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GS 2 : Polity, Governance, International Relations

1. Ending the impasse

Context:

Meeting between India's External Affairs Minister S. Jaishankar and his Chinese counterpart Wang Yi in Dushanbe, Tajikistan.

Background:

- **India-China relationship has been under strain** for over a year.
- Their last meeting in Moscow took place in the **aftermath of the Galwan Valley clash.**
- A political agreement then **paved the way for both sides to disengage** in February 2021.
- However, the agreements in **Galwan and Pangong Lake** where both sides have put in place **no-patrolling zones**, have **not been followed** at other disputed sites in **Depsang, Demchok, Gogra and Hot Springs.**
- The **crisis on the Line of Actual Control (LAC) remains unresolved**, and **tens of thousands of soldiers from both sides still remain deployed in forward areas.**
- Peace on the border provided the foundation for the development of ties since 1988 when the post-1962 freeze ended.
- The **unresolved situation has been visibly impacting the relationship in a negative manner.**

Issue:

- In the recent meeting at Dushanbe, **Wang called for boundary disputes to be kept in an appropriate place while expanding the positive momentum of bilateral cooperation.**
- Wang also said that Beijing's strategic judgment on China-India relations remains unchanged.
- China, which was **earlier equally concerned** after India's counter-deployments to take the heights of the Kailash Range, **appears to be in no hurry to restore the status quo.**

Way Forward:

- India has made it clear that **normalcy cannot be possible without disengagement and de-escalation.**
 - It has signalled its intent with measures including **scrutiny on Chinese investments – bilateral trade.**
- However, bilateral trade is booming beyond pre-pandemic levels owing to huge imports of medical supplies.
- At this stage, **India must take a stand to underline its resolve on restoring the status quo.**
- China must demonstrate its willingness to resolve the boundary dispute by **resuming negotiations on the LAC at the earliest.**
- For a reset in India-China relations and to ward away distrust in all the other spheres of bilateral relations, **a full restoration of peace and de-escalation on the borders is necessary.**

2. NHRC panel seeks CBI probe into Bengal riots

Context:

The **National Human Rights Commission (NHRC) committee** formed to investigate complaints of post-poll violence in West Bengal has recommended that cases of heinous crimes be transferred to the Central Bureau of Investigation (CBI).

Details:

- A large number of cases related to murders, rapes, molestation and vandalism were received by the NHRC committee from local sources in West Bengal.
- The report recommended that **all heinous cases and complaints** carrying these allegations be **transferred to the CBI for investigation** stating that there is a need to provide **justice to victims by a neutral agency.**

3. Why do you need the 'colonial law' of sedition, CJI asks govt.

Context:

A **Supreme Court bench** led by Chief Justice of India N.V. Ramana has agreed to examine a petition challenging the validity of **section 124A (Sedition) of the Indian Penal Code.**

Details:

- CJI questioned the government why a **colonial law used against Mahatma Gandhi and Bal Gangadhar Tilak** continued to survive in the law book 75 years after independence.
- A number of petitions have been filed highlighting the **chilling effect sedition has on the fundamental right of free speech**.
- In a recent judgement quashing a sedition case, Justice U.U Lalit recorded that the **time is long past when the mere criticism of governments was sufficient to constitute sedition**. The right to utter honest and reasonable criticism is a source of strength to a community rather than a weakness.
- The recent developments have also opened the floor for debate and introspection on the 1962 Supreme Court verdict in the **Kedar Nath case that upheld the constitutional validity of Section 124A**.

Note:

- The CJI's reference to **low conviction rates under the sedition law** resonates with a petition highlighting the **dramatic jump in charging a person with the offence of sedition** since 2016.
- The **National Crime Records Bureau reports** show that in 2019, 21 cases of sedition were closed on account of no evidence, two were closed for being false cases and six cases were held to be civil disputes.

4. Interference an investigating officer can do without

Issue:

There have been **growing instances of subordinate judicial officers, and High Courts directing the investigating officer to arrest a particular individual** in relation to the commission of a crime. The article explains why such judicial interference in an investigation is undesirable.

Details:

- Recently, the Supreme Court of India observed that **the courts have no authority to direct an investigating officer to in turn direct the arrest of any particular individual** connected with a crime.
- Contrary to this, certain incidents **justify further curbs on the police authority to investigate an established crime**. Example:
 - Horrific murder of a citizen, George Floyd by a Minneapolis police officer in the United States.
 - June 2020 episode in Sattankulam, Tamil Nadu, where a 58-year-old father and his 31-year-old son died, subject to police brutality.

- However, the article asserts that this issue should be examined in the background of **growing instances of interference of judicial officers into an investigation which could widen the government and public distrust of the police.**

Effects of Judicial Interference in Investigation:

- Court interference cannot be seen as an intervention. Interference in the day-to-day investigation is not only undesirable but is also **not sanctioned by law.**
- There are instances of **courts bullying police officers** with respect to the **arrests made in relation to a crime.**
 - Such directions are a **threat to criminal justice ethics** because the bedrock of British jurisprudence is the principle “**accused is presumed to be innocent till he is proved guilty**”.
 - Directing an investigating officer to go ahead with an arrest even before he has scrutinised the evidence collected is unsustainable in law.
- The direction to the police with regard to arrests during a criminal investigation is **harmful to police morale and cuts at the roots of field policing.**
- A lack of faith in police ability and integrity **will make grass-root level policemen even more arbitrary** than now and could lead them into **carrying out questionable actions that will cast aspersions on an officer’s ability to think for himself.**

Why is Judicial Interference in Policy Inquiry Unnecessary?

- The Code of Criminal Procedure (CrPC) **vests sufficient discretion in the investigating officer** to take such decisions as arrests, searches, dropping of further action after registering a first information report (FIR).
- Police are a well-established hierarchy that is **obligated to ensure objectivity during a criminal investigation.**
 - Every investigation is supervised by at least two immediate senior officers.
 - In the more important cases, there are a few more levels.
 - It is their duty to ensure that every investigation is handled lawfully and impartially.
- Every police station should **register a complaint under the relevant sections of a statute the moment a cognisable offence is made out in the complaint.**
- There is another safeguard against police misconduct. **The CrPC makes it obligatory for the investigating officer to write a diary that details the action taken every day following FIR registration.**

Way Forward:

- Besides the Supreme Court (in whom the Constitution vests enormous authority and discretion which are not questionable), the **lesser courts should not give directions in the matter of arrests and searches.**
- **Where supervisory officers fail in their duty** because of sheer inaction or buckle under external pressure, **they deserve to be pulled up by courts.** But not before they are found guilty of indifference or wrongdoings.

Conclusion:

A humane view of police conducts and a larger scope for freedom of action in the standard operating procedures followed is necessary especially when the police investigate complicated crimes.

5. Jaishankar meets Ghani, discusses Taliban

What's in News?

India's External Affairs Minister discussed the situation in and around Afghanistan with Afghanistan President Ashraf Ghani, the U.S. Deputy National Security Adviser, Special Envoy as well as other Foreign Ministers.

- The meeting was focused on the **rapid developments and advances by the Taliban** within days of the **U.S. and NATO troops' pull-out from the Bagram airbase.**
- Besides, the Ghani government is conducting a review of the **Afghanistan National Defence and Security Forces (ANDSF) military strategy**, which could see it shift tactics in **dealing with the Taliban that has claimed several key towns and border check post areas.**

GS 3 : Economy, Science and Technology, Environment

6. Simpler drone rules in the offing

Context:

The Ministry of Civil Aviation has released **Draft Drone Rules, 2021, for public consultation.**

Details:

- The rules will replace the **Unmanned Aircraft System Rules, 2021** notified in March 2021.
- The intent is to make the **rules user-friendly** and to **encourage drone research and development**.

Key takeaways from the Draft Drone Rules, 2021:

- The number of **forms to be filled to seek authorisation** before operating a drone has been **reduced from 25 to six**.
- Fee reduced to nominal levels. **No linkage with the size of the drone**.
- Safety features like 'No permission - no take-off' (NPNT), real-time tracking beacon, geo-fencing, etc. to be notified in future. A six-month lead time will be provided for compliance.
- **Digital sky platform** would be developed as a business-friendly single-window online system.
- **No pilot licence required for micro drones** (for non-commercial use), **nano drones and for R&D organisations**.
- No restriction on drone operations by foreign-owned companies registered in India.
- Import of drones and drone components to be **regulated by the Directorate General of Foreign Trade**. This is in order to **encourage indigenous manufacturing**.
- No security clearance required before any registration or licence issuance.
- **Coverage of drones** under Drone Rules, 2021 **increased from 300 kg to 500 kg**. This will cover drone taxis also.
- **Directorate General of Civil Aviation** shall prescribe training requirements, oversee drone schools and provide pilot licences online.
- **Maximum penalty** under Drone Rules, 2021 reduced to **INR 1 lakh**.
- **Drone corridors** will be developed for cargo deliveries.
- **Drone promotion council** to be set up to facilitate a business-friendly regulatory regime.
- The Union government may specify certain standards for **obtaining a certificate of airworthiness for drones**, which will promote the use of made-in-India technologies, designs, components and drones; and **India's regional navigation satellite system named Navigation with Indian Constellation [NavIC]**.

7. Growing precarity

In the context of rising inflation, the article talks about the need to cut fuel levies to ease the burden on consumers.

Background:

- According to data released by the Ministry of Statistics and Program Implementation, **retail inflation** had touched a six-month high in May 2021. It has remained at **6.3% in June 2021**.

Details:

- RBI's monthly Bulletin observed, **fuel inflation, which excludes petrol and diesel, surged to a record 12.7%** in June 2021 driven by LPG, kerosene and the rural poor's mainstay, firewood and dung-cake.
- And, disconcertingly, **LPG and kerosene prices have also registered increases so far.**
- Medium and small-scale industrial units, already struggling to cope with the pandemic's impact now face **rising raw material and input costs.**
- Transport costs remain persistently high as both petrol and diesel prices continue to rise.
- With global crude oil trending higher, the persistent rise in domestic transportation costs is bound to reflect in **retail prices of farm produce and products shipped from factories.**

Way Forward:

- **The worry over inflation and growth trade-off persists and the former needs careful handling.**
- The Government must, at the very least, **cut fuel taxes to ease the burden on consumers.**
- Earlier, SBI's economists also had called for the fuel taxes to be cut **through tax rationalization to both cool inflationary pressures and ease the burden on consumers.**

GS 2 : Polity, Governance, International Relations

1. Neurological Disorders in India

Why in News

A recent study published in the 'Lancet Global Health' is the **first comprehensive analysis of India's neurological diseases burden from 1990 to 2019.**

- The study is a **part of the Global Burden of Disease Study 2019**, which was published by the **India State-Level Disease Burden Initiative.**
- India State-Level Disease Burden Initiative is a **joint initiative of Indian Council of Medical Research (ICMR)** along with other public health institutions.

Neurological Disorders

- **Meaning:** Neurological disorders are **diseases of the central and peripheral nervous system.** In other words, the brain, spinal cord, cranial nerves, peripheral nerves, nerve roots, autonomic nervous system, neuromuscular junction, and muscles.
- **Non-Communicable Neurological Disorders:** Stroke, Headache disorders, **Epilepsy, Cerebral palsy, Alzheimer's disease and other dementias, Brain and central nervous system cancer, Parkinson's disease, Multiple sclerosis, Motor neuron diseases, and other neurological disorders.**
- **Communicable Neurological Disorders:** **Encephalitis, Meningitis, Tetanus.**
- **Injury-related Neurological Disorders:** Traumatic brain injuries, Spinal cord injuries.

Key Points

- **Data Analysis:**
 - Neurological disorders contribute **10% of the total disease burden in India.**
 - There is a **growing burden of non-communicable neurological disorders in the country, which is mainly attributable to the ageing of the population.**
 - The **contribution of non-communicable neurological disorders to total DALYs (disability adjusted life-years) in India doubled from 4%**

in 1990 to 8.2% in 2019, and the **contribution of injury-related neurological disorders increased from 0.2% to 0.6%.**

- **DALY**, a time-based measure that combines years of life lost due to premature mortality and years of life lost due to time lived in states of less than full health, or years of healthy life lost due to disability.
- While **communicable diseases contributed to the majority of total neurological disorders burden in children younger than five years**, non-communicable neurological disorders were the highest contributor in all other age groups.
- While the **burden of infectious neurological disorders has fallen in India**, this burden is higher in less developed states.
- **Leading Neurological Diseases:**
 - **Stroke, headache disorders, and epilepsy** are the leading contributors to neurological disorders burden in India.
 - **Among non-communicable neurological disorders**, stroke is the third leading cause of death in India, and **dementias** are the fastest growing neurological disorder.
 - **Headache is the commonest neurological disorder** affecting 1 in 3 Indians, and is often neglected in terms of public health priority.
 - **Migraine affects females more than males**, greatly affecting adults in the working age population.
- **Factors Contributing to Neurological Diseases:**
 - Among the known risk factors for neurological disorders, **burden, high blood pressure, air pollution, dietary risks, high fasting plasma glucose, and high body-mass index** are the leading contributors.

Way Forward

- **Planning of Neurology Services in Each State:** The study has called for increased awareness, early identification, cost-effective treatment and rehabilitation among other efforts to reduce the burden of neurological disorders in each state.
- **Headache, as a Public Health Issue:** Headaches, especially migraine, need to be recognised as a public health problem and included under the **National Non-Communicable Diseases programme.**
- **Strengthening Neurology Workforce:** There is a need to address the shortage of trained neurology workforce, and strengthen early detection and cost-effective management of neurological disorders in the country.
- **Promoting Safe Births:** Policies and practices focusing on safe births, preventing head injury and stroke would help in averting a substantial proportion of epilepsy

2. Emerging Market for Renewables

Why in News

According to a recent report, **fossil fuel electricity generation has peaked worldwide as emerging markets seize the opportunities of low-cost renewables.**

- The Report was **published by India's Council on Energy, Environment and Water (CEEW) and the financial think tank Carbon Tracker** (both are not-for-profit organisations).

Key Points

- **Findings:**
 - **Emerging Market are Key to Global energy Transition:**
 - **Emerging markets are key to the global energy transition, accounting for 88% of all expected growth in electricity demand from 2019-2040.**
 - Overall, **82% of current emerging market electricity demand and 86% of expected demand growth** comes from countries that **import coal and gas**, and they have powerful incentives to **switch to solar and wind**.
 - With the right policies in place, **technology and cost barriers to change can be crossed.**
 - The **transition is different in emerging markets** because they **have electricity demand growth from a lower base** as well as the **need to provide access to hundreds of millions of people.**
 - In developed markets, **demand for fossil fuels for electricity generation has fallen by 20%** since it peaked in 2007.
 - **Four Key Groups of Emerging Markets:**
 - **China, which is nearly half the electricity demand, and 39% of the expected growth.**
 - Other **importers of coal and gas** such as **India or Vietnam**, which are a third of the demand and nearly half the growth.
 - Coal and gas exporters such as **Russia or Indonesia**, which are 16% of demand but only around 10% of the growth.
 - **Resistance to the energy transition** is likely to be more entrenched in coal and gas exporting countries.
 - **'Fragile' states** such as **Nigeria or Iraq** which are **3% of demand and around the same share of growth.**
 - **India has set an Example:**

- India, which accounts for 9% of emerging market electricity demand and 20% of expected demand growth, illustrates the speed and scale of change.
- From less than 20GW of solar in 2010, it has grown to 96GW of solar, wind biomass and small hydro in May 2021.
- Including large hydropower, renewables now provide 142GW or 37% of the country's power capacity, and it has a target of 450GW by 2030.
- Demand for fossil fuel generation reached a plateau in 2018, and fell in 2019 and 2020.
- While fossil fuel demand might again increase in the near-term to meet latent electricity demand, India has demonstrated how a double leapfrog - connecting nearly all households to electricity and its renewable energy rollout - can be driven with policy priorities and market design.
- **Suggestions:**
 - A supportive policy environment is the key to driving growth in renewables.
 - If countries liberalise markets and introduce competitive auctions, they can cut costs and attract international finance as capital markets turn their backs on fossil fuels.
 - Auctions have helped India drive the cost of solar down to one of the world's lowest levels.
 - Developed countries can speed up the transition to renewables in emerging markets by providing policy support, technology expertise and by using development finance to reduce the cost of capital.

Indian Initiatives for Renewable Energy

- **Hydrogen Energy Mission:** The Union Budget for 2021-22 has announced a National Hydrogen Energy Mission (NHM) that will draw up a road map for using hydrogen as an energy source.
 - The initiative has the potential of transforming transportation.
- **Jawaharlal Nehru National Solar Mission (JNNSM):**
 - It was launched in 2009 with a target for Grid Connected Solar Projects of 20,000 MW by 2022.
 - The sector has witnessed rapid development with installed solar capacity increasing rapidly from 18 MW to about 3800 MW during 2010-15.
- **International Solar Alliance:**
 - It was launched by the Prime Minister of India and the President of France on 30th November 2015 in Paris, France on the side-lines of the Conference of the Parties (COP-21), with 121 solar resource rich

countries lying fully or partially between the tropic of Cancer and tropic of Capricorn as prospective members.

- **PM- KUSUM:**
 - KUSUM stands for **Kisan Urja Suraksha evam Utthaan Mahabhiyan**.
 - It's objective is to **provide financial and water security** to farmers through harnessing solar energy capacities of 25,750 MW by 2022.
- **National Wind-Solar Hybrid Policy:**
 - The **main objective of the policy** is to provide a framework for promotion of **large grid connected wind-solar photovoltaic (PV) hybrid systems** for optimal and efficient utilization of wind and solar resources, transmission infrastructure and land.
 - The wind-solar PV hybrid systems will help in reducing the variability in renewable power generation and achieving better grid stability.
- **Rooftop Solar Scheme:**
 - Its objective is to **generate solar power** by installing **solar panels on the roof of the houses**.
 - The **Ministry of New and Renewable Energy** is the **implementing agency** of the **Grid-connected Rooftop Solar Scheme (Phase II)**.

3. Addressing claims of backwardness by various politically powerful castes

Context

Two rulings of the Supreme Court have frayed nerves in Maharashtra on the broader question of "reservation". The other pertains to OBC reservation in local bodies. Both issues have relevance beyond Maharashtra.

Challenges in addressing the demand for reservation

- **Lack of quantitative data:** The issue of **actual numbers or population share of OBCs** has been talked about for over a decade.
- Besides, there is a need to understand the socio-economic situation of **different backward communities**.
- In the last instance, we have to decide which groups are backward and what needs to be done for them.
- The political class have consistently avoided the juridical reality.

Consensus between judiciary and political class

- That consensus after implementation of Mandal commission recommendation had three dimensions:

- 1) Accepting that caste is the main cause of **tradition-born backwardness** among a large section of the population.
- 2) Resorting to “reservation” as the easiest policy response.
- 3) Recognising and accommodating the political aspirations of the backward sections by **expanding the social base of the political elite**.
- But this resulted in the current deadlock on the question of social justice.
- Today, not only the Marathas, but Jats and Patidars, too, claim that vast numbers among them have been left behind in the contemporary economy.
- These demands have deflected attention from two matters.
- 1) That the enabling provision of the Constitution aims **at social backwardness** (caused by societal location).
- 2) That the causes of economic distress originating in development policies are **distinct from backwardness primarily originating in caste location**.
- **Granting reservations on an economic basis** seems to have complicated matters.

Five reservation-related issues gaining renewed urgency

- **Intra-OBC differentiations:** This issue was already raised by a member of the Mandal Commission itself.
- Most states have failed to come up with an effective arrangement to addressing the issue.
- The Centre is currently waiting for a report on this question.
- **Intra-caste stratification:** Intra-caste stratification is increasing – something that was rather limited at the time of Mandal.
- What sociologist D L Sheth called as classification is now becoming the central issue, with many complications.
- **Advantages and logic:** The third question is about the specific advantages and logic of reservation in the three different arenas of employment, education and political representation.
- **Limits of reservation:** There is need to discuss the **limits of reservation** and the need to think of additional measures to augment the policy of social justice.
- **Setting boundaries:** With such widespread poverty and suffering, how do we distinguish between backwardness primarily caused by a group’s social location in traditional social order and backwardness resulting from distortions of the political economy?
- Unless we grapple with this question, reservation is bound to remain a contentious issue.

Way forward

- The above questions are best left ideally to a third backward classes commission whose time has come.
- Removing the 50 per cent cap legislatively needs to be considered.

Conclusion

We need to devise a mechanism to verify the claims of backwardness to address the increasing demands for reservation from the politically strong section of society.

4. India's Afghan investment

As the Taliban push ahead with military offensives across Afghanistan, preparing to take over after the exit of US and NATO forces, India faces a situation in which it may lose all its stakes.

India-Afghan ties

- After a break between 1996 and 2001, when India joined the world in shunning the previous Taliban regime (only Pakistan, the UAE, and Saudi Arabia kept ties).
- One-way New Delhi re-established ties with the country in the two decades after the 9/11 attacks was to pour in development assistance, under the protective umbrella of the US presence.
- India built vital roads, dams, electricity transmission lines and substations, schools and hospitals, etc. India's development assistance is now estimated to be worth well over \$3 billion.
- And unlike in other countries where India's infrastructure projects have barely got off the ground or are mired in the host nation's politics, it has delivered in Afghanistan.

A soft corner

- Afghanistan is vital to India's strategic interests in the region.
- It is also perhaps the only SAARC nation whose people have much affection for India.
- Taliban takeover would mean a reversal of nearly 20 years of rebuilding a relationship that goes back centuries.

Projects across the country

[1] SALMA DAM

- Already, there has been fighting in the area where one of India's high-visibility projects is located – the 42MW Salma Dam in Herat province.
- The hydropower and irrigation project, completed against many odds and inaugurated in 2016, is known as the Afghan-India Friendship Dam.
- In the past few weeks, the Taliban have mounted attacks in nearby places, killing several security personnel.
- The Taliban claim the area around the dam is now under their control.

[2] ZARANJ-DELARAM HIGHWAY

- The other high-profile project was the 218-km Zaranj-Delaram highway built by the Border Roads Organisation. Zaranj is located close to Afghanistan's border with Iran.
- With Pakistan denying India overland access for trade with Afghanistan, the highway is of strategic importance to New Delhi, as it provides an alternative route into landlocked Afghanistan through Iran's Chabahar port.

[3] AFGHAN PARLIAMENT

- The Afghan Parliament in Kabul was built by India at \$90 million.
- It was opened in 2015; PM Modi inaugurated the building.
- A block in the building is named after former PM AB Vajpayee.

[4] STOR PALACE

- In 2016, Afghan President Ashraf Ghani and PM Modi inaugurated the restored Stor Palace in Kabul, originally built in the late 19th century.
- It is famous for the 1919 Rawalpindi Agreement by which Afghanistan became an independent country.

[5] POWER INFRA

- Other Indian projects in Afghanistan include the rebuilding of power infrastructure such as the 220kV DC transmission line from Pul-e-Khumri, the capital of Baghlan province to the north of Kabul.
- Indian contractors and workers also restored telecommunications infrastructure in many provinces.

[6] HEALTH INFRA

- India has reconstructed a children's hospital it had helped build in Kabul in 1972 – named Indira Gandhi Institute for Child Health in 1985 – that was in shambles after the war.
- 'Indian Medical Missions' have held free consultation camps in several areas.
- Thousands who lost their limbs after stepping on mines left over from the war have been fitted with the Jaipur Foot.
- India has also built clinics in the border provinces of Badakhshan, Balkh, Kandahar, Khost, Kunar, Nangarhar, Nimruz, Nooristan, Paktia and Paktika.

[7] TRANSPORTATION

- According to the MEA, India gifted 400 buses and 200 mini-buses for urban transportation, 105 utility vehicles for municipalities, 285 military vehicles for the Afghan Army.
- It also gave three Air India aircraft to Ariana, the Afghan national carrier, when it was restarting operations.

[8] OTHER PROJECTS

- India has contributed desks and benches for schools, and built solar panels in remote villages, and Sulabh toilet blocks in Kabul.
- New Delhi has also played a role in building capacity, with vocational training institutes, scholarships to Afghan students, mentoring programmes in the civil service, and training for doctors and others.

Various ongoing project

- India had concluded with Afghanistan an agreement for the construction of the Shatoot Dam in Kabul district, which would provide safe drinking water to 2 million residents.
- Last year, India pledged \$1 million for another Aga Khan heritage project, the restoration of the Bala Hissar Fort south of Kabul, whose origins go back to the 6th century.
- Bala Hissar went on to become a significant Mughal fort, parts of it were rebuilt by Jahangir, and it was used as a residence by Shah Jahan.

Bilateral trade

- Despite the denial of an overland route by Pakistan, the India-Afghanistan trade has grown with the establishment in 2017 of an air freight corridor.
- In 2019-20, bilateral trade crossed \$1.3 billion.

- The balance of trade is heavily tilted – exports from India are worth approximately \$900 million, while Afghanistan’s exports to India are about \$500 million.
- Afghan exports are mainly fresh and dried fruit.
- Some of this comes overland through the Wagah border; Pakistan has permitted Afghan trade with India through its territory.
- Indian exports to Afghanistan take place mainly through government-to-government contracts with Indian companies.
- Exports include pharmaceuticals, medical equipment, computers and related materials, cement, and sugar.
- Trade through Chabahar started in 2017 but is restricted by the absence of connectivity from the port to the Afghan border.

GS 3 : Economy, Science and Technology, Environment

5. Why the Amazon forests are no longer acting as a carbon sink

The Amazon forests in South America, which are the largest tropical forests in the world, have started emitting carbon dioxide (CO₂) instead of absorbing carbon emissions.

Amazon forests

- The Amazon rainforest is a moist broadleaf tropical rainforest in the Amazon biome that covers most of the Amazon basin of South America.
- This basin encompasses 7,000,000 sq km of which 5,500,000 sq km are covered by the rainforest.
- The majority of the forest is contained within Brazil, with 60% of the rainforest, followed by Peru with 13%, Colombia with 10%, and with minor amounts in Bolivia, Ecuador, French Guiana, Guyana, Suriname, and Venezuela.
- It represents over half of the planet’s remaining rainforests and comprises the largest and most biodiverse tract of tropical rainforest in the world.

Why in news?

- A significant amount of deforestation in eastern and southeastern Brazil has turned the forest into a source of CO₂ that has the ability to warm the planet.
- Not only the Amazon rainforests, some forests in Southeast Asia have also turned into carbon sources in the last few years as a result of the formation of plantations and fires.

What have the researchers found?

- Over the years as fossil-fuel emissions across the world have increased, the Amazon forests have absorbed CO₂ from the atmosphere, helping to moderate the global climate.
- But researchers are not saying that because of significant levels of deforestation (over the course of 40 years) there has been a long-term decrease in rainfall and increase in temperatures during the dry season.
- Because of these reasons the eastern Amazon forests are no longer carbon sinks, whereas the more intact and wetter forests in the central and western parts are neither carbon sinks nor are they emitters.
- Another reason for the eastern region not being able to absorb as much CO₂ as it did previously is the conversion of forests into agricultural land.

6. What are Doppler Radars?

The India Meteorological Department's (IMD) Doppler Radar in Mumbai, which surveys weather patterns and forecasts, stopped working after heavy rainfalls.

How does a Doppler radar work?

- In radars, a beam of energy – called radio waves – is emitted from an antenna.
- When this beam strikes an object in the atmosphere, the energy scatters in all directions, with some reflecting directly back to the radar.
- The larger the object deflecting the beam, the greater is the amount of energy that the radar receives in return.
- Observing the time required for the beam to be transmitted and returned to the radar allows weather forecasting departments to “see” raindrops in the atmosphere, and measure their distance from the radar.

What makes a Doppler radar special?

- It can provide information on both the position of targets as well as their movement.
- It does this by tracking the ‘phase’ of transmitted radio wave pulses; phase meaning the shape, position, and form of those pulses.
- As computers measure the shift in phase between the original pulse and the received echo, the movement of raindrops can be calculated.
- Thus it is possible to tell whether the precipitation is moving toward or away from the radar.

Types of Doppler radar

- In India, Doppler radars of varying frequencies – S-band, C-band and X-band – are commonly used.
- They help track the movement of weather systems and cloud bands and gauge rainfall over its coverage area of about 500 km.
- The radars guide meteorologists, particularly in times of extreme weather events like cyclones and associated heavy rainfall.
- An X-band radar is used to detect thunderstorms and lightning whereas C-band guides in cyclone tracking.

Why are they called ‘Doppler’ radars?

- The phase shift in these radars works on the same lines as the “Doppler effect” observed in sound waves.
- It tells that the sound pitch of an object approaching the observer is higher due to the compression of sound waves (a change in their phase).
- As this object moves away from the observer, the sound waves stretch, resulting in lower frequency.
- This effect explains why an approaching train’s whistle sounds louder than the whistle when the train moves away.
- The discovery of the phenomenon is attributed to Christian Doppler, a 19th-century Austrian physicist.

Prelims Practice Questions

1. Consider the following statements about Wholesale Price Index (WPI):

1. It covers both the goods and the services.
2. It does not include taxes in order to remove the impact of fiscal policy.

Which of the above statements is/are incorrect?

- a. 1 only
- b. 2 only
- c. Both
- d. None

Answer: a

Explanation:

- The Wholesale Price Index covers only goods.
- The Wholesale price Index calculated with 2011-12 base year does not include taxes in order to remove the impact of fiscal policy. This also brings the new WPI series closer to the Producer Price Index and is in consonance with the global practices.

2. Which of the following are Percussion Instruments?

1. Tabla
2. Mridangam
3. Ghatam
4. Kanjira

Options:

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

Answer: d

Explanation:

- Tabla, Mridangam, Ghatam and Kanjira are all percussion instruments.

- The Kanjira is a South Indian frame drum. As a folk and bhajan instrument, it has been used in India for many centuries.

3. Consider the following statements:

1. Almost the whole of South Africa is a high plateau sloping towards the west.
2. The Orange and Vaal Rivers flow from the Drakensberg mountains eastward to the Indian Ocean.

Which of the above statements is/are correct?

- a. 1 only
- b. 2 only
- c. Both
- d. None

Answer: a

Explanation:

- Almost the whole of South Africa is a high plateau sloping towards the west.
- The Orange River flows westward into the Atlantic Ocean.
- The Vaal River is the largest tributary of the Orange River in South Africa.

4. State of Food Security and Nutrition in the World 2021 report is released by which of the following Organizations?

- a. World Health Organization (WHO)
- b. UN-Children's Emergency Fund (UNICEF)
- c. Food and Agriculture Organization (FAO)
- d. UN-Human Rights Council (UNHRC)

Answer : c

State of Food Security and Nutrition in the World 2021

- It has quoted a study done in 63 low- and middle-income countries covering a population of 3.5 billion on changes in the income of people.
- It has extrapolated its impact on choice of diets, few report findings are as follows

1. Undernourishment due to the pandemic has impacted children the most, also a global goal to fix by 2030.
2. Nearly 12% of the global population faced severe levels of food insecurity or they ran out of food and in worst situations, must have a day without food.
3. In 2020, some 2.37 billion people couldn't access adequate food, an increase of 320 million people in comparison to the 2019 figure.

5. Consider the following statements:

1. The Monetary Policy Committee (MPC) has adopted the Consumer Price Index (CPI) to control inflation.
2. The CPI is released by the Office of Economic Adviser, Ministry of Commerce and Industry.

Which of the statements given above is/are correct?

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

Answer : A

Explanation

- **Consumer Price Index (CPI)** measures price changes from the perspective of a retail buyer.
 - It is **released by the National Statistical Office (NSO). Hence, statement 2 is not correct.**
 - The CPI calculates the difference in the price of commodities and services such as food, medical care, education, electronics etc, which Indian consumers buy for use.
 - The CPI has several sub-groups including food and beverages, fuel and light, housing and clothing, bedding and footwear.
 - Four types of CPI are as follows:
 - CPI for Industrial Workers (IW).
 - CPI for Agricultural Labourer (AL).
 - CPI for Rural Labourer (RL).
 - CPI (Rural/Urban/Combined).
 - Of these, the first three are compiled by the **Labour Bureau in the Ministry of Labour and Employment**. Fourth is compiled by the NSO in the Ministry of Statistics and Programme Implementation.
 - Base Year for CPI in general is 2012. However the base year for CPI for Industrial Worker (CPI-IW) is 2016.

- The **Monetary Policy Committee (MPC)** uses **CPI data to control inflation (within range 4+/-2%)**.
 - In April 2014, the Reserve Bank of India (RBI) had adopted the CPI as its key measure of inflation. **Hence, statement 1 is correct.**

6. Consider the following statements regarding 'Sankalp se Siddhi' initiative:

1. The initiative aims to establish a sustainable livelihood for India's tribal population.
2. The initiative is implemented by the Tribal Cooperative Marketing Development Federation of India (TRIFED).

Which of the statements given above is/are correct?

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

Answer : C

Explanation

- The **'Sankalp Se Siddhi' initiative**, also known as 'Mission Van Dhan', was introduced by the central government in 2021, in line with the Prime Minister's aim to establish a sustainable livelihood for India's tribal population. **Hence, statement 1 is correct.**
- Through this mission, **TRIFED aims to expand its operation through convergence of various schemes of different ministries and departments** and launch various tribal development programmes in mission mode.
- Through this mission, establishment of several Van Dhan Vikas Kendras (VDVKs), haat bazaars, mini TRIFOOD units, common facility centres, TRIFOOD parks, SFRUTI (Scheme of Fund for regeneration of traditional industries) clusters, tribes india retail store, e-commerce platform for trifood and tribes, India brands are being targeted.
- The **Tribal Cooperative Marketing Development Federation of India (TRIFED)** has been implementing several noteworthy programmes for the empowerment of the tribals. **Hence, statement 2 is correct.**
 - The Tribal Cooperative Marketing Development Federation of India (TRIFED) came into existence in 1987.
 - It is a national-level apex organization functioning under the administrative control of the Ministry of Tribal Affairs.
 - The ultimate objective of TRIFED is socio-economic development of tribal people in the country by way of marketing development of the

tribal products such as metal craft, tribal textiles, pottery, tribal paintings and pottery on which the tribals depend heavily for a major portion of their income.



Mains Practice Questions

1. Internal migration can be driven by push/ pull factors. Highlighting the issues related with internal migration in India, discuss the need for a national policy on internal migration. (150 words)

Approach

- Define Migration and give its types
- While enumerating the issues faced by migrants also list down the benefits of migration
- Discuss how a national migration policy will help tackle migration issues.

2. More than a year after the e-waste management rules were notified, there is little evidence that it is being implemented. Examine the causes behind India's problem of e-waste and the reasons due to which rules have been ineffective. (250 words)

Approach:

- Explain what is e-waste and state key features of the e-waste management rules in India.
- State causes behind e-waste generation.
- List the loopholes in the rules and their implementation.
- Suggest steps that can be taken to manage increasing e-waste in the country.

