintillating outfits. This tradition – of existing present situation impacting the storyline – continued for decades – like the movies in 60s (purab aur paschim, Mother India etc) - depicted patriotic heroes glorifying our traditions and struggles against the newly introduced western thoughts in the country. Interestingly, the powerful performances of the artistes in such roles were had such a firm footprint in the young minds of the time that it led to the start of reciprocity in the relationbetween cinema and culture – now cinema began to play a role in the latter, with the artistes 'way of dressing to actions found a resonance in the minds of a fledgling democracy trying to get its ground against formidable western nations and rapidly spreading ideas like imperialism.

The relation of equal reciprocity continued right up to the end of 1980s. Script writers contemplated on the pressing issues facing the nation - be it corrupt politicians or prevailing bane of government regulation of the economy or simply the helplessness of a common citizen. The disabled actor reflected the popular perceptions about disability while women adorned in beautiful sarees – docile obedient and sacrificing – an expression of prevailing view about an ideal Indian woman. In almost all movies made in Hindi, a quintessential hero would fight the malicious intent of the villains who could be merciless industrialist to a power hungry politico, and end up victorious – sweeping its audience with a fleeting emotion of joy and success. It helped the poor but hard working school teacher to transcend his daily woes into a world of a just society where his hard work is rewarded aptly while his son would be enthralled to the beauty of the female actor and try to imitate the ways of the hero to impress upon his peers in real life, his energy finding an expression in the ways of the angry young man. Slowly but surely, the passionate Indian populace got exposed to the modern avatar of hero worshiping – the lifestyle of the famous actors became topic of contemporary debate and films affecting our daily life in a significant way, most significant being in the way of dressing. However, owing to India 's protectionist import policy at that time made sure this reach was limited in scope and so for most of its poor masses who could not afford their hero 's materialistic aspect, felt content in copying his hairstyle or voice.

The 90s was a watershed decade for Indian cinema. The henceforth liberal policies adopted by the government brought the world of movies into our drawing rooms. Consumerism got a boost and so did the impact of cinema on our lives. Probably as a product of interface with a strong wave of globalization that glorified western ideas on food to clothing, our cultural world, with its unique and varied take on life faced an upheaval and the result was the birth of conflicting ideas – while there were some who wanted to stay true to the roots – the conservationists – there were many who welcomed the changes with a blind eye – thinking it to be all beneficiary. This period of cultural turmoil got reflected in our movies – they lost touch with the problems of common citizens and limited themselves to mundane storylines based on love between young minds and their tribulations. Often the depiction of the female role echoed western sensibilities; beauty was commodified as per the latest rock chick regalia in the West though Indian ethos that included family values, traditional and orthodox views of female sexuality also prevailed. Heroes were valorous but instead of dealing with pressing issues of society, they fought lecherous villains for their love. Gradually, , Indian Cinema has nudged hip-hop dances into the social functions and ceremonies - simultaneously drifting Dandia and other folk dances away from the culture that once adorned our society on a day-to-day basis.

Thus by the end of twentieth century, the balance seemed to tilt in favour of the cinema, for it started to bear a stronger influence on our culture, be it our music, dance or food. There was nothing new for the audience to ponder upon – except for the fashion probably – and nothing which could stimulate young minds in a positive way. In an adverse, acts like stalking women or eve teasing was seen being performed by the hero to win over his women and one might argue that for a patriarchal country like India inhabited by illiterate masses, such songs and plays affected women safety. This may be true in some cases, given the fact that India has a history of hero worshipping – be it popular culture or movies- but to call it as the only reason – would be stretching the matter too far. In fact, this debate of movies influencing our popular consciousness started from this time and exists even today.

The major bone of contention has been the portrayal of violence and women in films and their effect on our culture. Conservationists argue that modern cinema promotes consumerism instead of moral values like respect for kin in joint families, that violence against women is a consequence of vulgar clothes and songs in movies and lament the fact that it is impossible to keep young minds away from such movies in the internet age. However, if one ponders keenly, would find that issues like violence against women prevailed even before cinemas got introduced in or culture- be it in the form of polygamy or sati or child marriage. Orthodox values based on a biased gender view against women – whose role is relegated household chores and family rearing – are against individual liberty which have been upheld by traditions long back and need

not be continued for traditional namesake. True, portrayal of women in suggestive gestures and standardizing her appearance is equally wrong but they have to be dealt with maturity – spreading awareness, shunning such songs and making our girls realize its pitfalls which would need an active role of parents and teachers. Already, many in the movie industry has started experimenting female centric stories, that go against stereotypical valuation of women and have been commercial hits. As more filmmakers realize the importance in a cinema loving society like India, one can be hopeful of a changing trend.

New age cinema makers have also taken note of reports where cinema has been blamed of causing death of children trying to copy stunts by their favorite heroes or how violence in action movies affect teenagers or that smoking gets glorified by portrayal of protagonists. While they argue such scenes r necessary for artistic creativity and such criticism demonstrates dual standards of our society – where drinking and smoking is followed by large sections of society; the truth lays someone in between. Given the immense impact cinema has on our society, cinemakers have to be careful of what they portray and at the same time prohibiting such display suffocates a story of its theme and goes against the basic tenets of freedom of speech and expression. Empathizing the dual needs of society and cinema, the government has institutionalized certification of commercial movies, that grades movies as per its desired audience as well as carries a warning before any dangerous stunt or act.

Though cinema in India has touched almost every aspect of our lives today, redefined the ways we think and view this world – be it our opinion on marriages or citizen's role in demanding justice, there r many areas which have hitherto remained unexplored by our moviemakers. Issues like disability rights, climate change and female infoeticide need to be dealt extensively. These r issues where cinema has gone the stereotypical way, weary of taking a strong stand – it is here that the confluence of cinema ad culture is maximum, with the former reflecting existing prejudices. Culture is a dynamic entity and its composition is under constant change – be it from cinema or any form of art. How such change affects the composition of a society – should be matter of informed debate. With cinema influencing our culture in a big way, one would do well to use this opportunity to scourge our culture of its ill effects – the traditional treatment towards the marginalized of our society - dalits, women, disabled - instead of prodding over the everlasting debate on cinema shaping our culture or vice versa.

Culture of any society emanates from the civilisations of the same. In India popular civilisations like Harappan, IVC became ground for the emergence of Indian way of culture. people irrespective of their religions lived together peacefully, which at a later stage became Indian way of life that people intend to live, the beliefs they embrace over a period of time, the practices they follow etc. In totality, culture reflects the evolution of a society over a period of time. With the passage of time the culture leaves certain unnecessary things and embraces certain important things. It doesn't mean to say that culture leaves old systems and traditions, but to change itself according to the changes all round the world, the culture of a particular country or society drops certain unnecessary things. The evolution of Indian cinema is of the same thing.

In olden days' dramas were being played for the entertainment of the people. Over the year's drama became an integral part of peoples' lives and hence became a part of Indian culture. As said earlier, to change as par the exigencies, culture drops certain things Indian culture in the 20th century dropped drama and gave room for cinema to take the place for entertaining people. Then one can easily get the doubt that what improvements does Indian cinema have over the dramas? To clear the doubt, then one must definitely see the first Indian movie made by Dada Saheb Phalke's " Raja Harishchandra ", which clearly depicted the ancient culture of India where the chronicles of the great Indian king came into limelight. The way it created imprints on the minds of millions of people about the greatness of Indian culture and " Raja Harischandra" is magnificent.

The emergence of Indian as an independent nation gave a major fillip to Indian cinema industry and thereafter we can see a large proliferation of Indian cinemas based on ancient culture, Indian independence, National movement, love, romance etc. There are some movies which clearly show the distinction between native Indian culture and western culture. For instance, the movies ' purab and pashim' released in 1970s in which Manoj Kumar was a lead actor, highlighted pin to pin about the Indian culture. In the recent period " namstey London " emerged as a blockbuster which clearly distinguished Indian and western culture is an example.

On the other hand, there are certain cinemas which based their stories on orthodox and regional anti-social activities like child marriage, superstitions etc. Examples can be shekar kapur's " Bandit Queen ' and Anurag kashyap's "Gulaal ". Indian cinemas not only confined to portray Indian culture, but also expanded its horizons to promote respective religions in a peaceful manner, to enhance communal harmony and bridge the trust deficit among different religious groups. For instance, the cinema " Delhi 6 " released in 2009 based its story on communal clashes that happen between Hindus and Muslims because of some vested interests. This movie prompted communal harmony by giving message to the people that " it is the fear on the part of every individual which breeds the ground for communal clashes ".

Not only this, Indian cinema expanded its scope to politics. In the recent period, there are a number of films directed on the ethics and values of political leaders and how they should be. For instance, the Tollywood movie named " Leader", released in 2010, clearly showed the values that a political leader must have and how he should strive to change the present system. This not only emancipates a large number of audience but also acts as a wakeup call to the political leaders about their administration. A number of cinemas ever since independence reflected, promoted and shaped our Indian culture. In fact, we can say that Indian cinema is a continuance of our popular culture. Ever since the release of the first cinema " Raja Harischandra ", Indian cinema became an integral part of our culture. But, the modern cinemas, particularly the movies of 21st century have become a cause of concern as they lack Indian nature (culture). Hence, indirectly it is a threat to the age old culture. However, as said earlier, culture in its way eliminates certain things. As Indian cinema has become a part of Indian culture, it should not eliminate Indian nature from its hold.

There are a number of Indian movies portraying Indian culture. But, in the recent period, these movies are on the verge of extinction. Hence, the need of the hour is to make movies which rely its basis on Indian culture, traditions, practices etc. Hence, it can be safely concluded that Indian cinema shaped our culture over a period of time.

YOU MUST BE THE CHANGE YOU WISH TO SEE IN THE WORLD – GANDHIJI

The process of Change is defined by the two contrasting statements, that is 'it is continuous and inevitable' and 'there is certain amount of inertia associated with any attempt for change'. Both the statements are true vis a vis the process of change. Change is a natural process as far as natural systems are concerned but to bring a change in any man made system or society requires effort. The change is any existing system or pattern in the society is not an easy task because the prevailing systems have some inertia and due to human's nature of hedonism which makes him to swim with the tide than against it. And such change can't occur just because there is requirement for that change or the people wish for it. It occurs when significant actions are taken towards it whether by an individual, family, society, nation or the whole world. Gandhi ji saw this pattern and told that 'You must be the change you wish to see in the world'. The basis of this statement is an understanding that the world, country or society is nothing but an amalgamation of individual human beings. And no change can be brought at the whole level until units comprising that whole are changed.

The first level of socialization for any individual is a family. It is the basic level from where one is indoctrinated in to one's culture and value system. Here if a child sees there is a difference between preaching given to him/her and actions followed by the elders, he/she will learn that the teachings given to him/her has no practical relevance. And would develop a value system that would be contradictory to what was intended.

The next level of the interaction is with the society. Here one comes under the influence of various models like leaders, film stars etc. And when one sees that the same leader who preaches nonviolence or honesty is engaged in violent speeches or an affluent life style, the lectures or preaching's don't make any sense. When the same child grows up he/she is engaged in same type of behaviour. And since he forms family, society, nation or world, the existing systems or culture don't go through a change and the vicious cycle is never broken.

Moreover, when an individual or a nation demands something from others but to not follow its own demand, the credibility of that individual or nation is lost. And no one like to adhere to those demands. These are the basic reasons that any intended change in the direction of removing corruption, violence, global warming or free world market seem so difficult. Because preachers in these cases rarely show their willingness via action.

Corruption, one of the most persistent and omnipresent problem. It seems that every person, society and nation want to solve this problem. But somehow it gets worsen. This paradox between effort and result is because everyone is in the process of making the other individual / nation honest and not itself.

An another problem, violence seems ubiquitous in nature. The violence, against women, children, lower caste/ class or nations, is present in some or other form. Here also, when a woman is brutalized the whole society comes forward to condemn it but the same very society do not see any need to change the way it treats its women. Similarly, a nation does not see any conflict of values when it preaches peace and engages in a war killing lakhs of innocent people. And also assumes that its lectures on the need to protect environment would be heard after being one of the largest polluter itself. The results show that all these assumptions are wrong.

There can be an argument that the change of a single individual or nation would not have any impact until the society as a whole change. And Gandhiji's statement may have a romantic appeal but in reality, things do not work like this way. But the history shows that the people who have brought any substantial change in the society were not preachers but doers. From Galileo to Nelson Mandela, the men who changed the existing systems were those who had the courage to put their thoughts in to action. And the greatest among them can be said to be Mahatma Gandhi who before asking his disciples to follow any of his principles, himself became its exemplary follower. While the recent incidences like of Narendra Dabholkar or Majunath show that there may be a heavy price to try to bring a change in the society by becoming a follower of the intended principles. But these people only acts as an agent of the change and not the preachers.

"Two families lived in a small village of Maharashtra. One day a boy belonging to one family molests a girl belonging to other family. In order to avenge the misdeeds of the boy and teach him a lesson, the girl's family eventually beats him up leading to his death. This starts a bloody feud between the two families and ultimately ends up when everyone from both the families are killed." Though a fictional story, it has resemblance to many such incidents occurring in India and the world elsewhere. The moral of the story is that the revengeful nature doesn't help us to gain anything but only to lose everything in the end. Similar was the case with Germany. After First World War, Germany was treated harshly by the allied victors. The treaty of Versailles was imposed on her. It denied Germany the rightful place in the world's geopolitics at that time. In order to take revenge of it, Germany often took up aggression in the neighbouring territories eventually resulting into world war -2. At the end allies do win but only at the cost of widespread destruction to life and property on both the sides. Thus the very idea of taking revenge defeated her. Such a revengeful nature is an aberration on the part of Hunan being and community at large. There are various causes for the development of such qualities. The foremost comes the failure of the institution of family. The family teaches us the basic quality of life ie. socialisation, cooperation, forgiveness, etc. Even if the family doesn't teach the child, being a silent spectator he/she assimilates whatever they see around themselves. For ex. If the father talks of taking revenge on someone, the child will see it as a normal behaviour and will learn such qualities.

The second most important cause is the faulty education and illiteracy. Often the school curriculum is such that it perpetuates hatred amongst communities such as that of Hindu and Muslims. This leads to development of suspicion within them whenever they come across persons belonging to other community. As you can see during Gujarat riots of 2002 both the community were after each other to avenge the deaths of their fellow men. This results into anarchy and chaos and communal disharmony. On the other hand, an illiterate person often doesn't think of any alternative solutions to solve a problem but only to inflict injury on the other. Another common agent is the media. It has profound influence on the kinds of people and helps them to frame opinion. Hence if the media often propagates the policy of tit for tat, the people imbibe such a policy into their lives to solve their own problems. The other important institution that plays an important role is the government. For eg, along the line of control, Pakistani army beheaded

our soldiers. Reacting to this incidents, many of our political leaders also proposed to do the same to teach them a lesson. Hence such stance taken up by the government helps to mobilise the people in support of the same. Such a vindictive behaviour often has many adverse impact on both the individual and the community at large. First of all, it preoccupies the mind of the person till the revenge is taken. It leads to loss of precious energy and time. Also, it leads to a sense of mental insecurity because the person might think that he/she might be the target of some other individual in this policy of tit for tat. However, on the larger part, it leads to communal disharmony, anarchy, lack of security of life and ultimately political instability. On the other hand, if there is some good part about taking revenge if taken in a positive light. Such a behaviour may lead to development of killer instinct in a person which is helpful in competitive sports. But there is a precondition that the person should put this bad quality for good purpose.

In order to prevent development of such qualities, many institutions should play important role in various phases of life. The two most important are that of family and school. Family being the first level of interaction should inculcate in child good habits of forgiveness. Examples should be set before them. In school the moral value based education should be imparted. The teaching of our great leaders such as Buddha, Mahavira, Gandhiji should be imparted into them. It will help them to build a strong character in life. At last in order to forgive a person it requires great will power and determination. It will lead to saving of our time and energy and the most important our mind will be at peace which is the best thing in life. Otherwise it will lead to loss of everything -peace, character and soul. Hence it is rightly said by M.K.Gandhi, "an eye for an eye will make the whole world blind."

Changing the whatever wrong things, which come in front of us is a human nature to make this earth more peaceful and ideal. Change is the first and foremost important law of the nature. Since the existence of human on the earth. It changes the society, economy, political structure, technology as perceived by him as good and better. It is the mightier and powerful individual or tribe or kingdom or nation-state which imposes its ideal system over the other less developed, weaker and defeated societies. This defeats the very purpose of the change to bring more sustainable and efficient system than the earlier one. It is very correct that change is inevitable. Since the inception of human civilization or even before, the world is changing. It is a continuous and never ending process. When the existing order of the day is not able to fulfilling the growing aspirations of the people or any better alternative order is possible. People want change to become better person philosophically, politically, economically and as a human being and human civilization. But, this change needs some person or group who will bring this in front of the people. This group would become the new dominant class by replacing the existing elite class. But, this replacement could be stopped if the earlier dominant class could see and tame its own wrongs.

Human child is just like a blank slate as he don't know any worldly things. Since the childhood days, human comes across many ideas, cultures, values either human-values or societal values, etc. He interacts and inquires about these cults and values with his parents, teachers and members of his society. This leads to form his own opinion based on the values, taught by his society members. And, this is the period where he intakes and establish his own value-system based on which he will judge all the future events and society, without much introspecting and questioning his own value system. As adult, human sees and judges the world based on his firm value system which he has acquired in the past. Human always interacts with so many people and judge them and their actions as good or bad. But, never interacts with himself in this busy world. He never sees himself in-front of himself. As a self is always with you, not in-front of you who you can think and judge.

History is full of such kind of self-imposed good thing over others without considering the weakness and strength of our own system. For ex. Aryans came in India which leads to extinction of Vedic civilization in which the tools and techniques evolved by the Vedic people were subdued in-front of the superior Aryan race. Similarly, when the British conquered India, they established their own so called superior institutions to replace the decentralized village economy which in future led to so many famines and wide-spread human atrocities. We need to understand what are the internal changes are? And how it could be changed? Internal changes consist of changes in our attitude, perception, belief-system, value system, orientation and inclination, etc. Unlike external changes like institutional change and restructuring, reorienting our policy towards liberalism, etc. The internal changes are the real source of change in our actual world.

From implementation point of view applying the change is quite easy as we have to convince to ourselves only. Rather than convincing and fighting with other to implement such changes. This has many advantages as we adopt the change we come across the shortcomings and we could tackle it at our individual level. For ex. Gandhiji practiced satyagrah and non-violence(ahimsa) himself before preaching it. Likewise our prime minister Lal Bahdur Shastri had fasted along-with his family before preaching the country to do fast on Monday during 1965-66 food crisis due to drought. This also saves time and cost of doing pilot project on any society after convincing them to adopt it. It also encourages the fellow being to adopt it by seeing the results. So, personal changes have far reaching advantage in implementation process too. We see the world as we want to see. As events and problems happen in absolute sense but we put our perception to see it as good or bad. So, to make the world more prosperous and our system to be more sustainable. We need to change ourselves within. Then tries to change the world as world is made up millions of individuals only who will change themselves. Then there is no need to change the world at all. BE THE CHANGE WHICH YOU WANT TO SEE IN THE WORLD --by GANDHIJI
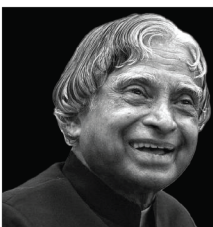
INDIA AND MALNUTRITION

The recently released report of UNFAO revealed that malnutrition accounted for a loss of 5% of world GDP by way of lost productivity and expenditure on treatment. Hence, ensuring nutrition is far more important than just belly filling. The report of World Bank also confirms the same and placed India among the highest malnourished countries of the world along with sub Saharan countries. This can be an evidence to show the pathetic situation of India in reducing malnutrition.

Malnutrition is a situation in which the people of a particular country do not consume sufficient nutritious food and as result suffer from many diseases like pneumonia, tuberculosis, cardiovascular diseases, diabetes, obesity etc. In case of India where there is rapid growth all round the corner, the menace of malnutrition is spreading faster than SMS. While the rich suffer from over nutrition, the poor suffers from under nutrition. There are many factors which influence the spread of malnutrition viz., socio-economic status, region, religion, caste, gender etc.

Socio-economic status: It has far reaching effect on malnutrition. In case of India, the BPL segment is the worst hit by under nutrition, while the better-off suffer from over nutrition. It may be noted that, under nutrition refers to non- availability of sufficient nutrients, whereas over nutrition refers to excess intake of nutrients which lead to cardiovascular diseases, obesity, diabetes etc.

Region :The region where one resides also influences the existence of malnutrition. The rural areas have high persistence of under nutrition, while the urban areas have high persistence of over nutrition. In case of India, the states like Madhya Pradesh , Jharkhand and Bihar are highly prone for malnourished children, whereas the states like Assam, Meghalaya, Tripura etc. are less prone.

Religion : Considering the conservative nature of Indian society, religion has far reaching implications on malnutrition. Many Hindus do not consume meat due to their superstitious beliefs and in turn cannot have a chance to get rich nutrients from meat like fish. on the other hand, Muslim communities take excess of meat and neglect consuming cereals, ultimately losing the valuable nutrients from cereals. Compared to Hindus and Muslims , Sikhs, Christians

and other religious communities suffer less malnutrition as they consume balanced diet.

Caste : As many of the downtrodden segments i.e., SCs and STs are under BPL category, they are thrown into a vicious cycle of poverty and hence suffer from undernourishment.

Gender : basically India is a patriarchal society and hence there is a general negligence on the part of a typical Indian family about the nutritious food taken by the girl child. Besides the above stated reasons, there are many factors that come into play for the proliferation of malnutrition in India. The first and foremost factor that come into play is the existence of gender inequality. Many families of India view girl child not as an asset but as a burden- this can be said by the continued prevalence of female foeticide in India even after the enactment of the so called PNDT ACT. so, being born as a girl makes her disadvantageous on two counts- one is the lack of sufficient intake of nutritious food and other is the girl child do not get an opportunity to study on par with male counterpart – the statistics of GOI about the school drop out rates reveal this fact. recognising

this anomaly, government introduced " National Mid-day meal scheme" on pilot basis in 2001 restructuring the 1995 law i.e programme on provision of Nutritious food to primary school students, so that the students get attune to government schools. But, there are several implementation challenges that come in the way for achieving the said objectives. For instance, there is diversion of funds granted under the scheme to non-priority areas like administrative costs etc. On the other hand, there is lethargy on the part of implementing agencies as can be seen from the recent food poisoning in Bihar.

Another initiative launched by the government to reduce anaemia among the children particularly girls is the supplying of Iron and Folic Acid tablets. Many women suffer from anaemia i.e., deficiency of iron in blood, during their pregnancy , thereby giving birth to an undernourished child. This is the main reason for the prevalence of malnutrition among children aged 0-6 years. Launched with a novel idea i.e, to reduce incidence of anaemia among children, this initiative kick started well, but ended up as just a great scheme which is not able to attract girl child to school. The main reason is the lack of sanitation facilities in government schools for girl child. Hence, the role of sanitation is instrumental in mitigating malnutrition not only among girl children but also for other sections of society who are malnourished.

It is said that, the population growth breeds the ground for the expansion of malnutrition. But, the most populous country of the world i.e., china effectively dealt malnutrition by its magnificent policies like increasing the productivity of agricultural yield per hectare, promoting nutritious crops etc. India recently enacted " Food security Act" mainly targeting the BPL segment. But in order to implement this Act effectively, the production of agricultural commodities should be enhanced from the present level. This gives a chance for the policy think tank not only to frame policies to increase food production but also embrace producing nutritious food crops.

There are many government programmes to control the menace of malnutrition viz., Mid-day meal scheme, ICDS (1975), national child's Fund, National plan of Action for children, NRHM etc. Mid-day meal scheme is already being discussed above in gender inequality topic. it is instrumental in improving the health of mothers and children under age 6 by providing health and nutrition education, health services, supplementary food and pre-school education.

National children's Fund : This is created during International year of child in 1979. This fund provides support to voluntary organizations that help for the welfare of kinds.

National Plan of Action for children : It has been integrated into national Development plans. A monitoring committee under the chairpersonship of secretary (women and child development) reviews the achievement of goals set in National Action plan and all concerned central Ministries / Departments are represented on the committee.

National Rural Health Mission (NRHM) :

This is created for the years 2005-12 and its goal is to improve the availability of and access to quality health care for the people, especially for those in rural areas, the poor, women and children. The recent initiatives include the framing the framing of National policy for children (2013) and " Sneha Shivir Scheme " during the twelfth five year

plan, which provides a special diet to the malnourished children in all the 60 priority districts at a cost of RS. 150 crore. It is a community based approach for dealing with the issue of malnourishment among children and women and is a part of the process of strengthening and restructuring of ICDS.

There may be many programmes for mitigating malnutrition. But, these are successful only if there is political will to change the state of affairs of health paradox in India. The creation of awareness about governmental programmes among people is a prerequisite for the success of the same. bureaucracy must play a crucial role in addressing the problems that arise, as we move towards sustainable development. Besides these, there are small things that government has to do. increasing the expenditure on health care in GDP is a case in point. Also, it can formulate " Universal health care policy", which can drastically reduce many problems faced by marginalised communities. In the recent period, " Inclusive growth" has gained salience since its induction during eleventh five-year plan. The concept of " inclusive growth" should embrace the issue of malnutrition, so that inclusive growth can be really inclusive

Further, the new yet to be created government programmes like " Pradan Mantri Gram Samchaya Yojana " for increasing the productivity of agriculture and providing irrigation. facilities to all agricultural fields, should include the issue of eliminating malnutrition, by producing nutritious food for the needy. In the recent time, there is an increase in the populist policies for gaining political benefits. This should be done away with the policies which enriches the lives of millions of people. Mainstreaming the children and women issues should be urgently done on a pilot basis taking into consideration the ground realities. Last but not least, transferring functions, functionaries and funds to local self-governments so as to enable to deal with the emerging complexities of health related issues as per their local needs. This not only fulfils the essence of 73rd and 74th amendments, but also fulfils the aspirations of founding fathers of the constitution to see nutritious rich India, as mandated under Article 47 of the constitution.

India's Fight against Poverty – Policies and Pitfalls

The suicide of farmers due to their distress financial condition, or inability of a labourer to provide a decent two-time meal to his family is an example of the most conspicuous and talked about form of poverty. This type of poverty is called absolute poverty. And normally, the government policies are framed keeping this particular form of poverty in mind. But poverty can be also relative, moral and of thoughts and ideas. Though these forms of poverty are less conspicuous but nevertheless not less important for the betterment of the people and nation.

The aim and purpose of any government is betterment of its people. And in this process of betterment, a move towards helping the most vulnerable section of the society gets precedence. This thought is not an invention of the new system of governance but trace its origin to the ancient times. The rigveda talks about a concept of 'daan'which implies helping the destitute. Kautilya in his ArthaShahtra says that the greatest duty of any king is to work towards the welfare of his subjects. Ashoka appointed the officers called 'Gopa' to help the poors. Thus the approach to tackle poverty via a helping hand of the government has been practiced since the ancient times. But the real efforts towards policies tackling poverty can be traced to the period after independence.

British left India with a shattered economic structure and millions suffering in the poverty. The Indian government then started a programme of growth and development based on the heavy industries. And hoped that this growth will trickle down to the masses and will be helpful in eliminating poverty. This hoped proved a fallacy and from fourth plan onwards, India embarked on the policies directly tackling poverty with slogan 'Garibi Hatao'. The programmes like national social assistance programme, Indira awas yojana, public distribution shops etc were started with the same aim of removing poverty. And since then the government has started myriads of schemes like Rajiv awas yojna, food security bill etc. But the anticipated benefit of these schemes has not been achieved. And India remains one of the poorest nations of the world. Apart from the faulty implementation and corruption involved in these schemes, the major reason for their inability to get rid of the poverty is due to the inherent philosophy of the schemes themselves. Most of the schemes are based on the concept of increase in consumption rather than production. Thus their basic philosophy is of charity rather than the development of human potential. And this type of approach is bound to fail in the long run. As goes a Chinese proverb that 'if you want to feed a person for a day give him a fish but if you want to feed him for the life time teach him to fish'. But unfortunately, the philosophy of India 's poverty reduction framework is heavily tilted towards giving than teaching. Apart from the above factor, a major reason for the relative failure of the poverty reduction policies is an existence of the colonial mind-set among the administrators and 'mai-baap'attitude of the masses. Even after 67 years of the independence and democratic form of the government, democracy in its true sense is not present in the Indian scene. Thus the policy framers have an attitude of charity rather than responsibility towards the poor masses. And the people on the other side believes that it is large heartedness of their masters rather than their right. This attitude strips the administration of any responsibility and accountability which is the basis of the success of any policy in a democratic framework. The above factors are for the absolute poverty, but a more dangerous and existing form is that of the relative poverty. IMF in its report has pointed that in the last 12 years, the number of billionaires in India has increased 15 times. And they have enough money to remove the poverty from India two times. In human development terms even poorer nations like Bangladesh, whose per capita income is well below India has better record. This model of development has been referred as 'Islands of California in the sea of Africa' by Amratya Sen in his 'An Uncertain glory '. Though the relative poverty is a bigger problem than absolute poverty, and the constitution via directive principle 38 envisages its removal, significant steps in this direction have not been taken. Another dimension of poverty from which nation is presently grappling is moral poverty.

Ending poverty in all its forms is the first of the 17 Sustainable Development Goals and ending hunger, reducing food insecurity and improved nutrition and agriculture is the second goal. Furthermore, at least 12 of the 17 goals contain indicators that are highly relevant to nutrition. Poverty and malnutrition are deeply interrelated, with each fuelling the other and hence it is imperative to tackle both issues simultaneously rather than in parallel silos. A two-way link exists, with both elements being the cause and consequence of each other. This vicious cycle remains a prime public health concern and immediate strides need to be made against it. For a sustainable improvement in nutritional outcomes, the battle against poverty and malnutrition has to be fought on all fronts, to achieve a healthier and more equitable society.

HUMAN RIGHTS TODAY

The united nations charter was framed by the nations determined to reaffirm their faith in "fundamental human rights, in the dignity and worth of human person, in the equal rights of man and woman, and of nations, large and small", In December, 1948, the U.N. General Assembly at its Paris session adopted the Universal Declaration of Human Rights which constitutes a landmark in the history of the human race. The preservation and promotion of universal and permanent peace depends upon a comprehensive collective security system, disarmament, faith in pacific means of settling differences, a just international order based on universal freedom, racial equality and assurance at least of the minimum conditions of civilised existence to all persons and scrupulous respect for fundamental human rights. Except in democratic countries, not much attention has been paid to man's fundamental rights. The basic assumption underlying these rights is that man is a rational being endowed with a conscience and that he can truly develop his personality, contributes to social well-being and promote world peace only if he is provided with adequate opportunities for self-expression and self-realisation. Totalitarian countries do not want freedom-loving, highly intelligent and public-spirited citizens.

The history of the world is the story of a conflict between two schools of thought-liberal and totalitarian. The liberals always have profound faith in human nature and in the dignity of man. They assume when constructing their philosophy that man is essentially peace-loving, rational, co-operative and sociable, and they advocate an order in which he will completely fulfil himself and add to the store of the world's wisdom, knowledge and happiness-a democratic international and national order which ensures world peace and prosperity, cultural and social freedom, equality of opportunity and fundamental rights of citizenship. Totalitarianism has assumed various forms-monarchical despotism backed by Divine Right, Communist dictatorship, Fascism and Nazism, perverted nationalism which regards the nation-State as an end in itself and identifies national destiny with imperialism and cultural chauvinism, racialism, religious fanaticism and group exclusiveness of various other kinds. The history of the world has always been disfigured by the monstrous activities of tyrants, religious fanatics, racialists, nationalists and imperialists. Modern tyrants have been guilty of crimes against humanity for which there is no parallel in the annals of the human race. Hitler killed millions of Jews because they did not, according to him and his band of fanatical racialists, belong to the pure race. He arrested and sent to concentration camps all those who questioned his authority or rather all those whom he and his blood-thirsty gang suspected of "treasonable" activities. He overran a number of independent countries, suppressed their freedom and annexed them to the Reich. He had no hesitation in plunging the world in death and destruction to satisfy his imperialistic ambitions. Stalinism was a variation on the same theme.

Various explanations have been given by the Liberals in justification of human rights. Even advocates of political absolutism have conceded that men have the right to revolt against a tyrant who disregards all religious and ethical codes, who cannot protect the life and property of citizens or whose commands outrage a man's conscience. They have also pointed to the folly of religious persecution and urged toleration on grounds of humanity and expediency. Fundamental freedoms have been defended as ancient liberties gained from time to time through a struggle for them against despotic authority as in England-ancient liberties embodied in the Great Charters.

Locke traced rights of man to the state of Nature-rights which are inalienable, transcendental and absolute, which nobody can infringe and which are limited only by the terms of the social contract. Rights are neither derived from some imaginary state of Nature nor from history. They are essential for man because without them he cannot realise the fullest potentialities of his nature; he cannot make his full contribution to the good of the national community, and he cannot, as a world citizen, help make this planet a decent place to live in. The obligations of man towards the world community are now far more important than his obligations towards his nation. We have reached a stage in world history when the alternative to world outlook is the annihilation of civilisation and a grave danger to the very existence of the human race. Today patriotism is not enough. These rights, of course, are not absolute. They have to be exercised with due regard for the rights of other men and the general interests of the community. Rights imply duties. But while it is necessary to emphasise this point, it is equally necessary to insist that duties also cannot be performed unless man is guaranteed those conditions which enable him to be a good citizen.

The Universal Declaration of Human Rights boldly and unequivocally declares that all human beings are born free and equal in dignity and rights and that they are endowed with reason and conscience and should act towards one another in a spirit of brotherhood. It insists that everyone is entitled to human rights without distinction of any kind, such as race, colour, sex, language, religion, political or other opinion, national or social origin, property, birth or other status. Slavery and servitude are to be prohibited; everyone is to be assured of life, liberty and security of person. If men are reasonable and are endowed with conscience, how do we account for religious and racial conflict and violent national passions? Our educational system is to blame for this fanaticism. Parental influence also makes for narrow minds. The battle for peace, it has been well said, has to be waged in the minds of men. Profound reverence for human personality has to be fostered in the minds of young men and women through education. The Universal Declaration of Human Rights lays down that education should be directed to the full development of the human personality and to the strengthening of respect for human rights and fundamental freedoms and that it should promote understanding, tolerance and friendship among nations and racial and religious groups and further the activities of the U.N. for the preservation of peace. In non-democratic countries, in countries controlled by despots, dictators of all kinds, theocrats, supporters of apartheid, imperialists and other types of fanatics, education of the right kind is seldom imparted because the aim of the rulers is to produce standardised products, echoes of their master's voice, men who are intellectually, mentally and morally no more than slaves. In Communist countries students are not encouraged to develop intellectual curiosity and examine the foundations of belief. They are merely initiated into what the ruling party regards as the truth, the final revelation, and they are expected not only to conform to orthodoxy but to make it the mission of their lives to preach it. The family exercises very deep influence on the minds of the young. A happy family produces happy children who love their fellow-beings, cultivate friendships, practise co-operation in all spheres and have a zest for life. Pampered or neglected children turn misfits and failures.

Human rights can be truly exercised only in democratic societies. One of the most important human rights is the right to choose the government through genuine periodic elections. It is obvious that the kind of

elections held in totalitarian countries are a mockery and a farce. Where a single party governs the country and all Opposition is banned, the choice of the voters is severely circumscribed. Other fundamental rights like freedom of expression, association, movement and residence cease to be meaningful where the so-called people's democracies are functioning. Even in democratic countries freedom becomes illusory if political and economic power is highly concentrated in the State. It is too often forgotten that, if concentration of economic power in private hands is open to objection, its concentration in the State is no less objectionable. If newspapers are owned by the State, if the publishing trade is nationalised, if higher education is State controlled and if radio and television are made governmental concerns, freedom of thought and expression cannot be considered as real. Only where the media of mass communication are free, political authority is decentralised and the economy is mixed can democracy operate in its letter and spirit. This aspect of democratic freedoms is not yet fully appreciated. Capitalism, Communism, Fascism and highly centralised and completely Socialistic democracy do not permit full play of individuality. Election results can be as misleading as anything if the Opposition parties are banned, if the system of representation does not ensure due proportion between the votes polled by political parties and the seats gained by them, in Parliament and if foreign money and local money-bags determine the outcome of elections. Thus the right to vote and freedom of thought, association and movement are not enough for a genuine democratic order. Authority must be pluralised, decentralised and shared with various autonomous bodies, and the economy must be of the mixed variety.

The world is one and indivisible. The people of the world are members of the international community. Undue restrictions on the movement of the people across national boundaries are unwarranted. Article 13 of the Universal Declaration of Human Rights lays down that everyone has the right to leave his own country and to return to it. There ought not to be any iron curtain among nations. In fact, the people ought to be encouraged to visit other countries, establish social and cultural contacts with their citizens and thereby secure a better understanding of their point of view. It is only when people start freely moving about that racial prejudices will disappear and they will feel that they are not aliens in other lands. It is, of course, for each country to decide its immigration policy, but it ought to be based on economic, not racial, grounds. When a nation shows racial preferences in its immigration policy, it repudiates the concept of racial equality and brotherhood od of man on which human rights are based. Similarly, human rights are violated when racial considerations are imported into the question of grant of nationality. It is the well-established right of an individual to seek and enjoy in other countries asylum from political persecution. The Universal Declaration lays down that everyone has the right to a nationality. No one can be arbitrarily deprived of his nationality or the right to change it. In South Africa even the coloured inhabitants are denied freedom of movement and residence within the country, not to speak of foreigners. Racial segregation which the South African White Minority Government enforces so ruthlessly in the most flagrant violation of human rights and an outrage on human dignity and constitutes an open defiance of the U.N. resolutions. It is a weakness of the U.N. and of the international community that South Africa is allowed to flout U.N. authority with impunity.

Human rights are opportunities given to a man to develop his personality and be a worthy citizen of the world and of his country. These rights are most valuable. They are, however, to be used with extreme care. No man has any right against the community. A citizen has rights so that he may perform his duties towards the community intelligently and effectively. Rights are not intended for self-aggrandizement but for serving one's fellow-beings. Rights have also to be limited by the rights of other citizens and by considerations of morality, public order and the general happiness of society. Freedom of expression is abused when a citizen writes something which is obscene or blasphemous, which incites people to violence and revolution or which is slanderous or defamatory. One is entitled to worship in his own way, but not in a manner which injures the religious susceptibilities of others. No one has any right to practise inhuman rites and ceremonies in the name of religion. The right to property has to be exercised in a manner which does not lead to the exploitation of the weaker sections of the community or adversely affect the long-term interests of the nation. It is a serious mistake to think that individual rights are unchangeable and cannot be abridged or modified even by Parliament representing the supreme will of the community, not even by Constitutional amendment. There are certain human rights which have to be protected by international treaties, but mostly they are secured by the Constitution or the ordinary law of the land. Certain rights may have to be extended, certain rights may have to be curtailed in the light of new developments in a rapidly changing world.

Human rights can flourish most only in a certain type of order. The primary condition for the effective enjoyment of human rights is that there should be an international organisation which can ensure peace throughout the world, punish the aggressor, protect the rights of man and the interests of minorities and enforce sanctions against nations which arrogantly flout its resolutions. The international organisations should assist developing nations to achieve economic maturity as expeditiously as possible so that they may be in a position to provide full employment to their people and raise their standards of living. When universal and permanent peace has been established and economic imbalances have been ended, racial, religious and national passions will not be easily aroused and the dignity of man would be respected. It is worthy of note that parochial passions are aroused only when the economy of the world is upset and there is a danger of war. When international stability is achieved and the cold war disappears, even despotic regimes will become more liberal and show greater respect for human rights. Tolerance is easier to cultivate in a peaceful world. Militant leaders alone preach fanaticism and violence. Human rights are respected more in democratic societies than in despotisms. When we see human rights brutally assailed by the Big Powers and their satellites, we are inclined to doubt the wisdom of declarations of human rights. We tend to dismiss them as pious resolutions. But we should remember that a declaration of comprehensive human rights is an act of faith. Many countries have adopted most of these rights. Others yet pay only lip-sympathy to them. What is heartening is that even those who have established totalitarian regimes sub-scribe to democratic principles, that they have made human rights and duties part of their Constitution and that they are never weary of affirming their faith in the sacredness of human personality. Their contention is that man can be truly free only when he is emancipated from the bondage of poverty. The observance of human rights is very much bound up with the establishment of a just and stable national and international order. We must bend all our energies to the creation of such an order. Nobody can say that this task will be easy, but it has to be accomplished if man is to survive and lead a dignified and noble life.

MODEL QUESTION PAPER-MCQ

1. Statement I : The Doldrums is a low pressure area around the Equator where the prevailing winds are calm

Statement II : Low pressure is caused by the heat at the Equator which makes the air rise and travel both Northwards and Southwards

2. Statement I : Roaring Forties are strong Westerly winds found in the Southern

Hemisphere, generally between the latitudes of 40° and 50°

Statement II : The strong East to West air currents are caused by the combination of air being displaced from the Equator towards the South Pole and the Earth's rotation and there are few landmasses to serve as wind breaks

3. With reference to the various multipurpose projects in India, which one among the following statements is not correct ?

(a) Machkund project is a joint venture of Andhra Pradesh and Odisha

(b) Parambikulam Aliyar project is a joint venture of Kerala and Tamil Nadu

(c) Mayurakshi project is a joint venture of Odisha and West Bengal

(d) Chambal Valley project is a joint venture of Madhya Pradesh and Rajasthan

4. The Kuroshio is a north flowing Ocean current on the west side of the North Pacific Ocean. Which one among the following statements regarding this is not correct ?

(a) It is similar to the Gulf Stream in the North Atlantic 6cean

(b) It transports warm, tropical water northward towards the Polar region

(c) The warm water of the Kuroshio current sustains the coral reefs of Japan

(d) It begins off the coast of Japan and flows northward

5. Match List I with List II and select the correct answer using the code given below the Lists :

List I   List II

(Wildlife Sanctuary) (State)

A. Mahananda 1. Madhya Pradesh

B. Lakhari Valley 2. Uttar Pradesh

C. Pachmarhi 3. West Bengal

D. Chandra Prabha 4. Odisha

Code :

A B C D

(a) 3 4 1 2

(b) 3 1 4 2

(c) 2 1 4 3

(d) 2 4 1 3

6. Which one among the following is the most plausible explanation for the location of the Thar Desert in Western India ?

(a) Prevalence of sand dunes

(b) The evaporation of moisture by heat

(c) The absence of mountains to the North of Rajasthan to cause orographic rainfall in it

(d) The moisture carried by the South- West Monsoon is driven away by the dry upper air current

7. The inner most region of a hurricane is known as hurricane-eye where :

(a) temperature is highest and pressure is the lowest

(b) temperature is lowest and pressure is the lowest

(c) sky is clear and temperature is the lowest

(d) sky is under dense cloud cover and pressure is the lowest

8. Which one among the following countries of Asia is land-locked ?

(a) Vietnam

(b) Cambodia

(c) Laos

(d) Thailand

9. The Mariana trench is the deepest part of the Oceans. Which one among the following statements regarding this is not correct ?

(a) It is located in the Western Pacific Ocean, to the West of Mariana island

(b) The trench was first sounded during the Challenger expedition in 1875

(c) The trench is about 2550 km long and an average width of only 69 km

(d) At the bottom of the trench the water column above exerts a pressure over 1000 times the standard atmospheric pressure at sea level

10. The Saragasso Sea is a vast patch of Atlantic Ocean characterized by an abundance of floating brown seaweed called 'Sargassum'. This is formed due to the deposit of marine plants and refuse carried by the :

1. North Atlantic current

2. Canary current

3. North Atlantic Equatorial current

Select the correct answer using the code given below :

(a) 1 only

(b) 2 and 3 only

(c) 1 and 3 only

(d) 1, 2 and 3

11. Which of the following statements with regard to the Indian Peninsular Plateau is/are correct ?

1. The Southern plateau block is formed mainly of granite

and gneiss

2. The Deccan lava plateau is an elevated tableland consisting of horizontally arranged lava sheets

3. The Malwa plateau dominates the Vindhyan scraps, forming the Eastern flank of the plateau

4. The trough of the Narmada and Tapti is interposed between the Vindhyan and the Satpura ranges

Select the correct answer using the code given below :

(a) 1, 2 and 3

(b) 1, 2 and 4

(c) 1 and 2 only

(d) 4 only

12. Three important rivers of the Indian subcontinent have their source near the Manasarovar Lake in the Great Himalayas. Which among the following are the rivers ?

(a) Indus, Jhelum and Sutlej

(b) Sutlej, Yamuna and Brahmaputra

(c) Brahmaputra, Indus and Sutlej

(d) Sutlej, Jhelum and Yamuna

13. Which of the following islands are made of small coral atolls and reefs in the Arabian Sea ?

(a) Maldives

(b) Andaman

(c) Sri Lanka

(d) Lakshadweep

14. Which meridian forms the boundary line between the Indian Ocean and the Pacific Ocean ?

(a) The meridian of Cape of Tasmania

(b) The meridian of Cape Town

(c) The meridian of Wellington

(d) The meridian of Perth

15. The rainfall distribution pattern over the Ganga basin decreases from the

(a) west to east and north to south

(b) east to west and north to south

(c) west to east and south to north

(d) east to west and south to north

16. Statement I : The Doldrums is a low pressure area around the Equator where the prevailing winds are calm

Statement II : Low pressure is caused by the heat at the Equator which makes the air rise and travel both Northwards and Southwards

17. Statement I : Roaring Forties are strong Westerly winds found in the Southern

Hemisphere, generally between the latitudes of 40° and 50°

Statement II : The strong East to West air currents are caused by the combination of air being displaced from the Equator towards the South Pole and the Earth's rotation and there are few landmasses to serve as wind breaks

18. With reference to the various multipurpose projects in India, which one among the following statements is not correct ?

(a) Machkund project is a joint venture of Andhra Pradesh and Odisha

(b) Parambikulam Aliyar project is a joint venture of Kerala and Tamil Nadu

(c) Mayurakshi project is a joint venture of Odisha and West Bengal

(d) Chambal Valley project is a joint venture of Madhya Pradesh and Rajasthan

19. The Kuroshio is a north flowing Ocean current on the west side of the North Pacific Ocean. Which one among the following statements regarding this is not correct ?

(a) It is similar to the Gulf Stream in the North Atlantic 6cean

(b) It transports warm, tropical water northward towards the Polar region

(c) The warm water of the Kuroshio current sustains the coral reefs of Japan

(d) It begins off the coast of Japan and flows northward

20. Match List I with List II and select the correct answer using the code given below the Lists :

   List I   List II

(Wildlife Sanctuary) (State)

A. Mahananda 1. Madhya Pradesh

B. Lakhari Valley 2. Uttar Pradesh

C. Pachmarhi 3. West Bengal

D. Chandra Prabha 4. Odisha

Code :

A B C D

(a) 3 4 1 2

(b) 3 1 4 2

(c) 2 1 4 3

(d) 2 4 1 3

21. Which one among the following is the most plausible explanation for the location of the Thar Desert in Western India ?

(a) Prevalence of sand dunes

(b) The evaporation of moisture by heat

(c) The absence of mountains to the North of Rajasthan to cause orographic rainfall in it

(d) The moisture carried by the South- West Monsoon is driven away by the dry upper air current

21. The inner most region of a hurricane is known as hurricane-eye where :

(a) temperature is highest and pressure is the lowest

(b) temperature is lowest and pressure is the lowest

(c) sky is clear and temperature is the lowest

(d) sky is under dense cloud cover and pressure is the lowest

22. Which one among the following countries of Asia is land-locked ?

(a) Vietnam

(b) Cambodia

(c) Laos

(d) Thailand

23. The Mariana trench is the deepest part of the Oceans. Which one among the following statements regarding this is not correct ?

(a) It is located in the Western Pacific Ocean, to the West of Mariana island

(b) The trench was first sounded during the Challenger expedition in 1875

(c) The trench is about 2550 km long and an average width of only 69 km

(d) At the bottom of the trench the water column above exerts a pressure over 1000 times the standard atmospheric pressure at sea level

23. The Saragasso Sea is a vast patch of Atlantic Ocean characterized by an abundance of floating brown seaweed called 'Sargassum'. This is formed due to the deposit of marine plants and refuse carried by the :

1. North Atlantic current

2. Canary current

3. North Atlantic Equatorial current

Select the correct answer using the code given below :

(a) 1 only

(b) 2 and 3 only

(c) 1 and 3 only

(d) 1, 2 and 3

24. Which of the following statements with regard to the Indian Peninsular Plateau is/are correct ?

1. The Southern plateau block is formed mainly of granite and gneiss

2. The Deccan lava plateau is an elevated tableland consisting of horizontally arranged lava sheets

3. The Malwa plateau dominates the Vindhyan scraps, forming the Eastern flank of the plateau

4. The trough of the Narmada and Tapti is interposed between the Vindhyan and the Satpura ranges

Select the correct answer using the code given below :

(a) 1, 2 and 3

(b) 1, 2 and 4

(c) 1 and 2 only

(d) 4 only

25. Three important rivers of the Indian subcontinent have their source near the Manasarovar Lake in the Great Himalayas. Which among the following are the rivers ?

(a) Indus, Jhelum and Sutlej

(b) Sutlej, Yamuna and Brahmaputra

(c) Brahmaputra, Indus and Sutlej

(d) Sutlej, Jhelum and Yamuna

26. Which of the following islands are made of small coral atolls and reefs in the Arabian Sea ?

(a) Maldives

(b) Andaman

(c) Sri Lanka

(d) Lakshadweep

27. Which meridian forms the boundary line between the Indian Ocean and the Pacific Ocean ?

(a) The meridian of Cape of Tasmania

(b) The meridian of Cape Town

(c) The meridian of Wellington

(d) The meridian of Perth

28. The rainfall distribution pattern over the Ganga basin decreases from the

(a) west to east and north to south

(b) east to west and north to south

(c) west to east and south to north

(d) east to west and south to north

29. With reference to pet coke often seen in news, consider the following statements.

1. It is a carbonaceous solid produced as a byproduct of the petroleum refining process.

2. It is composed primarily of carbon, along with small amounts of sulfur, nitrogen, and metals.

3. Pet coke combustion releases fewer greenhouse gas emissions compared to other fossil fuels, such as natural gas or coal.

Select the correct statement/s using the code given

A. One statement only

B. Two statements only

C. All the three statements

D. None of the given statements.

30. Consider the following statements regarding Human Metapneumovirus (HMPV) sometimes seen in news.

1. It is a respiratory virus that can cause respiratory tract infections in humans, particularly in children, the elderly, and individuals with weakened immune systems.

2. There is a vaccine available for preventing HMPV infection.

Which of the above statement/s is/ are correct?

A. 1 only

B. 2 only

C. Both 1 and 2

D. Neither 1 nor 2

31. 'Janak and BSS 793' often seen in news is

A. A genetically modified variety of Cotton

B. A genetically modified variety of Brinjal

C. A genetically modified variety of Mustard

D. A genetically modified variety of Soya bean

32. With reference to the planet Saturn, consider the following statements.

1. It is a gas giant, primarily composed of hydrogen and helium, with a relatively small rocky core.

2. It is the second-largest planet in our solar system, with a diameter about nine times that of Earth.

Select the correct statement/s using the code given

A. 1 only

B. 2 only

C. Both 1 and 2

D. Neither 1 nor 2

33. Which of the following statements accurately describes fixed dose combination drugs?

A. Fixed dose combination drugs involve the use of multiple medications with varying dosages for a specific medical condition.

B. Fixed dose combination drugs combine two or more active ingredients in a single formulation to treat a particular health condition.

C. Fixed dose combination drugs primarily refer to the use of a single medication with a fixed dosage for multiple medical conditions.

D. Fixed dose combination drugs involve the administration of a single drug in different dosages based on individual requirements.

34. The term 'TAURINE' often mentioned in news is a

A. Recently found new nutrient content

B. Recently found new drug for SARS

C. Recently found new biofuel for E20

D. None of the above

35. SAGAR SAMRIDDHI App often mentioned in news is related with

A.   It is a mobile application developed for tracking the stock market and financial investments.

B.It is a mobile application designed for monitoring and managing agricultural activities and farmer welfare

C.It is a mobile application created for promoting tourism and showcasing tourist destinations in India.

D.It is a mobile application developed for monitoring and enhancing dredging in the ports.

36. With reference to Salt cavern-based reserves often seen in news, consider the following statements.

1. They are underground storage facilities created within salt formations to store various substances, such as natural gas, crude oil, or compressed air.

2. The creation of salt cavern-based reserves does not involve any environmental impact or risk.

3. Salt cavern-based reserves offer advantages such as

high storage capacity, low cost, and the ability to quickly inject or withdraw the stored substances.

Select the correct statement/s using the code given

A. One statement only

B. Two statements only

C. All the three statements

D.None of the given statements.

37. Amchang Wildlife Sanctuary often seen in news is located in

A. Meghalaya

B. Nagaland

C. Assam

D. Manipur

38. Consider the following statements regarding ground level ozone.

1. It is known as tropospheric ozone, is a form of ozone that exists in the lower atmosphere, near the Earth's surface.

2. It is formed through complex chemical reactions involving sunlight, nitrogen oxides (NOx), and volatile organic compounds (VOCs).

3. It is a harmful air pollutant and a major component of smog. It can cause respiratory problems, such as coughing, shortness of breath, and worsen existing respiratory conditions like asthma.

Select the correct statement/s using the code given

A. One statement only

B. Two statements only

C. All the three statements

D. None of the given statements.

39. Consider the following.

1. Increased greenhouse gas emissions.

2. Deforestation.

3. Fossil fuel combustion.

4. Industrial processes.

Which of the above can be consider as the cause of global warming?

A. 1, 2 and 3 only

B. 2, 3 and 4 only

C. 1, 3 and 4 only

D. 1, 2, 3 and 4

40. Which among the following best describes the term 'fish kill' often seen in news?

A.It is an event where a large number of fish die in a water body due to factors such as pollution, oxygen depletion, or disease outbreak.

B. It is the intentional act of catching and killing a significant number of fish for commercial or recreational purposes.

C. It refers to the process of fish migrating from one body of water to another in search of better breeding or feeding grounds.

D. It is the natural phenomenon of fish dying off in response to changes in water temperature and salinity.

41. Consider the following statements:

Statement-I: LEED Certification is a globally recognized rating system for green buildings and sustainable development.

Statement-II: LEED Certification evaluates buildings based on criteria such as energy efficiency, water conservation, and indoor environmental quality, promoting environmentally friendly and sustainable practices in construction.

Which one of the following is correct in respect of the above statements?

A. Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I.

B. Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I.

C. Statement-I is correct but Statement-II is incorrect.

D. Statement-I is incorrect but Statement-II is correct.

42. Consider the following statements:

Statement-I: Bioplastics are a type of plastic made from renewable sources such as plants or microorganisms.

Statement-II: The composition of bioplastics includes polymers derived from natural materials, reducing reliance on fossil fuels and minimizing environmental impact.

Which one of the following is correct in respect of the above statements?

A. Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I.

B. Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I.

C. Statement-I is correct but Statement-II is incorrect.

D. Statement-I is incorrect but Statement-II is correct.

43. Which among the following best describes the concept of strategic petroleum reserves in India?

A. They are underground storage facilities where crude oil is stored for emergency situations and to ensure energy security.

B. They are designated areas where petroleum products are stockpiled to stabilize fuel prices during supply disruptions or crises.

C. They refer to the strategic locations where petroleum exploration and extraction activities are carried out to ensure a steady supply of oil.

D. They are regions with high oil reserves, identified for future extraction and utilization to meet the growing energy demands.

44. With reference to the Asian Development Bank (ADB), consider the following statements:

1.The Asian Development Bank (ADB) is a Multilateral Development Bank comprising of countries from Asia-Pacific region only.

2.India is one among the founding members of the Asian Development Bank (ADB).

3.The secretariat of the Asian Development Bank (ADB) is located at Manila, Philippines

Which among the above statement(s) regarding the Asian Development Bank (ADB) is /are true?

a.1 and 2 only

b.1 and 3 only

c.2 and 3 only

d.1, 2 and 3

45.Consider the following statements:

1. The Goods and Services Tax Network (GSTN) is a technology platform established by the Government of India to manage the implementation of the Goods and Services Tax (GST) system.

2. The Trade Receivables Discounting System (TReDS) platforms are digital platforms that provide a mechanism for large enterprises to raise funds by selling their trade receivables or invoices to financiers at a discounted rate.

3. An Account Aggregator is a financial intermediary that collects and consolidates a user's financial data from various sources such as banks, mutual funds, insurance companies, and other financial institutions.

Which among the above statement(s) is /are true?

a.1 and 2 only

b.1 and 3 only

c.2 and 3 only

d.1, 2 and 3

46. With reference to the Production Linked Incentive (PLI) Scheme, consider the following statements:

1. The PLI scheme was launched in 2020 to scale up domestic manufacturing capability, accompanied by higher import substitution and employment generation.

2. PLI schemes are aimed at enhancing competitiveness and leveraging the untapped potential of Indian industries to fulfil the vision of an Atmanirbhar Bharat.

3. Under the PLI Scheme, incentives are calculated on the basis of incremental sales, ranging from as low as 1 % for electronics to as high as 20 % for the manufacturing of APIs and bulk drugs and disbursed over five years after setting up their manufacturing units.

Which among the above statement(s) regarding the Production Linked Incentive (PLI) Scheme is /are true?

a.1 and 2 only

b.1 and 3 only

c.2 and 3 only

d.1, 2 and 3

47. With reference to the Consumer Expenditure Survey (CES), consider the following statements:

1. The National Sample Survey Office (NSSO), Government of India conduct Consumer Expenditure Survey (CES) on an annual basis.

2. The data collected during the Consumer Expenditure Survey (CES) is kept confidential, protecting the privacy of the households that participate in the survey.

Which among the above statement(s) regarding the Consumer Expenditure Survey (CES) is /are true?

a.1 only

b.2 only

c.Both 1 and 2

d.Neither 1 nor 2

48.With reference to the Finance Commission of India, consider the following statements:

1.The President of India constitute Finance Commission - appointing the Chairman and four other members of the Finance Commission every fifth year or at such earlier time as he considers necessary.

2.The Constitution of India empowers the President of India to lay down procedures and qualifications for appointment as members to the Finance Commission.

3.The members of the Finance Commission of India is eligible for reappointment.

Which among the above statement(s) regarding the Union Finance Commission is /are true?

a.1 and 2 only

b.1 and 3 only

c.2 and 3 only

d.1, 2 and 3

49. With reference to the State Food Safety Index, consider the following statements:

1. The Food Safety and Standards Authority of India (FSSAI) publish State Food Safety Index (SFSI) on an annual basis.

2. The Food Safety and Standards Authority of India (FSSAI) published its first State Food Safety Index in 2019

3. The State Food Safety Index (SFSI) ranks the performance of states and Union Territories (UTs) in India on food safety based on 10 parameters.

Which among the above statement(s) regarding the State Food Safety Index is / are true?

a. 1 and 2 only

b. 1 and 3 only

c. 2 and 3 only

d.1, 2 and 3

50. With reference to e-Rupi vouchers, consider the following statements:

1. e-RUPI is a digital voucher in the form of an SMS or QR code that can be used to make payments for specific purposes.

2. It is a contactless, cashless, and digital payment method that can be used by individuals, businesses, and government agencies.

3. The voucher can be redeemed at any merchant that accepts UPI e-Prepaid Vouchers.

Which among the above statement(s) is /are true?

a. 1 and 2 only

b. 1 and 3 only

c. 2 and 3 only

d.1, 2 and 3

51 .With reference to the Securities and Exchange Board of India (SEBI), consider the following statements:

1. The Securities and Exchange Board of India (SEBI) is the regulator of domestic capital markets.

2. The Securities and Exchange Board of India (SEBI) was established in 1992 reconstituted through the SEBI Act, 1992 headquartered at Mumbai as a regulator of capital markets in India.

3. The Board of Securities and Exchange Board of India is chaired by a nominated appointee, 2 officials nominated by the Union Finance Ministry, a Reserve Bank of India nominee and 5 nominees of the Union Government of India, out of them at least 3 shall be whole-time members.

Which among the above statement(s) regarding the Securities and Exchange Board of India (SEBI) is /are true?

a. 1 and 2 only

b. 1 and 3 only

c. 2 and 3 only

d. 1, 2 and 3

52. With reference to MQ 9B Reapers, consider the following:

1.Maritime surveillance

2.Anti-submarine warfare

3.Over-the-horizon targeting

4.Airborne early warning

5.Electronic warfare

Which among the above is /are application of the MQ 9B Reapers?

a. 1, 2 , 3 and 4 only

b. 1, 3 , 4 and 5 only

c. 2, 3 , 4 and 5 only

d. All of the above

VEDHIK IAS ACADEMY
The New Learning Mantra

OMR ANSWER SHEET

ROLL NO.

TEST ID

Name ....

Batch...

Mobile No.. Test Date ..../......../............

Candidate Sign

Invigilator Sign

INSTRUCTIONS FOR FILLING THE SHEET

1. This sheet should not be folded or crushed.
2. Use only blue/black ball point pen to fill the circles.
3. Use of pencil is strictly prohibited.
4. Circles should be darkened completely and properly.
5. Cutting and erasing on this sheet is not allowed.
6. Do not use any stray marks on the sheet.
7. Do not use marker or white fluid to hide the mark.

WRONG METHODS   CORRECT METHOD

www.vedhikiasacademy.org
+91-9383432123 | +91-7777875588 | +91-0484-4527777
Mail us to info@vedhikiasacademy.org

Vedhik
CURRENT
AFFAIRS
JUNE 2023