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THE HINDU

GS 2 : Polity, Governance, International Relations

1. CJI stresses on judicial infrastructure

- Chief Justice of India N.V. Ramana has urged the Union Minister of Law and Justice to ensure statutory backing for the creation of the **National Judicial Infrastructure Authority of India (NJIAI)** in the upcoming winter session of Parliament.
- The Chief Justice highlighted the **severe lacunae in judicial infrastructure for courts in India**, making it difficult to effectively perform their function.
 - There is a shortage of court halls and even basic facilities like toilets and drinking water access. There is also a gross shortage of record rooms and video-conferencing facilities.
- The Chief Justice emphasized the **importance of judicial infrastructure in improving access to justice**.
 - According to international research published in 2018, **failure to deliver timely justice cost India as much as 9% of its annual GDP**.

2. New light on how insulin signalling affects tissue health

- **Insulin is a peptide hormone secreted by the beta cells of the pancreas**. It is commonly associated with the ability to regulate **glucose metabolism**. It regulates the metabolism of carbohydrates, fats and protein by promoting the absorption of glucose from the blood into the liver, fat and skeletal muscle cells.
- Studies have shown that Insulin **plays a role in the growth and maintenance of tissues**.
- A new study now has thrown light on how insulin amounts shape the flow of information through the signalling network. Abnormalities in insulin signalling impact the health and survival of the organisms. This understanding can be used to **identify targets for therapy**.

3. Rising trade, tensions point to India's China conundrum

Background:

- **India's trade with China has risen to record levels in 2021 and is set to cross the \$100-billion mark for the first time.** The two-way trade has registered a massive year-on-year growth.
- Trade ties have boomed to record levels during the past year despite the **border crisis along the Line of Actual Control** which erupted with China's unprecedented mobilisation of troops. The talks between military commanders have also ended in a deadlock with both sides trading accusations.
- **On the investment front, India has imposed certain curbs on Chinese companies** and the massive inflow of Chinese funds into the tech sector has been stopped. In the telecom sector, the Chinese firms have been kept out of 5G trials.
- Thus there seem to be **two seemingly contradictory trends in the bilateral relations** between India and China.

Significance for India:

Economic potential:

- Given the **huge economic market** by China, the India-China relationship has a huge potential for trade ties for Indian companies.
- The **pharmaceutical sector** in particular has huge potential yet to be realised.
 - Recently, Hyderabad-based Dr. Reddy's Laboratories became the first Indian pharmaceutical firm permitted to launch an anti-cancer drug in the lucrative China market. This is being hailed as a breakthrough for the Indian pharmaceutical industry in China.

Concerns for India:

Strategic concerns:

- Trade ties booming to record levels amid persistent border crisis with China does not augur well for India's strategic interests. The deepening commercial relations pose challenges for **India which is looking to recalibrate relations with China** amid the border crisis.

Import dependency of India:

- **India's imports from China has reached record levels.** India has imported in large quantities items like electrical machinery, active pharmaceutical ingredients (APIs), medical supplies such as ventilators and PPEs, solar components and auto components.
 - India also imports up to 70% of APIs from China, more than 90% of solar components and a large share of auto components as well.

- India's trade deficit in bilateral trade relations has only increased over the years.

Hurdles to market access:

- India's goods and services face a number of **market access impediments including non-tariff barriers** in critical segments like agricultural products, pharmaceuticals, IT/ITES, etc.

GS 3 : Economy, Science and Technology, Environment

4. RBI extends Basel-III Capital framework

The RBI released a draft framework on master directions to implement the Basel III Capital Framework for All India Financial Institutions (AIFIs) including EXIM Bank, NABARD, NHB, and SIDBI.

Key Highlights:

The draft directions propose:

- Minimum capital ratio of 11.5% of total risk weighted assets (RWA).
- AIFIs to maintain a capital conservation buffer in the form of common equity at 2.5% of RWA, in addition to the minimum capital adequacy ratio of 9%.
- Raising common equity in tier-1 capital to 5.5% of RWA.
- The minimum **tier-1** capital at 7% and the capital conservation buffer at 2.5%.
- To impose Capital distribution constraints on an AIFI when capital level falls within this range.

All India Financial Institutions:

- It is a group composed of Investment Institutions and development finance institutions.
- They fall under the jurisdiction of Reserve Bank of India.
- They assist in the proper allocation of resources, sourcing from businesses that have a surplus and distributing to others who have deficits – this also assists with ensuring the continued circulation of money in the economy.

- They act as an intermediary between borrowers and final lenders, providing safety and liquidity. This process subsequently ensures earnings on the investments and savings involved.

Basel Norms:

- Basel norms are **international banking regulations** issued by the Basel Committee on Banking Supervision (BCBS).
- It is an effort to **coordinate banking regulations across the globe**, with the goal of strengthening the international banking system.
- The BCBS consists of **representatives from central banks and regulatory authorities** from 28 jurisdictions. It has **45 members** (including India).
- The BCBS was formed without a founding treaty to address the problems presented by globalization of financial and banking markets in an era in which banking regulation remains largely under the purview of national regulatory bodies.
- The **BCBS** serves to **help national banking and financial markets supervisory bodies** move toward a more **unified, globalized approach to solving regulatory issues**.
- Its **secretariat** is located at the **Bank of International Settlements (BIS)** headquartered in the city of **Basel in Switzerland**. Hence, the name Basel norms.
- The Basel Committee has issued **three sets** of regulations as of 2018 known as Basel-I, II, and III.
- Basel III is a **comprehensive set of reform measures designed to improve the regulation, supervision and risk management within the banking sector**.
- Basel norms comprises of **three pillars** introduced in **Basel II Norms**:
 - **Minimum capital requirements** (Pillar 1): Banks to maintain minimum capital adequacy requirement of **8%**.
 - **Supervisory review** (Pillar 2): Develop and use better risk management system
 - **Market discipline** (Pillar 3): Requires **disclosure** of CAR, risk exposure to the Central Bank (RBI in case of India).
- Basel III aims to focus on 4 important banking parameters: **Capital, Leverage, Funding, Liquidity**.

Tier 1 capital:

- Tier 1 capital refers to the **core capital** held in a bank's reserves including common stock, as well as disclosed reserves and certain other assets and is used to fund business activities for the bank's clients.

Tier 2 Capital:

- Tier 2 capital includes **undisclosed funds** that do not appear on a bank's financial statements and revaluation reserves.
- It is **supplementary capital** because it is less reliable than tier 1 capital.

5. Climate change in Third Pole

The climate crisis is altering the geography of the Third Pole – the Tibetan plateau.

Key Highlights:

According to the report released by The NASA Earth Observatory:

- The two lakes – **Chibzhang Co and Dorsoidong Co** - a small range in the **central part of the Tibetan Plateau**, west of the **Tanggula Mountains** – grew larger between 1987 and 2021 due to glacial melting.

Hindu Kush Himalayas:

Geography:

- The Hindu Kush is an 800-kilometre-long (500 mi) mountain range in Central and South Asia to the west of the Himalayas.
- It extends **across 3,500 km over eight countries** – Afghanistan, Bhutan, Bangladesh, China, India, Myanmar, Nepal and Pakistan.
- The eastern end of the Hindu Kush in the north merges with the Karakoram Range. Towards its southern end, it connects with the Spin Ghar Range near the Kabul River.
- It is referred to as the **Third Pole**.
- It is also known as the **Water Tower of Asia** due to its reserve of frozen water.
 - They are the **biggest reserves of water** in the form of ice and snow outside the polar regions, and source of 10 of the largest rivers in Asia.
- The glaciers are the lifeline for **one-third of the population** across the globe.
- It has the world's highest amount of snow and ice outside the polar region.

Physiology:

- Much of the Hindu Kush comprises **metamorphic rock**, including metamorphosed granodiorite and **metamorphosed sedimentary rocks** of amphibolite and greenschist facies.

Climate:

- **Rainy or snowy summers** (from July to September) and dry winters.
- The central and western Hindu Kush borders the Mediterranean climatic zone, characterized by hot, dry summers and cold, wet or snowy winters (from December to early March).

Flora:

- Forests cover many southern slopes of the eastern and central Hindu Kush.
- Large stands of **deodar cedar and blue pine** cloak the eastern and central spurs of the Hindu Kush.
- In the western Hindu Kush, forest is almost absent, and cultivated fodder trees such as **poplar, willow, and Russian olive predominate**.
- Other planted trees in irrigated mountain passes include plane trees and economically valuable species such as mulberry, jujube, and walnut.
- Meadowland is intermittent, depending on sunny and shady exposure, with substantial pastures found on slopes where snow accumulates.

Fauna:

- The **Siberian ibex** and the **Markhor (both wild goats)** are found in the high crags.
- **Marco Polo sheep** and **Urial** (another wild sheep) occasionally are found in the high Pamir.
- **Black and brown bears** exist in isolated valleys.
- **Chitral valley wildlife** preserve is a domain of the rare **snow leopard**.
- Birdlife of the mountains includes **vultures and eagles**.
- The streams of the northern slope contain **brown trout** in abundance.

Resources:

- Forage, timber, and water are highly exploited resources.
- Human settlements occur where land can be irrigated.
- Large seasonal migrations of livestock, driven by herders, fully utilize the pasturelands of remote mountain areas.
- Thousands of sheep and goats from the high pastures of Badakhshan travel through the Anjoman Pass down to the markets of Kabul.
- Small hydroelectric power plants generate electricity for mountain villages
- Small irrigated plots of wheat, barley, millet, corn (maize), potatoes, and peas and beans constitute the region's agriculture.

6. Punjab farmers are creating bio-enzymes from kinnow

Farmers in Punjab, especially in the kinnow belt, have started making Bio-enzymes from kinnow waste fruit peel.

Key Highlights:

- Fallen fruit of the kinnow crop is nothing but the peel along with extremely tiny and small kinnow fruit that accompanies the regular-sized kinnow fruit.
- The fallen fruit which is also known as the '**D' grade kinnow fruit** is considered as a **waste product by the kinnow farmers** and disposed of from the kinnow fields.
- However, recently, about 100 farmers from the Kinnow belt of the state have decided to utilise the fallen fruit in making Bio-enzymes.
 - **Abohar belt** in the **Fazilka district** is the hub for kinnow production.

About Kinnow

- Kinnow is a **year-round crop**.
- It's primary harvesting season is from **late November to early March**.
- It is majorly grown in **Punjab, Himachal Pradesh, Jammu & Kashmir, Rajasthan and even Haryana**.
- **Difference between orange and kinnow:** While an orange is a hybrid of citrus reticulata and citrus maxima, kinnow on the other hand is a hybrid of citrus deliciosa and citrus nobilis.
 - This hybrid variety of orange was developed and introduced by HB Frost in the year 1935.
- Nearly 15-20 % (1.5 lakh to 2 lakh tonnes) of the total kinnow production falls from the tree before and during the harvesting period which the farmers consider a total waste.
- **Fallen fruit is a major challenge for kinnow farmers** as one needs to dig up small pits to bury them, otherwise the fallen fruit rot and invite a fly attack on the healthy fruit still on the plants.

What is bio-enzyme?

- Bio-enzymes are **organic solutions** produced through **fermentation of organic waste** including various fruits, vegetable peels and flowers, by mixing in sugar, jaggery/molasses and water.
- It takes **60-100 days** to ferment organic waste.
- To **fasten the fermentation**, yeast can be used as culture to prepare it in 45-50 days.

Advantages of bio enzyme from kinnow:

- Improve the pH level and soil fertility of the land.
- Improves water, air, depleting ground water, water contamination and overall ecology.
- Plant health can be improved
- It also helps prevent indiscriminate usage of chemical sprays of fungicides and bacterial diseases on crops, especially vegetables, tuber crops like potato and cereals.

7. Restless mountains, shattered lives

In News :

- **Flash floods and landslides** in the aftermath of heavy rains in the hilly regions of the Western Ghats in **central Kerala districts** of Kottayam, Idukki and Pathanamthitta has resulted in the loss of lives and property.

Western Ghats:

- The Western Ghats is a mountain chain that runs almost parallel to India's western coast. It runs to a **length of 1,600 km, starting from the mouth of the river Tapti near the border of Gujarat and Maharashtra to Kanyakumari**, the southernmost tip of India in Tamil Nadu.
- It stretches over the **six states** of Tamil Nadu, Karnataka, Kerala, Goa, Maharashtra and Gujarat.
- It is recognised as one of the world's **biodiversity hotspots** and some sites of the Western Ghats were inscribed into **UNESCO's World Heritage Site** list in 2012 by the United Nations Education, Scientific and Cultural Organisation (UNESCO).

Significance of Western Ghats:

Biological diversity:

- The Western Ghats is home to a **vast biological diversity** of flora, fauna, bird, amphibian, reptile and fish species including hundreds of globally threatened species. Many of these species are also endemic to the region.
 - Though covering an area of 180,000 sq.km, or just under 6 per cent of the land area of India, the Western Ghats contain more than 30 per cent of all the plant, fish, herpeto-fauna, bird, and mammal species found in India.

- The Western Ghats include a **diversity of medicinal plants and important genetic resources** such as the wild relatives of grains, fruit and spices.
- The Western Ghats is also recognised as containing **the most important and significant natural habitats for in-situ conservation of biological diversity**, including those containing threatened species of outstanding universal value from the point of view of science or conservation.

Economical:

- The Western Ghats are rich in **mineral resources** like iron, manganese and bauxite ores in parts of their ranges.
- The Western Ghats host important **plantation crops** like pepper and cardamom, which are native to the evergreen forests of the Western Ghats. It also hosts large scale plantations of tea, coffee, oil palm and rubber.
- The forests of Western Ghats are an **important source of timber** and support a large number of **forest-based industries** such as paper, plywood, poly-fibres and matchwood.
- The forest-based communities of the Western Ghats have been deriving sustenance from the forest by collecting **non-timber forest produce (NTFP)**.
- The Western Ghats host a number of **tourist destinations** drawing tourists not only from India but also from foreign nations and thus they contribute to the economy of the host states.

Hydrological significance:

- The Western Ghats perform **important hydrological and watershed functions**. Approximately 245 million people live in the peninsular Indian states that receive most of their water supply from rivers originating in the Western Ghats. Thus, the soil and water of this region sustain the livelihoods of millions of people.
 - It feeds a large number of perennial rivers of peninsular India including the three major eastward-flowing rivers Godavari, Krishna, and Kaveri.

Influence on the climatic condition:

- The mountains act as a **barrier to the rain-laden southwest monsoon winds** in late summer in India and thus have a significant impact on the monsoonal rainfall distribution and intensity in India.

Importance in climate action:

- The forests of Western Ghats play a significant and important ecological function in the **sequestration of atmospheric CO₂** and hence have an important role in climate change.
- They account for a substantial proportion of carbon sequestration from the Indian forests.

Threats to Western Ghats ecology:

- **Developmental activities: Large dam projects** in the Western Ghats have resulted in significant environmental damage. This has led to large scale deforestation and submergence of pristine forests. Also, the **conversion of forest land into agricultural land or for commercial purposes** like tourism has resulted in shrinkage of the habitat for the endemic species of the region. This has had significant negative effects on biodiversity.
- **Resource extraction: Illegal logging for timber and livestock grazing** within and bordering protected areas by high densities of livestock is leading to habitat degradation across the Western Ghats.
- **Mining activity:** Environmentally unsustainable **mining activities** have increased the vulnerability of the fragile ecosystem to landslides and environmental pollution. **Sand mining** is of particular concern.
- **Climate change:** Global warming and climate change have led to big variations in the duration and intensity of rainfalls in the region. This is giving rise to increased instances and intensity of extreme weather events in the region.

Important committees:

Madhav Gadgil committee:

- The Ministry of Environment & Forests had constituted the Western Ghats Ecology Expert Panel (WGEEP) under the Chairmanship of Madhav Gadgil in 2010 to recommend measures for the management of the ecologically sensitive Western Ghats region.
- The panel took a **strong stance in favour of ecological conservation efforts** of the Western Ghats region.
- It **designated the entire Western Ghats as an Ecologically Sensitive Area (ESA)**.
- It recommended the establishment of a **Western Ghats Ecology Authority**, as a statutory authority under the Ministry of Environment and Forests, with the powers under Section 3 of the Environment (Protection) Act, 1986.
- It sought to have strict **regulation of developmental activities like dam construction, mining**.

- It specified a **bottom-up approach for governance of the environment** with the establishment of fully empowered Biodiversity Management Committees in all local bodies.

Kasturirangan Committee:

- The Gadgil committee report was criticised for being too environment friendly and impractical to implement. The states opposed the report based on the stand that it would hamper the development process of the states. In this context, the Kasturirangan committee was constituted to examine the WGEEP report.
- Its mandate was to give special attention to “the preservation of the precious biodiversity” and “the rights, needs and development aspirations of the local and indigenous people”.
- The Kasturirangan committee **took a more moderate stance on the conservation issue**. Unlike Gadgil Committee, it designated only 37% of the Western Ghats as ESA. It sought to regulate developmental activities mainly in the ESA only.

Details:

- Kerala has witnessed back to back natural calamities like flooding, landslides over the past few years.
- The increasing extreme climate events have resulted in large-scale disasters and destabilised the already vulnerable districts along the Western Ghats. About 40% of Western Ghat ranges lie in Kerala, which makes the State particularly vulnerable to the ecological changes in the mountain chain.
- Flash floods and landslides in the Western Ghats region of Kerala has brought into focus the **fragile ecosystem of the Western Ghats mountain chain** and raised serious questions on the conservation of the region. The environmentalists argue that this calls for urgent conservation action.
- As the Gadgil Committee reiterated, **human interference and unscientific land use had worsened the already damaged ecosystem of the Western Ghats**.

Conclusion:

- A **balance between conservation efforts and development** should be sought. The focus should be on sustainable economic growth.
- There is the need for exempting areas of very high susceptibility in the Western Ghats from any types of constructions while urging the government and the local communities to increase the vegetative cover as a first defence

against the landslide vulnerability with a high emphasis on nature-based solutions.

8. 'Cybersecurity will remain a top priority for firms this year'

- The transition to work from anywhere and erosion of the traditional network perimeters have combined to create an **unprecedented threat level** to endpoint devices, users, and applications **in the digital spaces**.
- As the range of threats broadens and new vulnerabilities develop, **cybersecurity will remain a high priority for corporates going ahead**.
- The article suggests the following measures with respect to cyber security.
 - The key to making a security architecture effective and capable of detecting and preventing attacks is to create a **proactive security framework** that enables different layers to interact with each other and exchange contextual insights in real-time to prevent attacks.
 - Given the increased instances of identity theft, there is a need to **strengthen identity security** by scaling VPNs and multi-factor authentication (MFA) to verify each user's identity before allowing them access to the network or sensitive data.
 - There must be a **holistic approach to cyber security**. Cyber security must be built-in, not bolted on. It must be deployed everywhere from the network to data to devices to users.
 - Significant **innovations in cybersecurity** through **SASE** (secure access service edge), **XDR** (extended detection and response), and **zero trust integration** must be the way forward.

THE INDIAN EXPRESS

GS 2 : Polity, Governance, International Relations

1. General consent to CBI

Context:

A suit was filed by the West Bengal Government against the Union of India under **Article 131 of the Constitution**.

- The State has challenged **the CBI's jurisdiction to register FIRs and conduct investigations in the State** in myriad cases.

- West Bengal said it had withdrawn “**general consent**” to the CBI way back in 2018.

West Bengal’s concerns:

The State said the CBI’s actions were a direct attack on the federal structure of governance and aimed to harass ruling Trinamool Congress leaders in the State.

Centre’s response:

- State governments do not have any “absolute” power to keep **the Central Bureau of Investigation (CBI)** from investigating crimes inside the State.
- Not even the Union government”, has the authority to rattle the autonomy of the premier agency to conduct investigations.
- Also, withdrawal of general consent would not stand in the way of constitutional courts entrusting the CBI with the cases “where it is found that the State Police would not effectively conduct a fair and impartial investigation”.
- Besides, the CBI was empowered to probe cases concerning any of the Central subjects enumerated in the Union List in the Seventh Schedule of the Constitution.

Why is consent necessary?

The CBI is governed by **the Delhi Special Police Establishment Act** that makes **consent of a state government mandatory for conducting investigation in that state.**

There are two kinds of consent:

Case-specific and general- Given that the CBI has jurisdiction only over central government departments and employees, it **can investigate a case involving state government employees or a violent crime in a given state only after that state government gives its consent.**

- “General consent” is normally given to help the CBI seamlessly conduct its investigation into cases of corruption against central government employees in the concerned state.

What does withdrawal mean?

It simply means that CBI officers will lose all powers of a police officer as soon as they enter the state unless the state government has allowed them.

- The decision means **the CBI will now have to get consent from the state government for every case it registers in Maharashtra.**

Under what provision can general consent been withdrawn?

In exercise of power conferred by **Section 6 of the Delhi Special Police Establishment Act, 1946**, the state governments can withdraw the general consent accorded.

Can withdrawal mean that the CBI can no longer probe any case?

No. The CBI would still have the power to investigate old cases registered when general consent existed. Also, cases registered anywhere else in the country, but involving people stationed in states which have withdrawn consent, would allow CBI’s jurisdiction to extend to these states.

2. Singapore International Arbitration Centre (SIAC)

Context:

The Singapore-based arbitrator, SIAC, has rejected Future Retail’s plea to lift the interim stay on its 24,713-crore deal with Reliance Retail, giving a major relief to Amazon that is contesting the transaction.

Implications:

This order now restrains **Future Group and Reliance Industries Limited** from proceeding with a Rs 24,713-crore deal signed in August for Future Retail to sell its retail, wholesale, logistics and warehousing units to Reliance Retail and Fashionstyle.

Why did Amazon approach SIAC?

The parties in a deal usually sign a **contractual agreement** which specifies about:

1. The arbitral institution administering the arbitration.
2. The applicable rules.
3. The seat of arbitration.

In this case Amazon and Future Group have under their agreement agreed to refer their disputes to **SIAC**, with **Singapore** presumably being the **contractual choice for the seat/place of arbitration**.

How is the dispute taken up at the SIAC? What is the procedure to be followed?

Once a dispute is referred to arbitration, the process of **appointment of the arbitral tribunal** takes place.

Composition: Typically, **in case of a three member tribunal**, both the parties appoint one member each to the tribunal, while the third member is jointly appointed by the two nominees or, if they fail to agree, by SIAC.

Appointment of an Emergency Arbitrator:

Appointment of the arbitral tribunal usually takes time.

- Therefore, under the rules of SIAC, **parties can move SIAC to appoint an emergency arbitrator** to get urgent interim relief, even as the process of appointment of the main arbitral tribunal is underway.

What happens when the parties don't comply with the order voluntarily?

Currently under Indian law, **there is no express mechanism for enforcement of the orders of the Emergency Arbitrator.**

But, the parties voluntarily comply with the Emergency Award.

- However, **if the parties don't comply with the order voluntarily**, then the party which has won the emergency award, in this case Amazon, **can move the High Court in India under Section 9 of the Arbitration & Conciliation Act, 1996**, to get similar reliefs as granted by the Emergency Arbitrator.

Why has Singapore become the hub of international arbitration?

- Foreign investors investing in India typically want **to avoid the rigmarole of the Indian courts.**
- Foreign investors feel that **Singapore is neutral ground for dispute resolution.**
- Singapore itself over time has built a stellar reputation as **jurisdiction driven by rule of law with international standards and high integrity.** This gives comfort to investors that the arbitration process will be **quick, fair and just**".

According to the 2019 annual report of SIAC, **India was the top user of its arbitration seat with 485 cases being referred to SIAC**, followed by Philippines at 122, China at 76 and the United States at 65.

Does India have any international arbitration centre?

Yes. India now has its own international arbitration centre in Mumbai.

About Singapore International Arbitration Centre (SIAC):

It is a **not-for-profit international arbitration organisation** based in Singapore, which administers arbitrations under its own rules of arbitration and the **United Nations Commission on International Trade Law (UNCITRAL) Arbitration Rules.**

3. What Is an International Securities Identification Number (ISIN)?

- An ISIN is a 12-digit alphanumeric code that uniquely identifies a specific security.
- The numbers are allocated by a country's respective national numbering agency (NNA).
- ISINs are used for numerous reasons including clearing and settlement. The numbers ensure a consistent format so that holdings of institutional investors can be tracked consistently across markets worldwide.
- The ISIN code is the only common securities identification number that is universally recognized.

4. Global Agricultural Productivity Report 2021

Recently, Global Agricultural Productivity Report 2021 was launched by the Virginia Tech, a U.S. university.

Highlights of the Report:

- **Total factor productivity (TFP)** is growing at an annual rate of 1.36 per cent (2020-2019).
 - TFP tracks changes in how **agricultural inputs** like land, labour, fertiliser, machinery, are transformed into **outputs** like crops, livestock, and aquaculture products.
- **Climate change** has reduced productivity growth globally by 21 per cent since 1961.

Regional TFP rates:

- **Low-income countries:** contracting by 0.31 % per year due to minimal investments in agricultural research and development (R&D).
- **Middle-income countries** (including India): continued to have strong TFP growth rates.
- **High-income countries** (including North America and Europe): modest TFP growth.
- **Drier regions of Africa and Latin America:** slowed productivity growth at 34 % per year.

Productivity Growth in India:

- In India an average **annual TFP growth** stood at 2.81 percent and output growth is 3.17 percent (2010–2019.)
- **Rising temperature**, and changes in rainfall patterns, could cut yields for India's major food crops by 10 percent by 2035.
- As per the **Ministry of Agriculture**, out of the 147 million landholdings in India, 100 million are less than two hectares in size.
- The inefficient use of labor contributes to high rates of rural poverty and food insecurity.

Strategies to create Sustainable Agricultural Growth:

- Invest in agricultural research and development.
- Embrace science-and-information-based technologies.
- Improve **infrastructure** for transportation, information, and finance.
- Cultivate partnerships for sustainable agriculture, economic growth, and improved nutrition.
- Expand and improve local, regional, and global trade.
- Reduce **post-harvest loss** and food waste.

5. International Solar Alliance

The fourth general assembly of the International Solar Alliance (ISA), was held recently.

Major Highlights of the ISA assembly

- Deliberated on the USD 1 trillion **Solar Investment** Roadmap for 2030 including a blended finance risk mitigation facility.
- Approved the “**One Sun**” political declaration for the launch of Green Grids Initiative-**One Sun One World One Grid** (GGI-OSOWOG) at COP 26.
- ISA forged partnership with Bloomberg Philanthropies and Global Energy Alliance for People and Planet.
- It focused on strategy for Private Sector Engagement, and initiatives like **Viability Gap Financing** scheme to provide affordable finance for solar energy projects across all members of the ISA.

Programmes launched by the Assembly:

1. Solar Hydrogen programme:

- **Aim:** Enabling the use of **solar electricity** to produce hydrogen at a more affordable rate than what is available currently.
- Making hydrogen cost competitive with natural gas presents major challenges for both supply and performance.

2. Waste Management Programme:

- It will address the challenges of
 - Growing volume of **waste**, toxic materials
 - lack of waste-specific legislation, high cost of waste treatment.

About International Solar Alliance:

- ISA is an international organization comprising 98 member countries that have signed the **ISA Framework Agreement**.
- It was launched in Paris, France on November 30, 2015.
- **Headquarters:** Gurugram, India.
- It helps governments across the world in **improving energy access** and security around the globe
- It focuses on **promoting solar energy** as a sustainable way to transition to a carbon-neutral future.

6. SAKSHAM

The Ministry of Rural Development launched 152 Centre for Financial Literacy & Service Delivery (SAKSHAM) across 77 districts of 13 states as part of Azadi ka Amrit Mahotsav under Deendayal Antyodaya Yojana and National Rural Livelihoods Mission (DAY-NRLM).

Major Highlights:

- Centre for **Financial Literacy & Service Delivery** (CFL&SD) will provide basic financial needs of Self-Help Group (SHG) households in rural areas.
- The Centers will be managed by **SHG network**, largely at Cluster Level Federations (CLFs), with the help of trained Community Resource Persons (CRPs).
- Ministry of Rural Development (MoRD) developed a mobile & web-based application "**SAKSHAM**" used by the community resource person of the Centre
 - To know the penetration of various **financial services** for each SHG & village.

- Identify major gaps and accordingly provide training and deliver the required financial services.

GS 3 : Economy, Science and Technology, Environment

7. Public Safety Act (PSA):

Context:

Recently, after the killings of non-locals in Jammu and Kashmir around 700 people have been detained in the union territory, a few under the stringent **Public Safety Act (PSA)**.

Powers of government under the Public Safety Act:

Also called the **Jammu & Kashmir Public Safety Act (PSA), 1978**, it is a preventive detention law.

- Under this law, a person is taken into custody to prevent him or her from acting in any manner that is prejudicial to “the security of the state or the maintenance of the public order”.

Applicability:

- The law allowed the government to **detain any person above the age of 16 without trial for a period of two years**.
- It allows for **administrative detention for up to two years “in the case of persons acting in any manner prejudicial to the security of the State”**, and for administrative detention up to one year where “any person is acting in any manner prejudicial to the maintenance of public order”.

How is it enforced?

- It comes into force when administrative orders are passed either by Divisional Commissioner or the District Magistrate.

- The detaining authority need not disclose any facts about the detention “which it considers to be against the public interest to disclose”.

Protection to enforcing authorities:

Section 22 of the Act provides protection for any action taken “in good faith” under the Act: “No suit, prosecution or any other legal proceeding shall lie against any person for anything done or intended to be done in good faith in pursuance of the provisions of this Act.”

Why is the law controversial?

- It allows for detention without trial.
- No Right to File Bail
- It provides a vast number of reasons for detention.
- No Distinction Between Minor and Major Offences.

Can the Courts intervene?

The only way this administrative preventive detention order can be challenged is through a **habeas corpus petition filed by relatives of the detained person**. The **High Court and the Supreme Court have the jurisdiction to hear such petitions**.

- However, if the order is quashed, there is no bar on the government passing another detention order under the PSA and detaining the person again.

8. India deploys Rocket systems in Tawang Sector

India’s military posture in the Tawang sector of Arunachal Pradesh has added Pinaka and Smerch rocket launch systems and BrahMos supersonic cruise missiles in the region.

Taw

ang:

- **Sela pass** connects Tawang and the plains of Assam.
- **Tawang Monastery** is the **largest** Buddhist monastery in India.
- Primarily inhabited by the **Monpa tribes**.

- **Flora:** Wide variety of tree species, blue pines and orchids
- **Fauna:** High altitude birds, snow leopard, musk deer, barking deer and bear.
- It is an **indigenous** multi rocket launcher system (MLRS) designed by **Defence Research and Development Organization.**
- It is an **autonomous rocket artillery system** that can engage area targets up to 38km at mean sea level.
- It delivers very high volume of firepower on critical and time-sensitive enemy targets in a very short time.
- It has quick reaction time and the highly accurate.
- **Pinaka** is named after the **bow of Lord Shiva.**

Smerch MLRS:

- It is procured from **Russia.**
- It is the longest-range conventional rocket system in Indian army inventory having a maximum range of **90 Km.**
- The Smerch MLRS is composed of a **launch vehicle, transloader, rockets, training facilities and arsenal equipment.**

BrahMos Missile System:

- The BrahMos is a **medium-range ramjet supersonic cruise missile** that can be launched from **submarine, ships, aircraft, or land.**
- It is the **fastest supersonic cruise missile** in the world.
- It is a joint venture between the **Russian Federation's NPO Mashinostroyeniya** and India's **Defence Research and Development Organization (DRDO).**
- The name BrahMos is a portmanteau formed from the names of two rivers, **the Brahmaputra of India and the Moskva of Russia.**
- BrahMos has a flight range of up to **290km** and can reach a maximum speed of **Mach 3.**
- The **Fire and Forget** type missile weights 3t and intercepts surface targets at an altitude of **10m up to 14,000m.**

Prelims Practice Questions

1. Consider the following statements:

1. It is the home of one-horned rhinos.
2. Diphlu River runs through it.
3. It is declared a UNESCO World Heritage Site.

The above statements most appropriately are related to which of the following National Parks in India?

- A Kaziranga National Park
- B Namdapha National Park
- C Simlipal National Park
- D Nandadevi National Park

Answer : A

Explanation

About Kaziranga National Park

- **Location:**
 - It is located in the **State of Assam** and covers 42,996 Hectare (ha). It is the **single largest undisturbed and representative area in the Brahmaputra Valley floodplain.**
- **Legal Status:**
 - It was declared as a **National Park in 1974.**
 - It has been declared a **tiger reserve since 2007.**
- **International Status:**
 - It was declared a **UNESCO World Heritage Site** in 1985.
 - It is recognized as an **Important Bird Area** by BirdLife International.
- **Biodiversity:**
 - It is the **home of the world's most one-horned rhinos.**
 - **Pobitora Wildlife Sanctuary has the highest density** of one-horned rhinos in the world and the second-highest number of Rhinos in Assam after Kaziranga National Park.
 - Much of the focus of conservation efforts in Kaziranga is focused on the **'big four' species - Rhino, Elephant, Royal Bengal tiger and Asiatic water buffalo.**

- The 2018 census had yielded 2,413 rhinos and approximately 1,100 elephants.
- As per the figures of tiger census conducted in 2014, **Kaziranga had the third-highest population in India** after **Jim Corbett National Park** in Uttarakhand and **Bandipur National Park** in Karnataka.
 - Kaziranga is also **home to 9 of the 14 species of primates** found in the Indian subcontinent.
- **Rivers and Highways:**
 - **National Highway 37** passes through the parking area.
 - The park also has more than 250 seasonal water bodies, besides the **Diphlu River** running through it.
- **Hence, option A is correct.**

2 Which of the following come in the category of 'beach sand minerals'?

1. Monazite
2. Zircon
3. Radium
4. Garnet

Options:-

- a. 1, 2 & 3 only
- b. 1, 3 & 4 only
- c. 1, 2 & 4 only
- d. 2, 3 & 4 only

Answer: c

Explanation:

- Mining of beach sand minerals by private parties is terminated as part of the efforts to curb unlawful mining.
- Two sectors are currently restricted – Beach sand minerals (only Department of Atomic Energy can do mining) and Offshore mining (currently only through PSUs).
- Monazite, Zircon and Garnet are classified as beach sand minerals. Radium does not fall under this category.

- Monazite is the mineral from which thorium is extracted. Thorium is a key ingredient of India's three-stage nuclear programme that can be turned into nuclear fuel after being combined with a fissile material such as plutonium.

3. Consider the following statements:

1. The Global Agricultural Productivity Report is released by the World Food Prize Foundation.
2. Dr Rattan Lal has been declared the winner of the World Food Prize 2020.

Which of the above statements is/are correct?

- A 1 only
- B 2 only
- C Both 1 and 2
- D Neither 1 nor 2

Answer : B

Explanation

- The **Global Agricultural Productivity Report (GAP Report)** is produced by Virginia Tech, a leading U.S. land-grant university in Blacksburg, Virginia.
 - However, the report was released in conjunction with the **World Food Prize** Foundation's annual conference.
 - According to a new report, **Global agricultural productivity is not growing as fast as the demand for food, amid the impact of climate change.**
 - **Hence, statement 1 is not correct.**
- Indian-American soil scientist - **Dr Rattan Lal** - has been declared the winner of the World Food Prize 2020.
- The World Food Prize is the foremost international honour recognizing the achievements of individuals who have advanced human development by improving the quality, quantity or availability of food in the world.
- **Hence, statement 2 is correct.**

4 'e-MASIHA' app, often seen in the news, is used for

- a. Budget management of the Ministry of Minority Affairs
- b. Providing health facility for Haj visitors from India

- c. Applying for Haj pilgrimage
- d. Receiving grievance from Hajis and feedback to improve the service

Answer: b

Explanation:

E-Medical Assistance System for Indian Pilgrims Abroad or E-Masiha is an online system to create and maintain the complete health database of pilgrims along with doctors' prescriptions as well as medicine disbursements to deal with any emergency in Makkah-Madinah

5. The 'Osaka Track' often seen in news is related to?

- A Data flow and electronic commerce.
- B Management of marine life in Minamata Bay
- C Reducing the impact of disasters.
- D Mechanism developed for managing the Olympic 2020 during Covid pandemic.

Answer : A

Explanation

- The "**Osaka Track**" is a process that demonstrates the commitment to promote efforts on **international rule-making on digital economy**, especially on **data flow and electronic commerce**.
- India, South Africa, and Indonesia have boycotted the "Osaka Track" on the "digital economy" at the G20 leaders' summit in Osaka, as it overtly undermined "multilateral" principles of consensus-based decisions in global trade negotiations, and denied "policy space" for digital-industrialisation in developing countries.
- **Hence, option A is correct.**

6. Consider the following statements:

1. The World Meteorological Congress is organised by the World Meteorological Organization (WMO).
2. The State of the Global Climate Report is published by the WMO.

Which of the above statements is/ are correct?

- A 1 only
- B 2 only
- C Both 1 and 2
- D Neither 1 nor 2

Answer : C

Explanation

- The **World Meteorological Congress** is the supreme body of the **World Meteorological Organization (WMO)**.
 - WMO is a specialised agency of the United Nations for meteorology, operational hydrology and related geophysical sciences. India is a member. Hence, statement 1 is correct.
- WMO produces the **State of the Global Climate Report**.
 - The report is published annually to keep a track of global warming. Hence, statement 2 is correct.

Mains Practice Questions

1. Explain the significance of the Eastern Ghats for India. Suggest steps that can be taken to conserve the biodiversity of the region .

Approach

- Introduce by giving general information (like location, biodiversity) about the Eastern Ghats.
- Explain the significance of the Eastern Ghats for India.
- Write about increasing threat to the Eastern Ghats and degrading forest cover and biodiversity.
- Suggest steps that can be taken to conserve the biodiversity.
Conclude suitably in brief.

2. How will the melting of Himalayan glaciers have a far- reaching impact on the water resources of India?

Approach

- Start the answer by briefly discussing the importance of the Himalayas.

- Discuss the effect of melting Himalayan glaciers on water resources.
- Conclude suitably.

