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GS 2 : Polity, Governance, International Relations

1. Connectivity projects in Sri Lanka

In News:

India's Foreign Secretary who is on a visit to Sri Lanka has stressed the need for the conclusion of connectivity projects in Sri Lanka.

Details:

- India has underscored the need for early conclusion of bilateral projects in Sri Lanka.
- It has sought the enhancement of connectivity by air and sea between the neighbouring countries, which are seeking to reset ties amid a strain in ties.
- The foreign secretary, referring to halted, or delayed projects awaiting a push for revival or completion has asserted:
 - With the easing of the situation in Sri Lanka, it may be time to work on connectivity initiatives like the Jaffna to Chennai flight, ferry services between Karaikal and Kankesanthurai, and Dhanushkodi and Talaimanar and the Buddhist corridor with the new international airport at Kushinagar.

Note:

During his virtual bilateral summit with Mr. Mahinda Rajapaksa in 2020, the Prime Minister of India had announced a \$15 million grant for the promotion of Buddhist ties, aimed at deepening people-to-people linkages between the two countries.

2. 'Hold Sri Lanka provincial polls'

In News :

India has urged Sri Lanka to hold elections to its provincial councils without further delay, along with the full implementation of the 13th Amendment.

Issue:

- The five-year terms of the provincial councils born out of the Indo-Lanka Accord of 1987 as a step to devolve political power to all the provinces last expired in 2018 and 2019, during the time of the former Maithripala Sirisena-Ranil Wickremesinghe government.
- Despite the then oppositional Rajapaksa camp demanding that the polls be held to the nine provinces, the Sirisena administration, which amended the Provincial Councils Elections Act in 2017, postponed holding the elections, as it grew increasingly unpopular amid internal rifts.

13th Amendment:

- The 13th amendment of the Sri Lankan Constitution is an outcome of the **Indo-Lanka Accord of 1987**, which was signed by the then Indian Prime Minister Rajiv Gandhi and Sri Lankan President J.R. Jayawardene.

3. An alphabet soup New Delhi needs to sift through

The article talks about the various alliances that India is a part of and the need to rationalise them.

In News:

The AUKUS – the trilateral security pact between Australia, the United Kingdom and the United States has revealed the hazards of group diplomacy.

Issue:

- At present, the world has a whole spectrum of groups from the European Union at one end to the African Union at the other with varying shades of cooperation.
- Groups such as the North Atlantic Treaty Organization (NATO), the Association of Southeast Asian Nations (ASEAN), G-2 etc, exist.
- Many of them do not have regional, ideological or thematic homogeneity to lend them a reason for forming a group.
- The time, the money and the energy spent on convening not only summits but also ministerial, official and expert level meetings do not seem justified.
- Bureaucracies, with United Nations salaries and perks, grow around these bodies, developing vested interests to perpetuate them.
- Such groups which do not have sunset clauses continue even after they diminish in importance.
- Finding the agenda for these organisations and groups is another difficult exercise.

- The growing agenda of the United Nations includes everything.

The South Asian Association for Regional Cooperation (SAARC) years:

- Apart from its reservations about the reference to security in the draft charter for SAARC, India was in a dilemma – that not joining the forum would look as though India was against regional cooperation. And if it joined, it faced the possibility of its neighbours ganging up and using the SAARC institutions to pressure India on various regional issues.
- Another concern was that the proposer of such a group would be suspected of aspiring to the leadership of a region.
- Therefore, India joined the Association with a number of conditionalities such as the exclusion of bilateral issues, decision-making by voting, and holding of meetings without all members being present.
- But despite the imperative for cooperation in vital fields, SAARC became an arena for India bashing, particularly by Pakistan.
- SAARC became a liability as it was clear that the region was not mature enough to have a regional instrumentality.

Commonwealth:

- When India decided to remain in the Commonwealth even as an independent country, the nature of the affinity to the British Crown changed.
- Its agenda expanded beyond the concerns of the former British colonies.
- The only way it could survive, after Zimbabwe became independent and apartheid disappeared in South Africa, was by duplicating the agenda of the United Nations and repeating pronouncements of member-states made in other organisations.
- The role of the Commonwealth was reviewed, but the members reached the conclusion that it had continuing relevance.

BRICS:

- The rationale of some of the other new groups was unclear even when they were formed.
- A Goldman Sachs economist found similarities among fast-growing economies such as China, Russia, India and Brazil and recommended massive western investments in these countries. The countries concerned formed an intergovernmental group called BRIC and later BRICS, with South Africa added as a representative of the African continent.
- At that time, it was feared that, with the presence of China and Russia in it, it would be construed as an anti-American group.

- China quickly assumed the leadership of BRICS and tried to seek changes in the international economic system by establishing a bank, with the possibility of credit for its members.
- The result of this development was undermining the relevance of another, less ambitious, group of India, Brazil and South Africa (IBSA), which had several common interests.
- As candidates for permanent membership of the Security Council, they had specific ideas on UN reform and on South-South cooperation.
- The recent BRICS summit had Afghanistan on its agenda.

Shanghai Cooperation Organisation (SCO):

- The SCO started off as a friendly group of China and some of the former Republics of the Soviet Union, but with the addition of India, Pakistan and Iran, it became a diverse group and it could not reach an agreement.

BIMSTEC:

- India had also had the experience of taking initiatives to encourage groups without the participation of Pakistan, knowing well that Pakistan's presence is a sure recipe for trouble.
- One of them is the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC), an international organisation of seven South Asian and Southeast Asian nations which are dependent on the Bay of Bengal: Bangladesh, Bhutan, India, Nepal, Sri Lanka, Myanmar and Thailand.
- The group remained dormant for many years till it was revived a few years ago as an alternative to SAARC.
- Though it has an ambitious agenda for sectoral cooperation, it has not gained much momentum.

IORA:

- Another group which India has championed is the Indian Ocean Rim Association (IORA).
- The organisation was first established as the Indian Ocean Rim Initiative in Mauritius in 1995 and formally launched in 1997.
- It also drags on without any significant progress.

India and Other groupings:

- On the other hand, the two active groups, Asia-Pacific Economic Cooperation (APEC) and Nuclear Suppliers Group (NSG), have eluded India even though it has major stakes in them.

- India campaigned actively for membership of these two bodies, but gave up when it made no headway.
- In the process of working with the U.S. on a bouquet of groups such as Missile Technology Control Regime (MTCR), NSG, the Wassenaar Arrangement and the Australia Group, India ended up with membership of Wassenaar and the Australia Group, in which it was not interested.

QUAD and AUKUS:

- The Quad had not gained much prominence or years till the Chinese threat became real in 2020.
- As India is reluctant to accept that the grouping has been formed to contain China's influence in the Indo-Pacific, it has driven the U.S. to new alliances such as a second Quad and then AUKUS.
 - The U.S. wanted to fortify itself with allies against China.
- However, the reaction of France to AUKUS has raised the issue of loyalty among allies even though AUKUS has made it clear that it was meant only to enable the U.S. to transfer nuclear-propelled submarine technology to Australia.

Conclusion:

- The proliferation of alliances and groups will be a matter of close scrutiny by many countries in light of the new trend initiated by the U.S.
- Collective bargaining is the strength of group diplomacy but it cannot be effective without commitment to a common cause.
- India should also reconsider the plethora of groups it is in and rationalise them.

GS 3 : Economy, Science and Technology, Environment

4. Govt moots easy clearance for Forest Land use

The government has proposed absolving agencies involved in national security projects and border infrastructure projects from obtaining prior forest clearance from the Centre as part of amendments to the existing Forest Conservation Act (FCA).

About Forest (Conservation) Act, 1980

- The FCA is the principal legislation that regulates deforestation in the country.
- It prohibits the felling of forests for any “non-forestry” use without prior clearance by the central government.
- The clearance process includes seeking consent from local forest rights-holders and from wildlife authorities.
- The Centre is empowered to reject such requests or allow it with legally binding conditions.
- In a landmark decision in 1996, the Supreme Court had expanded the coverage of FCA to all areas that satisfied the dictionary definition of a forest; earlier, only lands specifically notified as forests were protected by the enforcement of the FCA.

What is the proposed amendment?

- The proposed amendment is part of a larger rationalizing of existing forest laws for infrastructure projects.
- The act was regressively interpreted over the right of way of railways, highways.
- As of today a landholding agency (Rail, NHAI, PWD, etc) is required to take approval under the Act as well as pay stipulated compensatory levies.
- They are required to pay Net Present Value (NPV), Compensatory Afforestation (CA), etc. for use of such land which was originally been acquired for non-forest purposes.

Other proposals

- The Environment Ministry has proposed provisions for penal compensation to make good for the damages already done to trees in forest land.
- The document also proposes removing zoos, safaris, Forest Training infrastructures from the definition of “non-forestry” activities.
- The current definition restricts the way money collected as part of compensatory cess can be spent towards forest conservation purposes.

Previous attempts made

- Previous attempts to amend acts linked to forest laws have been controversial.
- There was a plan to amend the Indian Forest Act, 1927, that deals with the rights of forest dwellers, in an attempt to address contemporary challenges to the country's forests.

- The draft law had been sent to key forest officers in the States for soliciting comments and objections.
- It drew flak from activists as well as tribal welfare organizations.
- The government withdrew the draft and has said that a newer updated version was on the anvil.

5. Taproots to help restore India's fading green cover

This op-ed tries to establish a fair link between forest cover and population dependency on it.

A decline in Forest Cover

- The State of the World's Forests report 2020, says that since 1990, around 420 million hectares of forest have been lost through deforestation, conversion and land degradation.
- Nearly 178 million hectares have decreased globally due to deforestation (1990-2020).
- India lost 4.69 MHA of its forests for various land uses between 1951 to 1995.

Various reasons

- Despite various international conventions and national policies in place to improve green cover, there is a decline in global forest cover.
- Dependence on forests by nearly 18% of the global human population has put immense pressure on ecosystems; in India, this has resulted in the degradation of 41% of its forests.

Why conserve forests?

- Covering nearly 30% land surface of the earth, forests around the globe provide a wide variety of ecosystem services and support countless and diverse species.
- They also stabilise the climate, sequester carbon and regulate the water regime.

Need for restoration

- Restoration in laymen's terms is bringing back the degraded or deforested landscape to its original state by various interventions to enable them to deliver all the benefits.

- Building and maintaining activities help to improve ecological functions, productivity and create resilient forests with multifarious capabilities.
- India's varied edaphic, climatic and topographic conditions are spread over 10 bio-geographical regions and four biodiversity hotspots, sheltering 8% of the world's known flora and fauna.

India's dependency on forest resources

- Out of its 21.9% population living under the poverty line, nearly 275 million people including local tribals depend on the forest for subsistence.
- The intricate link between poverty and environmental degradation was first highlighted by India at the first UN global conference on the human environment in Stockholm.
- Though India's increasing economic growth is helping to eliminate poverty, there is continued degradation and a growing scarcity of natural resources.
- Further, encroachment of nearly 1.48 MHA of forest and grazing in nearly 75% of forest area is also linked to the livelihood of local communities.
- The participation of local communities with finances for incentives and rewards is essential to redress this complex riddle.

Strategies adopted by India

- To combat this, India joined the Bonn Challenge with a pledge to restore 21 MHA of degraded and deforested land which was later revised to 26 MHA to be restored by 2030.
- The first-ever country progress report under the Bonn Challenge submitted by India by bringing 9.8 million hectares since 2011 under restoration is an achievement.
- However, continued degradation and deforestation need to be tackled effectively to achieve the remaining target of restoration by addressing various challenges.

Key challenges

- Local ecology with a research base: forest restoration and tree planting are leading strategies to fight global warming by way of carbon sequestration.
- However, planting without considering the local ecology can result in more damage.
- Similarly, planting a forest in the wrong places such as savannah grasslands could be disastrous for local biodiversity.

Best strategy: Natural Forest Restoration

- Luckily recent research has shown that naturally regenerated forests tend to have more secure carbon storage.
- Being less tech-sensitive, cost-effective and conserving more biodiversity, natural forest restoration is becoming more widely accepted.

Limitations to India

- Nearly 5.03% of Indian forests are under protection area (PA) management needing specific restoration strategies.
- The remaining areas witness a range of disturbances including grazing, encroachment, fire, and climate change impacts that need area-specific considerations.
- Further, much of the research done so far on restoration is not fully compatible with India's diverse ecological habitats hence warranting due consideration of local factors.
- The involvement of multiple stakeholders in forest restoration is bound to cause a conflict of interests among different stakeholders; along with low priority and insufficient funding, it becomes even more challenging.

Policy measures

- There have been remarkable initiatives to involve local people in the protection and development of forests by forming joint forest management committees (JFMC).
- However, a review of their functionality and performance is essential to make them more dynamic and effective to scale up their involvement.
- Therefore, negotiations with a wide range of stakeholders including these committees for resolving conflicts and fulfilling restoration objectives are a must and a challenging feat to reach a suitable trade-off.

Way forward

- Adequate financing is one of the major concerns for the success of any interventions including restoration.
- The active approach of restoration which includes tree planting and the involvement of communities seeks incentives and rewards and make the whole affair quite cost-intensive.
- The contribution of corporates in restoration efforts so far has been limited to 2% of the total achievement.
- Hence, alternate ways of financing such as involving corporates and dovetailing restoration activities with ongoing land-based programmes of various departments can help to make it easy for operation.

- Apart from these specific challenges, the common barriers to restoration as identified globally also need critical review before placing the required methodologies and area-specific strategies in place.

Conclusion

- Active engagement of stakeholders including non-governmental organizations, awareness and capacity building of stakeholders with enabling policy interventions and finance can help a lot to achieve restoration objectives for India.
- The need of the hour is an inclusive approach encompassing these concerns with the required wherewithal.

6. Physiology Nobel for work on temperature and touch

U.S. scientists David Julius and Ardem Patapoutian have won the Nobel Medicine Prize for discoveries on receptors for temperature and touch.

Who are the Laureates?

- David Julius and Ardem Patapoutian, working independently in the United States, made a series of discoveries in the late 1990s and early 2000s.
- They figured out the touch detectors in our body and the mechanism through which they communicate with the nervous system to identify and respond to a particular touch.

What did they discover?

- They discovered the molecular sensors in the human body that are sensitive to heat, and to mechanical pressure, and make us “feel” hot or cold, or the touch of a sharp object on our skin.
- In 1997, Dr. Julius and his team published a paper in Nature detailing how capsaicin, or the chemical compound in chili peppers, causes the burning sensation.
- They created a library of DNA fragments to understand the corresponding genes and finally discovered a new capsaicin receptor and named it TRPV1.
- This discovery paved the way for the identification of many other temperature-sensing receptors.

- They identified another new receptor called TRPM8, a receptor that is activated by cold. It is specifically expressed in a subset of pain-and-temperature-sensing neurons.
- They identified a single gene PIEZO2, which when silenced made the cells insensitive to the poking. They named this new mechanosensitive ion channel Piezo1.

How do they work?

- The human ability to sense heat or cold and pressure is not very different from the working of the many detectors that we are familiar with.
- When something hot, or cold, touches the body, the heat receptors enable the passage of some specific chemicals, like calcium ions, through the membrane of nerve cells.
- It's like a gate that opens up on a very specific request. The entry of the chemical inside the cell causes a small change in electrical voltage, which is picked up by the nervous system.
- There is a whole spectrum of receptors that are sensitive to different ranges of temperature.
- When there is more heat, more channels open up to allow the flow of ions, and the brain is able to perceive higher temperatures.

Therapeutic implications

- Breakthroughs in physiology have often resulted in an improvement in the ability to fight diseases and disorders. This one is no different.
- There are receptors that make us feel pain. If these receptors can suppress, or made less effective, the person had felt less pain.
- Chronic pain is present is a number of illnesses and disorders. Earlier, the experience of pain was a mystery.
- But as we understand these receptors more and more, it is possible that we gain the ability to regulate them in such a way that the pain is minimized.

THE INDIAN EXPRESS

GS 2 : Polity, Governance, International Relations

1. Real Estate Regulatory Authority (RERA) Act of 2016

In News :

The Supreme Court has stepped in to protect homebuyers from exploitation by builders who delay transfer of possession and often redraft delivery schedules.

Need for:

A petition was filed on the lack of a “uniform or model” form for agreements entered into among builders, agents and buyers.

The petition said **the Real Estate Regulatory Authority (RERA) Act of 2016** had hardly been implemented.

- Often hard-earned savings of ordinary citizens who aspired to have their own homes were invested. But many families became penniless waiting for a roof over their heads that the builders had promised them.

The petitioner drew court’s attention to Section 41 and 42 of the RERA:

- Section 41 mandated the establishment of a Central Advisory Council.
- Section 42 said the Council would ensure the implementation of the Act, drive major policy changes, assure that consumer interests were not thwarted by builders and promoters and craft the faster growth of the real estate sector.

Key provisions:

1. A requirement for developers to now register projects with RERA prior to any advertisement and sale.
2. Developers are also expected to have all sanction plans approved and regulatory clearances in place prior to commencement of sale. Subsequent changes have to be approved by a majority of buyers and the regulator.
3. The Act ambitiously stipulates an electronic system, maintained on the website of RERA, where developers are expected to update on a quarterly basis the status of their projects, and submit regular audits and architectural reports.

4. It requires developers to maintain separate escrow accounts in relation to each project and deposit 70% of the collections in such an account to ensure that funds collected are utilised only for the specific project.
5. The Act also requires real estate brokers and agents to register themselves with the regulator.
6. The Act also attempts to establish an adjudicatory mechanism for the speedy redressal of disputes. RERA and the Appellate Tribunal are expected to decide on complaints within an ambitious period of 60 days.

Why does it matter?

- The Act has been described by the Centre as an attempt at cleaning up the real estate sector, ushering in transparency, accountability and fair-play among stakeholders.
- This law will empower the consumer while boosting the credibility of developers.
- It is widely felt that the Act will shift housing demand at least in the immediate term towards the organised players, better-equipped as they are to fulfil various stipulations. Most such players have welcomed the Act, saying that it will bridge the trust deficit.

2. The 2003 Ceasefire agreement:

Context:

India and Pakistan troops are reported to have exchanged fire briefly along the **Line of Control (LoC)** in Jammu and Kashmir's Kupwara district.

- This is the first violation along the Kashmir Valley section of the de facto border since February this year.

Background:

India and Pakistan, in February 2021, issued a joint statement to strictly observe the **2003 Ceasefire agreement** along the Line of Control(LoC).

The ceasefire agreement was reached in November 2003, four years after the Kargil War.

On November 26, 2003 the ceasefire took effect along the entire stretch of the India-Pakistan frontier.

- It facilitated the opening of the Srinagar-Muzaffarabad and Poonch-Rawalkot routes, paving the way for bus and truck services linking the two Kashmirs for the first time in six decades and encouraging cross-LoC contacts, exchanges, travel, and trade.
- The ceasefire also enabled India to complete the construction of a fence near the LoC to prevent Pakistan's infiltration of terrorists into Kashmir, a project that it had begun a couple of decades earlier but had to suspend due to Pakistan's artillery fire.

Significance?

- The 2003 ceasefire agreement remains a milestone as it brought peace along the LoC until 2006. Between 2003 and 2006, not a single bullet was fired by the jawans of India and Pakistan.
- But since 2006, ceasefire violations have become the norm with increasing frequency. Recent years have seen an increasing number of ceasefire violations despite an agreement reached in 2018 to adhere to the 2003 ceasefire agreement.

What's the concern?

This puts a question mark on how long the fresh commitment to ceasefire along the LoC can hold especially with summers approaching. As a matter of annual routine, terror infiltration bids from Pakistan increase as summer begins in the Kashmir Valley. Melting of ice on the high mountains offers Pakistan an opportunity to foment terrorism in the Valley.

GS 3 : Economy, Science and Technology, Environment

3. Border Gateway Protocol (BGP)

The outages at Facebook, WhatsApp and Instagram occurred because of a problem in the company's domain name system. At the heart of it was a BGP or Border Gateway Protocol issue.

What is BGP?

- Simply put, it is the protocol that runs the internet or makes it work.
- Since the internet is a network of networks, BGP is the mechanism that bounds it together.
- When the BGP doesn't work, internet routers can't really figure out what to do and that leads to the internet not working.
- The routers – big ones – keep up on updating other possible routes that are used to deliver network packets to the last possible source.
- In this case, Facebook platforms were the last point of destination and BGP problem meant Facebook was unable to tell other networks know that it was on the internet.

How does it work?

- The BGP is like an entity that is responsible for creating and more importantly updating maps that lead you to sites like Google, Facebook or YouTube.
- So if someone is responsible for making and updating the map, and they make a mistake, then the traffic – or users – will not end up reaching that place.

How did a BGP issue affect Facebook?

- A BGP update message informs a router of any changes you've made to a prefix advertisement or entirely withdraws the prefix.
- There were a lot of routing changes from Facebook last night and then routes were withdrawn, Facebook's Domain Name Server went offline.

Role of DNS

- DNS is the phonebook of the Internet.
- People access information online through domain names – timesofindia.com or facebook.com.
- Internet browsers use IP or Internet Protocol addresses and what DNS does is that it translates domain names to IP addresses to browsers can load Internet resources.
- If DNS is the internet's phone book, BGP is its postal service.
- When a user enters data in the internet, BGP determines the best available paths that data could travel.

4. National Disaster Management Authority (NDMA) & COVID Compensation

In News : The Supreme Court has said that State Governments should not deny the ex gratia compensation of Rs. 50,000 to the families of persons who died of COVID-19 merely on the grounds that their death certificates did not show the virus as the cause of death.

- The Bench approved the guidelines proposed by the National Disaster Management Authority (NDMA) under the Disaster Management Act for grant of ex gratia to the kin of people who died of COVID-19.

National Disaster Management Authority (NDMA)

- NDMA is the apex statutory body for disaster management in India.
- The NDMA was formally constituted on 27th September 2006, in accordance with the Disaster Management Act, 2005
- Composition: Prime Minister as its Chairperson and nine other members, and one such member to be designated as Vice-Chairperson.
- Mandate: Its primary purpose is to coordinate response to natural or man-made disasters and for capacity-building in disaster resiliency and crisis response.
- It is also the apex body to lay down policies, plans and guidelines for Disaster Management to ensure timely and effective response to disasters.
- Vision: To build a safer and disaster resilient India by a holistic, proactive, technology driven and sustainable development strategy that involves all stakeholders and fosters a culture of prevention, preparedness and mitigation.

5. Madrid Protocol & Antarctic Treaty

In News: India at International Conference commemorating the signing of the Madrid Protocol on Environmental Protection to the Antarctic Treaty

- Committed to curtail carbon emissions in the Antarctic atmosphere
- Has already adopted the green energy initiative by experimenting with the feasibility of wind energy production and installed moderate output of Wind Energy Generators (WEG) on an experimental basis.
- The choice of Combined Heat and Power (CHP) for Bharati station to reduce carbon emissions in the Antarctic also promotes India's pledge to protect the environment.

India reaffirms its commitment to the Protocol on Environmental Protection to the Antarctic Treaty and at this moment claims to:

1. Implement all Decisions, Resolutions and Measures adopted at ATCM in the Indian Antarctic programme effectively.
2. Use green alternate energy system in both the Indian Antarctic research stations; Maitri and Bharati like solar panels and wind energy generators so compromising use of fossil fuel gradually and make station efficient with alternate green energy.
3. Reduce carbon footprints by using vehicles and machinery only when required at the most
4. Use shared supply ship to deliver human resources, materials and machines to Antarctica
5. Control the introduction of non-native species into Antarctica by any means or through vector transfer.

India and Antarctic Treaty

- India signed the Antarctic Treaty on 19th August 1983 and soon thereafter received consultative status on 12th September 1983.
- The Madrid Protocol was signed by India which came into force on 14th January, 1998.
- India is one of the 29 Consultative Parties to the Antarctic Treaty.
- India is also a member of Council of Managers of National Antarctic Programme (COMNAP) and Scientific Committee of Antarctica Research (SCAR). All these representations show the significant position that India holds among the nations involved in Antarctic research.

The Protocol on Environmental Protection to the Antarctic Treaty was signed in Madrid on October 4, 1991 and entered into force in 1998. It designates Antarctica as a “natural reserve, devoted to peace and science”.

India in Antarctica

- India has two active research stations; Maitri (commissioned in 1989) at Schirmacher Hills, and Bharati (commissioned in 2012) at Larsemann Hills in Antarctica.
- India has successfully launched 40 annual scientific expeditions to Antarctica till date.
- With Himadri station in Ny-Alesund, Svalbard, Arctic, India now belongs to the elite group of nations that have multiple research stations within the Polar Regions.

6. Prohibited chemicals in firecrackers

In News :

The Supreme Court is all set to go into an affidavit filed by the environment ministry last October on the use of so-called **green and improved fireworks** – hearing a case that could well decide whether this Diwali will see fireworks.

What's the issue?

The Ministry of Environment, Forests and Climate Change (MoEFCC) has informed the court that a lot of research and development has gone into this field following **the court's October 2018 judgment**. It urged the court to consider the various proposals and formulations on green/improved crackers that the ministry has come up with in its affidavit filed before the court in October 2020.

The judgment:

The court's October 23, 2018 judgment banned the sale and production of firecrackers in Delhi-NCR and regulated the use of firecrackers across the country.

- **Barium-based** firecrackers were specifically banned.
- Online sale of firecrackers has been completely banned.

The verdict had come in response to a plea seeking a ban on manufacturing and sale of firecrackers across the country to curb air pollution.

Recent observations made by the Supreme Court on the use of firecrackers:

- The Supreme Court said it cannot infringe the right to life of other citizens “under the guise of employment of few” while considering a ban on firecrackers.
- Have to strike a balance between employment, unemployment and right to life.

How do firecrackers work?

Firecrackers use fuel and oxidisers to produce a combustion reaction, and the resulting explosion spreads the material in a superheated state. The metal salts in the explosive mix get 'excited' and emit light.

What is the controversy?

Metals in the mix, which have a varying arrangement of electrons in shells outside their nucleus, produce different wavelengths of light in this reaction, generating spectacular colours. But as many studies show, the burning of firecrackers is an unusual and peak source of pollution, made up of particles and gases.

- One study in Milan, Italy, quantified the increase in the levels of several elements in the air in one hour as 120 times for Strontium, 22 times for Magnesium, 12 times for Barium, 11 times for Potassium and six times for Copper.
- The Central Pollution Control Board conducted a study in Delhi in 2016, and found that the levels of Aluminium, Barium, Potassium, Sulphur, Iron and Strontium rose sharply on Deepavali night, from low to extremely high.
- Similar episodic spikes have been recorded in China and the U.K. Pollution from firecrackers affects the health of people and animals, and aggravates the already poor ambient air quality in Indian cities.

This has resulted in litigation calling for a total ban on firecrackers, and court orders to restrict the type of chemicals used as well as their volume. Many crackers also violate legal limits on sound.

Can green crackers make a difference?

The Council of Scientific and Industrial Research, through its National Environmental Engineering Research Institute (CSIR-NEERI), Nagpur, has come out with firecrackers that have "reduced emission light and sound" and 30% less particulate matter using Potassium Nitrate as oxidant.

- These crackers are named **Safe Water Releaser**, which minimises Potassium Nitrate and Sulphur use, but matches the sound intensity of conventional crackers, Safe Minimal Aluminium, where Aluminium use is low and Safe Thermite Crackers with low Sulphur and Potassium Nitrate.

Need of the hour:

While deciding on a ban on firecrackers, it is imperative to take into account the fundamental right of livelihood of firecracker manufacturers and the right to health of over 1.3 billion people of the country.

Prelims Practice Questions

1. With reference to Public Interest Litigation, consider the following statements:

1. It can be filed only in the Supreme Court.
2. It has been borrowed from the American Jurisprudence.
3. It is used to advance human rights and equality.

Which of the above statements is/are correct?

- A 1 and 2 only
- B 2 and 3 only
- C 3 only
- D 1, 2 and 3

Answer :B

Explanation

- Public Interest Litigation (PIL) is the use of the law to advance human rights and equality or raise issues of broad public concern. Hence, statement 3 is correct.
 - The concept of “Public Interest Litigation” has been borrowed from the American Jurisprudence. Hence, statement 2 is correct.
- In Indian law, PIL means litigation for the protection of Public Interest. It is Litigation introduced in a court of Law, not by the aggrieved party but by the court itself or by any other private party.
 - It is the power given to the public by courts through Judicial activism.
- It can be filed only in the Supreme Court or the High Court. Hence, statement 1 is not correct.

2. Kudavolai during the Chola Rule refers to

- a. Land Revenue System
- b. Administrative Divisions
- c. Military establishment
- d. System to elect members

Answer: d

Explanation:

- Chola inscriptions in Tamil Nadu have a reference to 'Kudavolai'.
- Kudavolai refers to a system to elect members to the annual committee, garden committee, tank committee and other committees for 30 wards.

3. Consider the following statements:

1. Chloroquine (CQ) is the most commonly prescribed drug for P Vivax, a malaria causing parasite.
2. There are no cases of P Vivax resistance to Chloroquine in India.

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

- Malaria is a life threatening mosquito borne blood disease caused by plasmodium parasites, predominantly found in the tropical and subtropical areas of Africa, South America as well as Asia.
 - The parasites spread through the bites of infected female Anopheles mosquitoes.
 - Four types of Parasites can infect humans: Plasmodium Vivax, P. ovale, P. malariae and P. falciparum.
- Chloroquine (CQ) is the most commonly prescribed drug for P Vivax parasite. A World Health Organisation (WHO) report said P vivax resistance

to chloroquine had been reported from all WHO regions. Hence, statement 1 is correct.

- Twenty-eight countries, including India, showed the CQ resistance. Hence, statement 2 is not correct.

4. The battle of Saraighat was fought in 1671 between

- a. British and Burmese empires
- b. Bakhtiar Khilji and Kamata kingdom
- c. Kukis in the Northeast and the British
- d. Ahoms of Assam and the Mughals

Answer: d

Explanation:

The Battle of Saraighat was a naval battle fought in 1671 between the Mughal Empire and the Ahom Kingdom on the Brahmaputra river at Saraighat, Assam.

5. Consider the following statements:

- 1. It is one of the deepest natural harbours in the world, developed by the British during World War II.
- 2. It is on the northeastern coast of Sri Lanka.

The above statements best describe:

- a. Oluvil Harbour
- b. Port of Galle
- c. Port of Colombo
- d. Trincomalee Harbour

Answer: d

Explanation:

- Trincomalee Harbour is a seaport in Trincomalee Bay.
- It is one of the deepest natural harbours in the world, developed by the British during World War II.
- It is on the northeastern coast of Sri Lanka.

6. Consider the following:

1. Adopted at Congress session at Nagpur (December, 1920)
2. Called-off following the Chauri Chaura incident
3. Signing of Gandhi-Irwin Pact

Which of the incidents given above is/are associated with the Civil Disobedience Movement?

- A 1 and 2 only
- B 2 only
- C 3 only
- D 1 and 3 only

Answer : C

Explanation

- In 1930, Gandhiji declared that he would lead a march to break the salt law.
 - He marched from Gandhi's ashram in Sabarmati to the Gujarati coastal town of Dandi, where they broke the government law by gathering natural salt found on the seashore, and boiling sea water to produce salt.
 - This marked the beginning of the Civil Disobedience Movement.
- In 1931, Gandhi accepted a truce (the Gandhi-Irwin Pact), called off civil disobedience, and agreed to attend the Second Round Table Conference in London as the sole representative of the Indian National Congress.
 - After returning from London, Mahatma Gandhi relaunched the Civil Disobedience Movement. For over a year, the movement continued, but by 1934 it lost its momentum.
- The Non-Cooperation Movement (1920-22) was adopted at the Congress session at Nagpur in December 1920.
 - In February 1922, Mahatma Gandhi decided to withdraw the Non-Cooperation Movement after the Chauri-Chaura incident.
- Hence, option C is correct.

Mains Practice Questions

1Q. Account for the present location of iron and steel industries away from the source of raw material, by giving examples.

Approach

- Start the answer by briefly discussing major location factors for the iron and steel industries.
- Discuss the present location factors of iron and steel industries away from the source of raw material
- Conclude suitably.

2Q. "A governor should be discharging his/her duty in accordance with the spirit of the Constitution, not just be an agent of the centre". Discuss the statement in the light of the role of governor in the Indian polity. (250 words)

Approach

- Introduce by defining the constitutional position of governor.
- Briefly mention the role and responsibility of the governor.
- Discuss various issues related to the governor's role as merely an agent of the centre.
- Suggest what should be the way ahead.
- Conclude suitably.