



EXCEL QUEST

VOLUME - 43, July 2023



**ADB, India sign
\$141.12 million loan
for industrial corridor
development in Andhra Pradesh**



**India gifts
Missile Warship INS Kirpan to
Vietnam**



**India's
largest-ever
Hydropower Project**



**Mizoram to export
Bird's eye Chilli
to the US**



**India Demarches Canada
over violent Khalistani
protests**



**Union Cabinet approves Minimum
Support Prices (MSP) for Kharif
Crops for Marketing Season
2023-2024**

A Monthly Magazine from

EXCEL CIVILS ACADEMY

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Director's Message

Dear Aspirants,

Sea levels are rising, glaciers are shrinking and agricultural land is degrading due to expanding deserts. This is forcing people and nations to make desperate choices. New challenges, tensions, conflicts, and disasters, are all fuelled by climate change. So new thinking, new pragmatic responses, and greater agility are needed to respond to our fast-changing world.

According to the World Bank, the impact of climate change, if not effectively addressed, could potentially push more than 100 million people into extreme poverty by 2030. Climate-related shocks and risks increase inequalities between children in terms of health, education, and long-term development outcomes.

In recent times, Canada and America have witnessed a surge in devastating wildfires that has captured global attention. These wildfires, fuelled by dry conditions and exacerbated by climate change, have had severe consequences on both the environment and society. Vast areas of pristine forests have been engulfed in flames, leading to ecological imbalances and habitat loss. Communities in affected regions have faced evacuations, property damage, and health hazards due to poor air quality caused by the smoke. The economic toll is substantial, with fire fighting costs and infrastructure damage placing a heavy burden on resources. The increasing frequency and intensity of these wildfires serve as a stark reminder of the urgent need to address climate change and implement effective strategies for addressing this phenomenon.

Global temperatures have risen by approximately 1.2°C above pre-industrial levels. If not curbed, this could lead to more frequent and severe heatwaves, affecting vulnerable populations and agriculture. Sea levels have risen by about 15 cm during the 20th century. It is projected that they could rise by up to 1 meter by the end of the century, endangering coastal communities and ecosystems. More intense and frequent events like hurricanes, droughts, and wildfires are already being witnessed due to climate change. Such events have caused loss of life, displacement, and significant economic damage. Climate change increases air pollution and also increases the spread of diseases like malaria and dengue, affecting human health. It is projected that up to 30% of species are at risk of extinction with a global temperature increase of 2.7°C.

Changing precipitation patterns and melting glaciers affect water availability. By 2050, up to 5.7 billion people could be living in areas with water scarcity, affecting agriculture and daily life. Climate change impacts sectors like agriculture, infrastructure, and tourism. Without adaptation, the global economy could lose over 3% of GDP by 2100. Addressing these impacts requires urgent and coordinated

global action to mitigate climate change through emissions reduction and adaptation strategies. The data provided by UNFCCC and IPCC underscores the importance of such efforts in securing a sustainable future for mankind.

International agreements like the United Nations Framework Convention on Climate Change (UNFCCC) - the Paris Agreement, the Kyoto Protocol provide crucial frameworks to address this issue. The UNFCCC's COP meetings have been instrumental in shaping global climate action. The Glasgow Climate Pact reinforces the principle of common but differentiated responsibilities, recognizing historical emissions and varying capacities of nations and emphasizes the urgency of limiting temperature rise to 1.5 degrees Celsius. Countries are urged to enhance their NDCs to align with this goal. It highlights the need for enhanced climate finance to support developing nations in their mitigation and adaptation efforts. Countries are encouraged to set ambitious renewable energy targets and phase out coal and other high-emission energy sources.

India, as a major emerging economy, plays a pivotal role in global climate efforts. It has set ambitious goals, including reducing the emissions intensity of GDP by 33-35% by 2030 compared to 2005 levels. India aims to achieve 40% of its total energy capacity from non-fossil fuel sources by 2030, showcasing its commitment to renewable energy expansion.

In the face of adversity, the human spirit has shown its capacity to adapt, innovate, and persevere. The battle against climate change is no different. It is a call to action that transcends political affiliations and personal interests—a call to protect the delicate equilibrium of our planet and secure a harmonious coexistence with nature. Through collective efforts and a steadfast commitment to change, we can navigate the challenges of climate change and leave a legacy of resilience, stewardship, and hope for generations to come.

Best wishes,

Yours sincerely,

A handwritten signature in green ink, consisting of stylized initials 'R' and 'C' followed by a horizontal line.

K Rajendra Kumar IPS (Retd)

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1. NATIONAL

1.1 Rail accident in Odisha

- On 2 June, one of the biggest railway accidents in India's history occurred at Bahanaga station near Balasore in Odisha
- The accident involved two collisions among three trains – a goods train and two passenger trains
- Shalimar-Chennai Coromandel Express entered the passenger loop line instead of the main line at full speed near Bahanaga Bazar station and collided with a stationary goods train. Due to the heavy impact of the collision, 21 coaches of the Coromandel Express derailed, and some coaches fell on the adjacent line
- From the opposite direction, SVMT Bengaluru-Howrah Superfast Express travelling at full speed collided with three of the coaches that fell on the adjacent line, causing derailment of three coaches
- 292 people have been reported dead and more than 1200 injured, making it one of the deadliest rail accidents. Accidents with comparable numbers of fatalities and casualties were the Firozabad rail collision in 1995 and Gaisal train collision in 1999. It is the deadliest rail disaster worldwide since the train wreck in Sri Lanka during 2004 tsunami.
- Coromandel Express exiting the main line and entering the loop line is the cause of the accident. However, the reasons behind it have not yet been determined. During early

investigations, the pilots were found to be innocent, indicating the role of faulty signalling

- Apart from investigations by railways, the Central government directed the CBI to undertake investigation. As of this writing, CBI investigation is ongoing

1.2 Manipur Unrest

- The unrest in Manipur entered its second month in June. With time, the violence has become more complicated, spreading territorially to more sectors and indicating an upsurge of violent organisations. The Indian Army apprehended four members of the banned United National Liberation Front with advanced weapons in Thoubal district on 20 June
- Targeted violence and turning of villages into combat zones has caused widespread displacement. Chief Minister Biren Singh has announced the State government will construct 3000-4000 temporary homes to house refugees.
- Internet has been shut as per State government orders in violence-hit areas. Manipur High has passed an interim order directing the State government to restore partial internet services in certain designated areas to mitigate the hardships faced by people who depend on the internet, particularly students seeking admissions at the beginning of the academic year.
- Manipur Tribal Forum (MTF) filed an Interlocutory Application in the Supreme Court to grant hearing on the need for special military protection to Kukis. In its petition, MTF

contended that despite assurances by the State government, the administrative machinery has failed to protect Kuki lives, leading to the deaths of 70 Kukis. The Supreme Court vacation bench turned down the plea and directed the petitioner to appear after reopening

- Manipur High Court will review the order passed by one of its judges directing the State government to consider Meiteis for reservations under tribal status which set off the unrest
- At the national level, politics is heating up over the Manipur issue as opposition parties are questioning the Central government's inability to control the widespread violence a month and a half after it erupted. Several frontline opposition leaders have furthermore questioned the silence of the Prime Minister. These are accompanied by critics of the Manipur State government, run by the BJP, and the Chief Minister charging the government does not enjoy the confidence of the entire population of the state
- Prolonged ethnic tensions can prove significant in shaping the political and social future of Manipur. The Central government for time being has said it has no intention of introducing greater autonomy or reclassifying areas based on demography. However, its inability to control the violence has not just resulted in large-scale political uncertainty but also created a significant internal security challenge, as evidenced by the arrest of members of proscribed organisations

1.3 West Bengal: Political violence and local elections

- On 8 June, newly appointed West Bengal chief election commissioner declared local polls would be conducted on 8 July. Elections will be held for 73,897 seats in the three-tiered local body structure
- Violence has been reported from several districts of West Bengal. It began with the political murder of a Congress leader in the Murshidabad district two days after the polls were announced
- Up to 20 June, 7 persons affiliated with different political parties – BJP, ISF, Congress and the ruling TMC – have been killed
- Calcutta High Court on 15 June ordered the deployment of central forces across the state on polling day in order to ensure free and fair voting and control any mischievous activity to influence the outcome. However, the West Bengal government and State Election Commission (SEC) approached the Supreme Court to challenge the order the Calcutta High Court. As the elections are scheduled to be held on a single day, the state forces cannot provide full-proof security to each and every polling booth. In such circumstances, the decision by the State government and SEC to challenge the HC order does not carry merit. Further, the involvement of the SEC in the legal challenge brings to the fore questions regarding the independent functioning of the SEC
- The Governor of West Bengal announced the creation of a 'peace room', with a telephone

number and email ID, in the Governor House to register complaints from aggrieved persons in the run-up to the elections. The decision to create a direct line of contact with the Governor was made after Governor C V Ananda Bose toured violence-affected areas in the South 24 Parganas district. The ruling party TMC criticised the decision, saying there was no need for such direct reporting in the state. However, the Governor clarified that the step was not taken with biased motive and all, including ruling party members and supports, are free to register direct, personal complaints with the Governor

- West Bengal has a long-standing culture of political violence that peaks during elections. This culture of violence was firmly established in the state's parlance during the reign of the Left Front (1977-2011). Its chief features are physical targeting of political opponents, using force or threat of force to prevent opposition candidates from filing nominations, using force or threat of force to prevent voting by legitimate voters and supervision by booth workers of opposition parties.
- In 2021, after the declaration of the state election result, a wave of violence lashed through the state as members and supporters of the TMC targeted members and supporters of the opposition parties. The National Human Rights Commission team that toured the state in an investigation said rule of law had been replaced by law of the ruler in West Bengal
- TMC has moved in and out of a proposed national coalition of political parties opposed to

the BJP. The national coalition aims at fighting the 2024 general elections collectively to challenge BJP's political hegemony in national politics. The eruption of violence and the perception of TMC enabling it for self interest in the local elections can have ramifications both within West Bengal as well as in other parts of the country

1.4 Technology: Semi-conductor manufacturing plant to come up in India

- Semi-conductors have emerged as one of the most vital among technologies categorised as critical and emerging
- India's cabinet approved a US chip manufacturing company, Micron Technologies, to set up testing and packaging unit. The Central government will invest \$1.34 billion in the plant as part of its production linked incentive scheme aimed at modernising critical industries and building capacity in future-oriented projects.
- The proposed plant, likely to be situated at Sanand, will function on the ATMP model (assembly, testing, marking, packaging)
- Micron Technologies initially planned to invest in India, but instead chose the US after the US government introduced the CHIPS Act to boost production and manufacturing of critical emerging technologies
- India and US have an agreement titled 'Initiative on Critical and Emerging Technologies' (iCET) that was signed in January 2023 for sharing of technologies

deemed to be most important in the coming decades

- On 21 June, Bloomberg reported Google is planning to shift a part of its mobile phone production to India to reduce its reliance on China. Sources said Google is holding discussions with Indian mobile phone manufacturing companies as well as with Foxconn's India unit for widening its marketing avenues in India
- During the state visit to the US, the Prime Minister Narendra Modi discussed with Tesla's owner Elon Musk about setting up a Tesla factory in India. Though Tesla is known for its electric automobiles, it is also a leading player in the clean energies market, specialising in electric cars, electric trucks, stationary battery energy storage, solar panels and solar roof tiles. It is one of the most valuable companies in the world.

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2. INTERNATIONAL RELATIONS

2.1 Indo-US partnership strengthens with PM

Modi's visit

- PM Narendra Modi's visit to the US signalled the growing strategic proximity between India and US. The joint statement underlined the main aim of Indo-US cooperation is "to contribute toward a **free, open, inclusive and resilient Indo-Pacific**".



- PM Modi addressed a Joint Session of the US Congress, becoming the first Indian Prime Minister to address a Joint Session twice. In his speech, Modi highlighted India's democratic ethos, calling India "the mother of democracy". He reiterated India's position on the Russia-Ukraine war, "This is not an era of war but one of dialogue and democracy. We must do all we can to stop the bloodshed and suffering".
- Israel's Prime Minister Benjamin Netanyahu is the only other leader to have addressed a Joint Session more than once.

Technology initiatives:

- An MoU was signed on **Semiconductor Supply Chain and Innovation Partnership** to promote commercial opportunities, research,

talent exchange and skill development. Micron Technology will invest \$ 825 million to build a semiconductor assembly and test facility in India with support from the Indian government. Lam Research has proposed to train 60,000 Indian engineers through its Semiverse Solution virtual fabrication platform to accelerate India's semiconductor education and workforce development. Applied Materials, Inc. has announced it will invest \$ 400 million to establish a collaborative engineering centre in India.

- The PM signed the **Artemis Accords**, making India a party to the American-led space programme aiming to return humans to the moon by 2025 and expand the frontiers of space expeditions to Mars and beyond. As of 1 July 2023, 27 countries are signatories to the Accords.
- Agreements, joint mechanisms and task forces were announced for 6G, quantum computing, artificial intelligence, cyber security, green technologies and intelligent transportation systems. US-India New and Renewable Energy Technologies Action Platform was launched to facilitate the **US-India Climate and Clean Energy Agenda 2030 Partnership** and **Strategic Clean Energy Partnership** (SCEP).
- The Indian Department of Atomic Energy is collaborating with the US Department of Energy's Fermi National Laboratory which is developing the **Proton Improvement Plan-II Accelerator**. A **Laser Interferometer Gravitational-Wave Observatory** (LIGO) has begun construction in India. Bilateral

cooperation is intended towards biotechnology, bio-manufacturing, bio-safety and bio-security.

Deepening defence ties:

- A **Defence Industrial Cooperation Roadmap** has been adopted to provide policy direction to defence industries and help co-production of advanced defence systems. India-US Defence Acceleration Ecosystem (**INDUS-X**) was announced on 21 June. The US Department of Defence (DoD) said the goal of INDUS-X is to “**vitalise defence industrial cooperation between India and USA**”.
- An MoU was signed by General Electric (GE) and Hindustan Aeronautics Limited (HAL) for the manufacture of GE **F-414 jet engines**. The engines are to be installed in HAL’s Light Combat Aircraft MK-2.
- PM Modi and President Biden agreed to install **naval logistics hubs** in India that would serve as resupply, repair and maintenance needs of vessels in the Indian Ocean Region. US operates naval hubs in Japan and Singapore. The addition of India will provide width and flexibility to US maritime functioning.
- India will procure General Atomics’ **MQ-9B HALE UAV** (unmanned aerial vehicle).

International implications:

China:

- The expanding width and depth of Indo-US cooperation is taking place amidst rising concerns about China’s intentions in the Indo-Pacific region. China has adopted an increasingly aggressive posture in its foreign policy, particularly towards smaller states like

Philippines and Vietnam in the South Sea. Through a network of naval bases in Pacific Islands, China seeks to challenge US presence in the Pacific. Similarly, China has pursued a policy of encircling India on land and sea, with the Belt and Road Initiative (land) and the ‘String of Pearls’ (sea), also called the maritime Silk Road.

- India’s deepening cooperation with the US is rooted in shared concerns of unilateral aggressive designs by China. The same concerns underlie the coming together of the four ‘maritime democracies’ – Australia, India, Japan and US in the QUAD grouping.
- Growing proximity between India and US is being viewed with concern in China, as the economic and technology advantages it holds over India can be effectively neutralised by an Indo-US alliance. The Chinese state-controlled media has been heavily critical of US efforts to ‘co-opt’ India while maintaining that India will not come under US sway and continue to operate a neutral foreign policy. However, due to China’s actions and the wide gap between its word and deed, Indo-US cooperation is likely to keep expanding at a rapid rate.

Pakistan:

- The joint statement issued by India and US called upon Pakistan to take immediate action to ensure that no territory under its control is used for launching terrorist attacks, called on Pakistan to bring the perpetrators of 26/11 and Pathankot attacks to justice, and expressed concern at the increasing use of UAVs, drones

and communication technologies for transmission of terrorist communications.

- In Pakistan, the inclusion of this paragraph in the joint statement is being viewed as a major insult as well as an indication of Pakistan's diplomatic distance from the US. Pakistan's Foreign Office registered a strong diplomatic reaction, issuing rejoinders to call on global powers to "refrain from taking one-sided positions".
- Pakistan was included in Financial Action Task Force (FATF) Grey List from 2018 to 2022 for failing to tackle financing of terrorists and having inadequate monitoring and safeguards in its banking system. It has developed an international image of being a funder and promoter of terrorism, leading to strained diplomatic relations with many countries.
- Since the US left Afghanistan in 2021, Pakistan has entered a deep economic and financial crisis due to the sudden half in US aid. US' strategic decision to de-prioritise Afghanistan and shift focus to the Indo-Pacific and Europe has reduced Pakistan's strategic utility to the US. Pakistan's present vulnerabilities and the rapidly growing power asymmetry with India is causing it to align closer with China. China, on the other hand, utilises Pakistan as a counter-weight to keep India pegged down.
- As the summit host, PM Modi hosted the virtual meet. All heads of member states, including China's Xi Jinping, Russia's Vladimir Putin, Pakistan's Shehbaz Sharif and Iran's Ebrahim Raisi attended the summit.
- A **New Delhi Declaration** was issued by The **SCO Economic Development Strategy** was released during the summit. India decided against signing the document due to reservations regarding excessive Chinese influence on the drafting process and choice of language. India continued its policy of declining to be a part of the Belt and Road Initiative. All member states except India signed the Economic Development Strategy and gave their assent to be part of the BRI.
- Two issue-specific statements were unanimously signed pertaining to **deradicalisation** and **digital transformation**.
- PM Modi called on all SCO member states to take a determined stand against terrorism and not indulge in cross-border terrorism, give refuge to terrorists to achieve foreign policy goals or defend any country guilty of doing so. These statements were clearly aimed at Pakistan and China.
- Russian President Vladimir Putin expressed Russia's determination to prevent Western unilateralism, hostile foreign policy of expansion and economic sanctions. He said despite sanctions and the war in Ukraine, Russia continues to grow at a steady rate.
- China's President Xi Jinping highlighted the significance of the BRI and called on member

2.2 SCO Summit Virtually Hosted by India

- Shanghai Cooperation Organisation summit was held virtually on 4 July.
- Iran became a formal member of the SCO.

states to develop high-quality cooperation and coordination in development strategies to boost regional productivity.

International implications:

- At its formation, SCO was originally intended as a counter-weight to American global unilateralism by strengthening local and regional cooperation. It has been moderately successful in its mandate.



- In the new geopolitical conditions, SCO is increasingly becoming a collective of states not in sync with the US and the West. Iran's entry into the SCO cannot be seen outside the context of the sanctions placed on it due to its controversial nuclear development programme. With the possibility of Belarus becoming a full member looming large, it will mean yet another addition of a state isolated from the West.
- The Central Asian states – Kazakhstan, Tajikistan, Uzbekistan and Kyrgyzstan – and India and Pakistan provide regional depth and coverage to the SCO. The Central Asian states and India play an important balancing role as, unlike the other member states, they are in cooperative relationship with the West and do

not evince outwardly hostile posture towards the US or the West.

- However, growing rivalry between India and China, and increasing proximity between India and US are likely to be inhibitory factors for SCO's growth. The tendency of slowing down was on display in the summit, as India refused to sign the Economic Development Strategy and to be a part of the BRI initiative.
- The most relevant area of regional cooperation within the SCO appears to be Afghanistan. All member states share a core interest in preventing Afghanistan from becoming a haven for terrorism or drugs once again, as all regional states experienced first-hand their ill effects two decades ago. It remains to be seen, however, whether the member states can solve their strategic differences effectively enough to give shape to a regional strategy for attaining common interests.

2.3 India-Egypt Relations: Bilateral Relations

Escalated to Strategic Partnership

- On the return journey from US, PM Modi visited Egypt, where he was awarded the 'Order of the Nile', Egypt's highest state honour conferred on foreign dignitaries and leaders for outstanding contributions to Egypt or humanity.
- An agreement was signed to elevate the bilateral relationship to **Strategic Partnership** to deepen trade, investment, defence, security, renewal energy, cultural ties and people-to-people contacts. MoUs were signed in

agriculture, archaeology, antiquities and competition law.

- Egypt's cabinet has set up an '**India Group**' to pay special attention and fast-track the bilateral relationship
- Modi visited the Heliopolis Commonwealth War Cemetery in Cairo and paid tribute to Indian soldiers who sacrificed their lives fighting during World War I.
- Modi also visited the al-Hakim mosque in Cairo. The 11th century mosque was built during the rule of the Shia Fatimid dynasty in Egypt. The declining structure was restored with the help of Dawoodi Bohra community based in India.



International implications:

- Egypt occupies a vital position in the Middle East. The Suez Canal linking the Mediterranean and Red seas passes through Egypt. The country exercises considerable power and influence in the Middle Eastern and North African regions. In 1979, Egypt played a revolutionary role in normalising relations with Israel with the state visit of President Sadat, an unimaginable diplomatic move at the time.

- Egypt is a noted opponent of religious fundamentalism in the Middle Eastern region. Its present government follows a policy of modernisation and socio-religious moderation. It is important to note that Egypt is the cradle of the Muslim Brotherhood, the parent organisation that subsequently spawned such terrorist groups as al-Qaeda and ISIS. India can profit from Egypt's experience in counter-terrorism and security.
- India and Egypt have been growing close in diplomatic relations. President Abdel Fateh al-Sisi was the chief guest at the 2023 Republic Day Celebrations. PM Modi's visit to Egypt can be viewed as a reciprocal visit to take stock and advance the agendas discussed during al-Sisi's trip to India.

2.4 India Demarches Canada Over Violent

Khalistani Protests

- A **demarche** is a petition or protest expressed through diplomatic channels.



- India demarched Canada after Khalistani group Sikhs For Justice (SFJ) announced rallies outside Indian consulates on 8 July in three Canadian cities – Ottawa, Toronto and

- Vancouver to protest the death of **Hardeep Singh Nijjar**, chief of the Khalistan Tiger Force (KTF). KTF is a proscribed terrorist organisation in India. Nijjar was assassinated by two unidentified men in Canada on 18 June.
- Posters for the SFJ-organised rally named Indian High Commissioner to Canada and Consul Generals posted at Toronto and Vancouver blaming them for the killing of Nijjar.
 - The Canadian High Commissioner was summoned by the Ministry of External Affairs to ensure Indian embassies, consulates and diplomats are not targeted or endangered by Khalistanis. He was instructed to **take all measures to prevent the desecration of the Indian flag and any other national symbol** by Khalistanis.
 - Under the **Vienna Conventions**, a country is legally bound to protect the safety and integrity of foreign diplomats posted on its soil. Failure to do so constitutes a grave violation of diplomatic conventions.
 - The Indian High Commission in Canada asked the Canadian Federal Government to take all necessary precautions to escort the High Commissioner and the two Consul Generals
 - Similar posters promoting the 'Kill India' rally have appeared in London which targeted High Commissioner and Consul General. The posters attempt to falsely label the diplomats as the killers of Khalistani leader Hardip Singh Nijjar.
 - Khalistani activity, including violent protests and vandalism of Indian diplomatic establishments, has registered a significant uptick in the past two years. In **March 2023**, Khalistani mobs uprooted the Indian flag from the Indian High Commission in London, leading to the India summoning UK's highest diplomat and chastising UK for its indifference. In **January 2023**, during a referendum on Khalistan organised by Khalistanis at Melbourne's Federation Square, Khalistani mobs targeted peaceful Indian protesters holding banners against the referendum.
- International implications:**
- The remnants of the Khalistan movement are concentrated in four English-speaking countries – Australia, Canada, UK and US – as Khalistani militants fled India and immigrated to these countries after the failure of the 1984 secession attempt.
 - In the past two years, Khalistanis have regained visibility by organising protests, rallies and referendums in support of a separate Sikh state in India. Most Indians had assumed the Khalistan movement ended with the demolition of Jarnail Singh Bhindranwale's militant group in 1984. Thus, the reappearance caught many by surprise.
 - A conflict of interpretation has characterised the diplomatic exchanges between India and the four countries, particularly Canada, regarding the status of Khalistani activities. India views Khalistani activity as an assault on

its unity and integrity, and a security threat to its diplomatic personnel. The governments of the host countries have frequently defended the permission given to Khalistanis to hold public activities as an expression of democracy and freedom of expression.

- In the wake of increasing violent posture of Khalistanis, attacks on diplomatic establishments and threats to diplomatic personnel, defending the right of Khalistanis to express themselves on democratic grounds has become tenuous. Several Australian City Councils withdrew permission for the holding of referendums on Khalistan. However, Canada continues to allow the greatest leeway to Khalistanis, giving cause for straining of diplomatic relations between Canada and India.

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3. INDIAN ECONOMY

3.1 PLI Schemes contribute to increase in production, employment generation, and economic growth

- Significant increase of 76% in FDI in manufacturing sector due to PLI Schemes
 - Value addition of 20% in mobile manufacturing within a period of 3 years, a big achievement: Secretary, DPIIT
 - PLI Schemes transform India's exports basket from traditional commodities to high value-added products
 - 733 applications approved till date in 14 Sectors with expected investment of Rs.3.65 Lakh Crore
 - PLI Scheme for Food Processing positively impacts income of Indian farmers and MSMEs
- The Production Linked Incentive (PLI) Schemes have led to a significant increase in production, employment generation, economic growth and exports in the country. Due to PLI Schemes, there was a significant increase of 76% in FDI in the Manufacturing sector in FY 2021-22 (USD 21.34 billion) compared to previous FY 2020-21 (USD 12.09 billion).
 - The PLI schemes as envisioned by the Prime Minister, with the objective of making India 'AatmaNirbhar' is built on the foundation of 14 sectors with an incentive outlay of Rs. 1.97 lakh crore (about US\$ 26 billion) to strengthen their production capabilities and help create global champions.
 - Sectors for which PLI schemes exist and have seen an increase in FDI inflows from FY 2021-22 to FY 2022-23 are Drugs and Pharmaceuticals (+46%), Food Processing Industries (+26%) and Medical Appliances (+91%). PLI Schemes have transformed India's exports basket from traditional commodities to high value-added products such as electronics & telecommunication goods, processed food products etc.
 - As on date, 733 applications have been approved in 14 Sectors with expected investment of Rs.3.65 Lakh Crore. 176 MSMEs are among the PLI beneficiaries in sectors such as Bulk Drugs, Medical Devices, Pharma, Telecom, White Goods, Food Processing, Textiles & Drones.
 - Actual investment of Rs. 62,500 Crore has been realized till March 2023 which has resulted in incremental production/ sales over Rs. 6.75 Lakh Crore and employment generation of around 3,25,000. Exports boosted by Rs 2.56 Lakh Crore till FY 2022-23.
 - Incentive amount of around Rs. 2,900 Crore disbursed in FY 2022-23 under PLI Schemes for 8 Sectors viz. Large-Scale Electronics Manufacturing (LSEM), IT Hardware, Bulk Drugs, Medical Devices, Pharmaceuticals, Telecom & Networking Products, Food Processing and Drones & Drone Components.
 - PLI Scheme has led to major smartphone companies shifting its suppliers to India, e.g., Foxconn, Wistron and Pegatron. As a result, top high-end phones are being manufactured in

India. It has also resulted in a 20-fold increase in women employment and localization in IT Hardware such as Battery & Laptops. Secretary, DPIIT said that the value addition in mobile manufacturing in India is to the tune of 20%. “We have been able to increase the value addition in mobile manufacturing to 20% within a period of 3 years whereas countries like Vietnam achieved 18% value addition over 15 years and China achieved 49% value addition in over 25 years. Seen in this perspective, it is a big achievement”.

- PLI Scheme for LSEM along with existing Phased Manufacturing Program (PMP) has led to increased value addition in the electronics sector and in smartphone manufacturing, 23% and 20% respectively, from negligible in 2014-15. Of the USD 101 Billion total electronics production in FY 2022-23, smartphones constitute USD 44 Billion including USD 11.1 Billion as exports.
- Import substitution of 60% has been achieved in the Telecom sector and India has become almost self-reliant in Antennae, GPON (Gigabit Passive Optical Network) & CPE (Customer Premises Equipment). Drones sector has seen a 7 times jump in turnover due to the PLI Scheme which consists of all MSME Startups.
- Under the PLI Scheme for Food Processing, sourcing of raw materials from India has seen significant increase which has positively impacted income of Indian farmers and MSMEs.
- Due to the PLI Scheme, there has been a significant reduction in imports of raw materials in the Pharma sector. Unique intermediate materials and bulk drugs are being manufactured in India including Penicillin-G, and transfer of technology has happened in manufacturing of Medical Devices such as (CT scan, MRI etc.).

3.2 ADB, India sign \$130 million loan to promote horticulture in Himachal Pradesh

- The Government of India and the Asian Development Bank (ADB) on (8th June 2023) signed a \$130 million loan to increase agricultural productivity, improve access to irrigation and promote horticulture agribusinesses to raise farmers’ income in the state of Himachal Pradesh.
- The signatories to the Himachal Pradesh Subtropical Horticulture, Irrigation, and Value Addition Project were Mr. Rajat Kumar Mishra, Additional Secretary, Department of Economic Affairs, Ministry of Finance, for the Government of India, and Takeo Konishi, Country Director of ADB’s India Resident Mission, for ADB.
- After signing the loan agreement, Mr. Mishra stated that improving subtropical horticulture in the southern areas of Himachal Pradesh, hitherto dependent on temperate horticulture in northern areas, offers opportunities for crop diversification, climate adaptation and more equal economic and social development across the state’s rural areas. Supporting horticulture value chains will also boost the subsector’s

contribution to the country's development and food security.

- “The project builds upon a pilot financed by ADB's project readiness facility which demonstrated the subtropical horticulture production over 200 hectares and prepared the draft water user association (WUA) act and the draft state horticulture development strategy.
- The project interventions will help increase the income and resilience to the effects of climate change of at least 15,000 farm households across 7 districts of the state namely Bilaspur, Hamirpur, Kangra, Mandi, Sirmour, Solan, and Una. These households have stopped farming or have reduced their farming areas because of a lack of irrigation facilities and crop damage by wild and stray animals.
- The project will improve on-farm irrigation and water management in about 6,000 hectares of farmland by rehabilitating or building new irrigation schemes and strengthening the capacity of WUAs for micro irrigation management through joint efforts from the state's *Jal Shakti Vibhag* (Water Resources Department) and Department of Horticulture (DOH).
- The project will also help create an ecosystem to enhance farmers' access to markets of subtropical horticulture. The farmers will be organised into cluster-wide community horticulture production and marketing associations (CHPMAs) and district-wide CHPMA cooperative societies. CHPMA apex institution, a farmer producer company (FPC),

will lead state-wide agribusiness development with the aim of ensuring profitability and access to 1/5/2018-ADB.II I/67997/2023 markets of subtropical horticulture. The FPC will handle business plan development; agribusiness promotion; and designing value-addition facilities such as sorting and packaging facilities, and storage and collection centres. It will also assist CHPMAs in managing these facilities.

- The project will also modernise public and private subtropical horticulture nursery facilities for improved plant health, and boost beneficiary farmers' access to information and communication technologies, and other digital agri-technology systems for real-time farm advisories and better CHPMA management.

3.3 Union Cabinet approves Minimum Support Prices (MSP) for Kharif Crops for Marketing Season 2023-24

- The Cabinet Committee on Economic Affairs (CCEA) chaired by the Hon'ble Prime Minister Shri Narendra Modi has approved the increase in the Minimum Support Prices (MSP) for all mandated Kharif Crops for Marketing Season 2023-24.
- The increase in MSP for Kharif Crops for Marketing Season 2023-24 is in line with the Union Budget 2018-19 announcement of fixing the MSP at a level of at least 1.5 times of the All-India weighted average Cost of Production, aiming at reasonably fair remuneration for the farmers. The expected margin to farmers over their cost of production are estimated to be

highest in case of bajra (82%) followed by tur (58%), soybean (52%) and urad (51%). For rest of the crops, margin to farmers over their cost of production is estimated to be at least 50%.

- In the recent years, Government has been promoting the cultivation of crops, other than cereals such as pulses, oilseeds, and Nutri-cereals/ Shree Anna, by offering a higher MSP for these crops. Additionally, government has also launched various schemes and initiatives, such as the Rashtriya Krishi Vikas Yojana (RKVY), the National Food Security Mission (NFSM), to encourage farmers to diversify their crops.
- As per Third Advance Estimates for 2022-23, total Foodgrain production in the country is estimated at record 330.5 million tonnes which is higher by 14.9 million tonnes as compared to the previous year 2021-22. This is the highest increase in the last 5 year.

3.4 India G20 – South Centre Event on International Taxation concludes successfully at Nagpur

- India's G20 Presidency to attempt to voice the views of the Global South on important international issues, a two-day event on International Taxation was organised on the 1st and 2nd June, 2023 at the National Academy of Direct Taxes (NADT), Nagpur in collaboration with South Centre, a Geneva-based intergovernmental policy research think-tank of 55 developing countries, including India.

- The OECD/G20 Inclusive Framework on Base Erosion and Profit Shifting (IF) has agreed on the historic two-pillar solution to address the tax challenges arising from the digitalisation of the economy. Indian tax administrators and policy makers deliberated on the IF's "Two Pillar Solution" on the taxation of the digital economy and the global minimum tax. International tax experts from renowned multi-lateral organizations including the United Nations Tax Committee, Tax Justice Network Africa, West African Tax Administration Forum (WATAF), and Independent Commission for Reform of International Corporate Taxation (ICRICT) enriched the Global South discourse on the Two-Pillar Solution, as panellists.
- The G20-South Centre Capacity Building Event on International Taxation titled 'Two Pillar Solution – Understanding the Implications for the Global South' comprised of two panel discussions on the Two-Pillar Solution and its alternatives. The discussions during the event focussed on the ramifications of the Two-Pillar Solution for the developing economies. The event also included a workshop on Tax Treaty Negotiations. This event is an initiative of the Indian Presidency to bolster capacity building for Indian tax officials of both senior and middle management levels in the area of International Taxation, with a global south perspective.
- NADT, the apex training institute for the officers of the Indian Revenue Service, hosted the two day Indian G20 Presidency event. The

event also included a cultural evening where the vibrant culture of the state of Maharashtra was showcased to the participants and concluded with an excursion for the foreign delegates to explore the rich heritage of Nagpur.

3.5 ADB, India sign \$141.12 million loan for industrial corridor development in Andhra Pradesh

- The Asian Development Bank (ADB) and the Government of India signed, on 23.05.2023, a \$141.12 million loan to support the development of high-quality internal infrastructure such as roads, water supply systems and electricity distribution network in three industrial clusters in the state of Andhra Pradesh. This financing is the second tranche of the \$500 million multi-tranche financing facility (MFF) for the program approved by ADB in 2016 to build infrastructure in three industrial clusters in the Visakhapatnam and Srikalahasthi-Chittoor nodes in the state.
- The ADB financing through adopting multi sectoral approach will help the state in promoting industrialization to increase the share of manufacturing in the state's gross domestic product, build competitiveness and creating jobs in the project target areas. Specifically, this financing will help strengthen industrial infrastructure in Visakhapatnam node with the development of internal infrastructure in the start-up area of the 160-hectare (ha) Rambilli and 441-ha Nakkapalli industrial clusters, widening of 13.8-kilometer (km) of

the Atchuthapuram–Anakapalli road and improvement of 4.4-km access road to the Nakkapalli cluster. Internal infrastructure in the proposed clusters will include internal roads, storm water drains, water supply systems, and electric power distribution systems. In Srikalahasthi-Chittoor node, the project will help develop the start-up area of the 938-ha Chittoor–South industrial cluster, and improve a 9.5-km access road to the Chittoor-South industrial cluster and an 8.7-km access road to the Naidupeta industrial cluster.

- Among the outputs, the project will support the state in rolling out an updated marketing action plan for investment promotion, and enhance skills of people including the socially and economically vulnerable sections. To strengthen industrial cluster resilience under extreme weather, the project will help establish a green corridor model operational guidelines and develop a disaster risk management plan. For long term sustainability, the program will formulate a plan to improve operation and maintenance of start-up industrial clusters, and will roll out a toolkit with gender-responsive and socially inclusive guidance to integrate industrial and urban planning including industry housing in areas adjacent to industrial clusters.

3.6 India and EFTA take further steps towards a new Trade and Partnership Agreement (TEPA)

- Significant progress in taking forward the negotiations on India-EFTA TEPA

- “India and the European Free Trade Association (EFTA) States (Iceland, Liechtenstein, Norway, and Switzerland) have taken a significant stride forward in their quest for a Trade and Economic Partnership Agreement (TEPA). In a Ministerial meeting held in Brussels today, Shri Piyush Goyal, Minister of Commerce & Industry, Consumer Affairs & Food & Public Distribution and Textiles of India; Guy Parmelin, Swiss Federal Councillor and Head of the Federal Department of Economic Affairs, Education and Research; Einar Gunnarsson, Ambassador, Permanent Representative at the Permanent Mission of Iceland in Geneva; Kurt Jäger, Ambassador, Permanent Representative at the Permanent Mission of Liechtenstein to EFTA, WTO and the UN in Geneva, and Erik Andreas Underland, Specialist Director at the Norwegian Ministry of Trade, Industry, and Fisheries, discussed the modalities of engagement for working towards a comprehensive TEPA. This second Ministerial gathering followed a series of expert meetings that took place online the previous week.
- The Ministerial meeting marked a significant milestone in taking forward the negotiations on a TEPA between India and EFTA. Both sides emphasised the importance of building their discussions on principles of trust and respect for each other's sensitivities to achieve a fair, equitable and balanced agreement. Indeed, a TEPA between EFTA and India could bring significant economic benefits, such as integrated and resilient supply chains and new opportunities for businesses and individuals on both sides leading to increased trade and investment flows, job creation, and economic growth.
- The delegations agreed to ramp up their efforts and continue their discussions at a steady pace, with several more meetings planned over the coming months, to arrive at a common understanding on critical issues pertaining to TEPA.”

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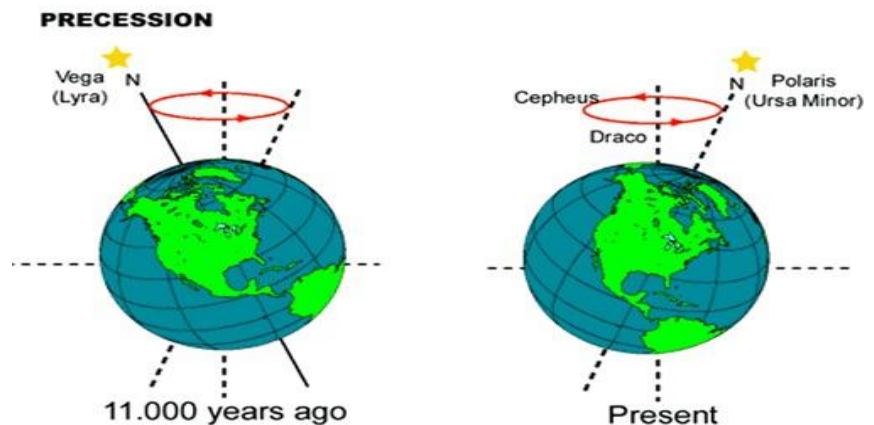
4. GEOGRAPHY AND ENVIRONMENT

4.1 Groundwater Extraction Tilts the Earth

- In news: Recently scientist has discovered that there is significant tilt of Earth to the east which attributed to the pumping and movement of groundwater.
- Additionally, the study highlights the substantial volume of groundwater pumped and drained into the oceans, contributing to global sea-level rise.

The wobbling of earth's axis:

- Wobbling has an interesting effect on climate and on navigation. Eleven thousand years ago, the North Star was Vega; currently, the North Star is Polaris.
- The North Star has changed over the past 11,000 years, and in another 11,000 years, it will switch back to Vega again.
- The North Star changes because of precession and is slightly influenced by the change in the angle of the Earth's tilt.
- The researchers associated the shift in the Earth's axis with the movement of water, including melting ice caps and glaciers. This discovery unveils groundwater pumping as a previously unconsidered factor in the Earth's axis tilt.



- The study found that mid-latitude areas, particularly northwest India and western North America, experienced significant groundwater

redistribution and depletion.

- In India, groundwater depletion is a particular concern in North India, including Punjab, Haryana, Delhi, western Uttar Pradesh,

Rajasthan, as well as parts of Karnataka, Tamil Nadu, Telangana, and Andhra Pradesh.

- The indiscriminate use of groundwater for irrigation purposes in these regions has resulted in critical groundwater levels and poses a threat to sustainable water resources.

Concerns and Regional Implications

- The location of groundwater depletion plays a crucial role in the extent of axis drift.

4.2 FOREST RIGHTS IN INDIA

About the news:

- According to the Ministry of Tribal Affairs (MoTA) about 38% of all claims over land made under the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 [Also known as Forest Rights Act (FRA)] till November 2022, have been rejected.

Rejection of land cause:

- 1) Lack of evidences
- 2) Claims on non-forest land
- 3) Absent from land occupation prior to 2005 year.
- 4) Claimed by multiple tribal authority
 - Individual Forest Rights (IFR) claims had been rejected and Community Forest Rights both are rejected.

About Forest Rights Act (FRA), 2006

Objective:

- It recognizes the rights of the forest Dwelling Scheduled Tribes (FDST) and other traditional forest dwellers to forest resources (OTFD), on which these communities were dependent for a variety of needs, including livelihood, habitation, and other socio-cultural needs.

Eligibility for FR:

- A member or community can claim rights over forest lands that they primarily reside in for at least three generations (75 years) or prior to December 13, 2005.
 - o A person should be a bonafide dependent on the forest, its land, and resources for their livelihood.

Rights under the Act

- 1) **Individual Forest Rights (IFR):** It includes the right of self-cultivation and habitation. Provides ownership of land (maximum of 4 hectares), only for land that is being cultivated by the beneficiary no new lands are granted.
- 2) **Community Forest Rights (CFR):** It provides collective rights to the community. Some of these include grazing and fishing rights; and ownership, access, use, and disposal rights of Minor Forest produce (MFP) traditionally collected within or outside village boundaries. Also includes the right to protect, regenerate or conserve or manage any community forest resource etc.
 - Recognition, Restoration, and Procedure for Vesting of FR: Gram Sabha, Sub-Divisional Level Committee, District Level Committee, State Level Monitoring Committee. etc. have been set up for recognizing and vesting F.

4.3 CLEAN PLANT CENTRE

About the News:

- The Indian government plans to establish 10 Clean Plant Centres to promote domestic production of crops like apples, almonds, grapes, avocados, and blueberries, which have seen an increase in demand for imported planting materials.
- The Clean Plant Centres are those places that work to improve the health of the plants. It produces healthy and disease-free plantings.
- First, the harmful pathogens in the plant are removed. Virus-tested and disease-resistant

tissues are isolated and injected into healthy plants.

- They will be set up under the Atmanirbhar Clean Plant Program.
- The centres will offer diagnostic, therapeutic, and plant multiplication services, with an overall budget of Rs 2,200 crore until 2030.
- These are to be established along the lines of such facilities in the USA, Israel and the Netherlands.

Atma Nirbhar Clean Plant Program:

- The Atmanirbhar Clean Plant Program was announced in the Union Budget 2023-24.
- It aims to reduce the challenges of obtaining disease-free and genuine planting materials for horticultural crops in India.
- The National Horticulture Board will implement the program, in partnership with research organizations, agriculture universities, and private sector entities.

Benefits of Clean Plant Centres:

- The clean plant centres will help India reduce its dependence on other countries.
- Usually, India buys plant materials and uses them for multiple seasons by storing the material. Now, with the plant centres, the storing period has also been reduced to just six months.
- Fresh plantings shall be prepared. Harvest of trees grown from stored plantings are always less as compared to that of fresh plantings.

4.4 Mizoram to export Bird's eye chilli to the US

About News:

- Mizoram has exported locally grown bird's eye chilli, a Mizo organic chilli, to the United States for the first time as part of an initiative to expand the market and boost farmers' income.



About Birds Eye Chilli

- It is widely used in Asian cuisines.
- The chilli is also called Thai chilli.
- It is native to Mexico.
- The chilli variety has received a GI tag from GoI (Government Of India).
- The state of Mizoram is to export the chilli variety to USA.
- The production of Bird eye chillies in the region has increased due to the initiative called FOCUS.
 - FOCUS means Fostering Climate Resilient Upland Farming System.
 - The project is aided by the International Fund for Agriculture Development the UN.
 - FOCUS promotes the production of bird's eye chillies through Jhum cultivation.

Jhum cultivation:

- Jhum cultivation is a traditional agricultural process that involves clearing the land of trees and other vegetation, burning it, and then cultivating it for a set period of time. Potash, which is found in burned soil, boosts nutrient content.
- But jhum cultivation causes deforestation, loss of soil fertility, leads to soil erosion, causes air pollution, etc.
- This is because the farmers in this region are tribal.
- It is very challenging to bring the tribal out of their traditional practices. To change the mindset of the farmers, initially, the government goes with their traditional ways.
- After providing an economic uplift, they slowly begin to improve the literacy rate of the population
- For this reason, GoI is promoting JHUM cultivation of Birds Eye Chillies here.

4.5 India's largest-ever hydropower project**About the News:**

- Recently Dibang Hydropower Project, approved by the Central Government which is India's largest-ever hydropower project.



- This multipurpose project is being set up close to China's border on the Dibang River, in Arunachal Pradesh's Lower Dibang Valley District. It is being developed in a mountainous region of Mishmi hills.

About Dibang Multipurpose project :

- This project will be developed by National Hydroelectric Power Corporation (NHPC) Limited.
- It is expected to take 9 years to be completed.
- It involves the construction of a 278-meter-high Concrete Gravity.

- PM Manmohan Singh laid the foundation stone of the project in 2008.
- The main purpose of the project is flood control and also water storage..
- Dihang, Dibang, and Lohit are the major tributaries of Brahmaputra. Together the rivers flood the northeast region during rainy seasons. The Brahmaputra is called the Sorrow of Assam for its floods and changing direction of flow.
- Controlling the water flow in Dibang is controlling the water flow in Brahmaputra. The Brahmaputra is mighty and is very challenging to mitigate floods caused by the Brahmaputra.

About Dibang river:

- The river originates on the Indo-China border, that is, near Keya Pass.
- It flows through the Mishmi hills.
- It joins River Lohit near Dibru-Saikhowa Sanctuary.
- The tributaries of Dibang are Emra, Ithun, Dri, Rangon, Mathun, and Sisar.

4.6 Gaula River Mining

About News:

- The Ministry of Environment, Forest and Climate Change has given permission to the Uttarakhand government to continue mining activities in the Gaula River in Nainital district.
- This decision is expected to have significant implications for the state's economy and local communities.

About The Gaula River:

- The Gaula River, also known as the Gola River, originates in the Paharpani Village of Uttarakhand and flows through various regions. The Gaula River joins the Ramganga River in Uttar Pradesh, which is a tributary of the Ganges.



Mineral Resources in Utterakhand:

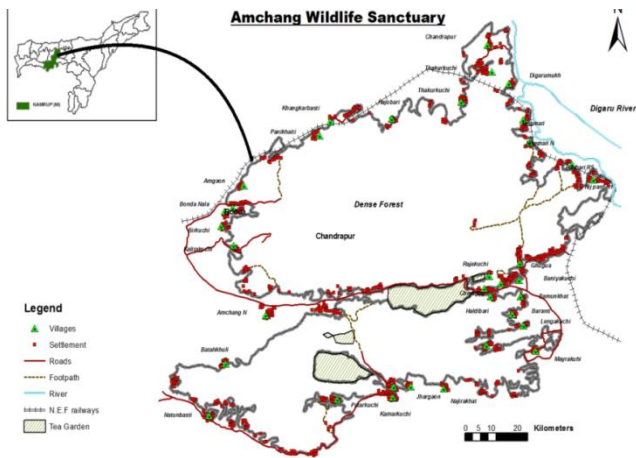
- Important minerals that are found to occur in the State are
- 1) Limestone in Almora, Bageshwar, Dehradun, Nainital, Pauri-Garhwal, Pithoragarh & Tehri-Garhwal region.
 - 2) Magnesite and Steatite in Almora, Bageshwar, Chamoli & Pithoragarh districts;
 - 3) Tungsten in Almora district.

4.7 Amchang Wildlife Sanctuary

- **About News:** The Guwahati High Court recently directed the Assam Forest Department to file a report within eight weeks on the demarcation of borders of Amchang Wildlife Sanctuary in Guwahati.

About Amchang Wildlife Sanctuary:

- The Amchang Wildlife sanctuary is located on the eastern fringe of Guwahati.



- It comprises three Reserve forests-Khanapara, Amchang, and South Amchang.
- It stretches from the Brahmaputra River in the north to the hilly forests of Meghalaya in the south, forming a continuous forest belt through Meghalaya's Maradakdola Reserve Forests.
- Amchang's habitat is dominated by tropical moist deciduous forest with semi-evergreen forest in depressions and river-valleys. It is known for its elephants which have become isolated with no movement with other elephant-populations.

Flora:

- Khasi Hill Sal Forests, East Himalayan Mixed Deciduous Forest, Eastern Alluvial Secondary Semi-evergreen Forests and East Himalayan Sal Forests.

Fauna:

- Amchang is an Important Bird & Biodiversity Area. The sanctuary has a diverse birdlife. Some noteworthy species found includes White-backed vulture, Slender-billed vulture,

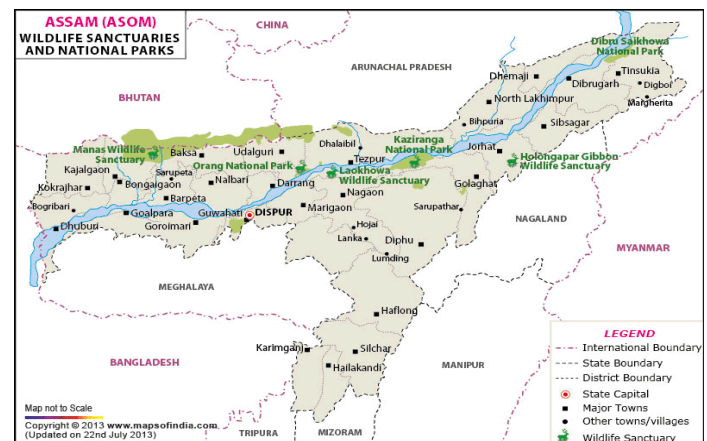
Flying fox, Slow loris, Assamese macaque, Rhesus macaque, Hoolock gibbon, Porcupine.

- Tree yellow butterflies (gancana harina) are found at the Amchang wildlife sanctuary which is indigenous to Thailand, Malaysia, Singapore and northeast India.

4.8 Burachapori Wildlife Sanctuary

About News:

- Assam government is currently taking measures to open the traditional path for wild animals from Kaziranga to Orang National Park via the Bura Chapori Wildlife Sanctuary.



About Bura Chapori Wildlife Sanctuary:

- It is situated along the south bank of the Brahmaputra River, which is providing a thriving habitat for various flora and fauna.
- The Bura Chapori Wildlife Sanctuary serves as a notified buffer zone of the renowned Kaziranga Tiger Reserve. This crucial connection contributes to the conservation of the region's tiger population and the overall ecological balance.
- It is considered to be an ideal habitat for the Bengal florican (critically endangered).

- In 1974, the Bura Chapori Wildlife Sanctuary was officially declared a Reserved forest, recognizing its ecological importance and the need to protect its natural resources. It later went on to become a wildlife sanctuary in 1995.



and more than half of the total forest land has been declared reserved forests.

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What is the Reserved Forests?

- Reserved forests and protected forests have been declared to conserve the Wildlife in India and its resources.
- They are areas that are under the protection of the state government.
- Reserved forests are maintained to protect the abundant resources present in them
- Reserve forests are the most restricted forests.
- In reserved forests, local people are prohibited, unless specifically allowed by a Forest Officer in the course of the settlement.
- Protected forests are declared to prevent the degradation of natural resources.
- According to Forest Survey Report 2021, 24.62% of the geographical area is under forest

5. SCIENCE & TECHNOLOGY

5.1 India Gifts Missile Warship INS Kirpan to Vietnam

Why in news?

- India gifted its key strategic partner Vietnam an indigenously built missile corvette 'INS Kirpan'.
- During the recent visit of Gen Phan Van Giang, Minister of Defence of Vietnam our Hon'ble Raksha Mantri had announced gifting of in-service missile corvette INS Kirpan to Vietnam.
- Vietnam and India are key strategic allies since the then Prime Minister of Vietnam Nguyen Tan Dung visited India in 2007.



What is INS kirpan?

- INS Kirpan is the third indigenously built Khukri class missile corvette, currently in active service in the Indian Navy. The ship is fitted with an array of weapons and sensors and has participated in various operational and humanitarian assistance operations.
- The transfer of INS Kirpan to Vietnam resonates India's vision of 'Vasudhaiva Kutumbakam' and 'Security and Growth for all

in the Region (SAGAR)'. This is the maiden occasion of gifting a fully operational corvette by India to any Friendly Foreign Country.

5.2 Prime Minister launches National Sickle Cell Anaemia Elimination Mission from Shahdol, Madhya Pradesh

Why in news?

- National Sickle Cell Anaemia Elimination Mission aims to eliminate Sickle Cell Anaemia by 2047. Prime minister Distributes sickle cell genetic status cards to beneficiaries.



We will be launching a mission to eliminate sickle cell anemia by 2047, which will entail awareness creation, counselling, and universal screening of **7 crore people of up to 40 years of age** in affected tribal areas.

Smt Nirmala Sitharaman
Union Finance Minister



- Sickle Cell Disease is a disease that impacts tribal sections of societies significantly. The government is committed to eliminate the disease before India celebrates its Amrit Kaal in 2047.

What is sickle cell Anemia?

- A group of disorders that cause red blood cells to become misshapen and break down.
- With sickle cell disease, an inherited group of disorders, red blood cells contort into a sickle shape. The cells die early, leaving a shortage of healthy red blood cells (sickle cell anaemia) and can block blood flow causing pain (sickle cell crisis).

- It is a genetical disorder and People who have sickle cell disease inherit two faulty hemoglobin genes, called hemoglobin S — one from each parent. A person has sickle cell trait when the hemoglobin S gene is inherited from only one parent and a normal hemoglobin gene — hemoglobin A which is inherited from the other.
- Sickle cells break apart easily and die. Red blood cells usually live for about 120 days before they need to be replaced. But sickle cells typically die in 10 to 20 days, leaving a shortage of red blood cells (anemia). Without enough red blood cells, the body can't get enough oxygen and this causes fatigue.

What are artificial sweeteners?

- Artificial sweeteners are synthetic non-caloric sweeteners characterized by a strong sweetening flavour without calories. They are mainly found in soft drinks, snack foods, sugar-free candies, and dairy products.

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5.3 Artificial sweeteners as a sugar substitute: Are they really safe?

Why in news?

- Aspartame, one of the world’s most common artificial sweeteners, has been the subject of various debates and controversies. Recently, the cancer research arm of the World Health Organization (WHO), known as the International Agency for Research on Cancer (IARC), made headlines with its upcoming listing of aspartame as possibly carcinogenic.

Artificial Sweeteners

- They are synthetic sugar substitutes but may be derived from naturally occurring substances, including herbs or sugar itself. They are also known as intense sweeteners because they are sweeter than regular sugar.
- Usually they don't have calories.

Aspartame (Equal®)	Saccharin (Sweet'N Low®)	Sucralose (Splenda®)	Acesulfame potassium (Sweet one®)
			



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