

GS CONNECT

It gives us immense pleasure to present an innovative approach to master current affairs. Current is a passing wind and diverse issues happen at the same time. It is to an extent chaotic. Newspapers, magazines and various other sources report the chaos per se. With our experience of current affairs we have tried to give "the current" a medium to travel. It is the syllabus of the UPSC with their components that are the medium through which the "Current is Passed" to the readers. Ever since the new syllabus of the UPSC came into existence, current has been gaining significance both at prelims as well as mains examination. This book is meant to cover current affairs and related questions arising from those events. We have not only covered the current events for their factual contents but also presented it in such a way that any question asked from that topic gets covered. Moreover, topics are also "peppered" with the relevant facts/key concepts that are related to the theme. We have also given questions for practice both, subjective and objective, so that candidates are oriented to the examination mode. It is a collection covering myriad source yet in a manageable size. To use this book we recommend you to master the components of general studies (GS) syllabus as broken into rows and columns (provided in the beginning after preface). Each cell comprising of the portion of GS becomes the connect for the current and every news subsequently covered guides the reader to the address of the syllabus. It is logical to expect that same issue may be connected to more than one topic of the syllabus. Further, the news also has some additional vistas opened for the readers by adding a box with a title **"PEPPER IT WITH"** where we expect the students to build further around the theme.

We are also trying to reach the remotest part of the country with our spirit and zeal of "Mains Answer Writing", which has been admired by students, CSE rankholders and other scholars. Continuing in line with the effort, we have started with programs like 7 Question (7Q) Challenge, Shell Points, Stock Points, Content Enrichment Booklet etc.

When it comes to evaluation, we are altogether at a different level. We are also reaching every nook and corner with this expertise for the aspirants of CSE. Now you can write a Mains Answer and get it evaluated from our Expert Team and can get Feedback. **Drop a mail at evaluation@ksgindia.com for registering yourself in our race to perfection.** Don't wait, it's your golden chance to crack this exam and fulfill your passionate dream.

Team KSG

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GS - I	Culture-Art Forms, Literature and Architecture from ancient to modern times.	Indian history significant events, personalities, issues and the Freedom Struggle	Post independence issues, National boundary and disputes	Indian society features, issues, globalization and diversity	Women - issues and developments	Urbanization - problems and remedies	Distribution of industries and resources - India and world	Geophysical phenomena such as earthquakes, Tsunami, Volcanic activity, cyclone etc			
GS - II	Indian constitution- Amendments, acts and bills.	Legislative, executive and judicial processes.	Constitutional, non-constitutional, judicial, quasi-judicial, administrative and other types of bodies.	Federal structure and local bodies. Their powers and functions.	Government policies and various governance issues like transparency, accountability and governance	Committees and schemes.	Non-government issues, self-help groups and role of civil society	Vulnerable sections of our society and social sector issues and initiatives.	International Relation- India and other countries, various Indian and international agreements, effects of other countries on India and international institutions.		
GS - III	Various measures to boost Indian economy- planning, policies, management	Government budgeting and issues related to budget.	Agriculture, animal husbandry and transport	Food security- measures to boost food security and food processing. Issues related to land- land reforms	Industries and infrastructure -their growth and investment model	Space and technology, IT space, robotics and computer	Disease, biotechnology and human welfare	Innovations, intellectual property, Awards, POI and other important aspects of S&T	Environment ; government initiatives, various judgment, pollution, degradation and conservation efforts	Disaster & Disaster Management	Challenges to internal security, Various Security forces and agencies and their mandate. Cybersecurity; moneylaundering and its prevention.
GS - IV	Ethical issues related to family society, education, Corruption etc.	Ethics in public and private administration	Issues	Related laws and rules	Governance/e Governance	Ethics in international issues	Personalities and their teachings	Other important topics			
Misc.											

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POLITY

Personality Rights

News Excerpt

Recently, The Delhi High Court passed an interim order to prevent the unlawful use of a Bollywood star's name, images, and voice. Through its order, the court restrained persons at large from infringing the personality rights of the actor.

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Understanding Personality Rights

- Personality rights refer to the right of a person to protect her/his personality under the right to privacy or property.
- These rights are important to celebrities as their names, photographs or even voices can easily be misused in various advertisements by different companies to boost their sales.
- Therefore, renowned personalities/celebrities must register their names to save their personality rights.
- Attributes which are needed to be protected includes-name, nickname, stage name, picture, likeness, image, and any identifiable personal property, such as a distinctive race car.

Personality vs Publicity Rights

- Personality Rights include two sets of rights
 - Right to Publicity- This is similar to the use of a trademark. It includes the right to keep one's image and likeness from being commercially exploited without permission or contractual compensation
 - Right to Privacy- This is the right to not have one's personality represented publicly without permission.
- Publicity rights fall under the realm of the 'tort of passing off'. Passing off means passing your goods and services intentionally or unintentionally as those belonging to another party. This might result in misrepresentation and can cause reputational damage.
- Publicity rights are governed by statutes like the Trade marks Act 1999 and the Copyright Act 1957.

Personality Rights in India

- ✓ There is no separate codified law in India dealing with personality or celebrity rights. However, there are several statutory provisions broadly governing and protecting Personality Rights which include:
 - Right to Life (Article 21): Personality Rights are contained and governed as part of the fundamental right of the Right to Life guaranteed under Article 21 of the Constitution of India.
 - Intellectual Property Law-Personality Rights are construed as property of well-known public figures which cannot be misused or misappropriated by anyone.
 - Copyright Act 1957- The Authors or the Performers have the right to be given credit or claim authorship of their work and have a negative right to restrain others from causing any kind of damage to their work which consequently disrupts their reputation.
 - Indian Trademarks Act, 1999- Section 14 of the Act prohibits the use of personal names
 - Personality Rights are also protected under the common law remedy of passing off and that of the Law of Torts protecting against the tort of disparagement, libel, or slander.
- ✓ **In Arun Jaitley v. Network Solutions Private Limited and Ors. Case** Delhi High Court observed that the popularity or fame of an individual will be no different on the internet than

False endorsement by Celebrities

While the celebrities are protected from commercial misuse of their name and personality, there have also been instances where the consumers are misled owing to false advertisements or endorsements by such personalities. To counter false endorsement, the Amendment to the Consumer Protection Act of 2019 was passed to keep a check on the misleading advertisements and endorsements of consumer products by imposing penalty on the endorser as well.

in reality. Court asserted that the name also falls in the category wherein besides it being a personal name it has also attained distinctive indicia of its own.

Judicial Recognition of Publicity Rights

- **In Titan Industries Ltd. vs. Ramkumar Jewellers**, the Delhi High Court in 2012 defined a celebrity as “a famous or a well-known person and is merely a person who “many” people talk about or know about” and further went on to lay down that “The right to control the commercial use of human identity is the right to publicity.”
- In the case of **ICC Development (International) Ltd. vs. Arvee Enterprises and Ors**, Delhi HC asserted that the right of publicity has evolved from the right of privacy and can inhere only in an individual or in any indicia of an individual's personality like name, personality trait, signature, voice, etc. An individual may acquire the right of publicity under association with an event, sport, movie, etc. Any effort to take away the right of publicity from the individuals, to the organizer {non-human entity} of the event would be violative of Articles 19 and 21 of the Constitution of India. No persona can be monopolized. The right of Publicity vests in an individual and the individual alone is entitled to profit from it.

PEPPER IT WITH

Right to Privacy, Consumer Rights in India, Citizen Charter, DeepFake technology, Intellectual Property Right

Conclusion

There is a need to strike a balance between the protection of highly valued rights of personalities and the democratic right of individuals in society. It is also equally important to protect the interest of the consumers as well from any kind of misleading advertisements and endorsements.

Northeast Border Dispute

News Excerpt

The clashes between the police personnel of Assam and Mizoram have spotlighted long-standing border disputes among states in India's Northeast.

Pre-Connect

Why do Inter-State Border Disputes still continue?

- **Geographical Factors**
 - The presence of physical features such as rivers, hills, and forests straddle at various places between the two states makes marking of border difficult.
 - Original maps are available with government date back to colonial times in which several areas are just marked as “unexplored” or “thick forests”.
- **Political Factors**
 - The reorganization of Indian states was done on the pretext of administrative convenience but it was done on the linguistic basis of the idea of one language one state.
 - However, this has backfired as the linguistic diversity of India is always greater than the land availability.
- **Tribal Issues**
 - The distribution of Indigenous communities was not kept in mind while demarcating boundaries. This becomes more visible in the case of North-East states.
- **The linguistic idea of reorganization**
 - Although the **States Reorganization Commission, of 1956** was based on administrative convenience, states reorganized largely resembled the idea of one language one state.
- **Indigenous Communities:**
 - Indigenous communities were, for the most part, left alone. Boundaries would be drawn for administrative convenience when the “need” arose.
 - The 1956 demarcation did not resolve the discrepancies.

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- When new states were carved out of Assam (Nagaland in 1963, Mizoram, Meghalaya, Tripura, and Manipur in 1972, and Arunachal Pradesh in 1987), it was still not addressed.

Inter-State Conflicts in NorthEast

- **Assam-Mizoram:** Mizoram was earlier called Lushai Hills, a district in Assam. The two British-era notifications of 1875 and 1933, differentiated Lushai Hills from the plains of Cachar and the other demarcated boundary between Lushai Hills and Manipur. After Mizoram became a state in 1987, it insists on the boundary decided in 1875. Assam, on the other hand, wants the boundary demarcated in 1986.
- **Assam-Arunachal Pradesh:** The main reason behind conflicts between both the states is the forested tracts that are with Assam but Arunachal demands the transfer of certain forest territories from Assam as per the recommendation of the Tripartite committee after it became a state in 1987. The matter is in Supreme Court.
- **Assam-Meghalaya:** The problem began when Meghalaya challenged the Assam Reorganisation Act of 1971, which gave Blocks I and II of the Mikir Hills, or present-day Karbi Anglong district to Assam. At present, there are 12 points of dispute along the borders. Meghalaya argues on survey maps of 1872 and 1929.
- **Assam-Nagaland:** The Nagaland State Act of 1962 defines Naga Hill and Tuensang Area (NHTA) as part of one administrative unit. Nagaland disagrees with boundary delineation and has demanded that the new state should include all Naga-dominated areas in North Cachar and Nagaon districts. Since 1965 there have been continuous clashes between both states latest being in 2004.

Constitutional provisions over Indian Territories

- ❖ **Article 1** states "India, shall be a Union of States. The States and the territories thereof shall be as specified in the First Schedule. The territory of India shall comprise—the territories of the States; the Union territories specified in the First Schedule; and such other territories as may be acquired."
- ❖ **Article 2** states "Parliament may by law admit into the Union, or establish, new States on such terms and conditions as it thinks fit.". **Article 3** states Parliament may by law:
 - form a new State by separation of territory from any State or by uniting two or more States or parts of States or by uniting any territory to a part of any State
 - increase the area of any State
 - diminish the area of any State
 - alter the boundaries of any State
 - alter the name of any State

Reasons for Dispute in North East regions:

- ✓ **Colonial demarcation:**
 - Nagaland, Mizoram, and Meghalaya prefer the administrative boundaries decided during the colonial period against the administrative boundaries created along with the reorganization of Assam.
 - Assam is involved in all disputes because most of the northeastern states were carved out of Assam.
 - The thick forests outside Assam were left out and were termed Unexplored by colonial maps. Even after the formation of new states from Assam, the geographical terrains were not marked. Thus, giving rise to tensions.
- ✓ **Common geographical terrains:** Many rivers, hills, and forests cross two states and their borders cannot be marked.
- ✓ **Political Reasons:** The boundaries were drawn as per administrative convenience when the need arose. So, confusion over boundaries has always led to conflicts.
- ✓ While setting up new boundaries **the indigenous communities or tribals were ignored** creating grounds for future tensions.

How Can we resolve Inter-State Border Disputes?

- Constitutional Mechanism

- Article 263 of the Constitution provides for Inter-State Council. It was envisaged as a conflict resolution body that will inquire and advise on disputes, discuss the issues at play and then recommend solutions accordingly.
- 2nd ARC also recommended creating more than one Inter-State Council, providing a more decentralized solution to the problem.
- Statutory Provisions
 - The system of Zonal Councils can also be used for deliberation and discussion.
 - It will allow for direct deliberation between states in conflict.
- Technical Provisions
 - Satellite Mapping can be used to develop new maps based on which boundary questions can be resolved.
- Cooperative federalism principles must be used to resolve conflicts. Unity in diversity is India's strength and leveraging it would help resolve such issues.
- Interstate border disputes can be resolved by the states themselves or by the Centre through dialogue and political settlements.
- Commissions are appointed by the Centre. In the past, they have given their report but one state or the other has not accepted it.
- Disputes can also be settled by the Supreme Court. For instance, Assam may soon approach it regarding the current row (with Mizoram) and seek the status quo.
- The Sundaram Commission recommended a border between Assam and Nagaland, but Nagaland rejected the report. In 1988, Assam filed a case in the Supreme Court. It did the same over its dispute with Arunachal Pradesh, in 1989. Both reports are still pending.
- With this in mind, the Setalvad Study Team on Centre-State Relationships had in 1968 recommended an inter-state council. It said, "Inter-state disputes need to be settled quickly and impartially otherwise they become festering sores which create friction, prevent development, give a perverse direction to the energies of people and governments and generate hard feelings on all sides." It was never done.

PEPPER IT WITH

Inter-State Council, Zonal Council, Cooperative federalism, Inter-State Water Disputes

Conclusion

The central government has consistently taken the position that inter-State boundary disputes can only be settled amicably with the willing cooperation of the State Governments involved and that its role in the process is limited to acting as a facilitator for a settlement that promotes mutual accommodation and understanding.

The uniqueness of the Indian Constitution

News Excerpt

Recently, India celebrated its 73rd Constitutional Day which is also known as National Law Day.

Pre-Connect

Facts about Constitution

On November 26, 1949, the Constituent Assembly of India adopted the Constitution of India, which came into effect on January 26, 1950.


- The people of India are the ultimate custodians of the Constitution as the sovereignty vests with them.
- It is the world's lengthiest written Constitution of a sovereign nation which originally had 395 Articles, 22 Parts, and 8 Schedules.
- The Constitution of India was handwritten and calligraphic in both English and Hindi with 90,000 words.
- It was entirely handcrafted by the artists of Shantiniketan under the guidance of Acharya Nandalal Bose, with the calligraphy texts done by Prem Behari Narain Raizada in Delhi.

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- The original copies of the Constitution of India are kept in special helium-filled cases in the Library of the Parliament of India.
- India's National history phases are depicted at the beginning of each part of the Constitution by Nandalal Bose.

INDIAN CONSTITUTION IN THE WORLD						
Country	Year enacted	Length (in words)	Executive power	Legislative power	Judicial independence	No. of rights
India	1949	146,385	4	0.19	4	44
USA	1789	7,762	1	0.38	3	35
Russia	1993	12,908	7	0.43	1	71
China	1982	10,960	2	0.38	2	33
Brazil	1988	64,488	5	0.48	5	79
S Africa	1996	43,062	4	0.29	5	60
Australia	1901	17,318	2	0.14	3	11

Source: Constitutional rankings by CCP. Executive power signifies the number of the seven parameters that the document fulfils. Legislative power signifies formal degree of power where higher the number more the power. Judicial independence signifies presence of parameters out of six criteria



- The artwork and illustrations that are 22 in all were rendered largely in the miniature style and represented vignettes from the different periods of the history of the Indian subcontinent, ranging from Mohenjo-Daro in the Indus Valley, the Vedic period, the Gupta and Maurya empires and the Mughal era to the national freedom movement.
- On January 24, 1950, 284 members of the Constituent Assembly signed the Indian Constitution at the Constitution Hall of Parliament in New Delhi.
- On 24th January 1950 also, Dr. Rajendra Prasad was elected as the first President of India and that was the last meeting of the constituent assembly.
- There were 15 women members in the Constituent Assembly when women in many parts of the world were denied basic rights. They included Sarojini Naidu, Rajkumari Amrit Kaur, Hansaben Jivraj Mehta, Sucheta Kripalani, and G. Durgabai.
- The National Flag of India was adopted in its present form during the meeting of the Constituent Assembly held on July 22, 1947.
- On January 26, 1950, the constitution came into force and G.V. Mavlankar became the first Speaker of the Lok Sabha after India turned into a Republic.

Uniqueness

- Indian constitution is the **longest written constitution in the world.**
- It is **drawn from the constitutions of different countries** like Britain, the USA, Russia, Australia, Japan, Canada, and so on.
- **Rigidity and flexibility both can be seen in the constitution.** Some provisions can be amended just like an ordinary law is made while some provisions need a special procedure for amendment.
- **Balance of federal and unitary features:** It follows federal features such as two governments, division of powers, written constitution, the supremacy of the constitution, the rigidity of the constitution, an independent judiciary,

Living Document

- ❖ Our supreme law is referred to as a living document, as it can be changed or amended. Those who crafted it wanted it to be in accordance with our citizens' aspirations and understood the need for modifications.
- ❖ Changes done to the Constitution are called constitutional amendments.

and bicameralism at the same time it also has unitary features like a single constitution, emergency provisions, asymmetric representation in Rajya Sabha, All India Services, etc.

- **Parliamentary form of Government:** It means that there is a cooperation between the legislative and executive organs of the Government.
- The constitution provides for **single citizenship**.
- Various Fundamental duties of each citizen are outlined in Part IVA of the Constitution.
- The fundamental Rights of each citizen are provided in Part III of the constitution.
- **Universal Adult Franchise** provides the voting right to every citizen of the country above 18 years irrespective of their caste, creed, sex, literacy, etc. (61st CAA made it from 21 to 18)
- **Emergency Provisions** – National emergency (due to external aggression or war), State emergency (failure of constitutional machinery), Financial emergency (due to financial instability in the country).
- **Three-Tier Government:** Apart from the center and state, the constitution gives recognition to rural local governments (panchayats). Hence constitution provides decentralization.

The Success Of The Constitution

- ✓ Being the longest in the world, it has shown maximum flexibility.
- ✓ It has integrated diverse nations and has overcome lots of democratic challenges. Eg. Emergency
- ✓ It can be called a statutory constitution as it contains a lot of details including things that are left to statutes by other countries.
- ✓ The constitution abolished untouchability.
- ✓ It has proved to be a living document, as it is amended and interpreted by the Supreme court leading to constitutional culture. Eg. There have been 105 amendments.
- ✓ The constitution is relevant for the present generation and has evolved with time. Eg. Decriminalization of homosexuality
- ✓ The idea of a concurrent list of center and state power was there from the beginning of our constitution, recently Myanmar and Nepal have adopted it.
- ✓ Constitution has brought radical land reform legislations in the form of the abolition of landlordism, securing tenurial rights, the ceiling on landholding, and distribution of ceded land among the agricultural laborers and landless.

PEPPER IT WITH

Key Constitutional Amendments, Constitutional bodies, Constitutional functionaries, The National Commission to review the working of the Constitution

Animal Cruelty Laws

News Excerpt

The Tamil Nadu government recently told the Supreme Court that Tamil Nadu's traditional bull-taming sport 'Jallikattu' is a cultural tradition and is without cruelty.

Pre-Connect

Acts related to Animal Protection

- **Prevention of Cruelty to Animals Act, 1960:** The objective of the Act is to prevent the infliction of unnecessary pain or suffering on animals. The Act defines "animal" as any living creature other than a human being.
- **Under the Indian Penal Code (IPC) 1860,** Sections 428 and 429 of the IPC provide for the punishment of all acts of cruelty such as killing, poisoning, maiming, or rendering useless of animals.
- Prevention of Cruelty to Animals (Slaughterhouse) Rules 2001.
- As per Article 51A(g), (Fundamental Duties) "It shall be the duty of every citizen of India to protect and improve the natural environment including forests, lakes, rivers, and wildlife and to have compassion for all living creatures.

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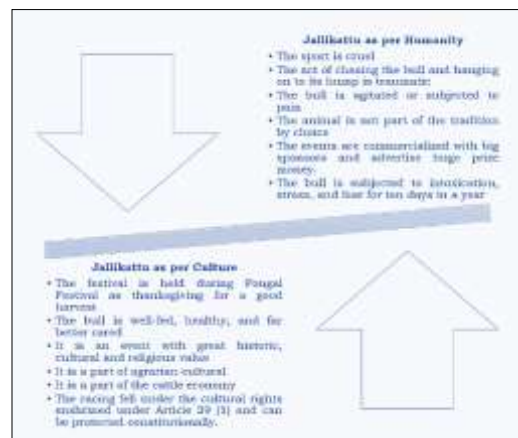
- This Constitutional duty of animal protection is supplemented by the **Directive Principle of State Policy** under Article 48A: "The State shall endeavor to protect and improve the environment and to safeguard the forests and wildlife of the country".
- Both the above constitutional provisions were introduced by the 42nd Amendment in 1976.
- Item 15 of the **State List** provides that the States have the power to "[p]reserve, protect and improve stock and prevent animal diseases and enforce veterinary training and practice."
- In the **Concurrent List, both the Centre and the States** have the power to legislate on:
 - Item 17: "Prevention of cruelty to animals."
 - Item 17B: "Protection of wild animals and birds."
- The Wild Life (Protection) Act 1972:** The Act regulates the protection of wild animals, birds, and plants. The Bill seeks to increase the species protected under the law, and implement the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).
- The Committee for Control and Supervision of Experiments on Animals (**CPCSEA**) oversees the use of animals for scientific research and ensures that animals are not subjected to unnecessary pain or suffering before, during, or after the scientific experiment performed on them.

Animal Welfare Board of India

- ❖ The Animal Welfare Board of India is a statutory advisory body on Animal Welfare Laws and promotes animal welfare in the country and is now under the Ministry for Agriculture. It was established in 1962 under Section 4 of the Prevention of Cruelty to Animals Act, 1960.
- ❖ The Board ensures that animal welfare laws in the country are diligently followed, provides grants to Animal Welfare Organizations, and advises the Government of India on animal welfare issues, the Board has been the face of the animal welfare movement in the country for the last 50 years.
- ❖ The Board consists of 28 Members. The term of office of Members is for 3 years.
- ❖ **Shrimati Rukmini Devi** Arundale pioneered the setting up of the Board, with its headquarters in Chennai. She guided the activities of the Board for nearly twenty years till her demise in 1986.

Reasons for Animal Cruelty in India

- **Punishments not strict:** The penalties under the Prevention of Cruelty to Animals Act 1960 for cruelty against animals are simply not strict enough to truly deter crimes against animals.
- **Laws give leverage:** Instead of concrete laws enforceable in courts the provisions for animal protection in the Indian Constitution remain just principles. The law contains several provisions which provide leeway through which liability can be escaped.
- **Meat:** Animals are a source of food and most of the time it is not limited to meat shops, it is often related to animal exploitation and hunting.
- **Entertainment:** Exploitation of animals in films, circuses, and events like rodeo, bull-fighting, cock-fighting, etc are all for the sole purpose of entertainment.
- **Lab tests:** Animals that are tested in Labs, have to go through a lot of atrocities and pain to get the results for experiments.
- **Psychological Reasons:** People with psychopathic personality disorders tend to torture pets and other small animals. This type of behavior is termed zoosadism. A monkey was hung and beaten to death in Telangana; a street dog was beaten, tied to a scooter, and then thrown off the second floor of a building in Ludhiana, nursing students poisoned 16 puppies in Kolkata, the death of a pregnant elephant after consuming a fruit laced with a firecracker and the recent death of a tiger cub after a motorcycle ran over it are all example of psycho behavior.



- **Poaching and Hunting:** Both hunting and poaching are illegal but often we see poachers and hunters in news for fur, skin, teeth, horns feathers, etc.

Man vs Animal conflicts in Urban Areas

The reason for the man vs animal in cities is usually because of two reasons:

- ❖ The rapid increase in urban human populations and the crowding out of nature as a result of our growing cities.
- ❖ The increase in the number of certain wild animal species and the urban green has resulted in more contact between humans and wild animals.

Some of the conflicts involve: Human-monkey conflicts, Human-bees conflicts, Human-leopards conflicts, Human-snakes conflicts etc.

Animal Protection Index

- ❖ It is the index, produced by World Animal Protection, it gives ranking of 50 countries around the globe according to their legislation and policy commitments to protecting animals, so they can take steps to improve.
- ❖ The index ranks countries from A (being the highest score) to G (being the weakest score) according to their policy and legislation.
- ❖ In 2020, India attained C ranking in the index, along with countries like New Zealand, Mexico, France, and Spain.

Way Forward

- ✓ The 'Animal act and rules reviewing committee', headed by the chairman of AWBI has not done anything significant, it should be active as lots of hopes are associated with it.
- ✓ The National Crime Record Bureau prepares an annual report on the number of crimes in the country. The Bureau should be made responsible for maintaining a database of the crimes inflicted on animals.
- ✓ Research related to animals needs extra care and provisions as animals used in scientific research are exempt from cruelty considerations. CPCSEA needs to be strict and particular.
- ✓ The balance between humans, animals, and nature is the need of the hour.
- ✓ Selfish motives like entertainment, hunting, and poaching animals need to be strictly taken care of.
- ✓ Animals-related provisions should be made strict so that they don't get exploited.
- ✓ To solve problems regarding human-wildlife conflict, it's important to first understand the root causes of these conflicts.
- ✓ The welfare of dairy animals is yet to be included in the Prevention of Animal Cruelty Act 1960. Millions of cows and buffaloes continue to suffer in cruel conditions every day in dairies.

PEPPER IT WITH

The National Human Rights Commission of India, National Bee Board, Wildlife (Protection) Act (WPA), 2022

Kuki-Chin Refugees

News Excerpt

Recently, fearing security threats from Bangladesh security forces many Kuki-Chin refugees entered the state of Mizoram. The state is providing all the support and relief as per its capacity.

Pre-Connect

India's Refugee Policy

- There is no specific legislation in India that deals with the problem of refugees. India is also not a party to the 1951 Refugee Convention and its 1967 Protocol.
- Despite this, India follows the principle of Vasudev Kutumbkam and has a stellar record on the issue of refugee protection.

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- In the National Human Rights Commission vs. State of Arunachal Pradesh, SC held that foreign citizens are entitled to the right to equality and the right to life, among others.
- Further Article 21 of the Constitution includes the right of non-refoulment (The principle under which a person fleeing persecution from her/his own country should not be forced to return to her/his own country).
- In India, Refugees are registered under-
 - Directly By Government: These are entitled to Aadhaar cards and PAN cards, have access to national welfare schemes, and contribute effectively to the Indian economy.
 - UNHCR-They have access to protection and limited assistance services, they do not possess government-issued documentation. They don't get benefits from all government welfare schemes.

Legislative Framework of Refugees	
Passport (Entry into India) Act, 1920	• It allows for forcible removal of a foreigner under section 5 of the act.
Registration of Foreigners Act of 1939	• It provides for a mandatory requirement under which all foreign nationals (Other than OCI) visiting India on a long-term visa (more than 180 days) are required to register themselves with a Registration Officer within 14 days of arriving in India.
Foreigners Act of 1946	• Under Section 3, Central Government can detect, detain and deport illegal foreign nationals.
Citizenship Act 1955	• Provides for provisions for renunciation, termination, and deprivation of citizenship.
Citizenship Amendment Act, 2019 (CAA)	• It provides citizenship only to Hindu, Christian, Jain, Parsi, Sikh, and Buddhist immigrants persecuted in Bangladesh, Pakistan, and Afghanistan.

Kuki-Chin

- They belong to Chittagong Hill Tract (CHT) Area in Bangladesh. The area sprawls over more than 13,000 sq km of the Khagrachari, Rangamati, and Bandarban districts of southeastern Bangladesh.
- It borders Mizoram to the east, Tripura to the north, and Myanmar to the south and southeast.
- A significant population of CHT is tribal, and culturally and ethnically different from the majority Muslim Bangladeshis.
- They have ethnic links with tribal populations in the adjacent areas of India, mainly in Mizoram.

Reasons for No Refugee Policy

There are several reasons behind the decision of the Government of India not to have an official Refugee Policy and its non-signing of the 1951 Refugee Convention :

- ✓ Illegal Immigrants: India faces several threats from illegal immigrants, who come to India not because they face persecution, but rather for better economic opportunities.
- ✓ India does not want its sovereignty to be threatened by any International community. In addition to this, the Indian government along with the governments of other South Asian countries voiced that migration is a matter of bilateral and not multilateral relations and International agreements can restrict their freedom of action.
- ✓ The absence of legislation has allowed India to keep its options open on the question of refugees. The government can declare any set of refugees as illegal immigrants.

Refugees vs Migrants

Refugees are people who faces serious threat to their life, physical integrity or freedom in their country of origin. This might be because they face persecution, armed conflict, violence or serious public disorder. There are specific grounds which makes a person a refugee.

Migrants are people who leave their country for better work opportunities or to study or join their family settled in abroad. There is no internationally accepted legal definition of a migrant.

Refugees in India

- ❖ Partition refugees from Pakistan in 1947.
- ❖ Tibetan refugees that arrived in 1959.
- ❖ Chakma and Hajong from present day Bangladesh in early 1960s.
- ❖ Other Bangladeshi refugees in 1965 and 1971.
- ❖ Sri Lankan Tamil refugees from the 1980s.
- ❖ Rohingya refugees from Myanmar, 2022.

- ✓ The Constitution of India grants the right to equality (Article 14) and the right to life and liberty (Article 21) to its non-citizens also (except enemy aliens).
- ✓ National infrastructure and resources are already burdened by South Asia's porous borders.
- ✓ India's excess population is leading to a resource crunch, especially in the era of climate change.

Need for a Refugee Policy

The absence of a domestic legal or administrative framework for refugees reinforces an ad hoc and inconsistent refugee regime. However, developing an official refugee policy can be beneficial for India too for multiple reasons:

- It will allow India to gain international legitimacy as a country that provides asylum based on humanitarian and legal principles, not political preference.
- It would help India to redeem its reputation as a tolerant, secular state.
- It would help in reducing friction with India's neighboring countries on the issue of illegal migration and instead create space for dialogue and responsibility-sharing in the region on collectively addressing refugee crises.
- Developing legal principles will unequivocally aid asylum-seekers in India. It will streamline the roles of different agencies and facilitate the creation of a rights-based regime that ensures protection standards and precludes arbitrary treatment and uncertainty

PEPPER IT WITH

UN High Commissioner for Refugees, International Covenant on Civil and Political Rights, Universal Declaration of Human Rights

Divorce Act 1869

News Excerpt

Recently, Kerala High Court struck down Section 10A of the Divorce Act, 1869. The Court asserted that the fixation of the minimum period of separation of one year stipulated under the section is violative of the fundamental rights. The court also suggested to the Union government that there should be a uniform marriage code in India to promote the common welfare and good of spouses in matrimonial disputes.

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The matrimonial laws in India, including laws on marriage, divorce, and other connected issues, are essentially governed by the personal laws of the parties depending on their religion, which are codified by statute in most cases:

- Hindu: Hindu Marriage Act 1955.
- Muslim: Muslim marriage is a contract under Muslim law.
- Christian: Indian Christian Marriage Act 1872 and the Divorce Act 1869.
- Parsi: Parsi Marriage and Divorce Act 1936.
- In addition, the Special Marriage Act 1954 applies to all persons of all religions

Grounds for divorces in India varies as per the various personal law of major religions in India. Under the Indian Divorce Act, 1869. Grounds are:

- Adultery
- Conversion to another religion
- One of the couples suffering from an unsound mind, leprosy, or communicable venereal disease for at least two years before the filing of the divorce.
- Not been seen or heard alive for a period of seven or more years.
- Failure in observing the restitution of conjugal rights for at least two years.
- Inflicting cruelty and giving rise to mental anxiety which can be injurious to health and life.

Family Court

The Family Court Act 1984 provides for the establishment of Family Courts with a view to promote conciliation, and secure speedy redressal of disputes relating to marriage and family affairs, and for matters connected with them. The Family Courts hear matters relating to marriage, marital breakdown and the welfare of children. These courts are trial courts and are presided over by Additional District Judges who undertake trials and review evidence. The Family Courts follow the Civil Procedure Code. Family proceedings are generally public but can be conducted in private at the request of the parties or if circumstances require.

- The wife can file a divorce based on the grounds of rape, sodomy, and bestiality.

Court Observation

- ✓ The court opined that due to Section 10A different communities in equal circumstances are given different treatment. This is discriminatory in nature.
- ✓ Even if any legislation intends to achieve laudable objectives it cannot take away liberty without adequately safeguarding the interest of the individuals who are seeking remedies.
- ✓ The right to a judicial remedy is curtailed by statutory provisions, which is violative of a fundamental right as judicial remedy forms part of the right to life.
- ✓ The Court opined that collective good as rationale cannot trample on the rights of individuals to depart if her or his need to depart is not relatable to the collective good. It asserted that when liberty is taken away to act according to one's will, without any procedure to safeguard the fallout of such restrictions, the law will become oppressive.
- ✓ Previously in the case of Section 10A Kerala High Court Division Bench in **Saumya Ann Thomas v. The Union of India & Ors. (2010)**, asserted that the stipulation of 2 years period was to be arbitrary and oppressive and read as one year, as provided in Section 28(1) of the Special Marriage Act, Section 13B(1) of the Hindu Marriage Act, and Section 32B(1) of the Parsi Marriage and Divorce Act.

Rethinking Divorce Law

- The need of the hour in India is a uniform marriage code instead of separate statutes for each religion.
- The aim should be the common good of the citizens. Spouses should be able to resolve their differences with the aid of the law and, if a solution is not possible, the court should be able to decide what is best for the parties.
- The law commission recommended in 1978 and again in 2010 that the Hindu Marriage Act and the Special Marriage Act should include an irretrievable breakdown of marriage as a new ground for divorce.
- The right to exit a marriage should be covered under Article 19 (1)(c) and read with Article 21.
- A uniform divorce law should consider the fact that Privacy safeguards individual autonomy and recognizes the ability of the individual to control vital aspects of her/his life. Personal choices governing a way of life are intrinsic to privacy.

Conclusion

Through this judgement HC is trying to conserve the right to a dignified life of the couples who are facing severe hardship in their married life. While the values and traditions of India suggest marriage as a sacred covenant, at the same time, we cannot turn blind eyes to domestic abuse, toxic relations, abusive marriages, and the taboo around divorce, which is the reality of the same society.

Election Commission of India

News Excerpt

While on one hand a five-judge Constitution Bench hearing petition seeking a Collegium-type body to appoint Election Commissioners (ECs) and the Chief Election Commissioner (CEC), at the same time, a private member bill is introduced in Lok Sabha which seeks the formation of a high-level committee headed by the Prime Minister and consisting of the Leader of the Opposition and the Chief Justice of India to select the Chief Election Commissioner and the Election Commissioners.

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Appointment of Election Commissioners

- Under Article 324, the Election Commission of India carries powers of superintendence, direction, and control of elections in India.
- According to Article 324 (2), the Election Commission consists of the Chief Election Commissioner and such a number of other Election Commissioners, as the President may from time to time fix.

- Since 1993 EC has been a three-member body with all ECs having equal say in the decision-making of the Commission.
- As per the constitution of India, The CEC and ECs are appointed by the President to a tenure of six years, or up to the age of 65 years, whichever is earlier. They enjoy the same status and receive salary and perks as judges of the Supreme Court of India.
- The mechanism government follows in the appointment includes:
 - A list of serving and retired officials in the position of Secretaries is prepared.
 - Based on this, a panel of names is prepared for the consideration of the Prime Minister and President.
 - The PM, after considering the panel, recommends one name to the President. A note with the recommendation is submitted to the President of India.
 - The rule of seniority is followed in the appointment of CEC.

Collegium-based Appointment

- The court is concerned about the ECI's independence and therefore is pushing for an independent mechanism, possibly a selection committee that includes the Chief Justice of India.
- Another factor on which Court is pushing for a collegium-based approach is the tenure issue. Chief Election Commissioners (CEC) in the past had fairly long tenures, unlike in recent times.
- A legislative vacuum exists in the procedure of appointment as envisaged under Article 324.

Arguments in Favour

- ✓ It would inspire more public confidence. The presence of the Leader of the Opposition in the Lok Sabha (LoP) in the collegium particularly would lend credence to the selection process.
- ✓ A broader base and consultative system is always a better option.
- ✓ The present appointment structure makes the Election Commission of India completely under government control as there is no law on appointment. This defeats the independent nature envisaged in the constitution.
- ✓ Various commissions including Law Commission, Goswami Committee report, etc recommended such changes.
- ✓ The government has been appointing people as ECs who do not even have six years before they complete 65 years of age, and therefore they attain 65 and they retire as an EC, or at best as the CEC after a tenure of one or two years. There is no law that bar a person aged between 58-59 from being appointed to the commission yet it is deliberately avoided.

Arguments against

- There is no doubt that several decisions of the ECI are controversial. However, Courts should address specific concerns. It should not use ad hoc observations to undermine the legitimacy of the EC as a whole.
- Formal appointment processes are no predictors of performance or bulwarks against the underlying distribution of political power.
- Institutionally, the desire within the judiciary to get more entangled in appointments is possibly more about leverage than virtue. It risks violating the separation of powers.
- Selecting a person who plays a crucial role in complex institutions electors having a wide rather than narrow social and institutional experience make better decisions. This is true more for politicians and administrators than judges.
- It is important not to fetishize personal qualities. In the end, structures of accountability matter more.
- The prejudice that political executives are "partisan and open to manipulation" and judges are "judiciary neutral and virtuous," is dangerous.
- Putting Chief Justices on selection committees where the Prime Minister sits is odd. As in most cases, they will not be able to compete with the authority of the Prime Minister anyway.

PEPPER IT WITH

Election Commission (Conditions of Service of Election Commissioners and Transaction of Business) Act, 1991, VVPAT, Model code of Conduct.

- As far as tenure is considered this has become an issue after the body became a 3 member organization. Further, a member's whole tenure in the ECI should be considered, and not merely the duration as CEC.

Governor and Universities

News Excerpt

Recently, Kerala Legislative assembly passed University Laws (Amendment) Bills that replace the Governor as the Chancellor of State universities. The root cause of the tussle lies in the appointment of the Vice-chancellor.

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- The Governor acts according to the aid and advice of the Council of Ministers. However, as the Chancellor of the university, she/he acts independently of the Council of Ministers and takes his own decisions on all University matters.
- The reason for making Governors hold the office of Chancellor and vesting some statutory powers on them was mainly to insulate universities from political influence.
- As a Chancellor, Governor has the following powers:
 - Appoints the Vice-Chancellors by setting up a search committee, and recommending a panel of names from which she/he makes final selection and appointment.
 - Chancellor is also vested with the authority to grant leave or institute disciplinary action and award penalties.
 - Power to nominate certain members to the Executive Council/ Court of the University.
 - Chancellor as the appellate authority has the power to annul decisions of the various university bodies/ authorities which in her/his view, are against the Act, statutes, ordinances, and regulations.
 - Power to assent or withhold assent to the statutes and other regulations passed by the Executive Council of the university submitted to the Chancellor for assent.
 - Power to hear memorandum and representation of the employees and students.
 - Power to take final decisions on election disputes about the representation in different bodies of the universities and managing committees of its colleges.
 - Power to nominate experts in the appointment of teachers of various categories in the university.
 - Power to preside over the convocation of the university.

Governor as Chancellor

The Sarkaria and Puunchi Commission also dealt with the role of the Governor in educational institutions. Both Commissions concurred that while discharging statutory functions, the Governor is not legally bound by the aid and advice of the Council of Ministers. However, it may be advantageous for the Governor to consult the concerned Minister. The Sarkaria Commission recommended that state legislatures should avoid conferring statutory powers on the Governor, which were not envisaged by the Constitution. The Puunchi Commission observed that the role of Governor as the Chancellor may expose the office to controversies or public criticism. Hence, the role of the Governor should be restricted to constitutional provisions only.

Changes proposed

- It will replace Governor as the chancellor of the universities established by legislative Acts.
- It will give the government power to appoint eminent academicians as Chancellors of various universities, thereby ending Governor's role in university administration.
- It puts a cap on the term of the appointed chancellor to five years. It also allows the serving chancellor to reappointment for another term.

Arguments Against

- It can turn universities into an arena of political fiefdom. Every vice chancellor would be indebted to the ruling front, thus leading to the erosion of Universities' autonomy.

- ✓ This risks turning the secular nature of education into an ideologically blended learning system.
- ✓ It will promote a culture of nepotism in the universities
- ✓ It is against the UGC guidelines on the appointment of Vice Chancellors.

Arguments in Favour

- UGC guidelines which were earlier partially mandatory and partially directive for State universities are now being made compulsory. This means the legislative powers of the Assembly on all subjects on the Concurrent List (of the Constitution) could be undermined through subordinate legislation or an executive order issued by the Centre.
- It is in line with the recommendation of the Sarkaria and the Puunchi Commission.
- There is no guarantee that the governor's discretion is free from political considerations.

Governor's Option

Under Article 200 of the Constitution, the Governor assents to, or withholds assent to, or reserves the Bill for the consideration of the President, or returns the Bill (if not a money Bill) for reconsideration, with her/his message when a Bill passed by the State Legislature is presented for assent.

University as a new Political Battleground

In recent times, Universities have emerged as a new battleground where there is a clash of political ideologies. States like Tamil Nadu, West Bengal, and Maharashtra have brought laws that tend to limit Governor's role in the state universities. The biggest casualty in this tug-of-war will be of the quality education. Universities should be the center of innovation and development especially when India enters its 75th year of independence, every step India takes in developing a knowledge-based economy will make it resilient against future challenges.

Way Forward

There are a few probable solutions to the tug-of-war between the Governor and the State government these include:

- ✚ M. Anandakrishnan Committee set up by the Kerala State Higher Education Council in 2009 to review the Acts of Universities of Kerala had recommended that universities should have complete autonomy in academic and administrative matters.
- ✚ There is a need to create statutory structures that would distance the Governor [as Chancellor] and Minister for Higher Education [as Pro-Chancellor] from the day-to-day administration of the universities.
- ✚ There is a need to immediately incorporate UGC Regulations, 2010 in the university Acts/Statutes/Regulations.
- ✚ Governments should devise alternative means of protecting university autonomy so that ruling parties do not exercise undue influence on the functioning of universities.

Doctrine of Pleasure

The pleasure doctrine is a concept derived from English common law, under which the crown can dispense with the services of anyone in its employ at any time. In India, Article 310 of the Constitution says every person in the defence or civil service of the Union holds office during the pleasure of the President, and every member of the civil service in the States holds office during the pleasure of the Governor. However, Article 311 imposes restrictions on the removal of a civil servant. It provides for civil servants being given a reasonable opportunity for a hearing on the charges against them. There is also a provision to dispense with the inquiry if it is not practicable to hold one, or if it is not expedient to do so in the interest of national security. In practical terms, the pleasure of the President referred to here is that of the Union government, and the Governor's pleasure is that of the State government.

PEPPER IT WITH

Clemency power Governor vs President, Role of President in Central Universities, NIRF Ranking, Institute of Eminence.

SOCIAL ISSUES

National Suicide Prevention Strategy

News Excerpt

Recently, the Ministry of Health and Family Welfare announced a National Suicide Prevention Strategy. The strategy provides for time-bound action plans and multi-sectoral collaborations to achieve a reduction in suicide mortality by 10% by 2030.

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Pre-Connect**Suicides in India-National Crime Record Bureau Report 2021.**

As per-**Accidental Deaths & Suicides in India Report** released by NCRB, there are several facets of suicides in India:

- The rate of suicide is rising from 11.3 per lakh population to 12 per lakh population from 2020 to 2021 respectively.
- The suicide rate in cities (16.1) was higher as compared to the all-India suicide rate (12.0).
- Family Problems> Illness> Drug Abuse/Alcohol addiction> Marriage Related Issues are the major cause of suicide in India.
- Among the states, Uttar Pradesh>Tamil Nadu>Madhya Pradesh> West Bengal>Karnataka are the states with a high incidence of suicides, and together they account for more than 50% of suicides in India.
- Suicides among females have increased and the primary reason for the same includes Marriage related issues particularly dowry and impotency-related issues. Further, Housewives accounted for 51.5% of the total female victims.
- Profession wise Daily Wage Earner>Housewives> Self Employed person> Professional/Salaried person accounted for near about 62% of suicides in India.
- Even though failure in an examination is among the least reason for suicides in India. There is a rise in the number of student suicides in India.
- The majority of suicides are in the income group with annual earnings of less than Rs 1 lakh. Followed by annual earnings between Rs 1 to Rs 5 lakh.
- The maximum number of suicide victims were educated up to Matriculation/ Secondary level followed by middle-level education as a very minuscule of total suicide victims were graduates and above

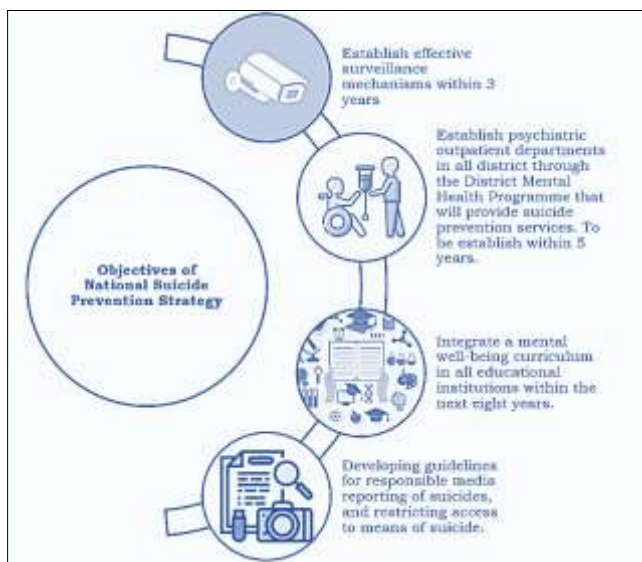
Agrarian Suicides in India

- ❖ India is an agriculture-dependent nation where the socio-economic condition of the farmer is worrisome. During the last two decades, more than 3.5 lakh farmers died by suicide in India (NCRB 2017). In the region of Marathwada, Maharashtra state alone over 600 farmers have committed suicides between January- August 2022. NCRB report points towards the continuous rise of Agrarian suicides in India.
- ❖ Bankruptcy or Indebtedness is the major cause of farmer suicide in India. Crop failures, rising input costs, and low market prices often trap farmers in a cycle of debt. Further farmers are yet to recover from the pandemic shock such as lockdowns. The absence of access to formal lending is another factor that drives farmers toward the informal players who trap them in the debt cycle. In recent times, climate change has emerged as a Frankenstein monster for Indian farmers.
- ❖ A tool like Direct Benefit transfers and initiatives like Har khet to Pani combined with the ideology of more drop per crop can help mitigate such challenges. Further, Farmers should now be incentivized to move away from water-intensive crops and move to crops like millets, legumes, or oilseeds which are both climate resilient and nutritious for consumption.
- ❖ Promoting agripreneurs in agriculture will not only bring new-age tech to Indian agriculture but also bring innovation which will address the varying degree of problems in the sector.

- Maximum cases of mass/family suicide were reported from Tamil Nadu followed by Rajasthan, Andhra Pradesh, and Kerala.
- The only section which saw a decline in suicide is the unemployed person group. West Bengal, Bihar, Jharkhand, Odisha, Tripura, Manipur, Arunachal Pradesh, Uttarakhand, Chandigarh, Lakshadweep, and Puducherry reported zero suicides of Farmers/Cultivators as well as Agricultural Labourers.

Understanding National Suicide Prevention Strategy

- The policy will set the stage for the promotion of mental health and the prevention of suicides in the coming decade.
- The strategy is in line with the World Health Organisation's South East-Asia Region Strategy for suicide prevention but in line with India's cultural and social milieu.
- The stress is on developing community resilience and societal support for suicide prevention
- It makes suicide a public health priority.
- It seeks to enhance the capacity of health services to provide suicide prevention services.
- It will reinforce leadership, partnerships, and institutional capacity in the country.
- The strategy provides a framework for multiple stakeholders to implement activities for the prevention of suicides in the country. Under the policy, five key stakeholders are responsible for realizing the objectives. These includes:
 - ❑ National-level ministerial stakeholders
 - ❑ State-level Governmental Stakeholders
 - ❑ District-level governmental stakeholders
 - ❑ NIMHANS-Bangalore and other top mental health institutes
 - ❑ Strategic collaborators.



Mental Health in India

- ✓ In developing countries like India, the focus on mental health is less as other communicable and non-communicable diseases may be more prevalent.
- ✓ There are also challenges regarding funding, delivery of mental health packages, and lack of trained staff.
- ✓ However, the Covid-19 Pandemic has brought attention to the issue of mental health in India. Pandemic-induced lockdowns and related issues have impacted the mental health of many individuals.
- ✓ In India, the mental health situation is generally worse in the southern States compared to the northern States due to the nature of development, modernization, urbanization, and other factors that are not understood yet.
- ✓ In India, both the number of mental hospitals and expenditure on mental health is below the global average vis-à-vis developed countries.
- ✓ There are several steps the government has taken in recent times to address the issue of mental health these include
 - ❑ Mental Healthcare Act- The act replaced the Mental Healthcare Act of 1987 and provided Mental health as a right. It also decriminalizes suicide attempts.
 - ❑ National Mental Health Policy (NMHP-2014) along with National Adolescent Health Programme, and Ayushman Bharat have the necessary components to address the mental health issues of all sections of the population.

- KIRAN- It is a 24/7 toll-free helpline under the Ministry of Social Justice and Empowerment that provide support to people facing mental health concerns.
- Manodarpan- It is the initiative of the Ministry of Education launched under the Atmanirbhar Bharat Abhiyan. It provided psychosocial support to students, family members, and teachers during the pandemic.

Way Forward

- There are several steps India can take in addressing mental issues in India
 - Reduce the treatment gap for mental disorders
 - Increase the number of personnel in the mental health sector.
 - Reducing discriminatory attitudes
 - Devise an integrated approach for detecting, treating, and managing patient needs.
 - Increase provisions for counselling facilities with a special focus in rural areas and particularly on women, through the provision of women doctors.
 - Leveraging technologies such as telemedicine and mental health apps.
 - Community and School-based mental health programs.
 - Incentivising private sector participation in addressing mental health issues.
- Other than these steps lessons from data must be adopted. For example, NCRB data points out that the maximum suicide is done by hanging, therefore innovations like collapsible ceiling fans must be promoted.

PEPPER IT WITH

Mariwal Health Initiative,
National Palliative Care
Program National Mental
Health Policy

Path to Maternal and Child Health

News Excerpt

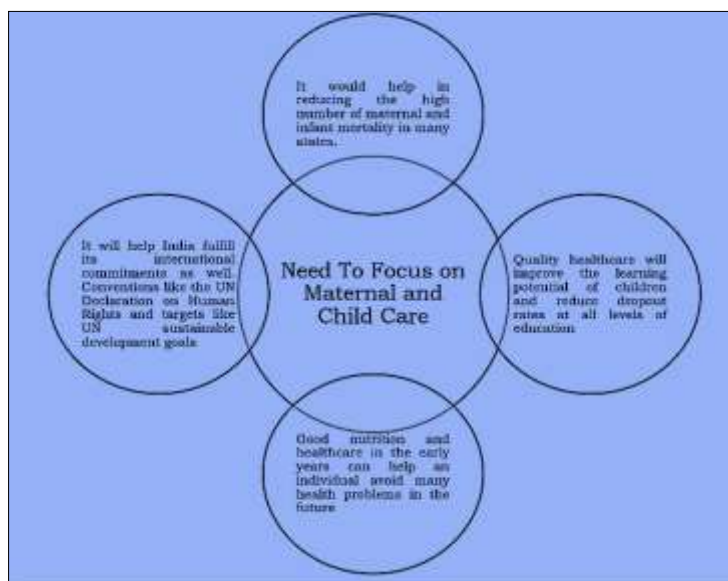
In the past two decades, India has made significant strides in reducing maternal, newborn, and infant mortality. Progress has been uneven, however, and some states are performing significantly better than others.

Pre-Connect

Understanding Maternal and Child Healthcare

- World Health Organisation (WHO), refers to the health of women during pregnancy, childbirth, and the postnatal period.
- Each stage is crucial as it ensures women and their babies reach their full potential for health and well-being.
- It also encompasses health care dimensions of family planning, preconception, prenatal, and postnatal care. These dimensions ensure a reduction in maternal morbidity and mortality.
- Maternal and Child Health is measured through indicators like Maternal Mortality Rate (MMR), Infant Mortality Rate (IMR), % of institutional deliveries, maternal nutrition of % pregnant women suffering from anemia, child nutrition indicators like stunting, wasting, etc.
- SDG targets for maternal health include 3.1, aiming for an average global ratio of fewer than 70 deaths per 100 000 births by 2030, and 3.8, calling for the achievement of universal

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health coverage. These cannot be achieved without reproductive, maternal, newborn, and child health coverage for all.

Challenges to Maternal and Child Healthcare

- **Poverty:** It reduces the spending capacity of families on essentialities of maternal and child health. The staple food is consumed and other nutritious food is not accessible. Further, there is high out-of-pocket expenditure in India when it comes to health expenditure.
- **Lack of Institutional Care:** Remote areas in India have low penetration of hospitals and dedicated child delivery centers. Also, there is an acute shortage of trained gynecologists in these regions.
- **Gender Inequality:** Lack of access to education along with practices like Child marriage results in teenage pregnancies that hinder maternal and child health.
- **Informal Nature of Economy:** More than 90% of India's economy is informal under which it is very easy to hire and fire an individual. Considering this, women engaged in the informal economy are unable to take a requisite number of childcare leaves during and after pregnancy.
- **Lack of Food and Nutritional Security:** A significant number of pregnant women in India don't get enough protein and calories. Similarly, they don't receive iron, vitamins A and C, and folic acid in the correct amount.
- **Meta Son Preference:** Son meta preference refers to the desire of having a male child and is widely prevalent. This subjects women to repeated pregnancies even at a higher age deteriorates the health of the mother and the child.

Countering Anemia

- ❖ Anaemia is a condition marked by low haemoglobin (Hb) concentration, and India carries its largest burden. In India, it is highly prevalent in children and pregnant women.
- ❖ Anaemia prevalence is highest in central and eastern States, iron deficiency is highest in western States across the entire north-south range. This underscores the complex etiology of anaemia and suggests that addressing iron deficiency will not solve India's anaemia problem.
- ❖ The government of India launched Anemia Mukh Bharat Abhiyan with the ambitious goal of reducing the prevalence of anaemia by three percentage points per year. The program used a 6x6x6 strategy which implies six age groups, six interventions, and six institutional mechanisms. The strategy focuses on ensuring supply chain, demand generation, and strong monitoring using the dashboard for addressing anemia, both due to nutritional and non-nutritional causes.
- ❖ The Government of India has also included staple food fortification (including rice fortification) as part of its comprehensive strategy to address anaemia in multiple States.
- ❖ However, any intervention requires behavior change. Changing social norms has been a constant challenge for the uptake of iron folic acid supplements and other interventions that require behaviour change. Therefore, there is a need to adopt a socio-normative approach to anaemia reduction.

Reproductive, Maternal, Newborn, Child and Adolescent Health, RMNCH+A

- ❖ Government of India adopted the Reproductive, Maternal, New-born, Child and Adolescent Health (RMNCH+A) framework in 2013.
- ❖ Comprehensive care is provided to women and children through five pillars or thematic areas of reproductive, maternal, neonatal, child, and adolescent health.
- ❖ RMNCH+A launched new initiative namely- **SUMAIV-Surakshit Matritva Aashwasan** with an aim to provide assured, dignified, respectful and Quality healthcare at no cost and zero tolerance for denial of services for every woman and newborn visiting the public health facility.

Efforts of the government to improve the Maternal and child health

- ✓ National Health Mission (NHM), and National Rural Health Mission (NRHM) provide direct access to improve maternal and child health.

- ✓ Janani Suraksha Yojana (JSY) enables direct cash transfers to pregnant mothers.
- ✓ Janani Shishu Suraksha Karyakram (JSSK) enables pregnant mothers to deliver in government hospitals for free.
- ✓ Pradhan Mantri Surakshit Matrutva Abhiyan (PMSMA) is focused on providing good antenatal care and specifically identifying and managing high-risk pregnant mothers.
- ✓ With Auxiliary Nursing & Midwifery (ANM) creation, there are more nurses and skilled manpower in remote areas.
- ✓ ASHA worker's strengthening has helped in immunization for children across the.
- ✓ The government has launched LaQshya for improving medical infrastructure in regional, district, and rural healthcare facilities.
- ✓ Other efforts include constructing toilets, enhancing women's safety, and facilitating girl child education to equip them with awareness to make better decisions for themselves

Madhya Pradesh Model

MP has made significant progress between 2000 and 2019, as per 1,000 live births it reduced maternal mortality from 407 to 163; neonatal mortality from 59 to 33; infant mortality from 88 to 46; and U-5 mortality from 110 to 53.

Through Deen Dayal Swasthya Suraksha Parishad's Ayushman Bharat-Madhya Pradesh Niramayam Yojana Madhya Pradesh has taken efforts to enhance the access to secondary and tertiary care services.

The government established a **high-level Task Force to identify key areas for focused intervention** for the various stakeholders in the state's health ecosystem to identify critical gaps and issues in service delivery, health resources, governance, nutrition interventions, financing, and data surveillance.

Way Forward:

Improve coverage and Quality of care:

- Accelerate and sustain the implementation of quality-of-care improvement packages for mothers, newborns, and children.
- Strengthening and developing institutions and methods for accountability for the quality of care.

Focus on Nutrition:

- Lack of nutrition is associated with anaemia, pre-eclampsia, hemorrhage, and death in mothers.
- It can also lead to stillbirth, low birth weight, wasting, and developmental delays in children.

Health Data Surveillance:

- Health Data Surveillance collection is a challenge thus innovative ideas such as ANMOL platforms can help in tracking Gaps in Health Resources.

Filling Gap of Human resources:

- Human resource such as ANMs and manpower is required for rural health care services, increasing their numbers and allotting them to the required place can be very helpful.
- Strengthening of Asha workers' network can again empower the efforts.

Address financing:

- ✚ Public health insurance is the main source of funding for healthcare in India.
- ✚ While the Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB PM-JAY) has had little success. Thus, innovative health financing instruments should be introduced at state levels.

Focus on governance and improve Review Mechanism to mainstream health care:

- Regular review by Chief Ministers, District Magistrate, Chief Medical Officer, District Collector, Mission Director, National Health Mission, or responsible authority of key health parameters and outcomes.
- It includes a mechanism of audit and identification of gaps at all levels.

PEPPER IT WITH

Rashtriya Bal Swasthya Karyakram (RBSK) Integrated Disease Surveillance Programme (IDSP) National Tobacco Control Programme (NTCP) AB-Pradhan Mantri Jan Arogya Yojana (AB-PMJAY)

- Using existing policies and tools like INAP, IPHS standards, LaQshya, SUMAN, MUSKKAN, SAMPARK, and SAMAGRA to assess the effectiveness of facilities and services.

Awareness:

- Maternal education is meant to improve mother care as well as child care.
- Facilitate learning, knowledge sharing, and generation of evidence on quality planning, improvement, and control.

Teenage Pregnancies

News Excerpt

As per the study by Child Rights and You (CRY) released on Children's Day teenage pregnancies are found in every 3 of 5 child brides as they have to prove their fertility after marriage.



Pre-Connect

Age of Consent of marriage in India

- Presently the current age of marriage in India is a minimum of 21 years for the groom and a minimum of 18 years for the bride.
- According to the Prevention of Child Marriage Act (PCMA), 2006 minimum age was kept at 18 years for a bride to essentially outlaw child marriages and prevent the abuse of minors as earlier the age of marriage used to be 10 years and 15 years.
- Secondly, it was expected that before marriage both bride and groom should complete basic secondary school education.
- Now, the government is planning to raise the legal age of marriage of women to 21 from 18 years.

Status of Teenage Pregnancy in India

- As per UNICEF, 1.5 million girls under 18 get married in India.
- According to the National Family Health Survey-5 underaged pregnant women mostly are from rural areas.
- Most teenage mothers belonged to the age group of 15-19 years.
- Maximum teenage mothers or pregnant at the time of the survey were from rural backgrounds.
- Among married teenage girls aged 15-16 years, a quarter of them had at least one child at age 17 while 31% had a child by age 18.
- According to the Protection of Children from Sexual Offences Act, 2012 any sexual activity through the communion of marriage or a shared household with anyone under the age of 18, is punishable by law.

Reasons for Teenage Pregnancies

- **Child marriage** is the major cause of teenage pregnancy, as per the analysis of NFHS-4 most teenage pregnant girls are in between 15-19 years which further leads to health impacts on both mother and child.
- **Societal pressure** is a reason behind child marriage as well as teenage pregnancy.
 - Fear of the involvement of girls in love affairs, premarital sex, and pregnancy leads to the early marriage of girls as soon as they reach puberty.
 - After marriage girls are pressurized to prove their fertility. Gender norms shape the lives of girls and boys
- ✓ **Lack of education and awareness:** Being at a growing age they lack basic sexual and reproductive health knowledge. This can also be taken as a lack of basic sex education in schools.
 - As per the study, only 16 percent of parents and parents-in-law and 34 percent of child brides or grooms are aware of the negative consequences of child marriage.

- Lack of education can further be due to a lack of resources and issues of accessibility, availability, and affordability. Another reason is many children lack the skills to put education into practice.
 - Due to biological changes most, adolescents initiate sexual activity between 15 and 19 years of age. Early pregnancies are also associated with higher overall fertility rates.
 - Rates of use of contraception by adolescents are often low leading to diseases like HIV-AIDS.
- ✓ **Child sexual abuse** increases the risk of unintended pregnancies. According to the WHO report 2020, about 120 million girls aged under 20 years have experienced some form of forced sexual contact.

Consequences of teenage pregnancies

- ✚ Conceiving at a such tender age can **be risky, and life-threatening** at times and there are lots of diseases associated with it. Teenage pregnancies are usually associated with **rural areas which further lack basic health care**.
- ✚ Adolescent pregnancy is also dangerous for the child, mother's lack of nutrition, lacking basic knowledge to handle a child, and lacking health awareness, can lead to **early miscarriage, child mortality at an early stage, or the child if born may face a difficult childhood**. As per NFSC-5 **more than half the women of reproductive age (15-49 years) in India are anaemic**.
- ✚ There can be a lot of social stigmas associated with early pregnancies which may include School dropout, lower educational attainment, reduction in women's lifetime earnings and aspirations leading to **financial insecurity, gender inequality, domestic violence, and mental health issues**.
- ✚ Early pregnancy is also recognized as a reason for **suicide** among pregnant girls and similarly, in some cultures, it is associated with **homicide**, in the name of family honor.
- ✚ **At a macro level, it impacts the community and nation.**

Manzil Initiative

- ❖ It is an initiative of Rajasthan Government working in 7 districts in Rajasthan.
- ❖ It worked to empower girls with employable skills and ensure their transition to jobs has empowered women economically and has brought positive changes in community.
- ❖ It has improved the participation of girls in-school and included drop-out girls in vocational and skilling courses in the intervention districts especially from socially disadvantaged and BPL households.

Resolving Issues

- Increasing access to secondary schooling increases scholarship programs and skill-building initiatives to reduce financial constraints, and dropout rates and spread awareness.
- Giving weaker sections of Scheduled Castes, Scheduled Tribes, and Other Backward Classes more focus as most early marriages are associated with these groups and rural places.
- Effectively implementing the legal framework on child marriage and better provisions on punishing perpetrators of coerced sex.
- Women's empowerment through better job opportunities and education helps in resolving issues like the age of marriage, modern contraceptive use, increasing the use of skilled antenatal, childbirth, and postnatal care among adolescents
- Preventing unsafe abortion including emergency contraceptives, for adolescents, especially those who are unmarried and those below a certain age.
- Providing age-appropriate comprehensive sexuality education including discussion of gender and empowerment to inculcate skills and values to make responsible choices.
- Health workers should be trained well in showing special sensitivity in dealing with adolescent girls.
- With better reporting and surveys, policy implementation can improve.

PEPPER IT WITH

Anti-conversion law, National Women Commission, Beti Bachao Beti Padho, Sukanya Samridhi Yojana.

Conclusion

Teenage pregnancies severely affect the individual and also the unborn child. Every child should first complete basic education, enjoy childhood, and then at right time pursue marriage and a child. It is the responsibility of the individual, family, community, and nation as a whole to save children and childhood.

Malnutrition challenges in India's Northeast

News Excerpt

According to NFHS 5 report, most of the North Eastern States are experiencing an increased burden of malnutrition.

Pre-Connect

Understanding Malnutrition

- In malnutrition, the body becomes deficient in vitamins, minerals, and other nutrients required to maintain healthy tissues and organs.
- It occurs in people who are either undernourished or overnourished.

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Status of malnutrition in India

- There is a reduction in both Child Stunting (38.4% to 35.5%) and Underweight children (35.8% to 32.1%).
- The number of overweight children has increased (2.1 to 3.4%) pointing toward the need for nutritional management at an early age.
- 76.4% of children aged 12–23 months are fully vaccinated. Covid-19 affected immunization, particularly in hilly, remote, and tribal areas.
- The fraction of children aged 6–59 months who are anemic has gone up from 58.6% to 67.1% in NFHS 5.

Status of malnutrition in North East Region

- Assam has improved in stunting (17% to 21.7%) but there is an increase in underweight (29.8% to 32.8%) and overweight (2.3% to 4.9%) percentages.
- In Meghalaya stunting has increased from 43.8% to 46.8% but wasting and underweight have decreased by more than 2 %.
- Children with stunting, wasting, underweight and overweight have increased in Mizoram, Nagaland, and Tripura
- Comparatively stunting, wasting and underweight children have decreased in Sikkim and Manipur but Manipur has increased in wasting from 6.8% to 9.9%.
- The overweight population has increased in every North Eastern State.

Reasons for malnutrition in the North East Region

- ✓ **Unutilized Budget:** The budget from the Poshan scheme was unutilized by North-eastern states, except for Mizoram which has utilized 65.12% as of 2019
- ✓ **Teenage pregnancies:** Teenage pregnancies and child marriage are high in North Eastern states than the national average. Early pregnancy often leads to a malnutritional mother and child.
- ✓ **Lack of Nutrients or micronutrients:** All north-eastern states have increased anaemic children and women, especially pregnant women, except for Meghalaya.
- ✓ **Less participation in POSHAN:** Except for Assam all other states were inactive in participating in Abhiyan.
- ✓ **Inaccessible schemes:** Despite having schemes like the Public Distribution System, Mid-Day Meals, and Integrated Child Development Scheme, important issues such as leakages, quality of food, and inadequate and less motivated human resources linking health and nutrition were unaddressed. Beneficiaries find it difficult to collect ration daily as per Take-Home Rations (THR) scheme. Nagaland was the only state which delivered ration daily.

- ✓ **Consuming unhealthy diets:** North-eastern India consumed the highest calorie and carbohydrates as processed food is easily available thus leading to hypertension, obesity, and also certain nutrient deficiency.
- ✓ **Poverty and Unemployment:** Both of them are most prevalent in northeast states and were worst hit during the COVID pandemic times thus leading incapability to buy basic food items by income groups.
- ✓ **Lack of hygiene:** Better sanitation and hygiene facilities are associated with lesser cases of diarrhoeal illnesses and decreased nutrition.
- ✓ **Ineffective vaccines:** Problems like obesity and diabetes are associated with lower effectiveness of several vaccines like influenza A/H1N1, rabies, tetanus, and hepatitis B. Iron deficiency during infancy may reduce the protection that vaccinations provide. Along with a lack of nutrition, there is a problem of overnutrition in the form of obesity.

Way of Mitigation

- ✦ **State-level monitoring:** State-level schemes can be beneficial at the local level, they will help in better budgeting, better implementation, and better acceptance among local tribal vulnerable groups. Monitoring of PDS ration in villages, dry ration or cooked hot meals in Anganwadis or Schools, etc must be the priority of Community leaders, Administrators, People's representatives, and even the Media.
- ✦ **POSHAN 2.0** will further help in reducing malnutrition with some new modifications and implications.
- ✦ **Special Focus on Tribal communities:** Emphasis should be given to tribal communities and vulnerable groups.
- ✦ **Civil society groups** can be beneficial in spreading awareness and new ideas as in North East they are quite active groups.
- ✦ **Investment in nutrition** includes nutrient-rich agricultural practices, biofortification, supplements, and a balanced diet. **Bio-fortification** is an effective way to make crops rich in micronutrients through biotechnology.
- ✦ **Adequate and balanced diets** are required for a healthy body as high amounts of sodium and fats can catalyze vulnerability to lifestyle-related diseases.
- ✦ **Investment in girls and women** can help in the development of overall society. If a woman is educated, she educates her child and will conduct her family well.
- ✦ **Utilizing biodiversity and eating forest-based foods.** **Chakhesang Naga tribe** gave a good example showing wide food diversity with high consumption of cereals and millets, green leafy vegetables, and fruits, contributing to a healthier diet. **Active community support** can be utilized for better outreach and information dissemination efforts. **Strengthening ANMS and Asha Networks** for better implementation of schemes.
- ✦ **Education and awareness** among people about a balanced diet, healthy eating, and health problems. It can help in dealing with malnutrition.
- ✦ **Healthy feeding practices** include breastfeeding the newborn until a certain time. It is associated with the immunity of the child.

PEPPER IT WITH

North East Special Infrastructure Development Scheme (NESIDS)
National Rural Health Mission
Janani Suraksha Yojana (JSY),
Accredited Social Health Activists (ASHA)

Conclusion

According to the World Food Programme, the number of undernourished people could increase by 132 million by end of this year. Along with overall India's malnutrition issue, malnutrition in northeastern states should be addressed and improved by scaling up direct nutrition interventions and filling the nutrition gap.

Over the Bond Policy

News Excerpt

Recently, Medical Students in the State of Haryana are protesting over State's Over Bond Policy. The policy ensures that vacant positions in community health centers and primary health centers are filled and ensures healthcare services are accessible in rural areas. The Supreme Court, in a 2019 judgement, has upheld the bond policy imposed for super specialty courses by several states.

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Pre-Connect

What is Bond Policy?

Bond Policy is implemented by the state government on doctors (MBBS, MD, and MS doctors). They are required to serve state hospitals, especially in rural areas for a specific period after the completion of their undergraduate and postgraduate degrees. Not Being able to serve or denying this service the doctors have to pay a penalty to the State or medical college.

Status of Rural Health care in India

- There is a three-tier system for healthcare infrastructure in rural areas:
- **Sub Centre** can be considered as a link between Primary Health Care System & Community manned with one HW(F)/ANM & one HW(M). Their functioning has increased from 43.8% in 2005 to 75.3% in 2019.
 - **Primary Health Centre (PHC)** is a referral Unit for 6 Sub Centres with 4-6 beds manned by a Medical Officer charge and 14 subordinate paramedical staff. Their functioning has increased significantly from 69% in 2005 to 94.5% in 2019.
 - **Community Health Centre (CHC)** is a 30 bedded Hospital/Referral Unit for 4 PHCs with Specialized services. Their functioning has increased from 91.6% in 2005 to 99.3% in 2019.
- **First Referral Units (FRUs)** are well-equipped facilities in District Hospitals, Sub-divisional Hospitals, and Community Health Centers to provide 24*7 emergency obstetrics, especially for cesarean sections, blood storage, and for newborn Care.
- Under Ayushman Bharat the Sub-health Centres and Primary Health Centres are being transformed into AB-HWCs to deliver preventive, promotive, curative, palliative, and rehabilitative services which are universal, free, and close to the community.

Chhattisgarh Model

Chhattisgarh Rural Medical Corp (CRMC) is an initiative of the state government to deal with acute manpower crisis in rural areas. The objective of the CRMC is improving the health services especially at difficult and remote areas by taking the services of current and retired employees of Department of Health & Family Welfare as well as from private sector such as doctors, specialists and staff nurses in those identified health facilities.

Importance of Rural Health Care

- Rural health care is extremely important as they link the rural population to health care services and help in rural development.
- They provide emergency services, spread awareness, control the spread of diseases and reduce the growing rates of mortality due to the lack of adequate health facilities; special attention needs to be given to health care in rural areas.
- They have been a boon to women in rural areas, as they can get free medical check-ups, and get to know about menstrual health, family health, contraception, and pregnancy especially C Section.
- Mothers and newly born children can get vaccinated, unlike in earlier days.
- They have also been beneficial during COVID times in spreading information and prevention methods.

Challenges

- ✓ **Less Medical Personal:** There is a shortage of doctors and health workers in rural areas, especially at PHCs. Many sanctioned posts of specialists at CHCs remain.

- ✓ **Lack of accessibility:** Road connectivity, health care infrastructure as well as rural infrastructure, lack of residential areas, availability of medical equipment, and supply of essential drugs. As per Rural Health Statistics [RHS] 2020, 4.3% PHCs are without electricity, 6.9% do not have a water supply and 7.8% are without all-weather motorable roads.
- ✓ **Societal mindset:** People in rural areas still don't prefer advanced health care especially when it is about women's pregnancies, this also includes the unwillingness to go to male doctors for women's health issues.
- ✓ **Imbalanced health facility:** Rural, hilly and remote areas of the country are served while in urban areas and cities, health facility is well developed. The SC/ST and the poor people are far away from modern health services.
- ✓ **Budgetary constraints:** the Budget 2022-23 is nearly 16.5 percent with a 1 % increase from the previous budget which is insufficient. This is the main cause of low health standards in the country.

Way Forward

- **Safety of healthcare staff:** The safety of healthcare staff should be kept a priority as there have been many incidences of human attacks, eve teasing, animal attack, etc. Providing them with safe and protected residence and
- **Uniform bond requirement:** National Medical Commission (NMC) needs to mandate a uniform standardized bond structure as different structures and costs add to the student's financial burden
- **Incentive provisions:** Provision of graded incentives based on the locality and terrains (more for difficult terrains and tribal localities) to attract doctors. It can be in the form of money and/or quotas in promotion, higher education, and permanent jobs in the respective states/ regions.
- **Training and diploma:** Take an example of a two-year diploma or three-year degree course for family medicine or general practitioner training like in the USA and the UK.
- **Mid-level healthcare providers** should be trained for short-term services.
- Workshops should be organized by recent in-service graduates to motivate other students regarding the benefits of rural training.
- Increase the number of reserved postgraduate clinical seats.
- Family medicine in most CHCs and UHCs should be made essential.

National Health Mission Initiatives for healthcare in rural areas

- ❖ National Ambulance Service is extended to remote and rural tribal areas also.
- ❖ Hard area allowance, honorarium to Gynecologists, Pediatrician and Anesthetist for conducting Cesarean Sections in rural and remote area, incentives to ANMs, doctors and negotiable salaries are offered to staff for attracting their interest in rural areas.
- ❖ Community platforms (VHSNC and MAS), Social media platforms, IVRS based platforms, TV, Radio, and other mass media in disseminating information especially regarding COVID-19 in rural areas.
- ❖ National COVID-19 Vaccination Programme (NCVP) relied on the platforms created by NHM.

Rural health Initiatives by other countries

- ❖ **Thailand:** Special recruitment initiative, including two projects, called the Collaborative Project to Increase Production of Rural Doctor and One District One Doctor, were launched in 1994 and 2005. Thailand has also launched Universal Coverage Scheme healthcare access and utilization
- ❖ **Myanmar:** Ministry of health trained Community Health workers (CHWs). CHWs are the health volunteers in the community supporting the midwives in hard-to-reach areas and ensure the quality of services.
- ❖ **China:** Under Barefoot Doctor initiative healthcare providers went basic training and served rural areas.

PEPPER IT WITH

Indian Medical Counselling Act
Ayushman Bharat National
Urban Health Mission

- Lack of proper data is a big problem, there should be regular surveys and authorized data collection for better performance in rural areas.
- **Increased digital connectivity:** It will ensure greater transparency, efficient data storage, and complaint redressal by responsible authorities. Most of the PHCs have a single computer.
- Increasing awareness among villagers and tribals which includes word-of-mouth promotion, and free health check-up camps. It would ensure people visit centers regularly instead of opting for quacks.

Acid Attack in India

News Excerpt

Recently, an Acid Attack in New Delhi shifted the focus of social discussion toward the menace of Acid Attacks which majorly target women. There was a discussion on the easy availability of corrosive substances.

Pre-Connect

Status of Acid Attack in India

- As per the NCRB data cases of Acid Attacks are coming down year after year in 2021 it stood at 102 in comparison with 150 in 2019. However, conviction rates are coming down in 2021, charge sheeting rate was 89% but the conviction rate stood at 20% in comparison with the 83% charge sheeting rate and 54% conviction rate in 2019.
- As per NCRB, West Bengal and Uttar Pradesh consistently record the highest number of such cases generally accounting for nearly 50% of all cases in the country.
- The victims are usually women between the ages of 14 and 35 years, and the attack often occurs as revenge for rejecting a marriage proposal or sexual advances, showing the peculiar mindset of male entitlement and power.

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Law on Acid Attacks in India

Section 326A of the IPC makes acid attack a punishable offence with a minimum imprisonment of 10 years which is extendable to life along with a fine

Law also makes denial of treatment and refusal to register a FIR a offence with imprisonment of up to one year and up to two years respectively.

Right of Persons with Disability Act 2016, also include acid attack victims they get 4% reservation in government job and 5% in higher education institutes.

Legal Tangles of Acid in India

Regulation of Acid Sales

- Regulation on Acid sales is covered under the Model Poisons Possession and Sale Rules, 2013 under Poisons Act, 1919. As it is the State Subject, states form their own rules based on the model rules provided by the Central government.
- Sellers have to keep a logbook that contains the details of the person to whom acid is sold, the quantity sold, the address of the person, and also specify the reason for procuring acid.
- The rules also mandate that the buyer must prove he/she is above 18 years of age.
- All sellers are required to declare all stocks of acid with the concerned Sub-Divisional Magistrate (SDM) within 15 days and in case of undeclared stock of acid. The SDM can confiscate the stock and suitably impose a fine of up to Rs 50,000 for a breach of any of the directions.
- Other users such as educational institutions, research laboratories, hospitals, government departments, and the departments of Public Sector Undertakings, are required to keep and store acid, maintain a register of usage of acid and file the same with the concerned SDM.
- The acid shall be stored under the supervision of this person and there shall be compulsory checking of the students/ personnel leaving the laboratories/place of storage where acid is used.

Compensation and Care for Acid Attack Victims

- ✓ Acid attack victims are paid compensation of at least Rs. 3 lakhs by the concerned State Government/Union Territory as the aftercare and rehabilitation cost. They have to ensure that the treatment provided is free of cost. This cost is included in the Rs 1 lakh compensation given to the victim.

- ✓ An acid attack victim requires a series of plastic surgeries and hence 1-2 beds at private hospitals could be reserved for the treatment of acid attack victims.
- ✓ States are required to extend social integration programs to the victims for which Non-Governmental Organisations (NGOs) could be funded to exclusively look after their rehabilitative requirements.

Way Forward

- The acid attack case has to be tried speedily. Investigations must be completed within the stipulated time and the investigation officer must be held liable for delays.
- There is a need to increase the punishment for Acid Attacks including even capital punishment and life imprisonment.
- Girls are forced to drop out of school and women are unable to carry on with their jobs because of disfigurement and loss of sight. They need to be trained for suitable jobs through which they can support themselves.
- All the stakeholders, including Lawmakers, police officers, forensic dept, prosecutors, judiciary, medical & health dept, NGOs, and rehabilitation centers have to come together for a serious change.

PEPPER IT WITH

Section 498-A, NCRB's Crime Against Women Data, Explosives Act, Arms Act.

Health Equity for Disables

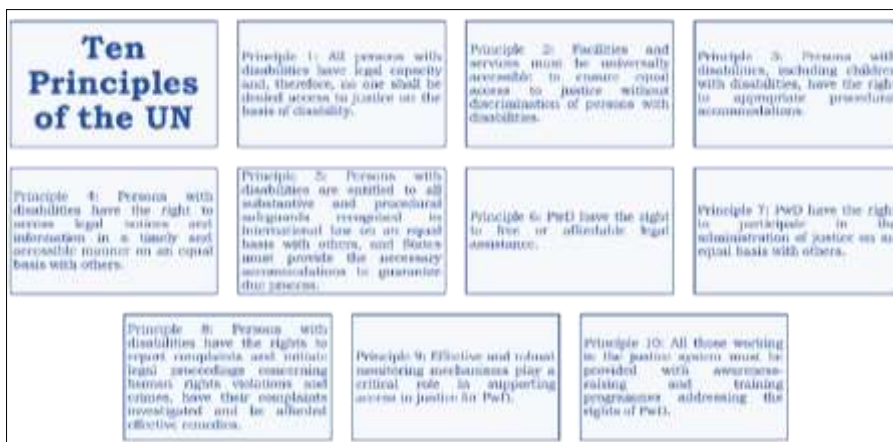
News Excerpt

World Health Organisation (WHO) has released a report on health equity for persons with disabilities.

Pre-Connect

Disability and Discrimination

- The UN Convention on the Rights of Persons with Disabilities defines persons with disabilities as those "who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others"



- Discrimination based on disability means any distinction, exclusion, or restriction based on disability that has the purpose or effect of impairing or nullifying the recognition, enjoyment, or exercise, on an equal basis with others, of all human rights and fundamental freedoms in the political, economic, social, cultural, civil or any other field. It includes all forms of discrimination, including denial of reasonable accommodation

Key Highlights of the Report

- ✓ There are near about 1.3 billion people worldwide who suffer from major disabilities. These are facing systemic and persistent health inequities and therefore they may die 20 years earlier in comparison with the person without disabilities (PwD).
- ✓ Near about 80% of people with disabilities reside in low-and middle-income countries with limited resources and therefore it is difficult to address these inequities.

- ✓ PwD is at risk of contracting chronic illnesses like depression, diabetes, stroke, etc. The discrepancies in their health outcomes are more because of unfair and unjust circumstances.
- ✓ Inequity in Healthcare can be attributed to
 - Hostile attitudes of healthcare providers
 - Physical and financial constraints prevent access to a health center.
 - Health information is non-comprehensible.

PEPPER IT WITH

Unique Disability Identification (UDID) Portal, Right of Persons with Disabilities Act 2016, Accessible India Campaign, DeenDayal Disabled Rehabilitation Scheme, Assistance to Disabled Persons for Purchase/fitting of Aids and Appliances (ADIP) National Fellowship for Students with Disabilities

Key Recommendations

- Ensure participation of PwD in an effective manner in all facets of society.
- Instill inclusion, accessibility, and non-discrimination in the medical field. The Health system should not add pressure on PwD rather it should alleviate the challenges they face.
- Health equity for PwD is critical if the world needs to achieve Universal Health Coverage. It is the central component in all efforts to protect everyone in health emergencies.
- Civil society should ensure all health sector actions are inclusive of persons with disabilities so that they can enjoy their right to the highest standard of health.

Recognition of Same-Sex Marriage**News Excerpt**

Recently, the Supreme Court of India accepted the plea of a couple who is seeking recognition of same-sex marriage under the Special Marriage Act 1954. Court has sought the opinion of the Central Government and accordingly issued notice for the same.

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Pre-Connect**Understanding Special Marriage Act**

- The Special Marriage Act, 1954 allows for civil marriage for both Indian nationals in India and in foreign countries irrespective of religion or faith followed by either party.
- Under SMA marriage is governed by personal law but by the act itself. Being a secular Act, it plays a key role in liberating individuals from traditional requirements of marriage.
- In India, the Right to Marry is neither expressly recognized as a fundamental nor constitutional right.

Issues Faced by LGBTQ+ Communities in India

- LGBTQ+ individuals face multiple forms of marginalization ranging from sexism, and poverty to social unacceptability. The prevalence of homophobia or transphobia creates socio-economic as well as mental health issues. Even, within their family, they often don't get support owing to a rigid set of social and cultural norms in Indian society.
- LGBTQ+ individuals have to deal with negative stereotypes on daily basis. They don't get the social recognition they deserve and as a result, feel socially excluded. They face extreme forms of violence, especially in rural India where the incidence of Honor Killings was reported against LGBTQ+ individuals.
- Lesbian women are subjected to family-sanctioned corrective rapes, which are often perpetrated by their family members. Village

UCC and Same Sex Marriage

Justice BS Chauhan's panel was formed in 2016 by the central government to study the implementation of UCC. The panel hinted towards legalisation of the Same-Sex Marriage. It states that the sexual orientation of a married couple or a couple living in a partnership will not be a bar to their right to adopt a child. The panel was of the view that this move will conform to globally accepted values of human rights.

medics often prescribe rape to cure lesbians of homosexuality. Refusal to marry brings more physical abuse.

- LGBTQ+ individuals are also discriminated against while getting jobs as no employer wants to hire a person with a different sexual preference as that idea does not go well with society and is often questioned by other employees. Thus, they are unable to get better pay jobs and are stuck in the vicious circle of poverty.
- Biologically gender can be defined in three categories, however socially it has many variations and LGBTQ+ individuals are forced to negotiate their gender identity in public.

Shafin Jahan v. Asokan K.M. and others 2018	KEY SUPREME COURT OBSERVATIONS
<p>Marriage as a Fundamental Right</p> <ul style="list-style-type: none"> • Right to Marry person of one's own choice is integral to Article 21. This is based on the Puttaswamy Judgement and Article 16 of Universal Declaration of Human Rights • Right to Marry is intrinsic part of the concept of liberty mention in the Constitution and therefore a fundamental right. 	
<p>Navtej Singh Johar v. Union of India</p>	<p>Decriminalising Homosexuality</p> <ul style="list-style-type: none"> • The Supreme Court of India partially decriminalized Section 377 of the Indian Penal Code, 1860. Previously, Section 377 made it illegal for homosexuals to have sexual relations. • The SC held that members of the LGBTQ community "are entitled, as all other citizens, to the full range of constitutional rights including the liberties protected by the Constitution" and are entitled to equal citizenship and "equal protection of law".

Arguments of Petitioners

- ✓ Petitioners have argued that the SMA act applies to two individuals, regardless of their gender identity and sexual orientation. Therefore, adding any gender criteria to the Act will breach both legal rights as well as the social recognition and status that flows from marriage.
- ✓ Same-Sex marriage is logically legal after Courts have decriminalized homosexuality and adjudged Privacy as a fundamental right.
- ✓ Petitioner argued that equality must extend to all spheres of life, including the home, the workplace, and public places, for LGBTQ+ individuals.
- ✓ The Union Government had made its stand clear in the Delhi High Court in 2021 that societal morality is relevant in considering the validity of a law and it is for the Legislature to enforce such societal morality and public acceptance based upon Indian ethos.

Hurdles in legalizing same-sex marriage in India

- **Marriage and relationship are different things:** Being in a same-sex relationship is legal in India but it is far away from marriage. Marriage constitutes legal and social aspects it is a long process, with laws, provisions, and acceptance.
- **There are a lot of grey areas:**
 - Living relationships through legal have no law or provision.
 - Section 4 refers to the solemnization of marriages between any two persons, it lays down one of the conditions "the male has completed the age of 21 years and the female the age of 18 years.
 - References to "husband" and "wife" in the provisions relating to the registration of marriages, restitution of conjugal rights, judicial separation, divorce, and alimony discourage other genders.



- **Society has its rules and regulations:** Every society has its own rules and regulations and accepted norms when it comes to social norms. Indian society is not alone in not forthcoming for Same-Sex marriage, even in advanced countries like the US there is no universal acceptability of Same-Sex marriage.
- **Lack of redressal mechanism:** If anything goes wrong between the same-sex couple there are no provisions or laws which would support and guard them and no place to go anywhere to get redressal.
- **Diversity of country:** Enforcement of same-sex marriage in a diverse country with varying customs and traditions is not an easy task. For a huge decision like this, the judgement has to go through lots of opinions.
- **Implication on society:** Once same-sex marriage gets legalized, what impact it has on society needs to be looked upon and it needs proper assessment for social stability.

Way Forward

- There is a need for an Anti-discrimination law that punishes the discriminatory behavior faced by individuals belonging to the LGBTQ+ community.
- There is a need for a serious debate and discussion on Same-Sex marriage as it can help in eliminating the tag of being “other” status of LGBTQ+ people. This will open the way for their social inclusion.
- Prima facie, it is discriminatory not to extend the fundamental right to marry to the individual belonging to the LGBTQ+ community.
- Other than marriage, they also face roadblocks in making a family for themselves as adoptions and surrogacy routes are closed for them. Their right to parenthood is not recognized or accommodated by law or even society. This can change once same-sex marriage is allowed.
- As a society, India needs to evolve and accept the LGBTQ+ community as their fellow human beings.

PEPPER IT WITH

Universal Declaration of Human Rights, The Transgender Persons (Protection of Rights) Act, Uniform Civil Code, Pride Parade, National Council for Transgender Persons, Gramia Grah

World Malaria Report

News Excerpt

Recently, World Health Organisation released the World Malaria Report 2022. The report stated that despite the negative impact of the Covid-19 pandemic, high-incidence countries maintained a strong front against the disease.

Pre-Connect

Understanding Malaria

- Malaria is a serious and sometimes fatal disease caused by parasites that are transmitted to people through the bites of infected female Anopheles mosquitoes.
- The survival of malaria carriers depends mainly on climatic factors such as temperature, humidity, and rainfall. As a result, it is predominantly found in tropical and subtropical areas where can survive and multiply, and complete its growth cycle.
- 5 parasite species cause malaria in humans, and 2 of these species *P. falciparum* and *P. vivax* pose the greatest threat.

Climate Change and Malaria

Climate change can increase the incidence of Malaria. In dry climates, heavy rainfall can provide good breeding conditions for the mosquitoes. Increased humidity, droughts may turn rivers into strings of pools, the preferred breeding sites of mosquitos. Similarly, in cold climate increase in temperature might result in increasing the ambient condition for the spread of disease. The interactions among temperature, vector, and pathogen can change the risk of human-to-human disease spread and of spillover to humans from reservoir hosts.



- *P. falciparum* is the deadliest malaria parasite and the most prevalent on the African continent. *P. vivax* is the dominant malaria parasite in most countries outside of sub-Saharan Africa.
- *P. knowlesi* is zoonotic malaria that naturally infects macaques in Southeast Asia and also infects humans.
- Parasites of malaria after entering the body, initially multiply within the liver cells and then attack the Red Blood Cells (RBCs) resulting in their rupture.

Diseases Burden of Malaria

- According to the latest World malaria report, there were 247 million cases of malaria in 2021 compared to 245 million cases in 2020. The estimated number of malaria deaths stood at 619 000 in 2021 compared to 625 000 in 2020.
- Twenty-nine countries accounted for 96% of malaria cases globally, and four countries – Nigeria (27%), the Democratic Republic of the Congo (12%), Uganda (5%), and Mozambique (4%) –accounted for almost half of all cases globally.
- South-East Asia Region accounted for about 2% of the burden of malaria cases globally. Malaria cases reduced by 76%, from 23 million in 2000 to about 5 million in 2021. India accounted for 79% of cases in the region. Sri Lanka was certified malaria-free in 2016 and remains malaria-free.
- In South-East Asia Region, malaria deaths were reduced by 74%, from about 35 000 in 2000 to 9000 in 2019. The number of deaths has remained the same over the past 3 years. India accounted for about 83% of all malaria deaths in the South-East Asia Region.

HBHI Approach

High Burden High Impact Approaches (HBHI) approach was launched in November 2018 by WHO and the Roll Back malaria Partnership to End malaria, as a country driven response to achieve rapid and sustainable malaria impact.

Key Elements of HBHI Approach includes:

- ❖ **Political will to reduce malaria deaths:** The approach calls on high burden countries and global partners to translate their stated political commitment into resources and tangible actions that will save more lives.
- ❖ **Strategic information to drive impact:** Moving away from a 'one-size-fits-all' approach to malaria. Through better analysis and the strategic use of quality data, countries can pinpoint where to deploy the most effective malaria control tools for maximum impact.
- ❖ **Better guidance, policies and strategies:** WHO will draw on the best evidence to establish global guidance that can be adapted by high burden countries for a range of local settings.
- ❖ **A coordinated national malaria response:** A key success factor is a more coordinated health sector response complemented by other sectors, such as environment, education and agriculture. Aligning partners behind this country-led approach will ensure that scarce resources are used as efficiently as possible

Preventive Strategies Against Malaria

✓ **Vector Control**

- It is highly effective in preventing infection and reducing disease transmission. There are two interventions under vector control these are insecticide-treated nets (ITNs) and indoor residual spraying (IRS).
- There are several challenges to the Vector Control strategy which include insufficient access, loss of nets due to the stresses of day-to-day life outpacing replacement, and changing the behavior of mosquitoes, which appear to be biting early before people go to bed and resting outdoors, thereby evading exposure to insecticides.

✓ **Preventive chemotherapies**

- It is the use of medicines to prevent malaria infections and their consequences. It requires giving a full treatment course of antimalarial medicine to vulnerable populations.

✓ **Vaccine**

- RTS, S/AS01 (RTS, S) is a vaccine that acts against *Plasmodium falciparum*, the deadliest malaria parasite globally and the most prevalent in Africa.

- The vaccine significantly reduces malaria and life-threatening severe malaria in children. If implemented broadly, the vaccine could save tens of thousands of lives each year.
- It was developed by GlaxoSmithKline (GSK) company.

Key Initiatives to Curb Malaria

Global Initiatives

- ✓ The WHO Global technical strategy for malaria 2016–2030: It provides a technical framework for all malaria-endemic countries. It is intended to guide and support regional and country programmes as they work towards malaria control and elimination. The strategy sets ambitious but achievable global targets, including:
 - reducing malaria mortality rates by at least 90% by 2030
 - eliminating malaria in at least 35 countries by 2030
 - preventing a resurgence of malaria in all malaria-free countries.
- ✓ The Global Malaria Programme: coordinates the WHO's global efforts to control and eliminate malaria by:
 - setting, communicating, and promoting the adoption of evidence-based norms, standards, policies, technical strategies, and guidelines;
 - keeping independent score of global progress;
 - developing approaches for capacity building, systems strengthening, and surveillance; and
 - identifying threats to malaria control and elimination as well as new areas for action.
- ✓ E-2025 initiative: WHO launched the E-2025 initiative in 2021 to support 25 countries and one territory identified as having the capacity to eliminate malaria by 2025. The WHO will provide specialized support and technical guidance to these countries under the initiative so that they can eliminate malaria by 2025. India is not included in E-2025 countries.

Antimalarial Drug Resistance

Over the last decade, antimalarial drug resistance has emerged as a threat to global malaria control efforts. Regular monitoring of drug efficacy is needed to inform treatment policies in malaria-endemic countries, and to ensure early detection of, and response to, drug resistance.

PEPPER IT WITH

Mekong Malaria Elimination Programme, C19RM, Financial Intermediary Fund, artemisinin-based combination therapy
Rapid diagnostic tests

Malaria Free Countries

Since 2015, 9 countries have been certified by the WHO Director-General as malaria-free, including Maldives (2015), Sri Lanka (2016), Kyrgyzstan (2016), Paraguay (2018), Uzbekistan (2018), Argentina (2019), Algeria (2019), China (2021) and El Salvador (2021).

India's Initiatives

- ✚ National Framework for Malaria Elimination (NFME) (2016): Launched by the Ministry of Health and Family Welfare in line with WHO's 2016–2030 Malaria Strategy, which guides the WHO Global Malaria Programme (GMP).
- ✚ The National Strategic Plan for Malaria Elimination (2017–22): It laid down strategies and gives year-wise elimination targets in various parts of the country depending upon the endemicity of malaria.
- ✚ India also implemented the HBHI initiative in four states West Bengal, Jharkhand, Chhattisgarh, and Madhya Pradesh in July 2019.
- ✚ Malaria Elimination Research Alliance-India (MERA-India) was established by ICMR which is a conglomeration of partners working on malaria control.

ECONOMY

Crypto-Bankruptcy

News Excerpt

Recently, the Lehman brother moment of crypto-currencies happened with the bankruptcy of FTX, the world's second-largest crypto exchange. Investigations have pointed toward the malpractices in the FTX from market manipulation to fraudulent transactions. FTX crash yet again points towards the problem with economic bubbles.

Pre-Connect

Understanding Economic Bubbles

- A bubble is an economic season with a very fast increase in asset prices with subsequent shrinkage of the economy. It occurs any time that the price of a good rises far above the item's real value.
- There are a few main types of economic bubbles: stock market bubble, real estate bubble, and bubbles on other markets, including precious metals, energy resources, and other goods.
- The causes of an economic bubble are highly debated, broadly there are two schools of thoughts
 - The Classical-Liberal Perspective
 - Its supporters see the monetary policy of a central bank as unnecessary interventions that distort markets thereby yielding negative consequences which lead to an economic bubble.
 - They believe the easy monetary policy of the central bank leads to rapid credit growth and as a result an economic bubble.
 - The Keynesian Perspective
 - They believe it is the animal spirit behind the economic bubble which causes investment prices to rise and fall based on human emotion rather than intrinsic value.
 - They believe that recessions and depressions are unavoidable and that an active central bank can mitigate fluctuations in the business cycle.



Recent Job Loss

Recently, global Tech giants are laying off people and freezing their hiring. The primary reason attributed is the mounting financial loss due to the pandemic and war-induced inflation, which reached unprecedented levels in developed countries. However, what is pushed under the carpet is their over-enthusiasm resulting from the increased consumption of their content during lockdowns. They believed this trend will continue even after things become normal. Such a type of prediction creates a fertile ground for the creation of an economic bubble. Fortunately, this bubble is arrested before it could take a shape of a mammoth, alas not without negative consequences.

- Other than these there are several other reasons responsible for an economic bubble these include:

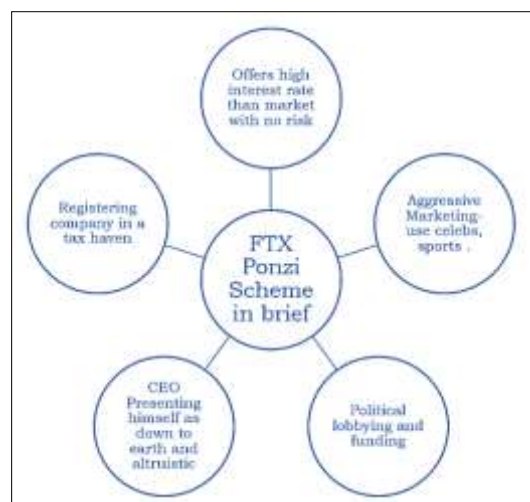
- A bubble is formed when investment coverage increases in the fixed investment capacity and thus resources of growth decrease with the efficiency of investments rising sharply.
- Poor regulation by market regulators allows vested interests to take shape and prosper without following any sound economic policy. A prime example is the 2008 Global Financial crisis.
- Impact of an Economic Bubble
 - The majority of the burden of economic bubbles always falls on the poor. It results in job loss and an economic recession with a global impact owing to globalization.
 - For example, in the aftermath of the 2008 global financial crisis, not even a single CEO responsible for speculative trading and following risky trading lost even a single penny out of the hefty bonuses they were making. On the other hand majority of pension funds went bankrupt forcing old age people with low skills back into the job market.
- Several steps can be taken to counter economic bubbles
 - An increase in investment capacity. It can be done in two ways either by occupying new markets or applying research and development for creating new technologies.
 - The early prediction of bubble formation would allow preventing the burst of the bubble and the hard landing of the economy.

Regulating finfluencers

- ❖ Finfluencers are social media influencers who advise on finance and investment. This is a welcome step as it has been reported in recent times that social media influencers often re-purpose paid-for plugs as 'free' educational content and monetize their large follower base by taking hefty fees from financial firms.
- ❖ SEBI has decided to regulate finfluencers, it has barred Commission-earning mutual fund distributors from giving fund advice.
- ❖ Further, All individuals and firms dispensing advice on mutual funds or listed securities are required to register with SEBI either as Research Analysts or Registered Investment Advisers (RIAs), adhering to minimum academic qualifications and eligibility criteria.
- ❖ In the future, Influencers found to violate SEBI's insider trading and PFUTP (Prohibition of Fraudulent and Unfair Trade Practices) regulations or indulging in front-running, should be subject to the same stringent enforcement actions meted out to mainstream market players.
- ❖ Social media influencers provide content beyond listed securities and so reining them in cannot be SEBI's remit alone. The Finance Ministry and RBI need to coordinate their efforts to curb this menace.

FTX-Crash-Genesis

- Before the foundation of FTX its CEO SBF founded Alameda Research which was buying crypto in the US market and selling it in a foreign market at a higher price and therefore earning from the difference.
- To scale up his business he founded FTX which made money from the commission on trading made by its users on various cryptocurrencies. Later FTX introduced its coins FTT which were utility points but were masked as stocks. FTT doesn't carry any intrinsic value.
- FTX was running a fraudulent cryptocurrency scheme. If a user wishes to buy FTT s/he cannot buy it directly from FTX as it cannot accept wire transfers (done deliberately). They have to send money to Alameda research and then they get the coins. Now ideally, Alameda should have transferred the money back to the FTX account, however, it didn't happen.



Rather Alameda used the money to trade into the market and lost huge amounts of money as other crypto giants fall.

- As the news of this accounting fraud came out, panic-stricken investors started withdrawing their money leading to a liquidity crunch and the eventual bankruptcy of FTX.

Lessons for India

- ✓ **Regulation is Sine qua non:** Despite tall claims that crypto is establishing a regulator-free economic order or a truly free market, the FTX crash showed that crypto needs regulation. It becomes more crucial for India where regulatory misconduct often leads to massive financial frauds, one can only imagine what financial havoc unregulated players can unleash.
- ✓ **Never Ignore basic economics-** Trading on an object which doesn't have intrinsic value like cryptocurrency is always risky. Further, in pre-covid times when banks were not able to generate a yield of 1-2%, investors trusted FTX which was offering a 15% yield should have alarmed financial pundits.
- ✓ **Need for Financial literacy-** There is a need to expand basic financial literacy to retail investors so that they understand the risk taken by their fund managers. SEBI is working in this direction, however, it should expand its work in this regard. Youngsters flock to social media platforms for financial knowledge because they find the content presented there more attractive compared with official investor awareness seminars or articles.
- ✓ **Read between the lines-** Despite being a developed economy, such scams are common in the USA. The underlying reason for this is mob mentality when it comes to investing in the USA which has its origin in aggressive marketing. Therefore, India needs to regulate such types of marketing practices and doesn't allow such practices to take root in India.
- ✓ **Experience do matter-** In whole FTX setup, there was not a single experienced financial expert, and there was no board member for internal regulation. It was the case of a complete failure of corporate controls with compromised systems integrity and faulty regulatory oversight. Therefore, India must ensure the highest compliance with corporate laws.

PEPPER IT WITH

Dot-Com bubble, Subprime mortgage, Chit-fund schemes and fraud, Tax havens, NFT

Conclusion

From its founding to its functioning to its collapse, the FTX saga is full of red flags. Yet people avoided all the warnings and once the whistle was blown, the whole arrangement fell like a house of cards. The whole episode should serve as a lesson for India and its regulators that their job is about to get more complex in the coming times. For retail investors the lesson is simple "all that glitters is not gold".

Blended Finance

News Excerpt

India will require cumulative investments of \$10 trillion to achieve its net zero targets by 2070. One of the financing tools India can use in achieving this target is Blended Finance.

Understanding Blended Finance

- The term 'blended financing' refers to the strategic use of public and philanthropic resources to mobilize private capital for development purposes. For example, to facilitate the flow of new capital into high-impact sectors such as agriculture, blended finance can be used to effectively leverage the expertise of the private sector in identifying and executing developmental investment opportunities and strategies.
- The concept of blended finance refers to a structural approach that helps enterprises achieve their various objectives at the same time, including financial return, environmental impact, or both.

Mechanics of Blended Finance

- Blended finance is more than an instrument, it is an investment structure that allows multiple investors to participate according to their specific investment objectives.



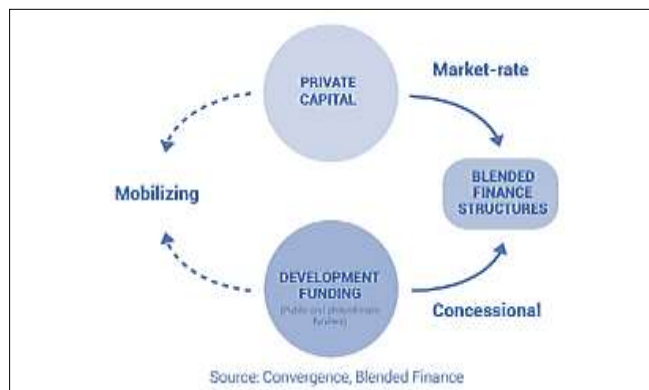
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- Blending finance typically involves the use of multiple financing instruments, including grant capital, debt, and equity, the aim is to attract private-sector investment.
- In the agriculture sector, blended finance can be used to support smallholder farmers, rural infrastructure projects, and agricultural value chains.
- When properly structured, blended finance can help to attract private investment while also achieving development goals. As the field of blended finance continues to evolve, it has the potential to play an important role in supporting the agriculture sector and other sectors.

Key Characteristics of Blended Finance

Blended Finance can be characterized by three main features:

- ✓ **LEVERAGE**-Use of development finance and philanthropic funds to attract private capital into deals.
- ✓ **IMPACT**-Investments that drive social, environmental, and economic progress.
- ✓ **RETURNS**-Financial returns for private investors in line with market expectations, based on real and perceived risks.



Role of Blended Finance in achieving Social Goals

- Builds a pipeline of **commercially viable social impact projects**.
- **Reduces the risk premium** through co-financing and co-investment Investments that drive social, environmental, and economic progress.
- Blended finance is a valuable tool for **Bilateral and Multilateral agencies**, Philanthropic Organizations, and Corporate Social Responsibility (CSR) foundations to complement traditional grant-making and invest their monies in the form of loan/equity/guarantee in projects that deliver financial and social returns.
- It has enabled large foundations such as the Bill and Melinda Gates Foundation, to bridge the risk appetite gap and subsidize financial risk through grants or forms of low-cost returnable capital to direct commercial capital into development initiatives.
- Blended finance also has a **crowding-in effect** wherein, when new models are workable and successful, other commercial players also start providing funding in the space independently using similar models. Over a period, this leads to an **increase in the total capital deployed** in the target areas.

Blended finance and India's healthcare

India's healthcare sector has **grown rapidly** over the last five years (Compound Annual Growth Rate of 22%), COVID-19 has brought to the forefront **persistent challenges** such as a weak health system, lack of quality infrastructure, and lack of quality service delivery to vulnerable populations.

- ❖ **Two indicators** can determine the blended finance prototypes: one, to measure the country's health system status (build, strengthen & transition), and the other to gauge investment attractiveness given the country's fiscal and economic situation.
- ❖ In comparison, countries in the **transition phase** with more established health systems and greater participation from private sector investors could **explore more intricate instruments** like impact bonds, debt-buydowns, and impact

Key challenges

Some key challenges hampering the adoption of blended finance at scale include:

Lack of a private sector mobilization strategy and action plan

- ✚ Blended finance is one tool in the development toolbox centered on increasing the quantum of financing for SDG projects.
- ✚ Donors are the main source of the catalytic funding that creates the market-equivalent investments that mobilize private investment, but they have not prioritized and budgeted private sector mobilization as a necessity to significantly narrow the SDG financing gap.

Low levels of coordinated participation from the government

- ✚ The current government system is based on input-based budgeting, while blended finance structures such as SIBs require a shift to outcome-based funding.

High transaction costs and long timelines in structuring blended finance solution

- ✚ Though the design and evaluation costs for structures such as DIBs and SIBs are decreasing over the years, these are still high. A blended finance solution's design and contracting time is typically higher than traditional grants or pure commercial investment.
- ✚ The blended finance intermediaries executing these structures in short timelines and with lower transaction costs should act as a harbinger of blended finance and collaborate and strategize with other structuring agencies to minimize the lead time to increase the adoption of blended finance.

Lack of transparency on blended finance activity limits its scalability

- ✚ Concessional capital providers do not publicly disclose financial terms or ex-post development outcomes, limiting the evidence base for blended finance as a development tool, while private investors do not disclose data on financial performance due to confidentiality concerns.

Sustainable Access to Markets and Resources for Innovative Delivery of Healthcare (SAMRIDH)

- ❖ India's existing healthcare ecosystem is coping with those challenges, Limited access to appropriate capital, Less incentives to adopt innovative practices. Lack of market intelligence and network and so on.
- ❖ SAMRIDH Healthcare Blended Finance Facility aims to catalyze innovative financing mechanisms to improve healthcare services for India's most vulnerable populations.
- ❖ Through this initiative, SAMRIDH combines commercial capital with public and philanthropic funds to mitigate barriers to private investment in healthcare. The approach aims to drive greater resources towards market-based health solutions to improve access to affordable and quality healthcare services for India's most vulnerable.

Regulatory Constraints in mobilizing grant capital such as CSR funds

- ✚ The government of India mandated in 2013 that 2% of corporate profits be directed to the development sector, boosting the spending pool for CSR activities by an estimated \$7 billion. While the initiative started slowly, some CSR initiatives, impact investors, and donors are now actively exploring creative channels to best combine the CSR mandate with the financial innovation in the market.
- ✚ Legal obstacles and regulatory constraints still exist for the use of CSR in blended finance structures, and it requires clear guidance from regulators to make the best use of CSR funds.

The ecosystem for blended finance is underdeveloped

- ✚ There is a lack of financial intermediation in the blended finance market and addressing the SDG investment gap more generally. Donors and investors are looking to channel large amounts of capital toward market opportunities aligned with the SDGs.

A focused mandate restricts flexibility

- ✚ Each party involved in a blended finance transaction has its focused mandate restricting the flexibility of finance required for blended financing structures.

PEPPER IT WITH

Social Impact Bond, Development Impact Bond, Impact Investing, Patient Capital, Social Finance

Lack of openness from NGOs & CSO for availing commercial capital

- ✚ Non-Governmental Organizations (NGOs)/Civil Society Organizations (CSOs) that have higher penetration to the most vulnerable sections of society and thereby can help achieve a larger impact are not open to commercial investments.
- ✚ This restricts their ability to get on to a common term with commercial institutions, which require sustainable models. Further, focusing on the specific needs of vulnerable populations necessitates more localized support, which limits the scale of these NGOs/CSOs.

Taxing Online Gaming

News excerpt

The online gaming industry is generating \$20 billion in revenue and entertaining 200 million people. It is expected to reach \$25 billion by 2030 per year it is growing exponentially. The government is planning to levy a GST of 28% but it has been deferred in the recent GST Council meeting.

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Pre-connect

India's Gaming Ecosystem

- The revenue of the Indian mobile gaming industry is expected to exceed \$1.5 billion in 2022 and is estimated to reach \$5 billion in 2025.
- India's percentage of new paying users (NPU) in gaming has been the fastest-growing in the world for two consecutive years. NPUs grew at 40% in 2020 and reached 50% in 2021.

Taxes structure on online game

- The online gaming industry pays **18% GST on its revenues** or platform fee intake (known as 'gross gaming revenue' or GGR) for providing users with a platform to play.
- This fee happens to be roughly 15% of the overall prize pool in any contest.
- It means **GST is about 2.7% of the overall prize pool** and if 28% GST is levied on the overall prize pool as suggested by some policymakers, it would result in a **1,000% increase** in the effective tax burden.

What gaming includes in India?

India mainly puts the games into two broad categories to differentiate them.

- ❖ **Game of chance (Gambling):** Games of chance are all those games that are played randomly, which are based on luck. A person can play these games without prior knowledge or understanding. For instance, dice games, picking a number, etc. Such games are considered **illegal** in India.
- ❖ **Game of skill (Gaming):** Games of skill are all those games that are played based on a person's prior knowledge or experience of the game. A person will require skills such as analytical decision-making, logical thinking, capability, etc. Some games might also require some initial training to win. Such games are considered **legal** by most of the Indian states.

Impact of Proposed Change

- ✓ The proposed high tax policy will make it impossible for the sunrise sector to achieve the vision of India **becoming a gaming superpower** and becoming a contributor to a trillion-dollar digital economy.
- ✓ In the digital age, there are no territorial boundaries and this over-taxation may lead to **shutting off domestic operators and shifting foreign operators** to other markets.
- ✓ Such repercussions have already been seen in **horse racing**, where the imposition of 28% GST on prize pools reduced industry **revenues by over 60% and tax collections** by over a third.
- ✓ It would also open the **floodgates for (offshore) grey Market operators** that will be able to offer a much bigger prize pool than tax-compliant domestic operators. It would potentially wipe out the industry overnight.
- ✓ **Tens of thousands would be jobless. Thousands of crore in tax revenue were lost**, and Millions of gullible users fell prey to grey-market operators.

Challenges in Taxation

- The online gaming industry within India **lacks regulatory oversight** and it falls into a '**grey area**'.
- India currently has no comprehensive legislation concerning the legality of online gaming that specifies **applicable tax rates within the betting and gambling industry**.
- Online gaming in India is **allowed in most states**. However, different states have their legislation
- Well-regulated online gaming has its advantages, such as **economic growth and additional profit**.

- However, shifting users to grey or illegal offshore online gaming apps not only results in a **loss of tax revenue for the State and job opportunities** for locals but results in users being unable to avail remedies for any unfair behavior or refusal to pay out winnings.
- The online gaming sector is one of the sunrise industries – which has been built to meet the roadmap of Atmanirbhar Bharat. Currently, the industry employs over 50,000 people, it is expected to create one lakh new direct and indirect jobs by the end of FY23. However, all this could hit the wall due to steep taxation.
- One of the looming fear is that taxation could push consumers towards more lucrative options such as offshore betting and gambling websites.

PEPPER IT WITH

The Public Gambling Act, Gambling and Suicides in India, Sports Betting

Way forward

- Due to more lucrative options such as offshore battling and gaming websites, there can be a chance of abiding by the tax. So, there should be a level playing field.
- India should avoid such strict regulations on these games as it will increase only the difficulties of the authorities like in the USA and the UK.
- Alternatively, India should leapfrog to the world's best-in-class standards to protect consumers.
- An **industry-friendly, progressive policy** with consumer protection at the forefront will accelerate healthy growth for the online gaming sector. It will bring in **incremental tax revenues, which could make India a global online gaming powerhouse** in return.

Financing Urban Infrastructure**News excerpt**

Recently, the report, titled **“Financing India’s Urban Infrastructure Needs: Constraints to Commercial Financing and Prospects for Policy Action”** was released by the **World bank**. The report **underlines the urgent need to leverage more private and commercial investments** for the needs of the growing urban population that needs to increase its annual investment in city infrastructure from an average of \$10.6 billion a year.

Pre-Connect

Urbanization refers to the population shift from rural to urban areas, the corresponding decrease in the proportion of people living in rural areas, and how societies adapt to this change.

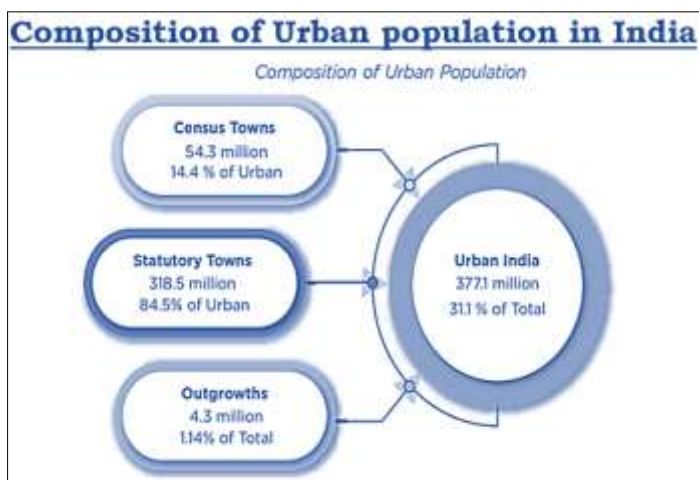
Causes of urbanization

- Natural Increase of Population:** It occurs when the number of births exceeds w.r.t number of deaths.
- Rural to Urban Migration:** It is driven by **pull factors** (that attract people to urban areas) and **push factors** (that drive people away from the rural areas).
- Employment opportunities, educational institutions, and urban lifestyle is the main **pull factor**.
- Poor living conditions, lack of educational and economic opportunities, and poor healthcare facilities are the main **push factors**.

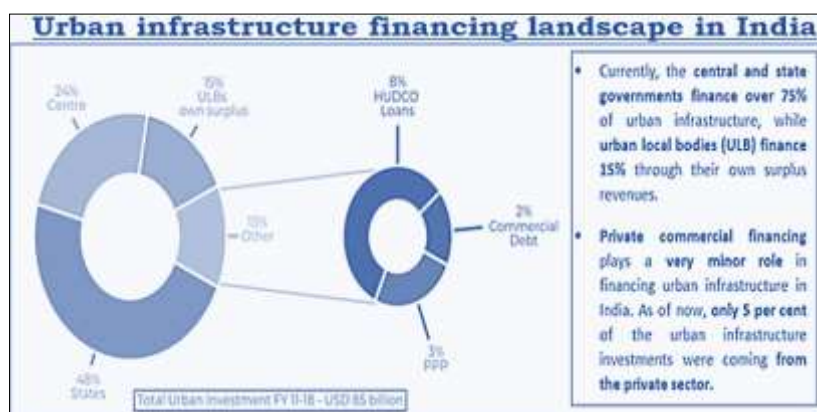
The Urban Challenge of India

India faces severe Urbanisation challenges some of which are:

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- The majority of Statutory towns are expanding without any master plan to guide their growth and infrastructural investments.
- Haphazard growth, unplanned construction, and ad-hoc provisioning of infrastructure.
- Fragmented and poorly recorded ownership of urban land as a result, land parcels of high urban densities co-exist with those which are sub-optimally utilized.



- A significant number of the population live in slums as per Census 2011, 17.3% of the total urban population was in slums in India.
- Water scarcity is another cause of worry. The World Wide Fund for Nature India (2020) has found that Indian cities dominate both current and future lists of cities from across the world with the highest overall water risk.
- The coastal cities are vulnerable to floods due to multiple causes, which include faulty urban design and planning, dynamic coastline, flash floods, storm surges, cyclones, and tsunamis.

Key Highlights of the Report

Urban population

- ✓ By 2036, 600 million people, or 40% of the total population will be living in cities.
- ✓ There will be an increase in demand for clean drinking water, reliable power supply, efficient and safe road transportation, and so on. This is expected to put additional strain on India's already overburdened urban infrastructure and services.
- ✓ Currently, the central and state governments finance over 75% of city infrastructure, while **Urban Local Bodies (ULB) finance 15% through their surplus revenues.** Only 5% of the infrastructure needs of Indian cities are currently being financed through private sources.

Investment requirement

- ✓ **India will need to invest USD 840 billion over the next 15 years** into urban infrastructure if it is to effectively meet the needs of its fast-growing urban population.

PPP transactions for Urban Infrastructure

- ✓ Over the last decade, PPP transactions for urban infrastructure in India have declined significantly (both in monetary value and transaction volume). For example, since 2000, 124 PPP projects worth \$5.5 billion have been awarded in the urban sector.

Low revenue

- ✓ Between 2011 and 2018, urban property tax was 0.15% of GDP, compared to a low- and middle-income country average of 0.3-0.6% of GDP.
- ✓ Policy decisions to keep service charges lower than what is necessary for cost recovery and financial sustainability contribute to low revenue.

Slow implementation Performance

- ✓ Several flagship missions, such as Smart Cities (SCM) and the Pradhan Mantri Awas Yojana (PMAY), are being implemented slowly by states and urban local bodies (ULBs).
- ✓ For example, over the last six fiscal years, ULBs in India have executed only about one-fifth of the approved projects under SCM and the Atal Mission for Rejuvenation and Urban Transformation (AMRUT).
- ✓ This is primarily due to constraints on implementation capacity at the city level.

Key Suggestions

- Making the transfer of funds to cities formula-based and unconditional and increasing the mandates of city agencies gradually.
- Cities in India require significant funding to promote green, smart, inclusive, and sustainable urbanization.

- Creating an environment that encourages ULBs to borrow more from private sources will thus be critical.
- The Indian government can play a significant role in removing market frictions that cities face when seeking private financing.
- In the medium term, a series of structural reforms, such as those in taxation policy and the fiscal transfer system, can enable cities to leverage more private financing.
- Identifying a set of large high-potential cities with the ability to raise larger amounts of private financing in the short term.
- Building the capacity of city governments is critical for implementing the above recommendations for large-scale infrastructure projects.
- The report also suggests accounting, auditing, and financial disclosure standards for urban bodies. It would boost further investor confidence and incentive.

Other Interventions include:

- ✚ The planning of cities and towns should be done with adequate provisions of blue-green-grey infrastructure integrated with the land uses, transportation systems, natural drainage patterns, and the regional context.
- ✚ While, planning the city focus on natural drainage systems, wetlands, floodplains, surface waterbodies, and groundwater plays an integral role in maintaining the water balance, flood cushioning, micro-climate regulation, and protection of biodiversity.
- ✚ Coastal habitations and infrastructural investments are vulnerable to a rise in sea levels due to climate change, cyclones, and so on. Capacities including specialist expertise for planning coastal regions and settlements are, therefore, extremely important.
- ✚ There is an immense need for a multi-sectoral urbanization policy at the State level with the involvement of all relevant stakeholders.

PEPPER IT WITH

Swachh Bharat Mission-
Urban, AMRUT, HRIDAY,
Pradhan Mantri Awas
Yojana

Digital Divide in Financial Inclusion

News Excerpt

Recently, the Union Minister of Electronics and IT has asserted that Unified Payments Interface (UPI) platforms are worth 55% of India's gross domestic product (GDP), pointing toward an increase in the use of the digital payment ecosystem in India. Though it was imagined that digital payment will lead to financial inclusion automatically, however an undertone of the digital divide still exists and need to be proactively addressed.

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Pre-Connect

Financial Inclusion

- Financial inclusion is defined as the process of ensuring access to financial services and timely and adequate credit where needed by vulnerable groups such as weaker sections and low-income groups at an affordable cost.
- In a diverse country like India, financial inclusion is a critical part of the development process. Since independence, the combined efforts of successive governments, regulatory institutions, and civil society have helped in increasing the financial-inclusion net in the country.
- The state of financial inclusion has improved considerably over time. However, financial inclusion hasn't reached the poorest of the poor and there exist many bottlenecks and challenges which need immediate attention.
- Thus, there exists both a great need and the potential to tap into the unbanked population and bring them into the financial net.

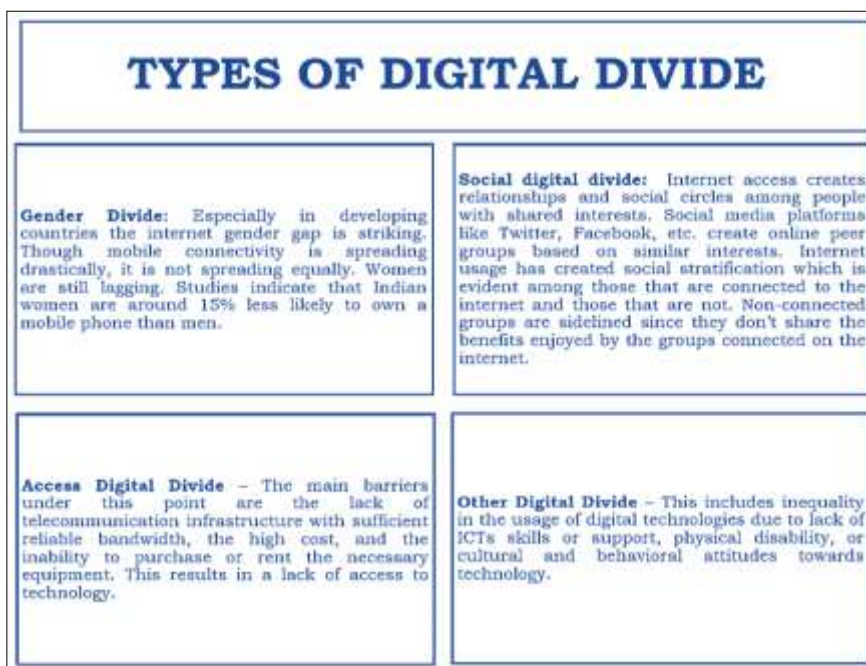
Digital Divide

- A digital divide is an uneven distribution in the access to, use of, or impact of information and communications technologies between any number of distinct groups, which can be defined based on social, geographical, or geopolitical criteria, or otherwise.

- Bridging the digital divide that prevails is crucial to address the root cause of financial inclusion.

Challenges in Financial Inclusion

- ✓ Despite all the initiatives, India is still behind in providing universal access to bank accounts to its citizens. According to the Findex 2017 report, about 190 million adults in India do not have a bank account. This makes India the world's second-largest nation in terms of unbanked population after China.
- ✓ **The low-income group is still left out because the bank cannot provide a favorable financial product.**
- ✓ There is a lack of skills among the stakeholders to use digital services, There are infrastructural issues.
- ✓ Indian economy is heavily dominated by cash. The data from RBI reveals that cash circulation has increased in 2018 after demonetization. Also, according to International Labour Organization (ILO), about 81% of the employed persons in India work in the informal sector. This combination of the informal sector and high dependence on cash mode of transaction poses an obstacle to digital financial inclusion.
- ✓ India still needs a robust telecommunication infrastructure with a stable broadband internet connection. Despite progress in increasing technological features with increasing speeds, the inability of the entire country to adapt to these innovations has widened the gap.
- ✓ India additionally faces the hurdle of getting its citizens online, with more than 310 million individuals needing a basic cell phone. This prevents account holders from receiving crucial information.
- ✓ Another challenge to digital financial inclusion arises from the attitude of the stakeholders. For instance, the Jan Dhan scheme has resulted in the opening of many dormant accounts which never saw actual banking transactions. The lack of financial literacy has also greatly impeded the growth of financial inclusion. Mobile numbers and Know Your Customer (KYC)



Digital Financial Inclusion Initiatives Taken in India

- ❖ JAM Tritnity: It is the combination of Aadhar and Pradhan Mantri Jan-Dhan Yojana (PMJDY) along with increasing mobile communication coverage. Using this trinity, access to financial services is eased.
- ❖ Expansion of the Unified Payment Interface (UPI) by National Payments Corporation of India (NPCI). Similarly, Unstructured Supplementary Service Data (USSD) is used for offline transaction-enabling use mobile banking services without internet, even on a basic mobile handset.
- ❖ Multiple instrument for financial Inclusion is launched by RBI and National Bank for Agriculture and Rural Development (NABARD). These includes Kisan Credit Cards, Payment Infrastructure Development Fund (PIDF) scheme, Linkage of self-help groups (SHGs) with banks, Business correspondents, bank branches in remote areas.
- ❖ Awareness programme like Project Financial Literacy of RBI and Pocket Money program of SEBI.

Data are widely used in opening accounts hence several parties are raising complaints against Data Privacy.

Way forward

While India works consistently towards various technological advancements through various e-governance schemes, there is a need to pay more attention to the digital gap within society. There are the following solution for financial inclusion within the ambit of the digital divide:-

- It is necessary to develop financial goods and services focused on the needs of citizens.
- Policies should focus on digital inclusion strategies to ensure that rural areas can access proper internet connectivity.
- A systemic strategy focused on digital skills, and financial literacy should be implemented in each region, keeping in mind the language barrier and access to technology.**
- Additionally, to ensure digital financial inclusion, the government should encourage the middle-aged bracket to adapt to digital literacy to use the various facilities.
- A systemic strategy focused on digital skills, and financial literacy should be implemented in each region, keeping in mind the language barrier and access to technology.
- Combating Financial fraud:-** There should be one-to-one Management of Financial Services (MFS) agent mentorship program that focuses on vulnerable populations and teaches them the fundamentals of mobile. For example; Nepal

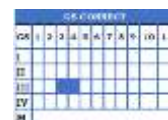
PEPPER WITH IT

Cloud-based IT solution for planning, BharatNet project, Unified Payment Interface (UPI), Digital payment, self help group, Aadhar-enabled payment system (AEPS).

Urban Agriculture and India's Food Security

News Excerpt

United nation food and agriculture organization, says that urban and peri-urban areas have a significant role to play in global food and nutritional security, and so it is seeking to encourage such activities through the urban food agenda.



Understanding of urban agriculture and food security

- Urban agriculture is the practice of farming in urban and peri-urban areas. Farming connotes a wide range of food and non-food products that can be cultivated or grown, including rearing livestock, aquaculture, and beekeeping. However, in the context of Indian cities, the focus is on the cultivation of vegetables, fruits, and flowers for human consumption.
- Food security is key in an age of uncertainties. Growing climate-related risks, geopolitical tensions, and macroeconomic shocks make imports costlier than ever before—in both tangible and intangible terms.
- Today, there are still 795 million undernourished and hungry people in the world, which means that one in nine people does not get enough food to lead a healthy, active life
- Due to the growing world population, it is estimated that global food production will need to be increased by 60 percent to feed over 9.5 billion people by 2050.
- India's agriculture sector's GDP stands at US\$ 262 billion, demonstrating a low dependence on imports. Achieving self-reliance and sustainability in agriculture has led to a critical policy switch.

Peri-urban agriculture

Peri-urban areas are those transitioning from rural land uses (such as for agriculture or livestock production) to urban ones (such as the built environment, manufacturing, services, and utilities), and are located between the outer limits of urban and regional centres and the rural environment.

Need for Urban Agriculture

- At least 55% of the world's population lives in cities, which eat 80% of the food produced globally.

- Metropolitan areas must **become sustainable and liveable** to support such a large population while also dealing with climate change.
- **Food Security and financial stability** are provided by urban agriculture for city people.

Benefits of Urban Agriculture

- ✓ **Economic Growth:** Urban farming can help to stimulate the local economy by creating jobs, generating income, and growing small businesses.
- ✓ **Job Creation:** Urban farms may provide vital skills and education to many unemployed people, as well as a steady source of income, even if it is seasonal work.
- ✓ **Development of Green Spaces:** Unused fields and wastelands can be cultivated as part of urban redevelopment. It increases the amount of green space available and minimizes pollution.
- ✓ **Health & Wellness:** Urban agriculture brings fresh vegetables closer to the point of consumption. Urban farm fruit is considerably more likely to be perfectly ripe, nutritious, and seasonal.
- ✓ **Reduce Food Waste:** Food waste is reduced since people only create what they require. This significantly lowers food waste.
- ✓ **Environmental Management:** Urban agriculture plays an important part in urban environmental management since it can reduce urban heat islands and act as an urban lung, as well as offering aesthetic value.
- ✓ **Waste Management:** Because cities are having trouble managing and disposing of waste, urban agriculture may be able to help.
 - The use of properly treated sewage water for urban agriculture can help with wastewater disposal while also reducing the need for fresh water.
 - Furthermore, organic waste from the city can be composted and employed in the creation of food and flowers.

Food security

- ❖ Food security is defined as a concept that considers **both physical and economic access to food** while also taking into consideration people's dietary demands and preferences.
- ❖ Food security is defined as **"ensuring that all people have access to sufficient, safe, and nutritious food at all times in order to live a healthy and active life."**
- ❖ Food security is built on four pillars: Availability, Access, Utilisation, and Stability
- ❖ The primary problem in achieving the goal of self-sufficiency in emerging nations is **food stability and availability**.

Challenges to Urban Agriculture

- The **current trajectory of urbanization/industrialization** in peri-urban villages or peri-urban areas is quite worrying. Shortly, this pattern will cause these locations to become **polluted and unhealthy**.
- **Lack of access to water** and other productive resources - **competition for land** and issues related to tenure rights.
- There are **food safety concerns** regarding the **use of wastewater and organic material** and the **risk of the spread of diseases** and contamination.
- City planners would also require technical guidance for the integration of agricultural activities into urban development and training needs to be provided on urban sustainable production systems.
- In **endogenous or "subaltern" urbanization**, the problems are numerous. The current process of "urbanization" and urban growth in India is heavily **reliant on expanding cities and "census towns."**
- In Indian cities, **urban land-use planning (ULP) does not prioritize agriculture**. Agriculture is viewed as a mostly rural activity and source of income.

Way Forward

- ✚ In the future, urban farming could be a viable option for **guaranteeing food security in India** and around the world.

- Challenges: Contamination of crops with pathogenic organisms can be caused by the use of inadequately treated wastewater on farms.
- Contamination of crops by heavy metals from contaminated soils, air, or water can be caused by heavy traffic and industry.
- India's **Urban and Regional Development Plans Formulation and Implementation (URDPFI) guidelines** mention Green Cities under the **urban planning approach**. Green Cities have the advantage of preventing damage to the productivity of agricultural land.
- There is a need for a paradigm shift in urban planning. The ULP must prioritize the estimation of **waste management capacity**, build infrastructure for it and regulate **industrial installations** to this capacity.
- This requires adequate political will for aspects like **financial inputs** to fund-starved urban administrations and **enforcement of regulations** for curbing violations of environmental norms.
- The incorporation of UPA into ULP will enable support in achieving **urban food security** and even a **circular bioeconomy**. This can lead to the development of **healthy** and **sustainable cities** for all.

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Urban Heat Island Effect, Vertical Farming Techniques, Aquaculture, Agroforestry, FAO, National Action Plan on Climate Change, Green India Mission. Agricultural Sector And Marketing Reforms – Enam, Model Apmc Act, Eco Survey Reco, Etc.

Conclusion

Climate change already has widespread impacts worldwide in the form of floods, heat waves, and other calamities. Additionally, droughts in the countryside will likely trigger increased migration to cities. As urban populations grow, urban agriculture must become vital to municipal functions. Similarly, urban plans must include urban agriculture in their land-use strategies. UPA must be understood as a permanent and dynamic part of the urban socio-economic and ecological system.

Open Network for Digital Commerce (ONDC)

News Excerpt

Open Network for Digital Commerce (ONDC), is an initiative of the Department of Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce, Government of India, to create a facilitative model to revolutionize digital commerce, giving greater thrust to penetration of retail e-commerce in India.

About ONDC

- It is being developed as a counter to the current duopoly in the Indian e-commerce market which is largely dictated by Amazon and Walmart-owned Flipkart.
- It is an initiative aimed at promoting open networks for all aspects of the exchange of goods and services over digital or electronic networks.
- It is to be based on open-sourced methodology, using open specifications and open network protocols independent of any specific platform.
- ONDC standardizes the protocols so sellers would not have to follow separate lists of mandates from every platform they join. Powered by ONDC, sellers' products will be visible to all buyers using any ONDC-enabled platform.
- ONDC will be connecting logistics on the same network so that both sellers and buyers can keep track of the order and delivery irrespective of the particular platform they are using.
- Objectives of ONDC include
 - Democratization and decentralization of eCommerce
 - Inclusivity and access for sellers, especially small and medium enterprises as well as local businesses

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- Increased choices and independence for consumers

Opportunities with ONDC

- Lower entry barriers to promote competition and in turn market growth.
- The democratization of the digital commerce space will reduce channel costs for all players, including incumbents.
- A common seller registry will help expand the seller base multi-fold for all players.
- Portability of reputation will encourage sellers to deliver better customer experience across platforms.
- Networking effects over time tend to create virtuous cycles of growth like in the case of UPI.
- If incumbents become a part of the network, it will drive meaningful adoption.



Benefits of ONDC

- ✓ It will provide a level playing field for e-commerce operators and will help in widening the digital market access for MSMEs and small traders.
- ✓ It will help in empowering suppliers and consumers by breaking the monopoly of giant platforms to drive innovation and transform businesses.
- ✓ It will help consumers by expanding their freedom of choice. A customer can potentially discover any seller, product, or service in a common platform
- ✓ It aims at fostering open networks developed on open-sourced methodology, using open specifications and network protocols, and independent of any specific platform.

Way Forward

- To compete with major e-commerce players government needs to build a better digital space.
- There is also a need to create a proper digital education policy that takes into account various languages and user-friendly interfaces for the benefit of the consumers as well as sellers
- Funding will be an issue as tens of millions of store needs to be brought to the platform.
- Both demand and supply sides should be able to access a secured single window to resolve issues such as information asymmetry, opaque pricing, etc.

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UPI 2.0, E-Commerce Rules, Competition Commission of India, Predatory Practices of E-Commerce in India.

Domestic Inflation

News Excerpt

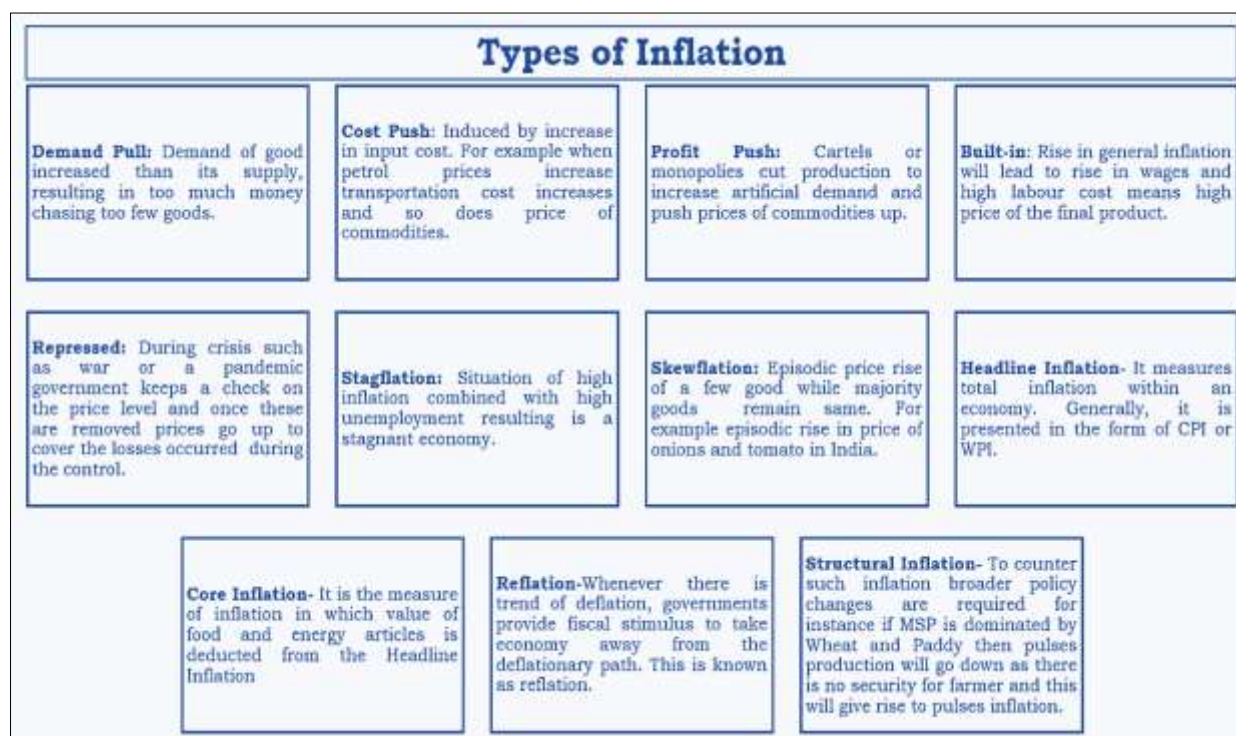
Domestic inflation plays a crucial role in the rupee stabilization process. RBI's intervention in the forex market won't bear fruits in the long term until domestic inflation is reigned in by the central bank.

Pre-Connect

Understanding Inflation

- Inflation is defined as the rise in the general level of prices of goods and services in an economy over a period of time.
- John Maynard Keynes asserted that when the economy is functioning at full employment, aggregate supply will match aggregate demand. This he defined as the General Price level. Any increase causes inflation while any decrease causes deflation.

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- An inflationary gap is a macroeconomic concept that measures the difference between the current level of real gross domestic product (GDP) and the GDP that would exist if an economy was operating at full employment.
- An inflationary gap occurs because of
 - Increase in Money Supply
 - Increase in the propensity to consume
 - Increase in the fiscal deficit
 - Increase in the NET exports
 - Increase in the Aggregate demand
 - Increase in the Investment expenditure
- An inflationary spiral is a situation in which prices increase, then people are paid more for their jobs, which then causes the price of goods and services to increase again, and so on.
- Both RBI and Government take steps in countering Inflation like:
 - RBI- Tight/Hawkish Monetary policy by raising the benchmark rate i.e. repo rate. It can also resort to Open Market Operations where it will sell government securities to mop up the extra liquidity.



- Government- The government also resorts to several measures to counter inflation. These include-
 - Tax deductions to producers to decrease the cost of production,
 - Curtailing fiscal deficit and subsidies give more money in the hands of beneficiaries without increasing production.
 - Directs RBI to issue bonds like an inflation-indexed bond, and check on hoarding through the essential commodities act.
 - It can also offer higher MSP to farmers for a particular crop to increase its production.
 - It can also have a special fund for such contingencies for example- Operation Greens.

Calculation of Inflation in India

- To calculate Inflation in India benchmark is Headline Consumer Price Index (All India).
- It is calculated for a particular Month and then compared with the same month in the previous year.
- Their difference is divided by the value of the same month last year and the whole is multiplied by 100 to get the percentage value.

The divergence between CPI and WPI

Economic Survey 2022 discussed the divergence between CPI and WPI. It asserted that

- ✓ CPI reflects the buying behavior of consumers, derived based on household consumption patterns, and reflects price movements at the retail level.
- ✓ The WPI-based inflation rate is based on the share of the respective items in total wholesale transactions in the economy at the first point of sale.
- ✓ CPI takes into account the impact of indirect taxes while it is not reflected in the WPI.
- ✓ CPI gives higher weightage to food than WPI. WPI assigns a large weight to manufactured products and 'fuel and power groups.

Criticality of Containment of Domestic Inflation

The Mundell-Fleming Trilemma

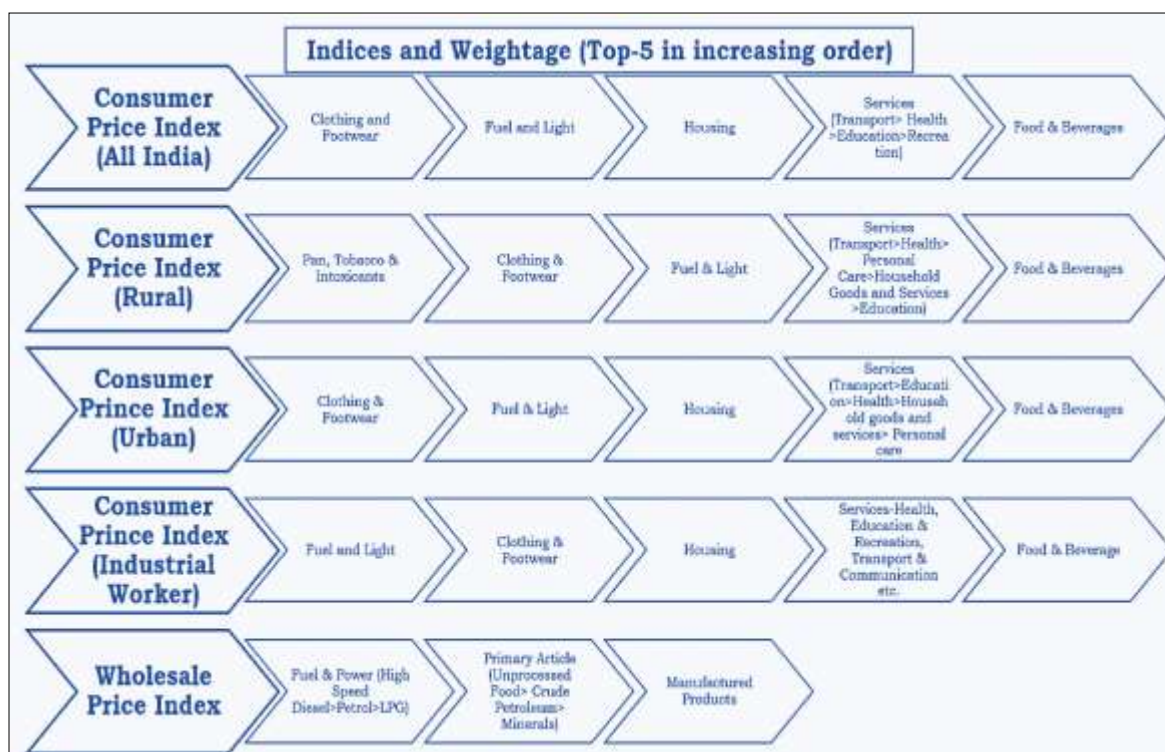
- This theory was given by economists Robert Mundell and Marcus Fleming. According to them, no economy could manage all three things together. These includes
 - **Open/Relax Capital account convertibility**
 - **Stable Exchange Rate**
 - **Independent or Isolated monetary policy (not influenced by global headwinds)**

Monetary Policy Committee (MPC)

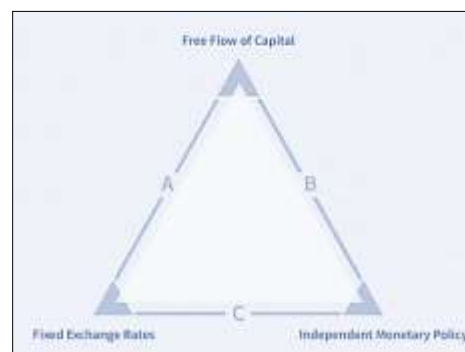
- ❖ Consists of 6 members- 3 from the RBI Side (RBI Governor as Ex-Officio Chairman, Dy. Governor responsible for Monetary Policy, and One Person nominated by the RBI central board). 3 from Government Side (Selected by Search-cum-Selection Committee headed by Cabinet Secretary)
- ❖ They are required to hold a minimum of 4 meetings in a year.
- ❖ They decided on Repo Rate (Also known as, Policy Rate or Benchmark Rate) by majority vote. In case of tie, RBI governor has second casting vote.
- ❖ The inflation target is set by the Union government in consultation with the RBI governor. To target inflation benchmark is Consumer Price Index.
- ❖ If the target is not within the range decided for 3 consecutive quarters, then MPC must send a government report about the same with remedies.

Moving Away From Headline Inflation

Presently, RBI uses CPI Headline inflation as its inflation targeting benchmark. However, experts argue that RBI should use Core inflation as food and fuel price shocks are transitory and mainly supply driven and they cannot be controlled by RBI. However Economic Survey 2021 opined that in India consumption smoothing (balance between consumption and saving) is difficult as in India there is a large section of society which doesn't have access to steady incomes. Therefore, they are most affected by fluctuations in food prices. Hence RBI cannot ignore food inflation. Survey suggested RBI should look at core inflation and maintain a separate data for food inflation. At the same time there is need to update weightage component as food consumption pattern has changed significantly since 2012 i.e. CPI base year.



- For example, Consider a situation in which India is witnessing large FDI and FPI inflows as it happened during the Covid crisis in Pharma and IT Sectors. The large inflow of dollars would make the rupee stronger and this in turn will make export expensive. To counter this RBI may go for sterilization by increasing the rupee supply, however, this will lead to the creation of Inflation in the market.
- Hence, it is impossible to manage a free flow of capital, exchange rate stability, and monetary policy independence simultaneously.



Relation between Domestic Inflation and Rupee depreciation

- With the rise of Domestic inflation purchasing power capability of both domestic and foreign players decreases. Irrespective of the exchange rate
- This can be understood with a simple example- For example, 1kg of apple cost Rs 100 in India, and let's say the exchange rate is \$1 is equal to Rs 50. So the foreign buyer can buy 2 kg of Apple. Now if the value of 1 kg apple changes to Rs 200, so even if the exchange rate rises \$1 is equal to Rs 100. The foreign buyer won't be able to buy the same amount of apples again.
- This means that in the international currency exchange market, the demand for Indian rupee will decline and as a result rupee will depreciate.
- Depreciation per se is not bad and can give a boost to Indian exports. However, in the current global economic scenario, it can be catastrophic for several reasons such as:

Refined Core Inflation

Though Core inflation conceptually is calculated after removing food and beverage and fuel and light component from Headline CPI, however in CPI petrol and diesel is calculated under transport and communication and not under fuel and light. Therefore calculation of Core CPI directly using NSO data is difficult. Economic Survey 2022 proposed a new Refined Core Inflation which will deduct the petrol-diesel prices from the Transport and Communication header.

- India faces a twin-balance sheet problem of a higher Current Account Deficit (CAD) (crossed the 2.5% of RBI safe limit) along with a higher Fiscal Deficit (the combined fiscal deficit of the Centre and the States is above 10% of GDP).
 - The burn rate of RBI forex stock is another cause of worry as it gives a negative signal to market sentiments.
 - With the global economy signaling a major slowdown, there is an increased risk of imported inflation and bankruptcies.
- ✚ The changing nature of global trade and dependency on foreign inflows of developing countries makes controlling domestic inflation Sine Qua Non. As no investor would invest in a country in which her/his money loses purchasing power.
- ✚ Higher domestic inflation might create a problem for currency exchange agreements. The instrument India is looking to circumvent dollar hegemony in international trade.
- One of the possible ways out of this problem is to try and keep India's inflation target near the inflation target of developed countries. For this, there is a requirement for several structural reforms in India's economy.

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Index of Industrial Production, Banking Business Services Price, RESIDEX, Fisher Index, Philip Curve, Pasche Index




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INTERNATIONAL RELATIONS

Code of Conduct in the South China Sea

News Excerpt

Recently in the ASEAN (Association of Southeast Asian Nations), the Defence Ministers' meeting in Cambodia. India expressed hope that the ongoing negotiations on the Code of Conduct for the South China Sea will be consistent with international law, particularly the United Nations Convention on the Law of the Sea (UNCLOS).

Pre-Connect

About the South China Sea

- South China holds immense importance as about a third of all the world's maritime trade is associated with it, especially since half of all oil and gas tankers sail through it.
- The sea is important for national security as its location makes it militarily strategic.
- The sea is rich in fish, oil, and natural gas.
- Two major land features are islands and reefs. Paracels and Spratlys are two islands.

South China Sea Dispute

The dispute is hugely linked with land features in the South China Sea about who controls the water around it.

Major disputes are between 6 countries:

- Paracels: China, Taiwan, Vietnam
 - Spratlys: China, Taiwan, Vietnam, Brunei, Malaysia, Philippines
- Almost all the South China Sea, its land features, and resources: China

Vietnam and the Philippines claim

- ✓ Vietnam claims the Paracel's islands and Spratlys keeping 17th-century maps and the Vietnam war in the background. In 2009, Vietnam declared sovereignty over both the Paracels and Spratlys.
- ✓ After gaining independence from the U.S. in 1946, the Philippines declared all of the Spratlys its territory and sovereignty over Scarborough Shoal.

China's claims

- In 1949, communist China adopted the map with the "nine-dash line" map of the South China Sea, and recently China added the tenth dash in 2013 to include Taiwan.
- In the 1970s, China by force started asserting control over different islands, reefs, and waters in the South China Sea, often by force.
- In the 1970s and 1980s, China built oil-drilling rigs in waters near the Paracels and won the battle of Johnson Reef driving out and killing Vietnamese.
- In the 1990s, China began building artificial islands by crushing corals and claimed it is for public and non-military purposes. Later Chinese built a harbor, and airstrip capable of handling combat aircraft in the name of self-defense.
- In 2009, China presented the "nine-dash line" internationally claiming its indisputable sovereignty over the islands in the South China Sea and the adjacent waters.
- In 2012, China controlled Scarborough Shoal even after a standoff with the Philippines.

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Philippines-China Conflict

In 2013, Philippines challenged China's claims to an arbitration tribunal under the UN Convention on the Laws of the Sea. In 2016, the tribunal backed the Philippines but China had boycotted the proceedings, and called the ruling "ill-founded" and refused any boundation.

Code of conduct (COC) for the South China Sea

- A non-binding, aspirational Declaration of Conduct (DOC) in the South China Sea was agreed upon in 2002 after a lot of effort. It also included the signing of the China-Asean Maritime Cooperation Fund, the China-Indonesia Maritime Cooperation Fund, and the Declaration on the Conduct of Parties in the South China Sea.
- In 2017, ASEAN and China adopted a Framework of a Code of Conduct in the South China Sea.
- In 2018, the Single Draft South China Sea Code of Conduct Negotiating Text (**SDNT**) agreement was agreed upon to ensure peace and stability in the region.

ASEAN and problems associated with the South China Sea

- **Competition between US and China:** The military power in the South China Sea is the basis for Sino-American competition. The growing tensions between US and China have put ASEAN countries in dilemma. China being strong and assertive is a neighbour, and the US is supportive but fickle. China has always wanted to exclude the U.S. and other countries from the COC negotiation process.
- **China's unstoppable annexation and disagreements:** China has disagreed with maximum efforts towards the code of conduct. China recently rejected Malaysia's formal submission of a draft giving information on the limits of its continental shelf.
- China continued occupying more islands and resorting to military activities, adding to ASEAN countries' concerns.
- **China refrains from legal challenges:** ASEAN countries along with the USA clarified their legal positions on maritime to U.N. and invoked the Permanent Court of Arbitration (PCA) ruling that China's "nine-dash line" claim had no validity under UNCLOS but China refrained from any legal action.
- **China's Take on SDNT:** China unilaterally announced that COC would be finalized within three years responding to SDNT.
- **Disagreements between China and ASEAN:** ASEAN countries want to curb China's behavior, but China does not want its actions to be constrained. ASEAN is helpless in forcing China to agree on an effective and substantial COC, so the negotiations continue to deadlock on key issues. No COC is anyway better than a bad COC.

India's Stand on South China Sea

- ❖ The challenge for India is protecting the eastern Indian Ocean. Hence, greater activism, both diplomatic and military, is the need of the hour.
- ❖ India has highlighted its operational reach, peaceful presence, and solidarity with the friendly countries of the Indo-Pacific.
- ❖ India's stand is clear that any Code of Conduct in the South China Sea should be fully consistent with the relevant UN convention and fully legitimized.
- ❖ As China's presence continues to grow in the Indian Ocean region, India is trying to increase its presence and influence in the western Pacific which is China's backyard.
- ❖ India has to protect its interests from the Himalayas to the maritime domain using effective strategies.

PEPPER IT WITH

RCEP, India-China Border Conflict, Nine-Dash Line, Taiwan Strait

India-Canada Relations

News Excerpt

Recently Canada released an Indo-Pacific strategy that termed India as a "crucial partner". Under the policy, Canada will seek new opportunities to partner and engage in dialogue with India in areas of common interest and values, including security, and the promotion of democracy, pluralism, and human rights.

Pre-Connect

Historical Background

- The diplomatic relations between India and Canada were established in 1947.

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- ✓ The bilateral relationship is based on shared democratic values and the multi-cultural, multi-ethnic, and multireligious nature of the two societies.

- ✓ Indian origin community is the largest in Canada and about 4 % of Canadians comprised Indian Diaspora.

- Immigration, Refugees and Citizenship Canada (IRCC) has a significant presence in India

- Both are working on a Comprehensive Economic Partnership Agreement and a Foreign Investment Promotion and Protection Agreement (FIPA) to strengthen Indo-Pacific.

- Since 2018, India has been the largest source country for international students in Canada.



Synergies Between India and Canada

- **Trade Relationships:** In 2021, India was the 14th largest export market to Canada and the 13th largest trading partner overall.

- Canada-India Comprehensive Economic Partnership Agreement Negotiations, Canada-India Foreign Investment Promotion, and Protection Agreement, and World Trade Organization Agreement on Trade Facilitation (TFA) are some of the trade agreements.

Energy cooperation:

- India Oil Corporation has a 10% participating interest in a Liquid Natural Gas project in British Columbia.
- A Nuclear Cooperation Agreement (NCA) was signed between both countries in 2010 and recently Department of Atomic Energy (DAE) and M/S CAMECO Inc. signed an agreement for the supply of uranium ore concentrate to India.

Science and Technology:

- ✚ Canada was a partner country for the Technology Summit 2017.

- ✚ Department of Biotechnology under the IC-IMPACTS program implements joint research projects in health care, agri-biotech, and waste management.

- **Space:** ISRO and the Canadian Space Agency (CSA) signed two MOUs in the field of exploration and utilization of outer space in October 1996 and March 2003. ANTRIX, the Commercial arm of ISRO, has launched several nanosatellites from Canada. ISRO in its 100th

India -Canada in Indo Pacific

- ❖ India can be a crucial partner of Canada both economically and demographically.
- ❖ India chairing G 20 Summit makes it more relevant and important.
- ❖ Both India and Canada concerns over China's growing assertive behaviour.
- ❖ Both are seeking to expand market access by concluding an Early Progress Trade Agreement as a step toward a Comprehensive Economic Partnership Agreement.
- ❖ The partnership will also lead to bolstering Canada's visa-processing capacity, fighting climate change, deploying green technologies, enhancing use of renewable energy and clean technology and also security issues.
- ❖ Canada will launch a new multi-department initiative to help develop cyber security capacity with selected regional partners.
- ❖ There will be more investment in Indo-Pacific naval presence and increasing military's participation in regional military exercises.
- ❖ There will more investment in marine environment and infrastructure.

Satellite PSLV launched on 12 January 2018, also flew Canadian's first LEO satellite, from the Indian spaceport Srihari Kota, Andhra Pradesh.

- **Education:** It is a key area of mutual interest. Since 2018, India has been the largest source country for international students in Canada. Recently India became the top source of foreign students studying in Canada
- **Security and Defence:**
 - **India and Canada collaborate closely in international fora, particularly through the UN, Commonwealth, and G-20.**
 - Canada continues to provide development assistance to India through Indian and Canadian Non-Governmental Organizations and multilateral mechanisms such as the World Bank and the Asian Development Bank.
- **India-Canada Track 1.5 Dialogue** is organized to explore the possibility of future cooperation.
- During COVID times Special charter flights were operated to evacuate stranded Canadian nationals from India and medicines were supplied to Canada.

Challenges

- **Fundamentalist groups demanding Khalistan:** Sikh militancy has largely been curbed in India, but concerns remain about the revival of the Khalistan movement as amongst the Canadian Sikh diaspora, the movement for Khalistan has been heavily internalized.
- **Increasing separatists' influence on politics:** Groups such as Babbar Khalsa International and the International Sikh Youth Federation are considered terrorist organizations but several Canadian politicians were present at the Khalsa Day Parade, showing their support to separatists.
- **Maintaining diaspora:** It is a challenge in itself as India wants to limit the influence of Canada-based Khalistan sympathizers on another diaspora.
- **Canada is an insignificant trade partner:** In 2017, Indian exports to Canada stood over US\$2 billion, behind the US and Mexico. However, imports from Canada were valued at more than US\$4.5 billion, ahead of Mexico.
- **Differences and criticisms from Canada:** This included ideological differences in the Cold War period where Canada was unable to take into consideration India's strategic realities. The criticisms including provincial legislatures, involving past events such as the military action in Amritsar's Golden Temple and the 1984 riots have dented India and Canada's relationship.

PEPPER IT WITH
QUAD, Five Eye Nations,
AUKUS, India's Indo-Pacific Construct

Conclusion

India-Canada relations have struggled to prosper, despite the two countries sharing their democratic character and association in the Commonwealth. India should focus away from politically contentious issues to increase its bilateral relationship with Canada. Past events affecting the Sikh diaspora have gradually become part of the political discourse there therefore the need is to develop a new framework of cooperation that is more pragmatic. Emphasis should be more on beneficial areas, such as trade.

Economic Sanction

News Excerpt

Global economic dependence on the USA provides it leverage over other countries. This is being weaponized by the USA in form of Economic Sanctions. However, many of these sanctions are unilateral and foment economic trouble for other countries including India.

Pre-Connect

About Economic Sanctions

- Economic sanctions can be defined as the penalty levied against a country, its officials, or private citizens either by punishment or by the withdrawal of customary trade and financial relations for foreign- and security policy purposes. For example, the UN

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Security Council imposed comprehensive sanctions against Iraq just four days after Saddam Hussein's invasion of Kuwait in August 1990.

- Sanctions have a variety of forms, including travel bans, asset freezes, arms embargoes, capital restraints, foreign aid reductions, and trade restrictions
- Sanctions are usually used for foreign policy goals, including counterterrorism, counternarcotics, non-proliferation, democracy and human rights promotion, conflict resolution, and cybersecurity.
- A few examples include:
 - **Iran Sanctions:** Since the Iranian Revolution in 1979 the Iranian Hostage Crisis and other ensuing events, the United States has imposed restrictions on activities with Iran for increasingly tenuous political relations, the sponsoring of terrorism, and debates over the enrichment of uranium, following the seizure of the U.S. Embassy in Tehran under various legal authorities.
 - **India Sanctions:** The United States imposed economic sanctions on India following US law, for its series of underground nuclear tests.
 - **Russia Sanctions:** In 2022, the U.S. announced sanctions against Russia in response to Russia's military aggression against Ukraine that included the advancement of Russian troops into two separatist regions of eastern Ukraine.
 - **Syria Sanctions:** The U.S. has strong trade restrictions on Syria, barring major exports and financial services for individuals or organizations linked to terror.

Impact on India (Due to Sanctions Imposed on Russia)

- Global crude oil prices rose by approximately 40% after Russia-Ukraine sanctions.
- Russia typically supplies only about 2-3% of India's crude oil, to reduce Russia's rising energy bill the Indian government is considering taking up the Russian offer to buy crude oil and other commodities at a discount to tackle oil inflation.
- Indian Oil Corporation recently bought 3 million barrels of Russian crude for delivery.
- Russia is India's sixth-largest supplier of coking and thermal coal and coal prices have significantly spiralled.
- The Black Sea route has become unavailable due to the blockage of the shipping route and increased cost of insurance for vessels it has resulted in triggered safe port, war risk, and sanctions clauses of charter parties.
- Russia is India's irreplaceable supplier of defence equipment and weaponry. Indian companies doing business with critical Russian defence suppliers like Rosoboron export, United Shipbuilding, and Almaz-Antey are locked out of the dollar-based global financial system controlled by the U.S.
- Even the activities of Indian companies which are not covered under sanctions were affected.

Impact on India (Due to Sanctions Imposed on Iran)

- Iran is India's third largest oil supplier after Iraq and Saudi Arabia SO there has been a decline in India's crude oil production in recent years.
- Along with rising demand, sanction has contributed to increasing India's import dependency to 83.7 percent in FY19 (P) from 80.6 percent in FY16.
- India will have to consider alternatives to source crude oil and import requirements which would impact import bills due to US sanctions not only in Iran but also in Venezuela.
- India will have to change the configuration of state-run oil refineries, currently equipped to process oil from Iran which will be very expensive.
- India's import bill will be affected as crude accounts for more than 20 percent of total imports will be in value terms.
- An increase in a single dollar could depreciate the rupee, whereas a spike in oil prices could further depreciate the rupee.
- An oil price increase would impact CPI inflation both directly and indirectly through other commodities.
- The indirect impact of the rise in oil prices has been estimated by computing the energy intensity of each sector.

- It is estimated that a \$5 increase in oil prices will lead to a 30-bps hike in CPI inflation and a \$10 increase in oil prices would increase CPI inflation by 60 bps.

Way Forward

- India should make some strict calls keeping in mind the present and future because the sanctions can block violators from doing business with U.S. banks.
- Like specialist European banks with no exposure to the US market, which is willing to facilitate payments to Russia India should come out of a dollar-based financial system.
- Increasing investments in Russian energy and resource assets, as generating Roubles can be used to pay Russia for defense hardware.
- India should also build goodwill with the US market, which can influence policy-makers to consider Indian concerns while imposing sanctions.
- India should also look for avenues that will help in the internationalization of the Rupee.

PEPPER IT WITH

Rupee-Rouble Agreement,
Chabhar Port Project, Currency
Exchange Regime

India's G-20 Presidency

News Excerpt

The Government launched India's G-20 presidency logo which symbolizes the motto "Vasudhaiva Kutumbakam".

Pre-Connect

About G-20

The Group of Twenty, or G20, is a platform for international cooperation on the most important aspects of the international economic and financial agenda. It brings together the world's major advanced and emerging economies. The G20 Countries together represent around 90% of global GDP, 80% of global trade, and two-thirds of the world's population. The G20 members include Argentina, Australia, Brazil, Canada, China, EU, France, Germany, India, Indonesia, Italy, Japan, Mexico, Russia, Saudi Arabia, South Africa, South Korea, Turkey, the UK, and the USA.

India's G20 Presidency

- ✓ India will hold the Presidency of the G20 from December 1, 2022, to November 30, 2023.
- ✓ The 43 Heads of Delegations- the largest ever in G20-will be participating in the final New Delhi Summit in 2023.
- ✓ Drawing inspiration from its G20 Presidency theme of "Vasudhaiva Kutumbakam-"One Earth One Family One Future India will host over 200 meetings in over 50 cities across 32 different workstreams.
- ✓ A disaster Risk Reduction working group will be established to undertake multi-disciplinary research and exchange best practices on disaster risk reduction.
- ✓ Bangladesh, Egypt, Mauritius, Netherlands, Nigeria, Oman, Singapore, Spain, and UAE are special guests.
- ✓ UN, IMF, World Bank, WHO, WTO, ILO, FSB, OECD, AU Chair, NEPAD Chair, ASEAN Chair, ADB, ISA, and CDRI are G20'S invitees.

Opportunities for India

- India also has a unique opportunity to provide the country's citizens to be a part of India's G20 story on this 75th Anniversary of India's independence.
 - The priorities rightly identified by India represent critical issues facing the world.
 - India can give new climate-related ideas as India has emerged as one the top 5 ranked nations in the climate change performance index for 2023, the highest among the G20.
 - Propelling sectors such as retail, fintech, education and many others can get new wings as digitization in India is on a Fast Track.
- India has credibility having good relations with everyone to be a peace-maker on behalf of the Global South even resolving the war in Ukraine.
- India's leadership in these areas will help the G20 drive its agenda supported by suggestions from the world's businesses, which will develop ideas under the B20 group.

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- The Confederation of Indian Industry (CII) in consultation with stakeholders including the government has already outlined nine priority areas for discussion.
- G 20 allows India to be a torchbearer for a new regulatory framework by establishing the International Institute for Regulatory Development (IIRD).
- India can form an alliance of major millets producers for sharing of technologies and best practices in agriculture supported by appropriate global financing mechanisms.
- India should take efforts to garner support for the Bridgetown Initiative.

G20 Logo

Logo is inspired from the vibrant colours of India's national flag – saffron, white and green, and blue. It juxtaposes planet Earth with the lotus, India's national flower that reflects growth amid challenges. The Earth reflects India's pro-planet approach to life, one in perfect harmony with nature. Below the G20 logo is "Bharat", written in the Devanagari script.

The theme "Vasudhaiva Kutumbakam" or "One Earth One Family One Future"

The theme name is drawn from the ancient Sanskrit text of the Maha Upanishad. It affirms the value of all life – human, animal, plant, and microorganisms – and their interconnectedness on the planet Earth and in the wider universe. It also spotlights LiFE (Lifestyle for Environment).

What can India do?

- ✚ India can set the pace for the future of multilateral cooperation in various fields of the group's multidimensional agenda.
- ✚ India should have an inclusive approach by bringing forth the views of countries that are not represented in the G20.
- ✚ India can promote the African Union's status from being a perpetual observer to a member status of the G20, bringing it to the level of the EU.
- ✚ India can promote an Indo-centric vision that includes critical concerns of the Global South, and give the diplomatic advantage to deal with competing centers of power involving China, the USA-led West Bloc, and the Russian bloc.
- ✚ India can strengthen its partnership with international organizations such as the IMF, OECD, WHO, World Bank, and WTO and strive to get their focus on stricter norms for controlling funds for states involved in terror-related activities.
- ✚ A 'Joint Research Platform' should be established with top scientists on its board to research food productivity, global health care, and ways to mitigate the adverse impacts of climate change.
- ✚ Joint research must be conducted in the fields of space technology, renewable energy, and ways to arrest the effects of natural disasters.
- ✚ It can endeavor to involve the International court of justice to ensure justice for all victims, mostly women, and minorities.
- ✚ India has already joined the Global Mangrove Alliance and can use its presidency to give mangroves, and coastal erosion special attention.

Challenges for India's Presidency in G20:

- **Geopolitical Differences:** Keeping in mind Chinese aggression towards Taiwan, the rising food and energy crisis due to the Russia-Ukraine conflict, the increasing belligerence of North Korea, the global economic slowdown, the emerging threats to trade in the Indo-Pacific region, and the concerns for the environment and depoliticization of ongoing tensions between the warring nations bringing them on the negotiation table to end the conflict is the biggest challenge.
- **Climate action:** Inculcating the feeling of oneness in terms of climate action, bringing accountability and transparency, cutting down carbon emissions, and bringing developed and developing countries on the same ground is another challenge.
- **Pushing UN's SDG goals:** SDG goals related to education, health, gender equality, zero hunger, and affordable and clean energy in a planned manner and ensuring that developed countries must provide the required aid for the same.
- **Dealing with a new problem- Because of a pandemic** like poverty with many children dropping out of schools and people losing their jobs

- **Dealing with Terrorism:** Identifying organizations indulging in terrorism and isolating them to build a just and safe environment.
- **Cyber Crimes:** The growing cybercrime instances like ransomware attacks, identity frauds, and theft of financial data are rising and need to be curbed. There should be a consensus on how to take action against cyber criminals.
- **Balancing Political Ideology:** The member of the G20 will be eager to know the Indian viewpoint on issues and multidimensional crises. The challenge is to take the lead and move forward in getting both warring sides.
- Along with food, fertilizer, and energy security, the full implementation and **continuation of the Black Sea Grain Initiative** for the export of Ukrainian goods.
- **Adding the value of digital technology** in several sectors, capacity development, and inclusive industrialization, especially in developing countries parallelly.
- **Energy balance:** India has to deal with the energy needs of the rapidly growing population since it is committed to lowering its energy by half by using renewable energy by 2030, sustainable use of coal will remain a challenge for India and the world.

PEPPER IT WITH

G-20 Trioka, G-7, G-11, D-10, G-77, BRICS, SCO

Black Sea Grain Initiative

News Excerpt

Recently, Russia has decided to rejoin the Black Sea Grain deal.

Pre-Connect

Background

- Ukraine is among the largest exporters of wheat, maize, rapeseed, sunflower seeds, and sunflower oil, globally and directly approaches Russia and Europe along with grain importers from the Middle East and North Africa through Black Sea Ports.
- Russia's action in Ukraine has led to huge grain wasted and ships unable to secure safe passage to and from Ukrainian ports, and land routes unable to compensate leading to the situation of food inflation, not in just Russia or Ukraine but food price rise around the world.
- Combined with increases in the cost of energy, developing countries facing the brink of debt default and famine.

About Black Sea Grain Initiative

An agreement between the UN, the Russian Federation, Turkey, and Ukraine the Black Sea Grain Initiative allows exports from Ukraine of grain, other foodstuffs, and fertilizer, including ammonia, to resume through a safe maritime humanitarian corridor from three key Ukrainian ports: Chornomorsk, Odesa, and Yuzhny/Pivdennyi, to the rest of the world. The central idea was to calm markets by ensuring an adequate supply of grains, thereby limiting food price inflation.

Why the deal is required?

For vital supplies moving again: As per the UN Office for Coordination of Humanitarian Affairs, approximately 9.8 million tonnes of grains have been shipped since the initiative was commenced making a "huge difference" to the global cost of living crisis.

Piled-up grains are finally moving:

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Joint Coordination Centre (JCC)

A Joint Coordination Centre (JCC) was established in Istanbul to implement the Black Sea Grain Initiative, comprising senior representatives from the Russian Federation, Türkiye, Ukraine, and the United Nations.

- ❖ All commercial ships are required to register directly with the JCC to ensure appropriate monitoring, inspection and safe passage.
- ❖ Post -inspection accorded by the JCC post-inspection inbound and outbound ships (to the designated corridor) transit as per a schedule.
- ❖ A total de-mining along the Ukrainian coastline was rejected as it could lead to vulnerability to Russian attacks.
- ❖ Military ships require consultation with the parties and authorisation of the JCC otherwise no military ships or unmanned aerial vehicles can approach the corridor closer than a pre-decided distance agreed upon by the JCC.
- ❖ In suspicious cases, the JCC would provide assistance to the crew or conduct an inspection against security guarantees.

- The JCC reported that some three million tonnes have already left Ukraine which is positive progress.
- According to UN figures, 51 percent of the cargo till mid-September has been corn, 25 percent wheat, 11 percent sunflower products, six percent rapeseed, five percent barley, one percent soya beans, and one percent other foodstuffs.

Benefits to the lower income groups:

- 25 percent of the cargo has gone too low and lower-middle-income countries such as Egypt, India and Iran, Bangladesh, Kenya and Sudan, Lebanon, Yemen, Somalia, Djibouti, and Tunisia.

Benefits to Upper-middle to Upper middle-class income countries:

- ✓ 27 percent of grain has gone to upper-middle-income countries including Turkey, China, and Bulgaria.
- 50 percent to high-income countries like Spain, Netherlands, Italy, the Republic of Korea, Romania, Germany, France, Greece, Ireland, and Israel. Hence, the Initiative has helped in **calming markets and limiting food price inflation**.
- The Food Price Index has decreased nearly 14 percent from its peak.

Benefitted places that needed humanitarian assistance:

- ✚ Wheat has been loaded to Yemen to support the World Food Programme's humanitarian response there.
- ✚ The third and fourth WFP-chartered vessels will also supply wheat to relief operations.

PEPPER IT WITH

Black Sea Security Act, Russia-Ukraine war implication on Eurasia, World Food Programme

Conclusion

With no clear sign of the end of the war and an uncertain future, ongoing collaboration between Ukraine and Russia is necessary for continued shipments sailing smoothly out of Ukrainian ports. Turkey and the UN are playing in keeping the process moving team in Istanbul are already turning to the extension of the deal.

China Indian Ocean Forum (CIOF)

News Excerpt

China has launched a new initiative known as CIOF concerning the Indian Ocean region, however, ironically enough it didn't invite India to participate in this initiative.

Pre-Connect

About the Indian Ocean

The Indian Ocean is the centrepiece of the wider Indian Ocean Region and the third largest water body in the world with major sea communication lanes which connect east to west. The Indian Ocean has a high global value such as:

Geo-Political importance:

- Religious extremism, terrorism, the collapse of state structures, the transnational power of non-state actors, the proliferation of weapons of mass destruction, and a host of non-traditional security threats express themselves most virulently in the Indian Ocean Region.
- The relations between nations both intra and extra-regional and changes in political thought shape the overall architecture and security scenario of the region.
- Any expansion of naval military forces especially the U.S., China, and India, growing of extra-regional powers, and nuclear-capable nations can influence the whole Indian Ocean Region's political scenario.

Geo-Strategic importance:

- Strategically the Indian ocean with some 2.7 billion people is a vast theatre, stretching from the Strait of Malacca and the western coast of Australia in the East to the Mozambique Channel in the West.
- Its regional forum, the Indian Ocean Rim Association, includes countries as politically and socially different as Australia, Indonesia, Iran, and South Africa, leading to striking new power dynamics.

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- Resource-rich Africa and energy-dense Middle East to South Asia's labour markets and manufacturing industries make it strategically and economically important.

Geo-Economic importance:

- The region includes India, Bangladesh, Southeast Asia, and Eastern and Southern Africa which makes it economically important.
- The Indian Ocean is rich in natural resources making it an economically important source of titanium, zirconium, tin, zinc, copper, and gold.
- The region's fishing accounts for almost 15 percent of the world's fishing and as global fishing is reaching its natural limitations, the sustainability of fishing in the Indian Ocean makes it significant.

China's Ambition in the Indian Ocean

China aims to challenge major power including India, ensure its energy security, and reflect its status as a significant power by establishing institutions with Indian Ocean Region countries. There are two major strategies associated with China's approach:

'String of Pearls Strategy':

- It refers to a geopolitical theory that the network of Chinese intentions in the India Ocean Region (IOR) is inexorably linked to its West Pacific military control strategy.
- India has been encircled by Chinese military and commercial facilities and now China is aiming to capture Pakistan's side which is a matter of concern for India.
- The Strait of Malacca, Myanmar, Bangladesh, Sri Lanka, and Pakistan are important strategic centers for China which are already in control.
- Along with these China has already made a significant presence of China in the Greater Indian Ocean Region.

China's Two-Ocean Theory:

- ✓ The theory of "two oceans" is associated with the Pacific Ocean and the Indian Ocean.
- ✓ The Pacific Ocean the regions which are close to China carry many concerns for the country's political and military elite. For example, Taiwan has still considered a "rogue" state; American presence in South Korea and Japan, etc.
- ✓ The Indian Ocean is suitable for naval training and economic and trading interests in the regions bordering the Indian Ocean. For example, the ports of Pakistan and Sri Lanka.
- ✓ From an economic perspective, both the Pacific Ocean and the Indian Ocean are significant because nearly 80% of China's oil imports pass through these two water regions.

Responding to String of Pearls

- ❖ India is using a multi-pronged strategy to counter the Chinese String of Pearls Strategy. **"Necklace of Diamonds"** strategy, a phrase first used by India's former foreign secretary Lalit Mansingh.
 - The strategy involves building ports, extensive Coastal Surveillance Radar (CSR) systems to track Chinese Warships and Submarines, importing state of the art surveillance planes which can track down Chinese submarines, operating Airport in the neighbouring country to keep a check on the Port built by China, deepening defence ties, expanding bilateral relations with South Asian countries, Island nations in Indian Ocean region, Southeast Asian Nations and carrying out regular military exercises with navies of USA, Japan, Australia.
- ❖ India's Act East Policy intends to integrate India's economy with South-East Asian nations. It has been used to make important military and strategic agreements with Vietnam, Japan, the Philippines, South Korea, Indonesia, Singapore, and Thailand helping India to counter China.
- ❖ Several Ports in key areas such as Chabahar (Iran), Sabang (Indonesia), Sittwe (Myanmar), Mongla and Chittagong (Bangladesh), Oman, Changi (Singapore).
- ❖ Developing Indian Navy as blue water force capable of maintaining open sea lanes, upholding freedom of navigation and the United Nations Convention on the Law of the Sea (UNCLOS).
- ❖ Signing of Military logistics agreement with like minded powers.
- ❖ Putting strategically located in Andaman & Nicobar Islands to optimum use. The tri-services command there has the mandate to protect the strategic interests of India and its allies and friendly nations in the Strait of Malacca.

Other than these China is also engaged in several provocative practices in the Indian Ocean which includes

- > Sending Spy vessels near India's defense and Space launch centers.
- > Violation of Indian Exclusive Economic Zone under the grab of Right to Innocent Passage.
- > Docking nuclear-capable submarines in docks near India such as in Hambantota in Sri Lanka.

India's Response

- India has doubled down on fostering stronger diplomatic, economic, and security ties with Indian Ocean Region maritime states. This is done through initiatives like the Indian Ocean Rim Association (IORA) and Indian Ocean Navies Symposium (IONS).
 - India is resorting to Naval exercises with like-minded countries like the US, Japan, France, etc.
 - India also launched Security and Growth for All in the Region (SAGAR) which seeks to deepen economic and security cooperation with its maritime neighbors and assist in building their maritime security capabilities. To materialize it, India would cooperate on the exchange of information, coastal surveillance, the building of infrastructure, and strengthening their capabilities.
 - India has been trying to emerge as the net provider of information in the IOR and in that direction it created the Information Fusion Centre to assist member countries of the IOR with real-time crisis information.
 - India is promoting its official policy of "coordination, cooperation, and partnership" in the regional maritime domain.'
 - Further, India has outlined five changes in its approach to Indian Ocean security and diplomacy. These include:
 - ❑ Opposition to the presence of external navies in the Indian Ocean.
 - ❑ Deepening economic and security cooperation with friendly countries in the region to strengthen maritime security capacities.
 - ❑ Strengthening Institutional mechanism
 - Overall development of the blue economy and at the same time taking a leadership role in dealing with the problem of climate change.
 - ❑ Cooperation with external partner powers in the Indian Ocean. These include the United States, Australia, Japan, France, and others
- ⇒ India also intends to play a crucial role in the South China Sea (SCS) as a stern reply to China if it intends to come to India's backyard. India would reply in the same currency.

USA vs China in Indian Ocean

The U.S. vision is based on maintaining regional freedom and openness and ensuring security and stability. China's vision involves expanding its power, fostering regional integration and dependence on China, limiting the role of outside powers, and bringing Southeast Asia under its leadership. Dominance over the Indian Ocean region will play a central role in determining the place of both the power in the Indo-Pacific. China has more economic influence and the United States has a more diplomatic and military inclination out of the two economic influence is considered more powerful and this gives China an edge.

PEPPER IT WITH

India as Net Security Provider, IORA, Blue Economy, Project Sagarmala, Project Mausam, Global Common Approach, Indian Ocean Commission, UNCLOS

Conclusion

For India and its partners, there is a need to view and engage with the Indian Ocean region beyond the 'China competition' lens. Islands and littorals have significant agency today and governments across the globe must be conscious of this. Framing policies primarily as a response to China's presence also undermines India's commitment and understanding of the region. Engagements and interests in the region should last beyond the news cycles and despite China's competition to meaningfully strengthen partnerships in the region. For that, it is important to have a comprehensive strategy outlining the framework for priorities, interests, and challenges in the region as a whole.

ENVIRONMENT

Arctic Fires

News Excerpt

The recent fires in the Arctic region have emitted around 150 million tonnes of carbon into the atmosphere.

Pre-Connect

Understanding Arctic Geography

- It is the northernmost region of Earth. Most scientists define the Arctic as the area within the Arctic Circle, a line of latitude about 66.5° north of the Equator.
- Within this circle are the Arctic ocean basin and the northern parts of Scandinavia, Russia, Canada, Greenland, and the U.S. state of Alaska.
- The glaciers and icebergs in the Arctic make up about 20% of Earth's supply of freshwater.
- Most of the Arctic is the liquid saltwater of the Arctic Ocean basin. This frozen seawater is called sea ice.
- Due to thermohaline circulation, the Arctic's thick, reflective sea ice moderates ocean temperatures around the world.
- The Arctic experiences the extremes of solar radiation. During winter months in Northern Hemisphere, the Arctic is one of the coldest and darkest places on Earth.
- During, the June solstice, the Arctic experiences 24-hour sunshine.
- The Arctic Ocean basin is the shallowest of the five ocean basins on Earth. It is also the least salty, due to low evaporation and huge influxes of freshwater from rivers and glaciers.

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Zombie fires

It happens as a result of wildfires. These fires can continue to burn all through winter, hidden under a layer of snow, and in spring as the temperature rises, the snow melts and the soil dries out, the wildfires can re-ignite and spread once again.

Vegetation of Arctic

- The main vegetation zones in the Arctic are polar deserts in the north, taiga forests (massive storehouse of carbon in the subarctic region) in the south, and a wide expanse of tundra in between.
- The Arctic tundra includes flowering plants, dwarf shrubs, herbs, grasses, mosses, and lichens. It is characterized by permafrost, a layer of soil and partially decomposed organic matter that is frozen year-round.
- Taiga forest consists of coniferous trees, these trees have needles instead of broad leaves, and their seeds grow inside protective, woody cones. Such trees never lose needles even in winter and are therefore considered "evergreens".

Forest fires in Arctic Region

An Assessment

- ✓ The area above the Arctic circle heats four times faster than the rest of the planet and it is this climate amplification that causes abnormal fire activity.
- ✓ The annual mean temperature of the Arctic has increased by more than two degrees Celsius (°C) compared to that of the pre-industrial levels.
- ✓ The forest fire burned down around 4.7 million hectares (mha) of the Arctic in 2019 and 2020 and the carbon emissions from burning were estimated to be around 146 million tonnes of carbon in just two years (2019 and 2020).
- ✓ The rise in temperatures in the region may lead to the recurrence of large fires in the Arctic region.
- ✓ The fires triggered in Arctic forests by rising temperatures, in turn, caused by global warming can lead the world deeper into crisis. They can release large amounts of carbon dioxide and methane from thawing permafrost peatlands, thus defeating climate goals

Effects of Higher temperatures

It causes more water vapour in the atmosphere, which causes more storms and thus more fire-sparking lightning and vegetation growth provides more fuel for fire, but it also breathes more, which dries things out.

Reasons for forest fires in the Arctic region

- Wildfires are common in the Arctic and Subarctic, their size, frequency, and intensity may increase as the climate warms, giving rise to more extreme weather.
- The researchers have investigated around 10 factors associated with the likelihood of fire. They are- air and surface temperature, total precipitation, wind speed and direction, vapor-pressure deficit, length of the growing season, mean normalized difference vegetation index, climatic water deficit, and the number of ignitions, a direct factor associated with the likelihood of fires.
- Also, there is a relationship between higher temperatures, longer growing seasons, and greener vegetation leading to fires. The higher temperatures account for the earlier snowmelt, permitting vegetation growth and increased green biomass, which increases fuel availability.
- Lightning is infrequent at high latitudes; it is expected to increase as the climate warms. Hence Global warming poses a dual threat in the Arctic increasing the susceptibility of peatlands and vegetation to fires and increase in the number of lightning-caused ignitions.

Arctic Indigenous People

Saami in circumpolar areas of Finland, Sweden, Norway, and Northwest Russia, Nenets, Khanty, Evenk, and Chukchi in Russia, Aleut, Yupik, and Inuit in Alaska, Inuit (Inuvialuit) in Canada and Inuit (Kalaallit) in Greenland.

Managing the threat of Wildfires in the Arctic

- More research is needed to predict and understand wildfires in the Arctic region.
- A pan-Arctic collaboration and cooperation are vital to address the threat to human lives, ecosystems, and climate change.
- An evidence-based fire monitoring and management system including prevention strategies must incorporate Indigenous and local knowledge in the Arctic region.
- Planting trees to restore the Arctic taiga forests can help to mitigate climate change to reduce the threat of wildfires.
- Use of Indigenous people's knowledge from the Arctic region to tackle the Arctic wildfires.

PEPPER IT WITH

Natural resources in Arctic Region, Cryosphere, Albedo Effect, Glaciers, Sea routes in the Arctic, Nord Stream gas pipeline, Arctic Council

Way Forward

- The Circumpolar Wildland Fire Project initiative of the Arctic Council for Emergency Preparedness, and Prevention as well as to coordinate training and the response to fires in the Arctic region, and promote international cooperation and contracting of resources across state boundaries is a good step.
- Russia's permafrost monitoring system will give early warnings of degradation and potential consequences will greatly help the Siberian region.
- Also, a collaboration between Indigenous Arctic communities to share knowledge on how to manage wildfires is essential in reducing the threat to people and the planet.

CITES Conference of Parties (COP-19)

News Excerpt

Recently, the Conference of Parties (COP-19) to The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) was held in Panama.

Pre-Connect

Understanding CITES

- CITES is an international agreement between governments which aims to ensure that international trade in specimens of wild animals and plants does not threaten the survival of the species.

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- Its Secretariat is administered by UNEP (The United Nations Environment Programme) and is located in Geneva, Switzerland.
- It was drafted as a result of a resolution adopted in 1963 by the members of the International Union for Conservation of Nature (IUCN).
- Currently, it has 184 parties (including countries or regional economic integration organizations).
- The Conference of the Parties to CITES is the supreme decision-making body of the Convention.
- It is legally binding on its members. However, it cannot take place of national laws. It is a framework for all its members to adopt in their domestic legislation.

Key Highlights of the Conference

- In total 52 proposals were put forward and these proposals dealt with the international trade of- sharks, hippos, 200 tree species, etc.
- Parties were asked to remove the references to pangolins from '**official pharmacopeia**' (It is a book containing a list of medicinal drugs with their uses, preparation, dosages, and formulas) to help save the species.
- The conference listed **sea cucumbers as 'threatened' (to include in Appendix II)**. Sea cucumbers perform the same role on the seabed that earthworms perform on land. As per the Wildlife Conservation Society report, sea cucumbers were the most frequently trafficked marine species in India from 2015-2021.
- The conference decided to regulate **Shark Fin**. Shark fin soup is very popular in China and other South-East Asian countries. The countries have voted to include 54 species of requiem sharks, six species of hammerheads, and 37 guitarfish in CITES Appendix II.
- Parties agreed to work together to support Mexico in its fight to save the world's most endangered marine mammal, **the vaquita porpoise**.
- Parties resolved to work on **building gender equality** into the international trade in wildlife, recognizing that women are often guardians of wildlife and biodiversity but, just as often, are not recognized or benefit from this trade.

CITES APPENDIX



Appendix I: These are the species threatened with extinction. International trade of these species is prohibited except when the purpose of the import is not commercial, for instance for scientific research. For example- Gorillas, Asiatic lions, Sea turtles, Orchids etc.



Appendix II: They are not necessarily the species that are now threatened with extinction but that may become so unless trade is closely controlled. It also includes look-alike species. For Example- Mahogany Paddlefish, etc.



Appendix III: These species are protected in at least one country and have asked other CITES parties for assistance in controlling trade. For example- Walrus, Map turtles, etc.

International Union for Conservation of Nature (IUCN)

It was founded in 1948 and works for the natural world and the measures needed to safeguard it. The red data book of IUCN contains the extinction risk status of various species of animals, fungi, and plants.

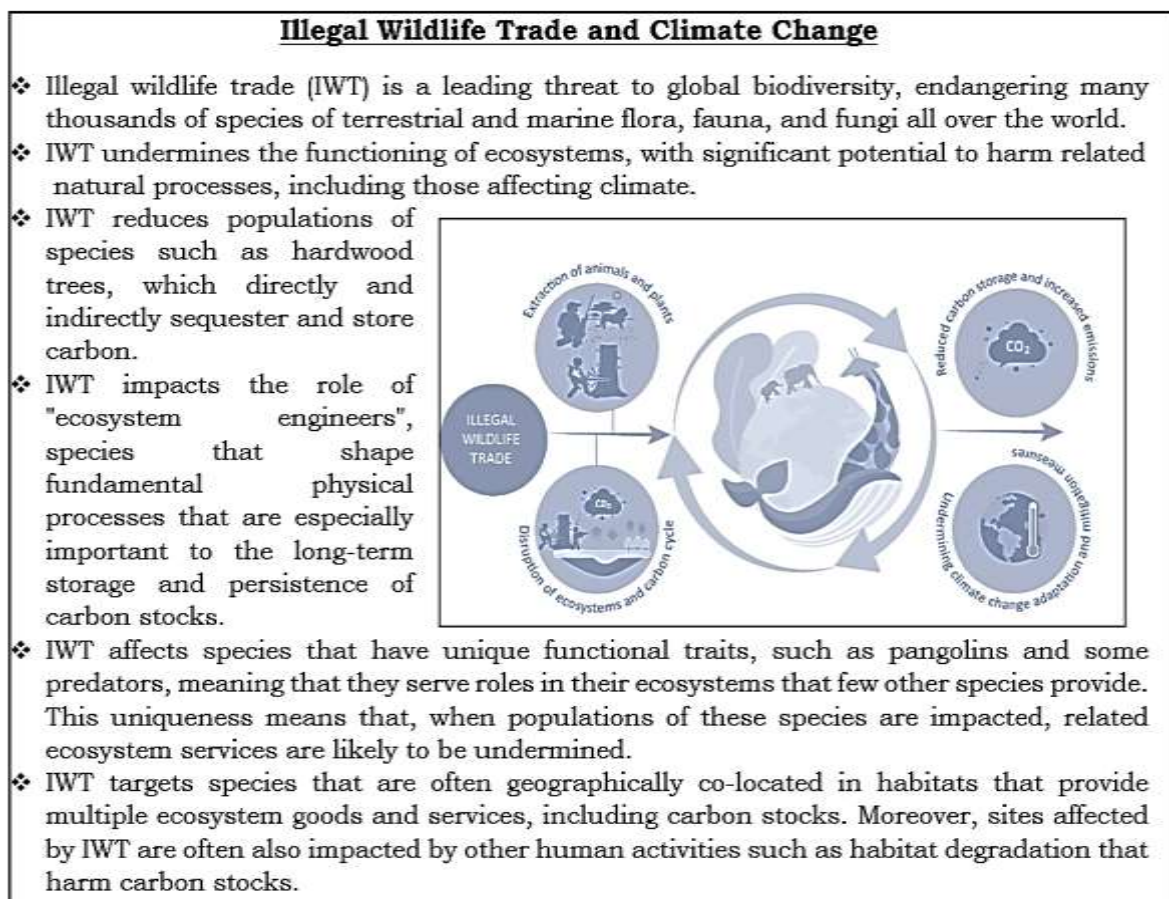
Indian Pangolin

It is widely distributed in India, except the arid region, high Himalayas and the North-East. The species also occurs in Bangladesh, Pakistan, Nepal and Sri Lanka. Major threats to pangolins in India are hunting and poaching for local consumptive use. It is listed in Schedule I of Wildlife (Protection) Act, 1972 and as Endangered on IUCN Red List.

Big Cat Task Force

The CITES COP19 has proposed budget of \$150,000 for Big Cat Task Force: It will curb illegal trade in big cats like lions, tigers, leopards, cheetahs etc. The Task force will include China, India, Indonesia, Lao PDR, Malaysia, Myanmar, Nepal, Thailand, USA and Vietnam as the key Parties to tackle the illegal trade in illegal trade in Asian big cat specimens.

- Parties resolved to **recognize and investigate ways in which CITES** can contribute to mitigating the risk of zoonotic pathogen spillover and transmission from wildlife trade and associated wildlife supply chains, including markets.
- **World Wildlife Trade Report** was launched at the conference. According to the report, international wildlife trade is worth more than **\$200 billion annually to the world economy**. It highlighted the fact that Humans use the resources that come from nature for food, fuel, medicine, and shelter. Therefore all stakeholders should invest in wildlife conservation.



India at the Conference

- ✓ India is a CITES Party since 1976.
- ✓ At India's behest, rules for the export of Shisham (*Dalbergia sissoo*) based products eased. Shisham (*Dalbergia sissoo*) is included in Appendix II of the convention. Therefore, as per CITES regulations, every consignment of weight above 10 kg requires a CITES permit. This resulted in a loss of export earnings for Indian handicrafts. Now in the 10kg consideration, weight of the log will be calculated and the weight of the metal will be ignored.
- ✓ The two Indian turtles **red-crowned roofed turtle (BatagurKachuga) & Leith's soft-shell turtle** which are facing a high risk of extinction added to the list of threatened species. They are threatened due to habitat loss, illegal trade, and poaching.
- ✓ India's **Operation Turtshield** got appreciation and India also highlighted that it has included many species of turtle under its **Wildlife Protection Act 1972** and they were given a high degree of protection.
- ✓ India decided not to vote against a proposal to re-open the international trade in ivory at the ongoing conference.
- ✓ In India, a large number of marine wildlife seizures happen in the following states Tamil Nadu>Maharashtra>Lakshdweep>Karnataka

Way Forward

- CITES should look forward to playing an important role in the triple planetary crisis of biodiversity loss, pollution, and climate change.
- By understanding what drives people to buy wild species, we can figure out how best to stop them.
- Giving legal protection to wild animals against hunting and commercial exploitation under the provisions of the Wild Life (Protection) Act, 1972.
- Creation of protected Areas, viz., National Parks, Sanctuaries, Conservation Reserves, and Community Reserves covering important wildlife habitats.
- Financial and technical assistance to developing countries by various organizations as well as developed countries.
- Use of indigenous peoples and local communities for conservation and curbing illegal wildlife trade.

PEPEER IT WITH

IUCN Red book, WWF, UNEP, zoonotic diseases, Cheetahs, WHO, FAO, Vaquita

Food Waste and Climate Change

News Excerpt

Every year, the world throws away around 931 million tons of food, most of it ending up in landfills this is creating a big Climate problem.

Pre-Connect

- Food waste is a waste of resources, time, and money. Food waste means all of the environmental impacts of food production without any of the benefits of people being fed.
- A throwaway food when it decomposes produces around a tenth of the world's climate-warming gases, according to the United Nations.
- Estimates suggest that 8-10% of global greenhouse gas emissions are associated with food that is not consumed.
- Nations around the globe pledged in 2015 to halve food waste by 2030, but few are on track to do so.
- Among the top five biggest food wasters per capita, at least three of the United States, Australia, and New Zealand have increased their food waste since 2015.
- The average American wastes more than 700 calories of food per day – about a third of recommended daily intake according to a 2020 study.
- 7% of all food available at consumer levels was wasted in 2019 according to the report by the Food Waste Index.
- In India, an average person wastes 137 grams of food every single day. According to estimates, food wastage cost around Rs 92,000 crores a year

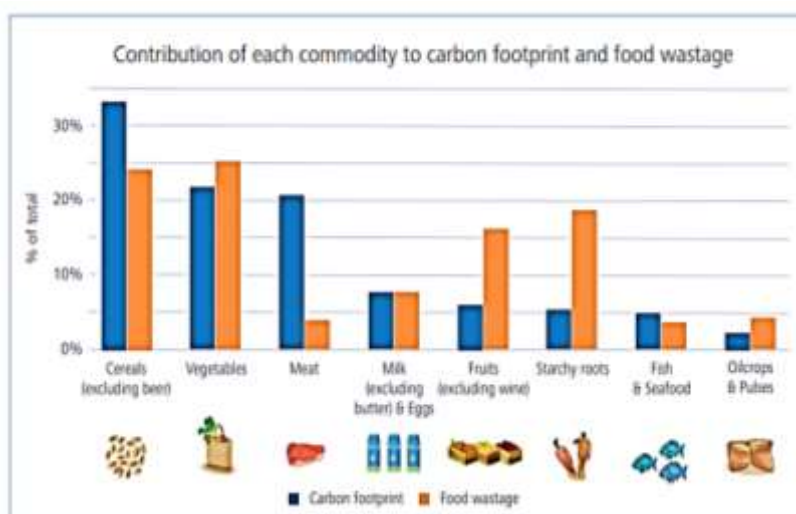
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Food Waste Index

- ❖ It is produced jointly by the United Nations Environment Programme (UNEP) and WRAP. It seeks to support efforts to halve food waste by 2030. It aims at supporting the goals of SDG 12.3.
- ❖ Key Highlights of 2021 Report are:
 - The report estimates that around 931 million tonnes of food waste was generated in 2019, 61 per cent of which came from households, 26 per cent from food service and 13 per cent from retail.
 - Household per capita food waste generation is found to be broadly similar across country income groups, suggesting that action on food waste is equally relevant in high, upper-middle and lower-middle income countries.
 - Previous estimates of consumer food waste significantly underestimated its scale. While data doesn't permit a robust comparison across time, food waste at consumer level (household and food service) appears to be more than twice the previous FAO estimate.

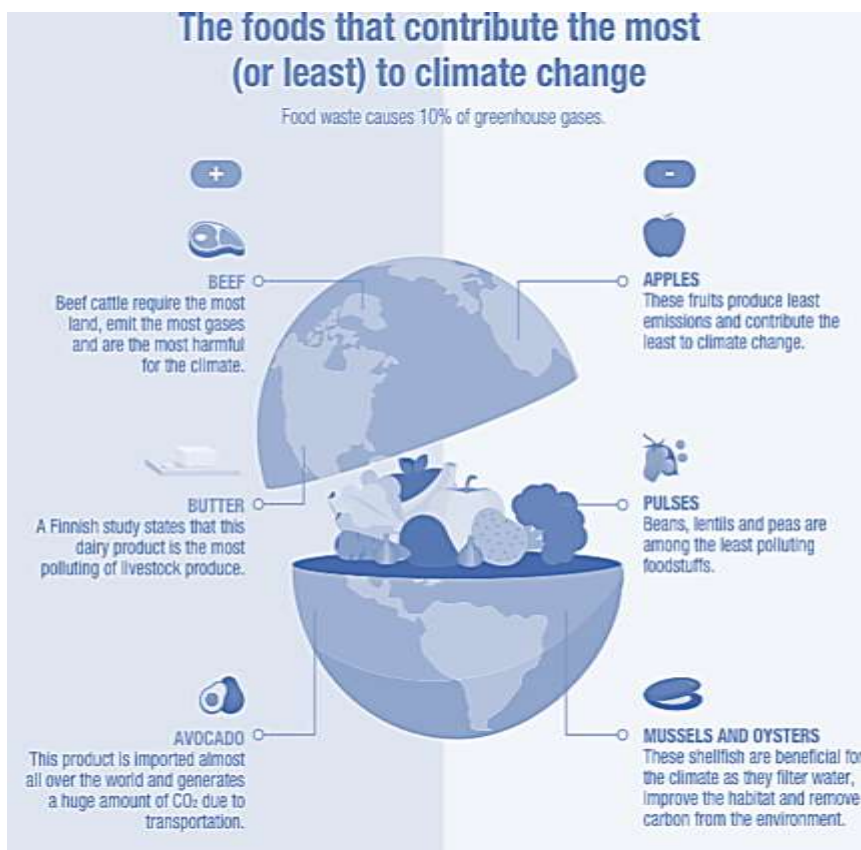
How Food Waste Impacts Climate Change

- According to UN, Globally, around 14 percent of food produced is lost between harvest and retail, while an estimated 17 percent of total global food production is wasted (11 percent in households, 5 percent in the food service and 2 percent in retail).
- The greenhouse gases (GHG) from the food industry account for 25 to 30% of the total emissions that have led to today's climate crisis.
- According to a report by the intergovernmental Panel on Climate Change (IPCC) the loss and waste of food caused between 8 and 10% of the emissions of the gases responsible for global warming in the period 2010-2016.
- According to a study on Climate Change and Land, the reasons for food waste differ according to the country and its level of development.



Effects of Food Waste

- ✓ **Biodiversity loss:** To maximize agricultural yields, farmers have increasingly invaded wild areas in search of more fertile lands which has led to the loss of biodiversity.
- ✓ **Blue water footprint:** If 30 percent of all the food produced goes to waste, then it means that more than 30 percent of freshwater used in the production and processing of food also goes to waste.
- ✓ **Increased carbon footprint and the acceleration of climate change:** The food produced and then later goes to waste is estimated to be equivalent to 3.3 billion tons of greenhouse gas emission, accelerating the impacts of climate change. Food waste is the third biggest emitter of greenhouse gases.
- ✓ **Economic consequences:** According to FAO's report estimates, the economic losses associated with food wastage are about \$750 billion per annum.



Solutions to Food Waste

- **Balancing food production with demand:** The emphasis should be on the production of small batches or the use of the cook-to-order option.

- **Technology Development:** Harvesting, storage, and processing should also be improved by governments and NGOs by availing subsidies and training on better production practices, especially in developing countries.
- **Food waste reduction initiatives:** Supermarkets, retail food outlets, big restaurants, and individual consumers all alike can also work on their own tailored and creative efforts to reduce their food footprint.
- The recycling of food packaging materials can equally reduce the over-exploitation of virgin material.

Way Forward

- ✚ Governments and NGOs across the world should launch campaigns for reducing food footprints.
- ✚ The UN and FAO have already launched such a campaign by emphasizing the **"Think Eat Save Reduce Your Foodprint"** campaign slogan.
- ✚ Moreover, with more and more such campaigns, societies at large will be informed on ways for reducing footprint and get the real facts about environmental impacts.
- ✚ At last, reducing and preventing food waste can increase food security, foster productivity and economic efficiency, promote resource and energy conservation, and address climate change, which in turn, could also decrease climate change-related shocks to the supply chain.

PEPPER IT WITH

Global Carbon Footprint, Green House Gases, UNEP, FAO, IPCC, Public Distribution System, Food Corporation of India, Food Loss Index

Fujiwhara Effect

News Excerpt

Recently, super typhoon Hinnamnor, the strongest tropical cyclone of the year was moving towards Taiwan from the western Pacific Ocean. At the same time, another tropical storm called Gardo was moving towards Hinnamnor from its southeast direction. Hinnamnor devoured Gardo and eventually made landfall in South Korea.

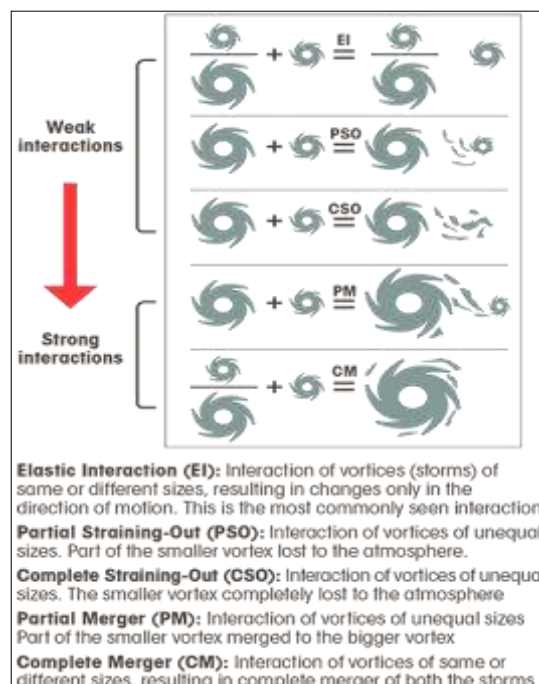
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Pre-Connect

- Cyclones are huge swirling wind circulations that form over warm ocean waters and are named depending on where they form.
- Cyclones are fuelled by heat, wind, and moisture and under the right conditions can gain significant strength and size. The big ones can have diameters of more than 1,000 km and wind speeds of over 250 km per hour.
- Cyclones are given many names in different regions of the world-Tropical cyclones-Indian Ocean, Willy-willies-north-western Australia, Typhoons-China Sea, and Pacific Ocean, Hurricanes in the Caribbean Sea, and Atlantic Ocean.
- The world is seeing a rise in cyclonic formations and in cases of cyclones merging to form mega cyclones due to the warming of oceans.

Fujiwhara Effect

- It is an interactivity between tropical storms formed around the same time in the same ocean region with their centers or eyes at a distance of less than 1,400 km their intensity can vary between a depression (wind speed under 63 km per hour) and a super typhoon (wind speed over 209 km per hour).



- The interaction of storms leads to changes in the track and intensity of either or both storm systems.
- In rare cases, the two systems could merge, especially when they are of similar size and intensity, to form a bigger storm.
- In 2020 hurricanes Marco and Laura formed back to back in the small region of the Gulf of Mexico and created a possibility of the Fujiwhara Effect.

Characteristics of the Fujiwhara Effect

There are five different ways in which Fujiwhara Effect can take place

- ✓ It is an elastic interaction. Here only the direction of motion of the storms changes. It is the most common case.
- ✓ It is partial straining out in which a part of the smaller storm is lost to the atmosphere.
- ✓ It is completely straining out in which the smaller storm is completely lost to the atmosphere. The straining out does not happen for storms of equal strength.
- ✓ It is a partial merger in which the smaller storm merges into the bigger one.
- ✓ It is a complete merger that takes place between two storms of similar strength.
 - **Merging of Extratropical cyclones:** A binary interaction is seen between nearby extratropical cyclones when within 2,000 kilometers of each other, with significant acceleration occurring when the low-pressure areas are within 1,100 kilometers of one another. The precise results of such interactions depend on factors such as the size of the two cyclones, their distance from each other, and the prevailing atmospheric conditions around them.
 - **Merging of Extratropical and Tropical Cyclones:** When entering higher latitudes, tropical cyclones can interact with extratropical cyclones. Classic cases in the Atlantic include the famed Perfect Storm of October 1991 and Superstorm Sandy of October 2012.

Adverse Impact of the Fujiwhara Effect

- It can bring massive rain causing Urban flooding, and destruction of property.
- It is also attributed to the sudden high wind causing damage to windfarms.
- Due to its unpredictable nature, it can cause the deaths of innocents in coastal regions.

Mitigation Measures

- ✚ Early prediction and warning in coastal areas as well as the evacuation of people is the key to saving thousands of lives.
- ✚ The region where the maximum impact of the cyclone is likely should be completely secured by moving residents away. It is a strategy known as 'horizontal evacuation'. It is seen as essential.
- ✚ Programs like the National Cyclone Risk Mitigation Project (NCRMP) by India address the vulnerability of the coastal community to cyclones.
- ✚ Coordination and Cooperation between the Nations which are affected by cyclones annually: In this, a forum like the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation can play a major role.
- ✚ On the local level Cyclone Shelters, Engineered Structures, and Coastal Shelter Belts should be built.
- ✚ Plantation of Mangroves greatly reduces the impact of incoming cyclones thus protecting the coastal economy as well as ecology.

PEPPER IT WITH

Warming of Oceans, UNFCCC, Bay of Bengal, Pacific and Atlantic ocean basin, Urban flooding, Tropical vs Temperate cyclone.

Great Indian Bustard

News Excerpt

Recently the Supreme Court has asked the Government for a focussed approach, something like Project Tiger to be taken up for saving the Great Indian Bustard (GIB) (*Ardeotisnigriceps*).

Pre-Connect

- **About GIB:** It is a state bird of Rajasthan and locally it is called 'Godawan'. They are omnivores in nature and its population has declined by 75% in the last 30 years.

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- **Conservation Status:** It is a Critically Endangered bird on the red list of the International Union for Conservation of Nature (IUCN) and is listed in Schedule I of the Indian Wildlife (Protection) Act, 1972. They have been identified as species for the recovery program under the Integrated Development of Wildlife Habitats of the Ministry of Environment and Forests.
- **Habitat Distribution:** They are found in India and Pakistan. Today, its population is confined mostly to Rajasthan and Gujarat. Small populations occur in Maharashtra, Karnataka, and Andhra Pradesh.
- **Laws/Conventions for Conservation:** Bonn Convention: The Convention on the Conservation of Migratory Species of Wild Animals, signed in 1979; The Convention on Biological Diversity; Ramsar treaty 1971; Article 48A and Article 51A of the Constitution of India; The Wildlife (Protection) Act, 1972; Forest (Conservation) Act, 1980.

Indicator species Are that flora and fauna which define a particular trait or change in the environment. Such species are sensitive to environmental change and can act as early warning regarding adverse environmental changes in a particular area.

Threat to Great India Bustard

- **GIBs are large and usually take low flights which often result in mortality due to Collisions with high-tension electric wires.**
- **the GIBs are slow breeders and they build their nests on the ground hence fast moving vehicles and free-ranging dogs in villages are a threat to their newborns.**
- **Habitat loss and alteration of forest land for agriculture is shrinking their breeding space.**
- Illegal mining and industrialization cause degradation and disturbance of existing grassland habitats.
- Windmills and solar plants have become a part of the Rajasthan landscape threatening their natural habitat.
- The biggest threat to this species is hunting, which is still prevalent in Pakistan.

Critically endangered birds in India: Baer's pochard, Forest owl, Spoon-billed sandpiper, White-backed Vulture, Slender-billed Vulture, Indian Vulture, Jerdon's Courser, White-bellied Heron

Initiatives to save Great India Bustard

- ✓ The *Great Indian Bustards* are often considered indicators of the health of grasslands.
- ✓ **World Wide Fund for Nature (WWF) India has provided inputs in developing the 'Guidelines for the State Action Plan for Resident Bustard Recovery Programme'.**
- ✓ **'Habitat Improvement and Conservation Breeding of Great Indian Bustard-an integrated approach' for captive breeding of GIB.**
- ✓ **A total of 16 GIB chicks artificially hatched from eggs collected from the wild are being reared in the satellite conservation breeding facility at Sam in Jaisalmer, Rajasthan.**
- ✓ **Rajasthan government launched an ambitious conservation program namely, Project Great Indian Bustard in 2013.**

PEPPER IT WITH
Wildlife (Protection) Act, 1972, Convention on migratory species, Jaisalmer Desert National Park, Indian Vultures Operation Clean Art

Way Forward

- While most of the population of the species is confined to the Jaisalmer Desert National Park (DNP), wildlife enthusiasts believe that more areas outside the protected area must be made suitable for the species.
- A conservation effort like 'Project Tiger' may not work for a large bird of an arid region that can always fly out of the protected area.
- Experts are calling for community-centric conservation of critically endangered species.
- GIB can be conserved only through its protection and its habitat through the following activities:
 - Intensive Patrolling by the field staff.
 - Developing an intelligence network in the area.
 - Making of check posts and barriers at strategic locations.
 - Creation of a flying squad headed by not below the rank of a range officer.
 - Strengthening of existing Wireless Network.

Great Nicobar

News Excerpt

The Ministry of Environment, Forest and Climate Change gave environmental clearance for the ambitious Rs 72,000 crore development project on the strategically important Great Nicobar Island.

Pre-Connect

The Andaman and Nicobar Islands are a cluster of about 836 islands in the eastern Bay of Bengal, the two groups are separated by the Ten Degree Channel. The Andaman Islands lie to the north of the channel, and the Nicobar Islands to the south.

Great Nicobar

- It is the southernmost island of the Nicobar Islands Archipelago.
- The Nicobar group includes the islands of Car Nicobar (north), Camerota (Kamorta) and Nancowry (central group), and Great Nicobar (south).
- The highest peak is Mount Thullier, rising to 2,106 feet (642 meters) on Great Nicobar.
- The population consists mostly of two ethnic groups, the Nicobarese and the Mongoloid Shompens.
- Indira Point on the southern tip of Great Nicobar Island is India's southernmost point.

Great Nicobar Biosphere Reserve

- It has a wide spectrum of ecosystems comprising tropical wet evergreen forests, mountain ranges, and coastal plains.
- It houses 650 species of angiosperms, ferns, gymnosperms, bryophytes, and lichens.
- It has the well-known endemic and/or endangered Crab-eating Macaque, Nicobar Tree Shrew, Dugong, Nicobar Megapode, Serpent Eagle, saltwater crocodile, marine turtles, and Reticulated Python.

Governments Developmental Proposal

- ✓ A greenfield city has been proposed, including an International Container Transshipment Terminal (ICTT), a greenfield international airport, a power plant, and a township for the personnel who will implement the project.
- ✓ According to the NITI Aayog report, the proposed port will allow Great Nicobar to participate in the regional and global maritime economy by becoming a major player in cargo transshipment.
- ✓ The port will be controlled by the Indian Navy, while the airport will have dual military-civilian functions.
- ✓ It has planned roads, public transport, water supply, waste management facilities, and several hotels to cater to tourists.

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- ✓ About 130 sq km of forests have been sanctioned for diversion, and 9.64 lakh trees are likely to be felled.

Government's Purpose

- The government's greater goal is to leverage the locational advantage of the island for economic and strategic reasons apart from its tourism potential.
- Great Nicobar is equidistant from Colombo to the southwest and Port Klang and Singapore to the southeast and positioned close to the East-West international shipping corridor, through which a very large part of the world's shipping trade passes. The proposed ICTT can potentially become a hub for cargo ships traveling on this route.

Concerns regarding the Project

- ✚ The proposed massive infrastructure development in an ecologically important and fragile region, including the felling of almost a million trees is detrimental to the sensitive ecosystem.
- ✚ This can impact the Coral reefs in the area due to increased runoff and sediment deposits in the ocean.
- ✚ It can cause a loss of mangroves on the island as a result of the development project.

PEPPER IT WITH

Nine and Eleven degrees Channel, Dugong, Coral bleaching, The Andaman and Nicobar Command, Types of Ports, Environment Impact Assessment, Shompen, Nicobarese

Way Forward

- > India has successfully translocated a coral reef from the Gulf of Mannar to the Gulf of Kutch earlier. A similar project can be implemented in Great Nicobar.
- > As the project site is outside the eco-sensitive zones of Campbell Bay and Galathea National Park, more emphasis should be on the conservation of eco-sensitive zones on the island.
- > At last regarding national security and strategic importance, the Government should develop only a small percentage of the island area which is strategically important.

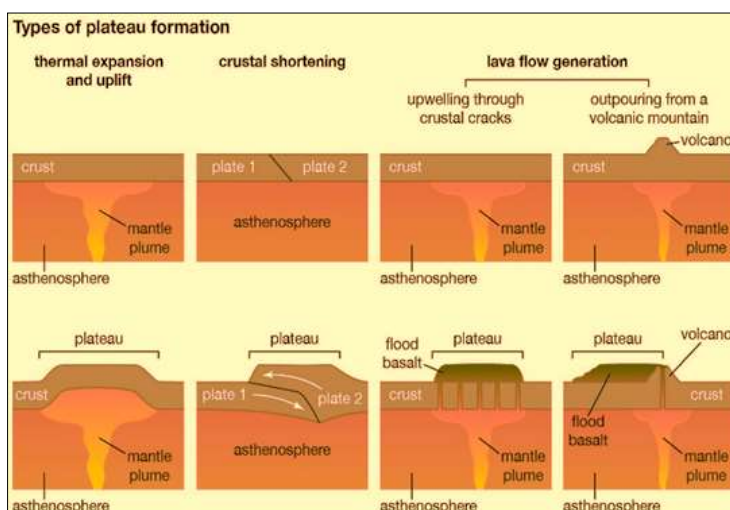
Himalayan Qinghai-Tibet Plateau

News Excerpt

Himalayan Qinghai-Tibet Plateau is threatening rapid fall down due to permafrost melting brought by global warming, as per research published in the journal Communications Earth & Environment.

Pre-Connect

- A plateau is a flat, elevated landform that rises sharply above the surrounding area on at least one side.
- **There are four types of plateaus:** (a) Piedmont-They lie at the foot of a mountain (b) Volcanic- Formed by numerous small volcanic eruptions (c) Intermontane- They are surrounded by mountain ranges (d) Continental- formed by continental upliftment.
- **Characteristics of the plateau:** (a) They can stretch for thousands of kilometers like the Tibetan plateau. (b) They eroded by rivers have remarkably uniform maximum elevations, but their surfaces can be interrupted by deep canyons.



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- **Formation Process:** The formation of a plateau requires one of the same three types of tectonic processes that create mountain ranges volcanism, crustal shortening (by the thrusting of one block or slice of crust over another or by the folding of layers of rock), and thermal expansion.

Oceanic Plateaus: Plateaus in the ocean are divided into two groups. One group is made of continental crust. The other is made of igneous rock. Igneous oceanic plateaus represent an age between the older, less-dense continental crust and the younger, more dense oceanic crust.

Qinghai-Tibet Plateau (QTP)

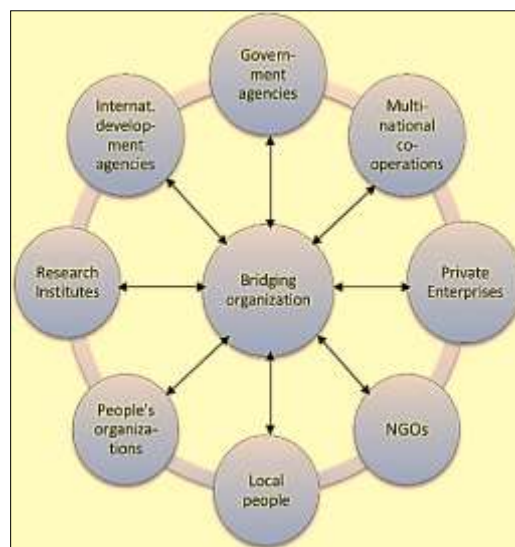
- It is a 970,000 square mile area, stretching from Western China to Pakistan, that includes areas of Nepal, India, eastern Tajikistan, and southern Kyrgyzstan. It is a dominant part of the Third Pole.
- It has an average altitude of 4000 m above sea level.
- It has a developed cryosphere that is characterized by mountain glaciers, snow cover, and permafrost.
- Most of the Earth's permafrost in the middle and low latitudes occurs on the QTP, which is warmer than the high Arctic.
- Warm permafrost is especially vulnerable to climate change and ecosystem disturbances (both natural and human).

Effect of Climate Change on Qinghai-Tibet Plateau (QTP)

- ✓ The expansion of infrastructure has reshaped socioeconomic conditions in the QTP and the surrounding population. More than 10 million people live on the QTP.
- ✓ In recent decades, depending on altitude, the warming rate of the QTP has been twice the global average. Climate change-induced permafrost degradation can seriously threaten the stability of infrastructure on the QTP.
- ✓ Around 38 percent of roads, 39 percent of railways and power lines, and 21 percent of buildings being threatened by permafrost thaw by 2050.
- ✓ **At local scales:** The permafrost melting can lead to an unstable or shifting ground that can damage building foundations, roads, pipelines, and other infrastructure.
- ✓ Permafrost melting can also weaken ground to the extent of mass failure, resulting in landslides.
- ✓ **At a regional scale:** The permafrost thawing throughout the Arctic is leading to extensive dryness of lakes and other bodies of water.
- ✓ The dryness in the area could seriously threaten the water security in South and South-East Asian countries. Asia's three longest rivers originate on this plateau providing water to almost 20% of the planet's population.
- ✓ **On a larger scale:** The thawing permafrost goes back into global warming it increases melting in other parts of the planet.
- ✓ The positive response cycle of heating and permafrost melting may potentially involve wildfires, which are on the rise in Arctic permafrost soils

Mitigation

- The environment and climate change are issues that transcend national boundaries and political divisions. The environmentally damaging project should be completely stopped in this region.
- The Tibetan people the Chinese government and the international community should work together for the protection of the QTP, and the welfare of millions of people across Asia.
- Traditional Tibetan culture offers alternative knowledge and perspectives that facilitate environmental conservation throughout the region. We should connect this knowledge with the Scientific community and policymakers.



- The degradation of QTP should be the central issue in the UNFCCC's Conference of Parties.
- More research is needed on the effect of temperature change on the permafrost region.

Way Forward

- ✚ The Qinghai-Tibetan Plateau (QTP) is a major source of fresh water for Half of Asia. Hence a community-based approach to incorporate Tibetan traditional practices into the official conservation network in the QTP region will not only help the local people but the rest of Asia.
- ✚ This in turn will protect, restore, and enhance the productivity, diversity, and resilience of critical ecosystems of QTP.
- ✚ In this sense, resource management of any type is essentially about finding ways to allow sustainable management while protecting, even enhancing, the lifestyles and cultures of those who harvest and use the resources.

PEPPER IT WITH

Third Pole of World, Formation of Himalayas, Snow Leopard, Passes in Himalayas, CoP 27 outcomes, UNFCCC, CBD

Lifestyle For Environment (LiFE)

News Excerpt

Lifestyle for Environment (LiFE) is an India-led global mass movement to nudge individual and community action to protect and preserve the environment.

About LiFE

- LiFE was introduced by the Indian Prime Minister at COP26 in Glasgow on 1 November 2021 as a mass movement for “mindful and deliberate utilization, instead of mindless and destructive consumption “to protect and preserve the environment.
- It aims to nudge individuals and communities to practice a lifestyle that is synchronous with nature and does not harm it.
- It is designed to mobilize at least one billion Indians and other global citizens to take individual and collective action for protecting and conserving the environment in the period 2022–28.
- Those who practice such a lifestyle are recognized as **Pro Planet People**.
- India is the first country to include LiFE in its Nationally Determined Contributions.
- The mission will be incubated, curated, and piloted by NITI Aayog and subsequently implemented by the Union Ministry of Environment, Forest and Climate Change.
- According to the **United Nations Environment Programme (UNEP)**, if 1 out of 8 billion people worldwide adopts environment-friendly behaviors in their daily lives, global carbon emissions could drop up to 20 percent.

The approach of the LiFE Campaign

- **It focuses on Individual Behaviours:** It aims to make life a mass movement (Jan Andolan) by focusing on the behaviors and attitudes of individuals and communities.
- **It Co-creates Globally:** Crowdsourcing of empirical and scalable ideas from the best minds of the world, from top universities, think tanks, and international organizations.
- **Leverage Local Cultures:** Leverage climate-friendly social norms, beliefs, and daily household practices of different cultures worldwide to drive the campaign.

India and Mission LiFE:

- ✓ India has rich experience in implementing large-scale behavioral change programs like:
- ✓ **Swachh Sagar Surakshit Sagar campaign:** It aimed to remove approximately 15,000 tonnes of waste from 75 beaches in 75 days.
- ✓ **The Swachh Bharat Mission (SBM):** It led to the construction and use of over 100 million toilets in rural India within 7 years.
- ✓ India's initiative with the International Solar Alliance proves that the country is pursuing environmentally sound policies.

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- ✓ India has been ranked among the top 5 countries in the world, and the best among the G20 countries, based on its Climate Change performance.
- ✓ India could attract close to \$10 bn in renewable energy investment in 2023.

Indian Traditional Methods for Mission LiFE

- Several unique water harvesting techniques, contextual to local conditions, are practiced across India. These include the step wells of Gujarat and Rajasthan, the underground tanks (tankaa) of Tamil Nadu, the check dams (johads) of Rajasthan, and the Zabo system of Nagaland that deposit the water in pond-like structures on terraced hillsides.
- Clayware, for example, is commonly used for cooking and serving purposes across the country (sal tree leaves) and tea in clay pots (kulhad).
- Several traditional Indian practices such as adaptive architectural forms that minimize electricity consumption and hand-washing and sun-drying of clothes, as well as a dietary preference for plant-based foods and millet, can serve as foundations for LiFE.
- Through this India will put forward and propagate a healthy and sustainable way of living based on its traditions and the values of conservation and moderation, including through a mass movement.

LiFE as a Global Programme

It envisions three core shifts in our collective approach toward sustainability they are:

- ✚ **Change in Demand (Phase I):** Nudging individuals across the world to practice simple yet effective environment-friendly actions in their daily lives.
- ✚ **Change in Supply (Phase II):** Changes in large-scale individual demand are expected to gradually nudge industries and markets to respond and tailor supply and procurement as per the revised demands.
- ✚ **Change in Policy (Phase III):** By influencing the demand and supply dynamics of India and the world, the long-term vision of Mission LiFE is to trigger shifts in large-scale industrial and government policies that can support both sustainable consumption and production.
 - Given the global commitment to achieving the SDGs by 2030, it is important to note that Mission LiFE contributes directly and indirectly to almost all the SDGs.
 - The SDGs focused on sustainable cities and communities (SDG 11), responsible production and consumption (SDG 12), climate change (SDG 13), life on land (SDG 15), and life under water (SDG 14) are addressed by the mission.
 - **LiFE Global Call for Ideas:** NITI Aayog (Behavioural Insights Unit) and the Ministry of Environment, Forest and Climate Change (MOEFCC), in partnership with the United Nations, World Resources Institute, Centre for Social and Behaviour Change (CSBC) and Bill and Melinda Gates Foundation (BMGF), are inviting ideas from across the world for one of the following, or related, areas **like** Water, Transport, Food, Electricity, Waste Management, Sustainability. Recycle, Reuse.



Way Forward

- > By adopting green behavior by the masses the mission LiFE will transform into a true Jan Andolan making it a successful mission.

- > Behavioral change at the personal level for environment conservation can greatly impact the community resulting in a change in behavior at the community level.
- > As the quote from Atharva Veda (A.V.) 12.1.62 We aspire to live long, our children too should live long and be free from sickness and consumption. We are reared in the lap of Mother Earth. May we have a long life [provided] we are watchful, alert, and sacrifice our all for Her.

PEPPER IT WITH

COP 27, Traditional Water Harvesting Methods, India's NDC, Coalition for Disaster Resilient Infrastructure.

Decarbonization of Industrial Emissions**News Excerpt**

According to a NITI Aayog report, the Carbon Capture Utilisation and Storage (CCUS) technology for decarbonizing carbon dioxide (CO₂) from high-polluting sectors has a critical role to play in the country to halve CO₂ emissions by 2050.

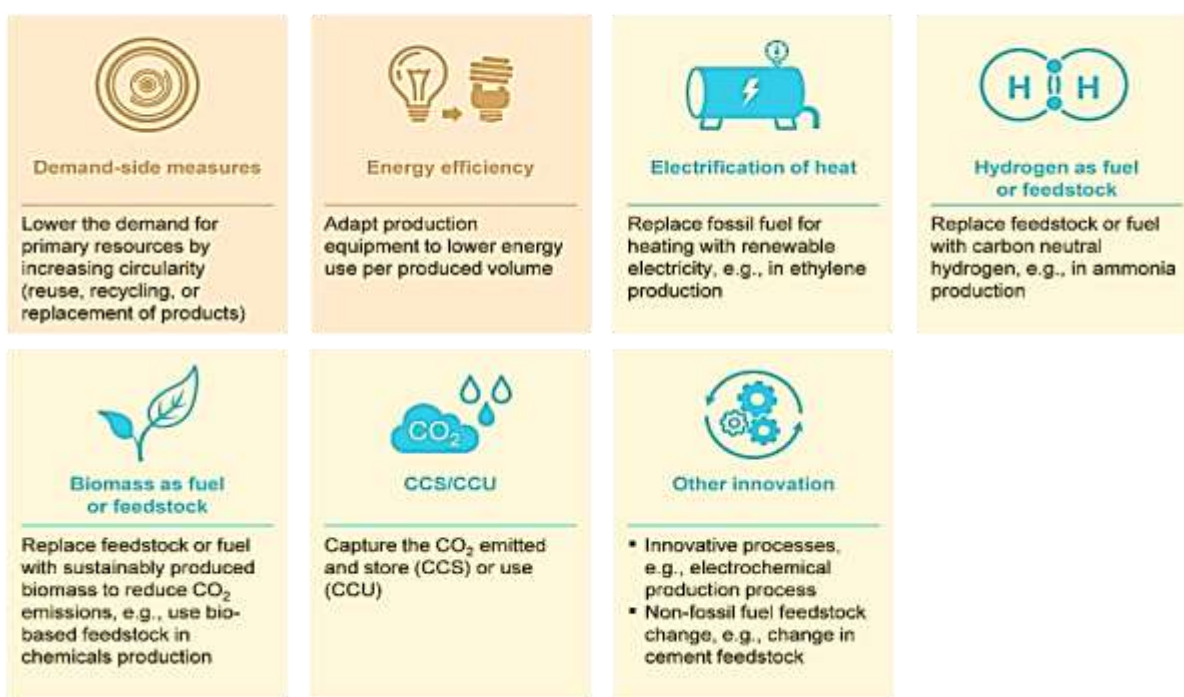
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Pre-Connect

- **Decarbonization:** It refers to the process of reducing 'carbon intensity', lowering the amount of greenhouse gas emissions produced by the burning of fossil fuels.
- **Carbon Capture Utilisation and Storage (CCUS):** In this process, Carbon Dioxide emissions are captured and they are used to make construction material or they are stored permanently below the ground. It helps reduce the carbon intensity of industrial operations and is a critical component of meeting the global net-zero ambitions of the Paris Agreement. Achieving net-zero emissions by 2050 isn't possible without ambitious mitigation actions that could include large-scale deployment of carbon dioxide removal technologies like CCUS.

The areas where CCUS can contribute: Energy, materials & food security and self-sufficiency, In sunrise sectors of coal gasification and the low-carbon hydrogen economy.

Decarbonization of industry through a "menu" of options that together lead to substantial CO₂ emission reduction



- **India's concerns** India is the 3rd largest emitter of CO₂ in the world after China and the US, with estimated annual emissions of about 2.6 gigatonnes per annum (gtpa). The

Government of India has committed to reducing CO₂ emissions by 50% by 2050 and reaching net zero by 2070. Dependence of India on Cement, Steel, Oil, Gas, and Thermal power industries.

- **Net Zero:** It means achieving a balance between the number of emissions produced and those removed from the atmosphere to reduce global warming. It allows for some emissions to be above zero so long as they are balanced out elsewhere to achieve net zero carbon global emissions.

India's policy pathway for decarbonization

India's path to a prosperous low-carbon economy rests on three types of strategies:

- Job creation in low-carbon industries.
- Robust low-carbon economic growth.
- Peaking, and subsequently reducing, its GHG emissions in a way that does not disrupt development aspirations.
 - Green job creation has indeed been robust, although it remains subpar when compared to other countries with large domestic markets.
 - India also has yet to put in place a policy for a just transition of workers from the coal mining and other energy industries, to lighter industries or green jobs.
 - Many Indian policies, due to their voluntary or general nature, are less likely to have a significant influence on reducing emissions.
 - India needs comprehensive climate legislation and a coordinated approach to the decarbonization of the economy.
 - In the near term, CCUS policy should be carbon credits or incentives based, to seed and promote the CCUS sector in India through tax and cash credits.
 - Over time (probably beyond 2050), the policy should transition to carbon taxes, to enable reaching India's net-zero goals by 2070.

Comparative Analysis of Various Classes of CO₂ Capture Technologies

Process	Working Principle	Advantages	Limitations	Examples
Chemical Solvent	<ul style="list-style-type: none"> • Chemical reaction between CO₂ and solvent • Governed by rate kinetics & thermodynamics 	<ul style="list-style-type: none"> • High absorption at low partial pressure of CO₂ • Selective capture and high purity CO₂ product 	<ul style="list-style-type: none"> • High energy (steam) requirements for solvent regeneration 	<ul style="list-style-type: none"> • BASF / OASE® • ICE-21, ICE-31 • KS-1™, KS-21™ • UCARSOL™ • CAP
Physical Solvent	<ul style="list-style-type: none"> • Absorption due to CO₂ solubility in the solvent • Governed by Henry's Law 	<ul style="list-style-type: none"> • Suitable for gas streams with high partial pressure of CO₂ • Regeneration through low temperature flashing or pressure reduction • High absorption capacity & lower solvent recirculation rates 	<ul style="list-style-type: none"> • Low energy efficiency for low partial pressure of CO₂ • High compression requirement for low pressure feed gas • H₂S often absorbed more effectively than CO₂ 	<ul style="list-style-type: none"> • Rectisol™ • Selexol™
Adsorption	<ul style="list-style-type: none"> • Selective adsorption due to difference in diffusivity & heat of adsorption • Governed by pressure change 	<ul style="list-style-type: none"> • Selective capture • Can be performed at normal temperatures 	<ul style="list-style-type: none"> • Batch process • Complex pressure balancing management system • High electrical energy consumption 	<ul style="list-style-type: none"> • PSA • VSA • TSA
Cryogenic Separation	<ul style="list-style-type: none"> • Low-temperature separation through liquefaction • Governed by temperature change 	<ul style="list-style-type: none"> • Selective capture and high purity CO₂ • Liquefied CO₂ product • Food grade CO₂ • Almost no steam consumption • Low area footprint 	<ul style="list-style-type: none"> • High energy requirement • High operating pressure 	<ul style="list-style-type: none"> • Cryocap™ • Orloff Dual Refrigerant CO₂ Fractionation (DRCF)

- The policy should establish early-stage financing and funding mechanisms for the CCUS project.

Advantages of CCUS

- ✓ **Generates additional power:** The CO₂-based steam cycles, during which CO₂ is pressurized into a supercritical fluid, could transfer heat more readily and take less energy to compress steam, helping power generation turbines run more efficiently. Additionally, geologically stored CO₂ could be used to extract geothermal heat from the same locations in which it's injected, producing renewable geothermal energy.
- ✓ **Create more fuel:** Technically, it's possible to convert CO₂ into fuel. There are multiple ways to accomplish this, but they're difficult in terms of cost and process.
- ✓ **Helps in the Enrichment of concrete:** The Captured CO₂ could be used to strengthen concrete, leading to increased infrastructure durability.
- ✓ **Bolster manufacturing operations:** CO₂ could be used to make chemicals and plastics, such as polyurethanes that are used to create soft foams like those used in mattresses.
- ✓ **Generation of employment:** If more CCUS operations were implemented, more skilled technicians would be needed to manage them.
- ✓ It will help in the mitigation of climate change.

Way forward

- Regional hub & cluster models need to be established to drive economies of scale.
- The role of emitters, aggregators, hub operators, disposers and conversion agents needs to be defined.
- The preferential procurement in Government tenders for low carbon or carbon-abated products.
- Incentives to foster innovation for low-carbon products through schemes like PLI.
- Distribution of benefits of economic value added created, to communities most affected by environmental and climate change.
- Protection of communities and jobs, especially in sectors affected by clean energy regulations.

PEPPER IT WITH

NITI Aayog, Carbon Sequestration, Green carbon, National Disaster Management Authority, Carbon Bomb, Properties of CO₂

Pushing For Millets

News Excerpt

Millets have the potential to help achieve the sustainable development goals (SDGs) mainly SDG 2 (Zero Hunger), SDG3 (Good Health and Well-being), SDG 12 (Sustainable Consumption and Production), and SDG 13 (Climate Action). India has signaled the beginning of preparations for the International Year of Millets 2023, designated the year 2021 by the UNGA following an initiative by New Delhi.

Pre-Connect

International Year of Millets (IYoM)-2023

- In India, millets are mainly a Kharif crop. During 2018-19, three millet crops — bajra (3.67%), jowar (2.13%), and ragi (0.48%) — accounted for about 7 percent of the gross cropped area in the country.
- The Government of India had proposed to United Nations for declaring 2023 as the International Year of Millets (IYOM). The proposal of India was supported by 72 countries and United Nations General Assembly (UNGA) declared 2023 as the International Year of Millets on 5th March 2021.
- The Government of India has decided to celebrate IYOM, 2023 to make it a peoples' movement so that Indian millets, recipes, and value-added products are accepted globally.

Jowar: The United States, China, Australia, India, Argentina, Nigeria, and Sudan are the major producers

Top 5 States	Millet Crops
Rajasthan	Bajra/Sorghum
Karnataka	Jowar/Ragi
Maharashtra	Ragi/Jowar
Uttar Pradesh	Bajra
Haryana	Bajra

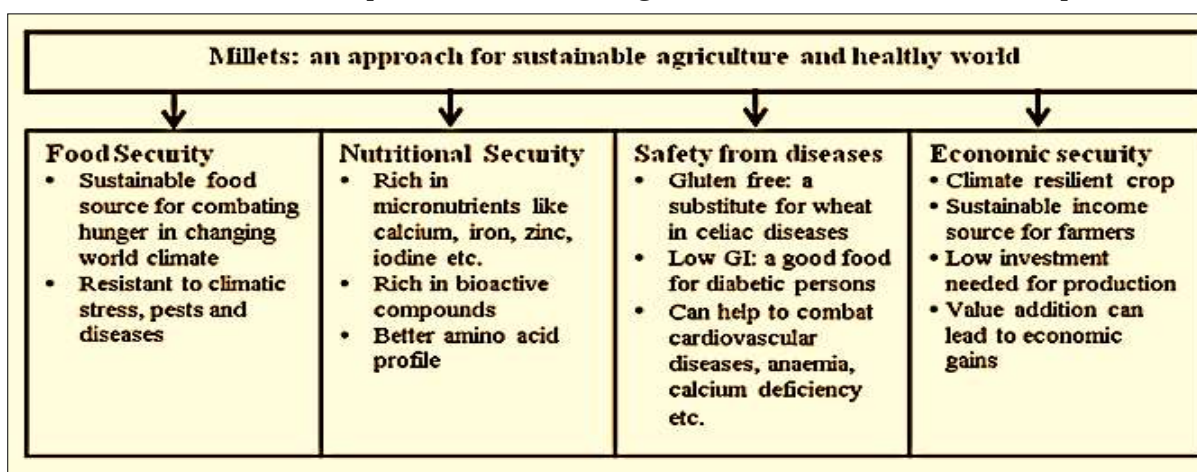
Millet Estimates 2021 of major countries

Country	Estimates (Lakh Ton)	Africa Country	Estimates (Lakh Ton)	Africa Country	Estimates (Lakh Ton)
Russia (Europe)	3.60	Niger	38	Kenya	0.9
Ukraine (Europe)	1.80	Nigeria	20	CotedIvoire	1.65
Australia (Europe)	0.37	Mali	18	Gambia	0.60
		Sudan	15	Angola	0.50
Peru (America)	0.15	Ethiopia	11	Congo	0.50
		Burkina Faso	10	Sierra Leone	0.40
India (Asia)	115	Senegal	9	Zambia	0.35
China (Asia)	27	Chad	6.89	Togo	0.30
Pakistan (Asia)	3.15	Tanzania	3.25	Benin	0.25
Nepal (Asia)	3.14	Uganda	2.4	Eritrea	0.25
Burma (Asia)	2.40	Guinea	2.20	Guinea-Bissau	0.20
Yemen (Asia)	0.30	Ghana	1.75	Mozambique	0.20
Bangladesh (Asia)	0.07	Zimbabwe	1.04	Burundi	0.11
		Cameroon	1.00	Central African Republic	0.10

BACK

Millets

- Millets are a collective group of small-seeded annual grasses that are grown as grain crops, primarily on marginal land in dry areas of temperate, sub-tropical, and tropical regions.
- The word millets are used to describe small-grained cereals like sorghum (jowar), pearl millet (bajra), foxtail millet (kangni/ Italian millet), little millet (kutki), kodo millet, finger millet (ragi/ mandua), proso millet (cheena/ common millet), barnyard millet (sawa/ sanwa/ jhangora), and brown top millet (korale).
- They were among the first crops to be domesticated. There is evidence of the consumption of millet by the Indus valley people (3,000 BC).
- The several varieties that are now grown around the world were first cultivated in India.
- West Africa, China, and Japan are home to indigenous varieties of the millet crop.



Advantages of Millets

- ✓ They are considered to be “powerhouses of nutrition”.
- ✓ On April 10, 2018, the Agriculture Ministry declared millets as “Nutri Cereals”.
- ✓ They contain 7-12% protein, 2-5% fat, 65-75% carbohydrates, and 15-20% dietary fiber.
- ✓ It helps lower cholesterol, as it is rich in polyunsaturated fatty acids and omega-3 fatty acids.
- ✓ They contain higher protein, fat, and fiber content.

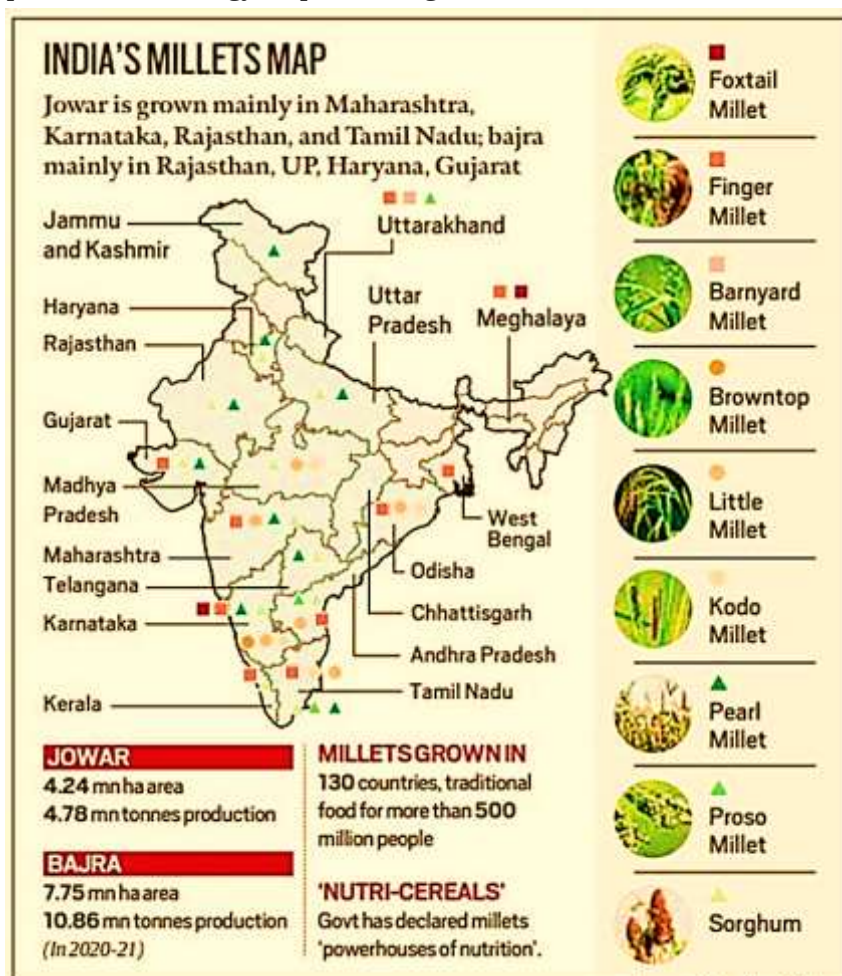
- ✓ They can thrive at relatively high temperatures (thermophilic) and reproduce in a limited water supply (xerophilic).
- ✓ Millets are multipurpose: They consume 70 percent less water than rice; grow in half the time as wheat, and require 40 percent less energy in processing.
- ✓ They are the one-stop solution in the wake of climate change, water scarcity, and drought conditions along with high nutritive value to provide sustainable food security.

Steps Taken by the Indian Government for Promotion of Millets since 2018

- The government in 2018 declared millets as “Nutri-Cereals”, considering their “high nutritive value” and also “anti-diabetic properties.”
- Launched “Sub Mission on Millets” under National Food Security Mission in 2018.
- Several States in India launched the mission on Millets. Karnataka government’s Initiative for Millets as “The Food of the Future” (incentive to farmers Rs. 10000/ha for the cultivation of millets). Maharashtra promoting Millets through Project on Climate Resilient Agriculture.
- Millets were included under **POSHAN MISSION Abhiyan by the Ministry of Women & Child Development.**
- On March 3, 2021, the United Nations General Assembly (UNGA) adopted a resolution to declare 2023 as the International Year of Millets.

Way Forward

- ✚ There is ample evidence of the nutritive value of millet being a good source of energy, carbohydrates, fats, proteins, soluble and insoluble fiber, antioxidants, iron, zinc, and vitamins, and can help eliminate micronutrient deficiency for India and other developing nations.
- ✚ Millet is grown mainly in low-income and developing countries in Asia and Africa, and are part of the food basket of about 60 crore people across the globe.
- ✚ By proposing the resolution to celebrate 2023 as the International Year of Millets, India pitched itself as a leader of this group.
- ✚ This is a golden opportunity for India to unleash the potential of millet by creating awareness at the global level for its nutritional values.
- ✚ India should encourage a shift in healthy dietary choices in different countries, this will also help in fighting climate change as well as food security by promoting millet.



PEPPER IT WITH
SDG, Climate Resilient Crops, UNDP, National Food Security Act (NFSA), 2013, POSHAN mission

Shortfalls in Tackling Plastic Pollution

News Excerpt

India's plastic waste problem is created due to improper collection and recycling of the trash, thus leading to lethal plastic pollution, according to a new report by Delhi-based think-tank, Centre for Science and Environment (CSE).

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Pre-Connect

- India is the fifth-highest generator of plastic waste in the world.
- Around 43% of manufactured plastic in India is used for packaging purposes and is mostly single-use plastic.
- Around 34.7 lakh tonnes per annum (TPA) of plastic waste was generated by India during 2019-20.
- The Central Pollution Control Board (CPCB) Report (2019-20) stated that 3.5 million metric tonnes of plastic waste are generated in India annually.
- The estimated market size of India's plastic industry stands at Rs 7.1 lakh crore (\$96 billion) as of 2021-'22 and it employs more than four million people, according to the Plastic Industry Status Report 2021, by PlastIndia Foundation.
- In 2021-'22, India's plastic demand was 20.89 million tonnes which are projected to exceed 22 million tonnes by 2023.
- The plastic industry claims to recycle more than 60% of plastic waste generated after a product is consumed and its packaging discarded.
- There are 7 categories of Plastics as shown in the picture.

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PET	HDPE	PVC	LDPE	PP	PS	OTHER
POLYETHYLENE TEREPHTHALATE	HIGH-DENSITY POLYETHYLENE	POLYVINYL CHLORIDE	LOW-DENSITY POLYETHYLENE	POLYPROPYLENE	POLYSTYRENE	OTHER
WATER BOTTLES, JARS, CAPS	SHAMPOO BOTTLES, GROCERY BAGS	CLEANING PRODUCTS, SHEETINGS	BREAD BAGS, PLASTIC FILMS	YOGURT CUPS, STRAWS, HANGERS	TAKE-AWAY AND HARD PACKAGING, TOYS	BABY BOTTLES, NYLON, CDS

Harmful Effects of Plastic Pollution

- **Negative Effects on Human Health: Bisphenol A** which is present in many plastic objects that come in direct contact with food is metabolized in the liver. The research by WHO in 2018 exposed the presence of microplastics in 90% of bottled water.
- **It Upsets the Food Chain:** The tiniest plastic causes harm to phytoplankton. When these organisms become poisoned due to plastic ingestion, this causes problems for the larger animals that depend on them for food.
- **Groundwater and Land Pollution:** Groundwater and reservoirs are susceptible to leaking plastic waste toxins. Most of the litter and pollution affecting the world's oceans also derive from plastics. When plastic is dumped in landfills, it interacts with water and forms hazardous chemicals.
- **Harmful to Animals:** Stray animals especially cows eat plastic waste regularly. This plastic waste does a lot of damage to the life of animals.



India's Plastic Waste Management

- ✓ The Government of India notified Plastic Waste Management (PWM) Rules, 2016. These rules apply to every Waste Generator, Local Body, Gram Panchayat, Manufacturer, Importer, Producer, and Brand Owner.

- ✓ Special emphasis on Reduce, Reuse, Recycle, and Recovery mantra by the government.
- ✓ Altogether 18 States and Union Territories have taken initiative and imposed some kind of ban on plastic manufacture, stock, sale, or use of plastic carry bags. **E.g. Operation Blue Mountain in Nilgiris, Tamil Nadu.**
- ✓ In India 15.8 lakh TPA of the plastic waste was recycled and 1.67 lakh TPA was co-processed. Which makes it 50% of the total plastic waste produced is recycled.
- ✓ The number of registered plastic waste processors under the Plastic Waste Management Rules is 1,419.
- ✓ According to National Center for Coastal Research, the plastic litter collected from beaches varies from 40 percent to 96 percent.



Shortfalls in Tackling Plastic Pollution in India

- The authorities in India have not understood the entire life cycle of plastic properly enough.
- The Indian government claims that the country is recycling 60 percent of its plastic waste. However, this is limited to specific types of polymers (plastics) like PET bottles.
- The extended producer's responsibility (EPR) policy has a flaw in a way that the data on plastic waste generated is based on self-declaration.
- Indian producers and various beverage brands contribute majorly to polymer pollution. The recycling targets (under EPR) for Producers/Brand owners (PIBOs) only start from 2024-25, which means that there is no mandate on recycling the collected plastic waste till 2024-25.
- India's petrochemical industry is adding to the burgeoning problem of plastic pollution in the country. The Government of India was encouraging the production of plastics from petrochemicals in several ways. It promoted a '**cluster approach**' for developing plastic parks across the country.



PEPPER IT WITH

Single-use plastic, Bisphenol A, Great pacific garbage patch, Polymers, Organic plastics, Microplastics

Way Forward

UN Environment has drawn up a 10-step roadmap for governments that are looking to adopt similar measures or improve on current ones, it is as follows:

- ✚ Target the most problematic single-use plastics, Consider the best actions to tackle the problem, Assess the potential social, economic, and environmental impacts, Identify and engage key stakeholder groups, raise public awareness about the harm caused by single-use plastics, promote alternatives, provide incentives to industry, Use revenues from single-use plastic for an environmental cause, enforce laws, Monitor and adjust the chosen measure.
- ✚ Finally, as we move ahead, policies will have to be driven by data, and this is possible only when policymakers and environmental think tanks are equipped with authentic, standardized, disaggregated, and comparable data on plastic production and consumption by the entities that put out the plastic in the market.

The Climate Change and Human Health

News Excerpt

The effects of climate change are already affecting human health. Heatwaves, droughts, and floods are all living examples of this global phenomenon.

Pre-Connect

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- **Climate Change:** It is caused by increases in the number of greenhouse gases (such as carbon dioxide, methane, and nitrous oxide) in the atmosphere, which cause the earth's average temperature to rise. Effects of climate change include increasing air and sea temperatures, changes in rainfall patterns, more frequent and increasingly severe extreme weather events, and sea level rise.
- **Climate Change on Health:** Climate change may affect our health and well-being through the impacts of extreme events, worsening air quality, changes in the spread of infectious diseases, threats to food and water quality and quantity, and effects on our mental health.
- Post-2005 accounted for the warmest years on record, according to National Oceanic and Atmospheric Administration data.
- Between 2030 and 2050, climate change is expected to cause approximately 250 000 additional deaths per year, from malnutrition, malaria, diarrhea, and heat stress.
- The direct damage costs to health are estimated to be between USD 2-4 billion/year by 2030.
- India saw a 55% increase in deaths due to extreme heat between 2000-2004 and 2017-2021. Heat waves caused an income loss of 5.4% of India's GDP.

Climate Change Impact on Human Health

- **High temperature:** Warmer average temperatures will lead to hotter days and more frequent and longer heat waves. Exposure to extreme heat can lead to heat stroke and dehydration, as well as cardiovascular, respiratory, and cerebrovascular disease. India recorded 280 heat wave days across 16 states in 2022.
- **Air Quality:** Bad air quality can lead to asthma attacks and other respiratory and cardiovascular health effects. Wildfires in India which are expected to continue to increase in number, create smoke and other unhealthy air pollutants. A *Lancet* study estimated that air pollution in India accounted for 1.7 million premature deaths in 2019.
- **Increase in Ozone:** Climate change will increase the frequency of days with unhealthy levels of ground-level ozone, a component of smog. Ground-level ozone can damage lung tissue, reduce lung function, and inflame airways.
- **Impacts from Extreme Weather Events:** Like extreme precipitation, flooding, droughts, and storms, threaten the health of people during and after the event. It will reduce the availability of safe food and drinking water. The severe droughts reduced India's GDP by 2-5% over the 20 years from 1998 to 2017 according to a UN report.
- **Vector-borne Diseases:** The geographic range of ticks that carry Lyme disease is limited by temperature. As air temperatures rise, ticks are likely to become active earlier in the season, and their range is likely to continue to expand northward.
- **Water-Related Illnesses:** Climate impacts can affect exposure to waterborne pathogens (bacteria, viruses, and parasites such as *Cryptosporidium* and *Giardia*); toxins produced by harmful algal and cyanobacterial blooms in the water. It's estimated that around 70% of surface water in India is unfit for consumption.
- **Food Safety and Nutrition:** Extreme weather events can also disrupt or slow the distribution of

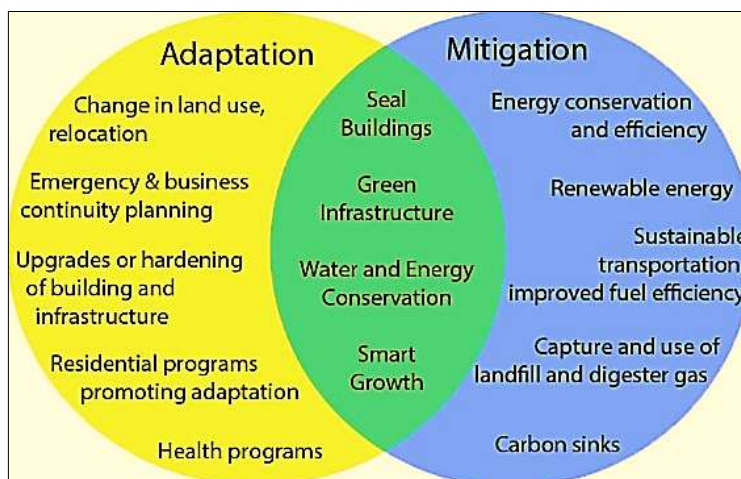


food. Higher air temperatures can increase cases of *Salmonella* and other bacteria-related food poisonings.

- **Mental Health:** Experiencing an extreme weather event can cause stress and other mental health consequences. Some groups of people are at higher risk for mental health impacts, such as children and older adults, and pregnant women. In Maharashtra, farmer suicides have increased significantly and doubled in some regions where weather extremities incurred heavy losses.

Planning of Health adaptation

- ✓ Climate change adaptation aims to reduce human exposure and vulnerability to climate hazards, minimizing health risks, and ultimately minimizing climate change-related health impacts.
- ✓ To lower the heatwave impact modifications in the landscape and environment can provide local cooling benefits. Rejuvenation of local water bodies and vegetation can lower the temperature.
- ✓ Interventions in health-related sectors should be integrated across sectors, and include health system strengthening, capacity building, behaviour change, early warning systems, physical infrastructure, and climate-smart agriculture, with adequate financing essential to their implementation.
- ✓ As extreme weather intensifies, climate-informed health early warning systems can help to restrict and respond to its health impacts.
- ✓ Nature-based solutions can contribute to climate change adaptation and have ecosystem benefits. Green spaces reduce urban heat islands, positively affect physical and mental health, and provide adaptation to extreme heat.
- ✓ Implementing commitments to the COP26 Health Programme will strengthen access to climate finance.



Way Forward

- The data in the Lancet report shows that the pace and scale of climate change adaptation, planning, and resilience are far from what is necessary to reduce the health impacts of climate change.
- Despite increasing temperatures, only 27% of urban centers have at least a moderate level of greenness, and just 28 (33%) of 84 countries report having heat-related early warning systems for health.
- Funding to support health adaptation remains grossly insufficient and is seldom influenced by vulnerability and adaptation assessments.
- Accelerated decarbonization would not only prevent the most catastrophic health impacts of accelerated heating but, if designed to maximize health benefits, could also save millions of lives.
- Global energy system transition to renewables is crucial for climate change mitigation.
- Shifting to low-carbon, plant-forward diets can help mitigate agricultural emissions as well as have important health co-benefits from improvements in dietary risk factors and mortality from non-communicable diseases.
- Governments across the world should identify vulnerable populations, assess the influence of existing policies, programs, and health systems' capacities in building resilience, and identify future adaptation needs.

PEPPER IT WITH

One Health, Climate Justice, UNFCCC, India's Nationally Determined Contribution, Climate Finance, Decarbonisation, Urban Flooding.

UN biodiversity conference 2022

News Excerpt

The 15th Conference of the Parties (COP15) to the Convention on Biological Diversity took place in Montreal Canada. The UN biodiversity conference aims to lay out a plan to tackle the 'unsustainable rate' of global biodiversity loss.

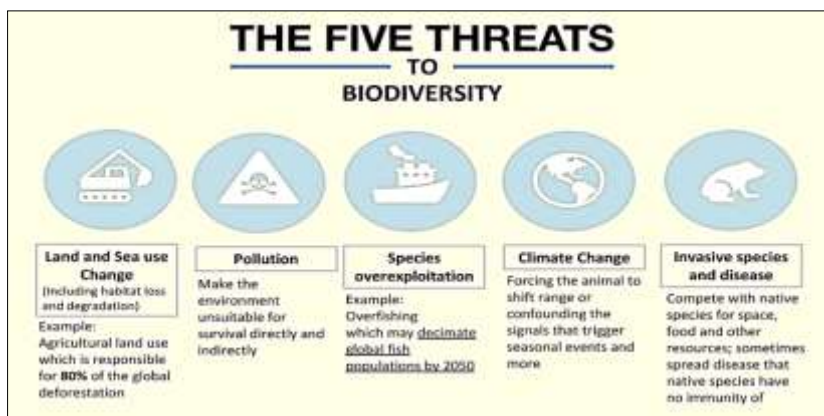
Pre-Connect**Convention on Biological Diversity (CBD)**

- It was signed at the United Nations Conference on Environment and Development (the Rio "Earth Summit").
- It is the international legal instrument for the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources.
- It has been ratified by 196 nations.
- The Secretariat of the Convention on Biological Diversity (SCBD) is based in Montreal, Canada.

The Living Planet Report: It's a flagship publication of the **World Wildlife Fund**. It is a comprehensive study of trends in global biodiversity and the health of the planet. It revealed an average decline of 69% in species populations since 1970.

Biodiversity and Its Importance

- It refers to the variety of life on Earth at all its levels, from genes to ecosystems, and can encompass the evolutionary, ecological, and cultural processes that sustain life.
- We depend on it for food, water, medicine, a stable climate, and economic growth, among others.
- Over half of the global GDP is dependent on nature.
- More than 1 billion people rely on forests for their livelihoods. The land and the ocean absorb more than half of all carbon emissions.
- **Effect of Climate Change:** Climate change is playing an increasingly important role in the decline of biodiversity. In 2019, the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services estimated that three-quarters of the world's land surface and 66 percent of its oceans had been significantly altered.

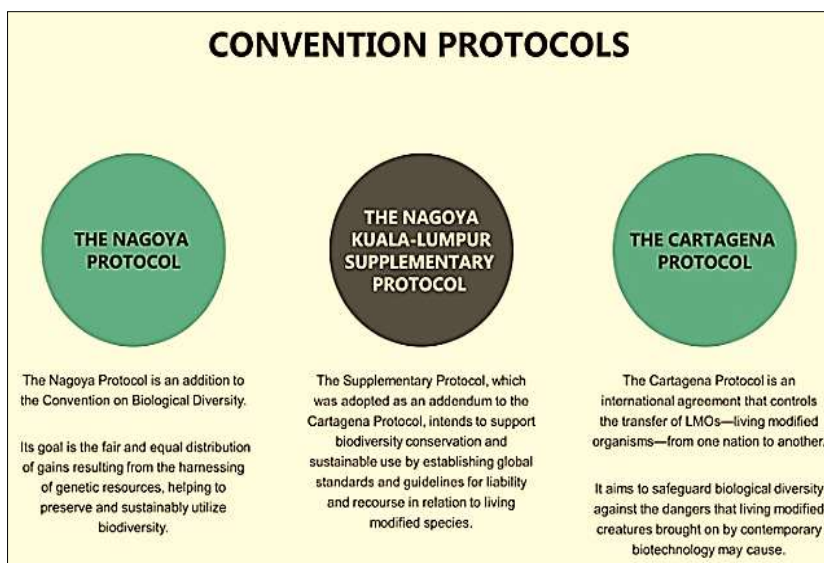
**The 15th Conference of the Parties (COP15)**

- ✓ The meeting was relocated to Montreal from Kunming China due to COVID-19 restrictions but it is still being presided over by China.
- ✓ The goal of the meeting is to help guide countries on how to protect biodiversity using the best methods.
- ✓ A draft of a new biodiversity framework released last year included around 21 targets to meet by 2030.
- ✓ It included reducing pesticide use, increasing funding to \$200bn per year, and protecting at least 30 percent of land and sea globally.
- ✓ It also included the 30×30 proposal which aims to protect and conserve at least 30 percent of land and ocean biodiversity by 2030 to avoid a crisis.

Challenges

- The major challenge will be getting a strong and ambitious document together.
- None of the Aichi Biodiversity Targets have been fully achieved. The implementation of targets is a matter of concern.

- **Funding:** Securing funding commitments and establishing implementation mechanisms for the agreed targets is a major concern. Greenpeace has urged richer countries to take a fair financial burden and help the Global South's areas at risk of destruction.
- More focus should be on the rights and sovereignty of Indigenous peoples, who live in the world's remaining biodiversity.
- Amnesty International urged caution about the 30×30 idea because such efforts in the past "have led to widespread evictions, hunger, ill-health, and human rights violations."



India's Stand

- India has participated in the Open-Ended Working Group (OEWG) on the Post-2020 Global Biodiversity Framework.
- According to India, this framework should help address the current biodiversity-related challenges and promote the three CBD objectives in an integrated manner.
- India wants to live in harmony with nature to be the overriding theme of the framework.
- India promotes restoration and the wise use of biodiversity which can conserve as well as deliver benefits to the people.
- India is advocating for other effective area-based conservation measures (OECM) instead of Protected Areas (PA) to meet 30×30.

PEPPER IT WITH

Rio Summit, Living Modified Organisms, Global South, UNEP, Climate Finance, effective area-based conservation measures (OECM)

Way Forward

- > A surge of public interest in biodiversity could help put pressure on decision-makers.
- > As an example of the Paris agreement, Global leaders must secure a global agreement for biodiversity which is as ambitious, science-based, and comprehensive.
- > Like the Paris Agreement, it must encourage nations to pledge and also catch up on their action with the size of the challenge.
- > The framework should be inclusive rights-based and work for all.

SCIENCE & TECHNOLOGY

Bluebugging

News Excerpt

With a rise in the use of Bluetooth-enabled devices, our devices have become even more vulnerable to attacks from hackers. After bluejacking or bluesnarfing, hackers are using blue bugging to hijack devices and have access to sensitive data on phones and laptops.

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Pre-Connect

Bluetooth-based Cyber Security Threats

- BlueJacking:** Under BlueJacking, one Bluetooth device hijacks another with spam advertising. Since Bluetooth usually has a broadcasting range of ten meters or about thirty feet, the attacker device is always placed nearby. It is used to do phishing attacks. A message sent by BlueJacking could contain a hyperlink to a website that has malware, or a website that grabs sensitive information from its victim.
- BlueSmacking:** It is a way to execute a Denial-of-Service attack against a Bluetooth-enabled device. The device gets way more data packets or oversized data packets than it's designed to handle. The target gets overwhelmed, so it shuts down. The attack uses the L2CAP layer of Bluetooth's networking stack.
- BlueSnarfing:** It is similar to BlueJacking however it is more dangerous than BlueJacking because it can take data. Data such as individual text messages, emails, photos, and unique identifying information that a person's phone or laptop uses with their cellular provider or ISP.

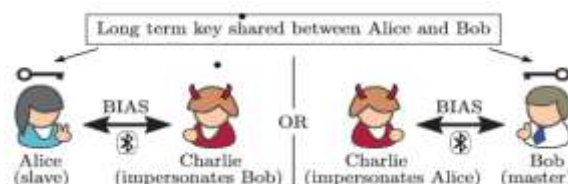
BLURTOOTH

Bluetooth based on low energy protocol and Basic Rate/Enhanced Data Rate (BR/EDR) transport methods **uses** Cross-Transport Key Derivation (CTKD) **for pairing.** CTKD is vulnerable to key overwrite, which enables an attacker to gain additional access to profiles or services that are not restricted by reducing the encryption key strength or overwriting an authenticated key with an unauthenticated key. **This is termed as BLURTOOTH.**

Bluetooth Impersonation Attacks (BIAS)

The Bluetooth standard includes a legacy authentication procedure and a secure authentication procedure, allowing devices to authenticate to each other using a long term key. Those procedures are used during pairing and secure connection establishment to prevent impersonation attacks. However, system is prone to multiple vulnerabilities that includes the lack of mandatory mutual authentication, overly permissive role switching, and an authentication procedure downgrade.

These loopholes enable an attacker to establish a secure connection with a victim, without possessing the long term key shared by the impersonated device and the victim. Such attacks are called Bluetooth Impersonation Attacks



Understanding Blue Bugging

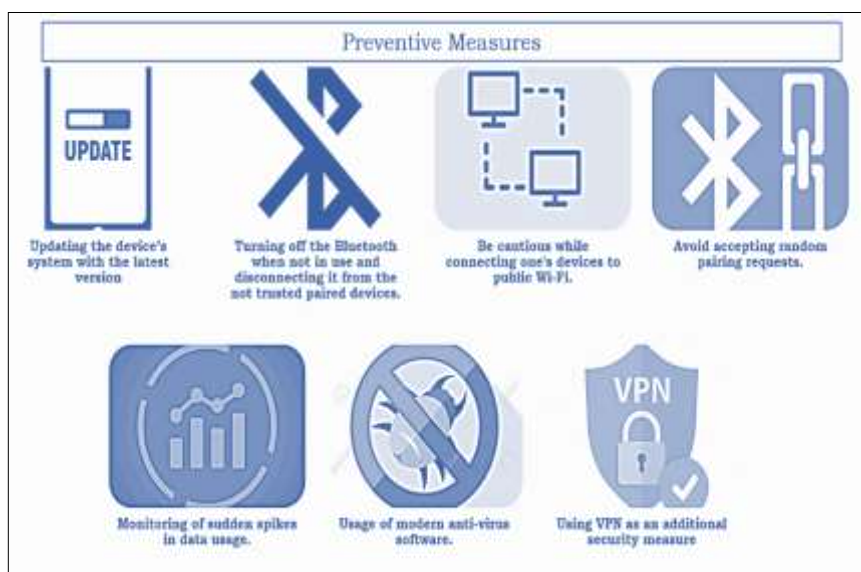
- It was first discovered by German researcher Martin Herfurt in 2004 and was initially used to target laptops with Bluetooth radios.
- Bluebugging is hacking technique hackers employ to worm their way easily into a device when its Bluetooth is on 'discovery mode'.
- A hacker can gain unauthorized access to these apps and devices and control them as per their wish through blue bugging.

Devices vulnerable to attack

- ✓ Any Bluetooth-enabled device can be blue-bugged. Wireless earbuds are also susceptible to such hacks.
- ✓ Apps that enable users to connect to their TWS (True Wireless Stereo) devices or earbuds can record conversations.

Procedure For The Attack

- For this attack the most important condition is the victim's phone should be ON and the Bluetooth should be in discoverable mode.
- If the connection is established, after all these conditions then the hacker uses this connection to install the backdoor in the victim's device. The backdoor can exploit several security vulnerabilities such as remote code execution vulnerability, local privilege escalation vulnerability, etc., and give unauthorized access to the victim device to the hacker.
- Due to the backdoor, the hacker's device remains listed in the victim's cell as a trusted device. The hacker can use this attack to perform malicious activities.



Threats From Bluebugging

- ✚ Privacy risk due to unauthorized access to personal data.
- ✚ Increased risk of fraud and financial scams.
- ✚ Increased risk of Data and Identity theft.
- ✚ Increased risk of surveillance and monitoring.

Challenges

- > Dependency on outdated infrastructure.
- > Over a short period accelerated digital adoption.
- > Lack of understanding of cyber security.
- > Unorganized and fragmented cyber security measures.
- > An increasing instance of social engineering attack.

PEPPER IT WITH

Malware, Ransomware, WBOM, Cyber Warfare Doctrine, Cyber Sabotage.

Ethical Animal Research

News Excerpt

Recently Switzerland proposed to ban medical and scientific experimentation on animals. The proposal failed to pass, but this opened many questions regarding whether animal research is ethical.

Pre-Connect

- It is estimated that more than 115 million animals worldwide are used in laboratory experiments every year. Including mice, rats, frogs, dogs, cats, rabbits, hamsters, guinea pigs, monkeys, fish, and birds are killed.
- They are forced to chemical exposure in toxicity testing, which can include oral force-feeding, forced inhalation, or injection into the abdomen, or muscle.
- These animals are killed in U.S. laboratories for biology lessons, medical training, curiosity-driven experimentation, and chemical, drug, food, and cosmetics testing.
- The laboratory experimenters feed chemicals to animals, conduct repeated surgeries on them, implant wires in their brains, and crush their spines.

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- The behavioral experiments are designed to cause distress in animals e.g., electric shock or forced swimming.

Types of animals used

- A variety of species are used around the world the most common include mice, fish, rats, rabbits, guinea pigs, hamsters, farm animals, birds, cats, dogs, and mini-pigs.
- Some countries also use non-human primates (monkeys, and in some countries, chimpanzees).

Why Animals Are Used in Biomedical Research?

- ✓ **Virtually every major medical advance of the last century has depended upon research with animals.**
- ✓ **They are biologically very similar to humans. Mice share more than 98% DNA with us. Diseases like Alzheimer's disease need animal models to better capture the complexities of living organisms.**
- ✓ Animals have served as surrogates in the investigation of human diseases and have yielded valuable data in the process of discovering new ways to treat, cure or prevent them.
- ✓ Animals are susceptible to many of the same health problems as humans like cancer, diabetes, heart disease, etc.
- ✓ With a shorter life cycle than humans, animal models can be studied throughout their whole life span.

The Committee for Control and Supervision of Experiments on Animals (CPCSEA): It is a statutory body formed under **Section 15(1)** of Chapter IV, Prevention of Cruelty to Animals Act, 1960 by the Central Government of India. The committee's purpose is to ensure that animals are not subjected to undue pain or torture.

Arguments against the Use of Animals in Biomedical Research

- Animal tests are time and resource-intensive and also inflict both physical pains as well as psychological distress.
- Imprecise results from animal experiments may result in clinical trials of biologically faulty or even harmful substances.
- Trying to mirror human diseases or toxicity by artificially creating symptoms in mice, dogs or monkeys has major scientific implications that cannot be overcome.
- Animal toxicity studies are poor predictors of the toxic effects of drugs in humans.

PEPPER IT WITH

One Health, Zoonotic Diseases, Experimental Animal, PETA, The Prevention of Cruelty to Animals Act, 1960.

The Ethics of Animal Experimentation

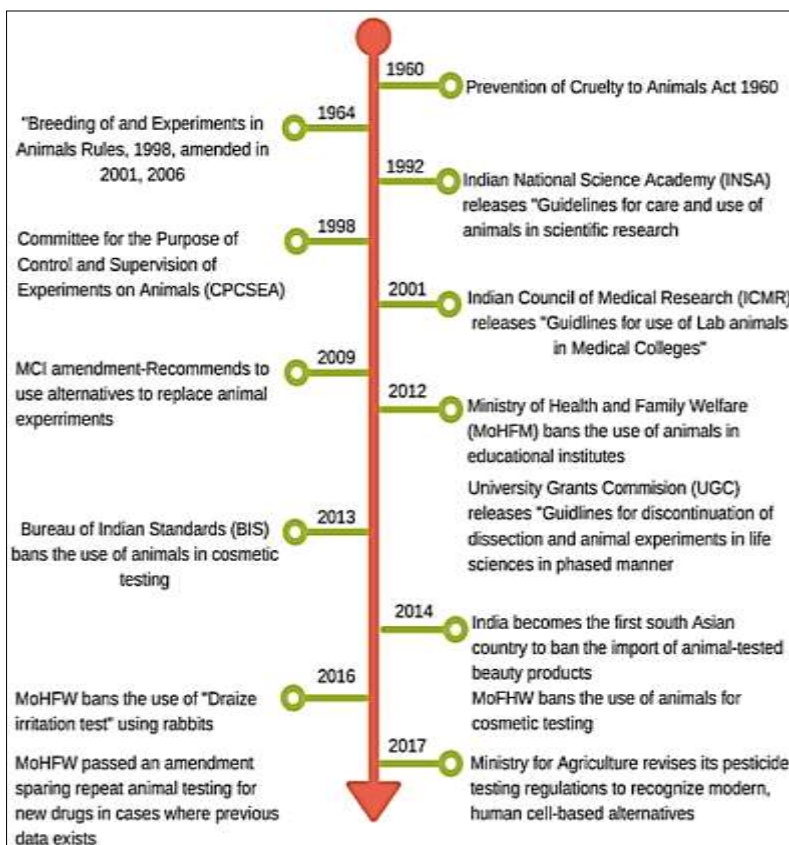
- ✚ The issue of animal experiments is straightforward if we accept that animals have rights. If an experiment violates the rights of an animal, it is morally wrong because it is wrong to violate rights.
- ✚ But nothing so far has been discovered that can be a substitute for the complex functions of an organ system with pulmonary and circulatory structures like those in humans.
- ✚ Hence until such a discovery, experiments on animals must continue to play a critical role in helping researchers test potential new drugs and medical treatments for effectiveness and safety, and in identifying any undesired or dangerous side effects, such as infertility, birth defects, liver damage, toxicity, or cancer-causing potential.
- ✚ There should be a balance between the need for animal testing for the good of Humanity and their Right to Life. This can be achieved by minimizing the reckless use of animals in laboratories.



Scenario in India

- > India is also called as Pharmacy of the world. It has a great responsibility when it comes to dealing with Animal testing.

- > Most experiments in India involve small laboratory-bred animals and are approved by the Institutional Animal Ethics Committee (IAEC) of the organization doing the experiments.
- > The UGC has banned the use, dissection, and experimentation of animals in colleges teaching courses on zoology, physiology, anatomy, etc. for undergraduate and postgraduate students, and to adhere to the Wild Life (Protection) Act, 1972 and the PCA Act, 1960.
- > India became the first country in South Asia to ban the testing of cosmetics and their ingredients on animals as well as the import of cosmetics that have been tested this way.
- > India is minimizing its Animal experimentation and slowly moving towards alternative methods.



Way Forward

- ⇒ Animal research benefits both humans and animals. Numerous medical advances exist because they were initially studied in animals.
- ⇒ At the same time, the unreliability of applying animal experimental results to human biology and diseases is increasingly recognized.
- ⇒ The 3 R's in animal research should be considered reduction, refinement, and replacement. The 3 R's encourage scientists to develop new techniques that allow them to replace animals with appropriate alternatives. The fourth R is rehabilitation referring to care for animals after their role in research is complete.

Lab Grown Meat

News Excerpt

The U.S. Food and Drug Administration (FDA) has cleared Lab-grown meat for Human consumption. It was made by UPSIDE Foods, a company that makes cell-cultured chicken by harvesting cells from live animals.

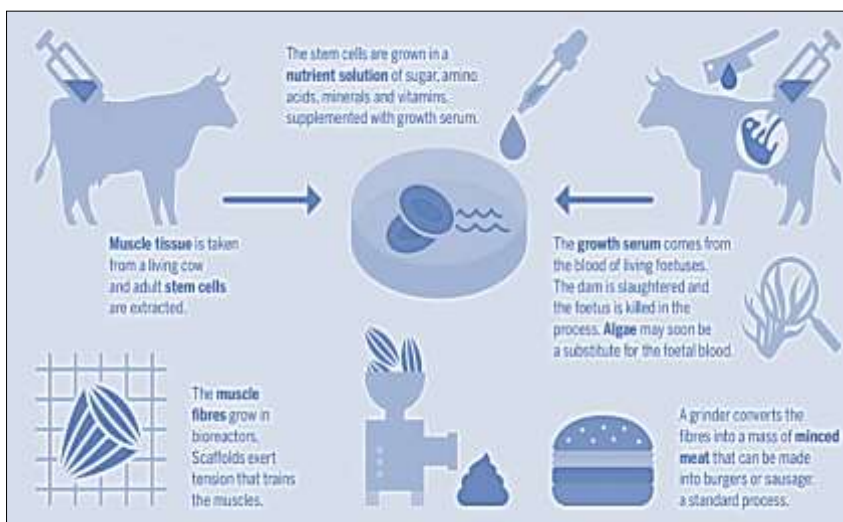
Understanding Lab-Grown Meat

- It is cultivated meat grown from a test tube in a stainless-steel bioreactor. This meat is manufactured by a process borrowed from Regenerative medicine.
- There are four main technological elements to the cultivated meat: The development of cell lines, Cell culture media, Scaffolding, and Bioreactors.
- The cells are acquired from an animal. Then they are placed in a warm, sterile vessel with a solution called a growth medium which contains nutrients including salts, proteins, and carbohydrates, helping in the growth of cells.
- The flavor of this meat is like real meat.
- The nutrient profile of lab-grown meat is similar to that of real meat, we can even enhance its nutrient content.

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Advantages of Lab-Grown Meat

- **Uninterrupted Supply Chain:** It does not require any farming, slaughtering, or harming of animals. Hence it can significantly reduce the complexities of the conventional supply chain. Also, it is more hygienic.
- **Better for Animals:** There is one-time painless cell extraction. The process of creating and producing cultivated meat does not cause any harm to animals.
- **It Frees Up Land and reduces methane emission:** It enables the production of meat without raising farm animals, which require smaller quantities of agricultural resources like land.
- **Less Water Usage:** It considerably uses fewer water resources when compared to conventional meat production. Water usage can be reduced by 80%-90% depending on the product.
- **Accessibility to Food:** More food will need to be made to sustain future generations. Hence cultivated meat can feed our growing global population while taking care of Environment.



Challenges Regarding Lab-Grown Meat

- ✓ The major challenges facing lab-grown meat are foetal bovine serum and the time and money needed to develop cell lines.
- ✓ Still many people find that lab-grown meat is unnatural hence they hesitate to consume it.
- ✓ It can lead to job losses in the animal farm industry as well as its allied sectors.
- ✓ Lab-grown meat could theoretically contain no fat, and would also contain no bones, which may compromise the taste to some consumers.
- ✓ As many countries are not comfortable with Genetically Modified Plants for food consumption, here comes the Ethical angle also in Lab-Grown Meat. We don't know yet long term consequences of eating the meat produced in a lab.
- ✓ Several key challenges remain in producing cultured meat including access to cell lines, high raw material cost, animal-source nutrients, and limited manufacturing scale.

Bioprinting: It is an **additive manufacturing process** where organic and biological materials such as living cells and nutrients are combined to create artificial structures that imitate natural human tissues.

Situation in India

- In 2019 the Government of India's Department of Biotechnology granted INR 4.5 crores to Hyderabad-based institutes Centre for Cellular and Molecular Biology and National Research Centre on Meat for research in the cultivated meat sector.
- Myoworks, a start-up received a Grant of INR 50 lakhs from the Department of Biotechnology in 2021.
- An Indian private company called Neat Meats is trying to derive cells from species that can be coaxed into the meat. Whereas some companies have bet on modifying plant products like soya and processing them to the extent that their texture feels like meat.
- Phyx44 a Bangalore-based biotechnology start-up is recreating the genes that make cow milk.

Regulation in India

- ✚ The Food Safety and Standards Authority of India (FSSAI) is the food regulator.

- Ministry of Health & Family Welfare, Government of India is the Administrative Ministry for the implementation of FSSAI.
- The FSSAI defines novel foods as foods that (a) may not have a history of human consumption; (b) may not have an ingredient in it that has a history of human consumption; (c) are obtained through new technology which gives rise to a significant change in the composition, structure or size of the food which may alter the nutritional value, metabolism or the level of undesirable substances.
- Hence the novel food regulations require approval of FSSAI.

Way Forward

- > **Harmonize labeling and nomenclature standards:** The Government should make a framework for the nomenclature and labeling of cultivated meat products in consultation with the industry and the stakeholders.
- > **Investment into the sector:** As currently, this sector is money intensive, the government should set up accelerators, incubators, and funds for promoting start-ups and organizations to enter the alternative protein sector.
- > **Creating awareness and sensitizing consumers:** This should have been done at the Global level. Citizens across the world should be educated. Respective food standards authorities in countries should sensitize consumers and create awareness about cultivated meat products and their benefits as well as their drawbacks. The final choice should rest with the consumers.

Meaty Questions

Do meat alternatives have FSSAI approval for use in India?
No. FSSAI is still making rules and regulations, say observers.

Is there a cultured meat product in the Indian market yet?
No. India is likely 10-15 years behind other countries. It will take five years before some progress can be seen.

Does India allow the import of lab-grown meat?
Not yet. The timeline for when it will become available is dependent on two factors – its ability to reach price parity with conventional meat products, and the development of a regulatory process.



Is it different in taste from natural meat?
Yes, says experts. Food varies from animal to animal, region to region and disease to disease. Lab-grown meat will be consistent.

What's happening in the rest of the world?
Singapore recently became the first country to give regulatory approval for the sale of clean meat.

PEPPER IT WITH
Living Modified Organisms, FSSAI, Cell Lines, Plant-Based Meat, CRISPR cas9 Eat Just

Claustrium

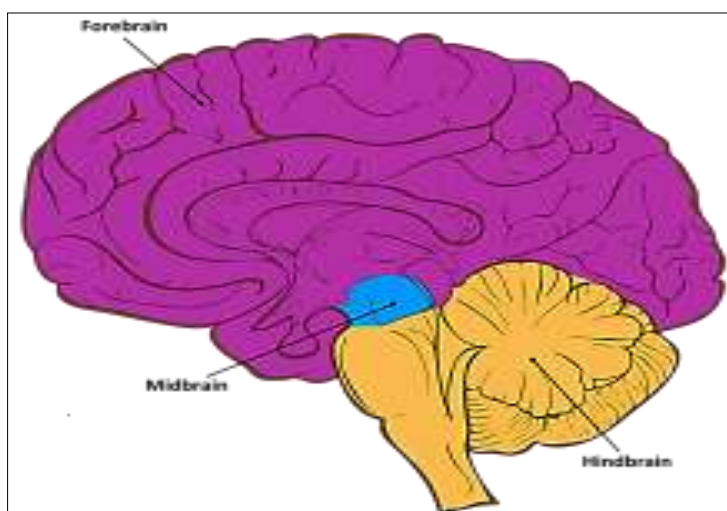
News Excerpt

The claustrum is a region in the brain. Several lines of evidence have suggested that the claustrum plays a key role in consciousness. But most of its functions have been largely mysterious.

Pre-Connect

Human Brain

- The brain is the most complex part of the human body.
- It is responsible for intelligence, interpreter of the senses, initiator of body movement, and controller of behavior.
- The brain can be divided into **three basic units**:
 - **The Forebrain:** It consists primarily of the cerebrum. It is the source of intellectual activities.
 - **The Midbrain:** It controls some reflex actions and is part of the circuit involved in the control of eye movements and other voluntary movements.



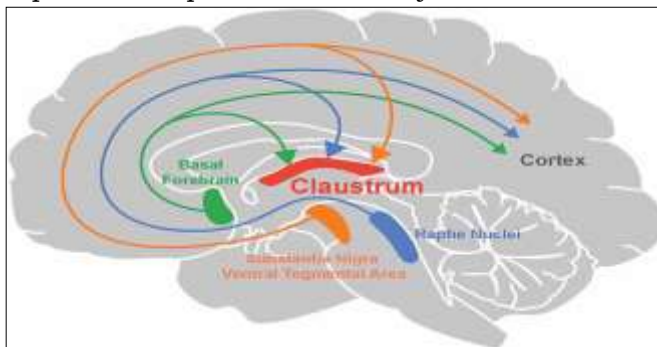
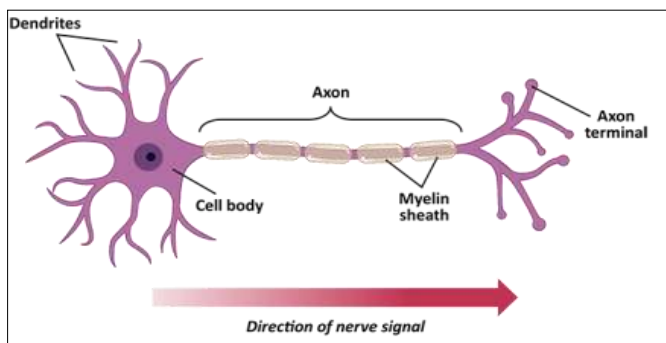
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- **The Hindbrain:** It is an upper part of the spinal cord, the brain stem, and a wrinkled ball of tissue called the cerebellum. It controls the body's vital functions such as respiration and heart rate.
- The primary functional unit of the brain is a cell called the neuron. All sensations, movements, thoughts, memories, and feelings are the result of signals that pass through neurons.

Synapse: It is a place in a brain where a signal passes from the neuron to another cell.

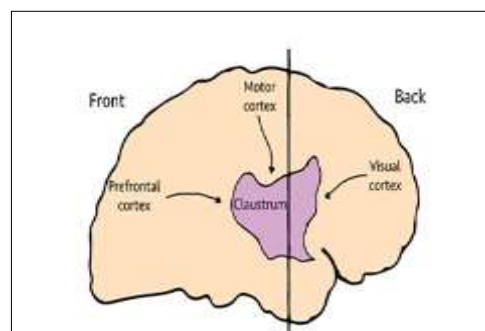
Claustrum

- It is a thin irregular, sheet-like neuronal structure hidden beneath the inner surface of the neocortex in the general region of the insula. It is a bilateral slender sheet of gray matter which only comprises about 0.25% of the cerebral cortex.
- The claustrum (Literally mean hidden away) is present in all mammalian species so far examined.
- Its anterior portion is generally thin and is formed by grey matter, whereas its posterior aspect is remarkably thicker and more clearly defined.
- It receives input from almost all regions of the cortex and projects back to almost all regions of the cortex.
- A coronal section of the brain highlights the 'curves' of the claustrum as it follows the contour of the brain.
- The blood to Claustrum is provided by both the superficial and deep components of the middle cerebral artery.



Functions of Claustrum

- ✓ Its functions remain relatively unknown. Much research shows that it has numerous neuronal connections with the surrounding cerebral cortex.
- ✓ Experimental studies suggest that the claustrum may be involved in focal seizures associated with altered awareness.
- ✓ Current research suggests that the claustrum may function in the area of knowledge processing specifically in differentiating between irrelevant and relevant facts and information.
- ✓ Due to its multiple neural connections, the claustrum is also thought to play a role in synchronizing perceptual, cognitive, and motor processes.
- ✓ It shows reversible MRI changes in disorders associated with severe seizures in the setting of encephalitis.



Why Study Claustrum?

- It may be potentially involved in movement and cognitive disorders.
- Understanding brain networks and how they may be altered is important to understand addiction, Alzheimer's disease, and schizophrenia.
- It has a role in the disorders associated with disturbances of cognition, behavior, and neuron reactivity.

PEPPER IT WITH

Mesentery, Anatomy of Human Brain, Pituitary Gland, Alzheimer's disease, Parkinson's Disease, Neurons.

Conclusion

Whether Claustrum has a role in consciousness or not but as part of the Human brain it is necessary to study the Claustrum. This will help with various disorders which are still difficult to understand. A great deal can be learned about the claustrum using neuroanatomical connectivity studies and combined behavioral and physiological experiments.

Base Editing

News Excerpt

Recently, For the first time, a new gene editing technology called base editing was used to modify immune cells and successfully treated a teen with treatment-resistant leukemia.

Pre-Connect

Understanding Bases in DNA

- Molecules called nucleotides, on opposite strands of the DNA double helix, form chemical bonds with one another. These chemical bonds act like rungs in a ladder and help hold the two strands of DNA together. There are four nucleotides, or bases, in DNA: **adenine (A)**, **cytosine (C)**, **guanine (G)**, and **thymine (T)**. They function as the fundamental units of the genetic code.
- The information in DNA is stored as a code made up of these four chemical bases. The order, or sequence, of these bases, determines the information available for building and maintaining an organism, similar to how letters of the alphabet appear in a certain order to form words and sentences.

Understanding Base Editing

Base editing is a method to allow scientists to zoom into a precise part of the genetic code and then alter the molecular structure of just one base, converting it into another and changing it according to the genetic instructions.

Working on Base Editing

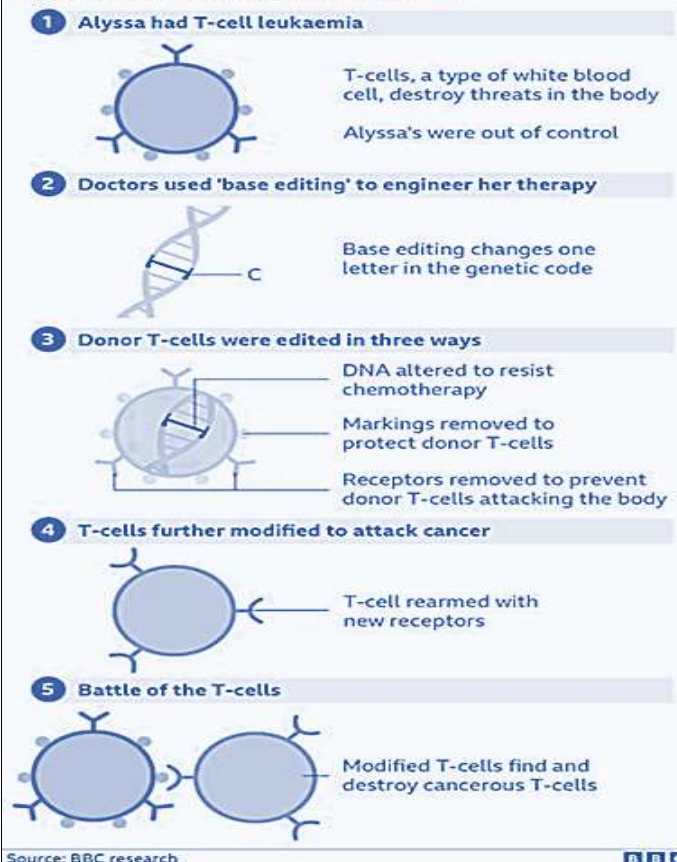
- Firstly, an individual's T-cells are removed, then modified and reintroduced to the individual. The problem with such an approach (besides the expense) is that very often when an individual is sick, it is simply impossible to obtain enough healthy T-cells to create CAR-T cells.
- If donors can provide healthy T-cells to an individual, these T-cells from a foreign body are going to attack every single cell in that patient's body, making the treatment counterproductive.
- Thus, scientists have resorted to the method of base editing, through this technique of genetic editing they make it possible for one donor to supply T-cells to multiple recipients, without the traditional risks associated with it.

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T-CELLS and T-ALL

- T-cells** are a part of the immune system that **focuses on specific foreign particles**. Rather, then genetically attack on foreign element.
- T-cell acute lymphoblastic leukemia (T-ALL) is **an aggressive malignant neoplasm of the bone marrow**.

How does the treatment work?



Base Editing vs Crisper

- ✓ Conventional CRISPR-Cas9 gene editing introduces double-strand breaks, which can lead to off-target effects. Instead, Base editing avoids double-strand breaks, to minimize errors.
- ✓ Thus, Base editors **allow precise nucleotide substitutions in the DNA without having to break the same or force the cell machinery to repair it and in the process make mistakes**, which is the main mechanism of CRISPR-Cas9.

PEPPER IT WITH

DNA, RNA, CRISPR-cas9, Gene Editing, Genetic disease, --

Significance

- Genetic science is a “very fast-moving area of science” with “enormous potential” across a range of diseases.
- Base editing is particularly promising, not just in this case but for genetic disorders.
- Base editing is an even more precise gene editing technique than CRISPR and has fewer risks of unwanted effects on the chromosomes and thus less risk of side effects.

Mass Extinction and Drop in Oxygen

News Excerpt

Geobiologists at Virginia Tech have found that the earliest-known mass extinction was caused due to the diminishing availability of oxygen, which led to the loss of 80% of the animals that lived during the Ediacaran Period. They also asserted that animals who were heavily dependent on oxygen for survival did not fare well.

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Pre-Connect


Mass Extinction is defined as 75% of the world's species being lost (extinct) in a 'short' amount of geological time like less than 2.8 million years. They have occurred only a handful of times throughout our planet's history

New Study


There have been several theories behind each mass extinction and with new advancements in technology, researchers have been uncovering more details about these events.

- **Traditional Thought:** For decades, the prevailing school of thought was that **Volcanism-induced global warming** causes the oceans to lose oxygen and thus impacts marine habitability, potentially destabilizing the entire ecosystem.
- **New School of Thought:** Recent study says that mounting evidence on the earth happened several times **when oxygen levels also dropped in cool** climate zone. Ordovician climate and marine biogeochemical cycles during that period showed “seafloor spreading and upper-ocean oxygenation in response to ongoing global cooling.” Thus it led to **deep-sea anoxia affecting ocean circulation**. Thus, the paper concludes that **climate cooling may have led to changes in nutrient cycling, and primary producer communities** which ultimately drove the Late Ordovician mass extinction.


Mass Extinctions




First Mass Extinction (Ordovician mass extinction)-
It occurred about 445 million years ago and killed about 85% of all species.




Second Mass Extinction - It occurred, about 375 million years ago and wiped out about 75% of the world's species.



Third Mass Extinction (Permian mass extinction) - It occurred about 250 million years ago, also known as the Great Dying caused the extinction of over 95% of all species.



Fourth Mass Extinctions (Triassic mass extinction) - It occurred about 200 million years ago and eliminated about 80% of Earth's species, including some dinosaurs.



Fifth Mass Extinctions (Cretaceous mass extinction) - It occurred about 65 million years ago and is known for wiping out non-avian dinosaurs

Ongoing 6th mass extinction and its impact

- Researchers have pointed out that we are currently experiencing a **sixth mass extinction** as the result of human-induced climate change (referred to as the **Anthropocene extinction**).
- Currently, an **estimated 2% of all of the species** that ever lived are alive but the absolute number of species is greater than ever before.
- It is denoted as the most serious environmental problem since the **loss of species will be permanent. (loss of species occurring since agriculture developed by human ancestors over 11,000 years ago. After that human population increased from 1 million to 7.7 billion)**

PEPPER WITH IT

Climate change,
environmental pollution,
environmental degradation,
Earth's carbon cycle.

Impact

- ✓ The form of a loss in crop pollination and water purification.
- ✓ Further, if a species has a specific function in an ecosystem, the loss can lead to impacting the food chain.
- ✓ The effects of extinction are expected to worsen the genetic and cultural variability which may change entire ecosystems.
- ✓ When genetic variability and resilience are reduced, their contribution to human welfare may be lost.

DeepFakes**News Excerpt**

The Cyberspace Administration of China is rolling out new regulations to restrict the use of deep synthesis technology and curb disinformation. One of the most notorious applications of the technology is DeepFakes, where synthetic media is used to swap the face or voice of one person for another.

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Understanding DeepFakes

- A DeepFakes refers to a specific kind of synthetic media where a person in an image or video is swapped with another person's likeness.
- DeepFakes content is created by using two competing AI algorithms. Generator and the discriminator. Together, the generator and discriminator form a generative adversarial network (GAN).
- The generator creates phony multimedia content and a discriminator is used to determine whether the content is real or artificial.
- Each time the discriminator accurately identifies content as being fabricated, it provides the generator with valuable information about how to improve the next DeepFake.
- The first step in establishing a GAN is to identify the desired output and create a training dataset for the generator. Once the generator begins creating an acceptable level of output, video clips can be fed to the discriminator.
- As the generator gets better at creating fake video clips, the discriminator gets better at spotting them. Conversely, as the discriminator gets better at spotting fake videos, the generator gets better at creating them.

Shallowfakes

Coined by Sam Gregory, Shallowfakes are videos that are either presented out of context or are doctored with simple editing tools. They are crude but undoubtedly impactful.

PEPPER IT WITH

Paris Call for Trust and Security in Cyberspace, NATO Cooperative Cyber Defence Centre of Excellence the Global Partnership on Artificial Intelligence.

Positive Use of DeepFake

- Many DeepFake are entertaining and some are helpful. Voice-cloning deepfakes can restore people's voices when they lose them to disease. Deepfake videos can enliven galleries and museums.

- For the entertainment industry, technology can be used to improve the dubbing of foreign-language films, and more controversially, resurrect dead actors.

Spotting a DeepFake

Poor-quality deepfakes are easier to spot. The lip synching might be bad, or the skin tone patchy. There can be flickering around the edges of transposed faces. And fine details, such as hair, are particularly hard for deepfakes to render well, especially where strands are visible on the fringe. Badly rendered jewellery and teeth can also be a giveaway, as can strange lighting effects, such as inconsistent illumination and reflections on the iris.

Countering DeepFake

Legal Status of DeepFakes

- ❖ The European Union has an updated Code of Practice to stop the spread of disinformation through deepfakes. The revised Code requires tech companies including Google, Meta, and Twitter to take measures in countering deepfakes and fake accounts on their platforms. It was revised in June 2022
- ❖ The U.S. introduced the bipartisan Deepfake Task Force Act to assist the Department of Homeland Security (DHS) to counter deepfake technology. The measure directs the DHS to conduct an annual study of deepfakes. California and Texas have passed laws that criminalise the publishing and distributing of deepfake videos that intend to influence the outcome of an election
- ❖ Canada does not have any regulations to tackle deepfakes rather Canada government is conducting AI research with a number of domestic and foreign actors.
- ❖ India does not have any law specifically for deep fake cybercrime, but various other laws can be combined to deal with it such as Section 66D of IT Act 2000, laws related to the misusing of the tech. which include Copyright Violation, Defamation and cyber felonies.

Threats from Deepfakes



New Front of Warfare- It can be used to undermine public safety and create uncertainty and chaos in the target country. Terrorist Organisation can use it to make inflammatory speeches or engaging in provocative actions to stir up anti-state sentiments among people.



Damages Reputation: It can have severe implications on their reputation, sabotaging professional and personal life of an individual. It can be deployed to extract money, confidential information, or exact favours from individuals.



Target Women: Deepfakes can be used to create pornography targeting women. It can threaten, intimidate, and inflict psychological harm and reduce women to sexual objects



Threatens Democracy: It can be used to alter the democratic discourse and undermine trust in institutions and impair diplomacy. It can be used to exploit to spin the story and manipulate belief. It can inject compelling false information that can cast a shadow of illegitimacy over the voting process and election results.

- ✓ Artificial Intelligence can be used to spot fake videos, but many existing detection systems have a serious weakness: they work best for celebrities because they can train on hours of freely available footage.
- ✓ Tech firms are now working on detection systems that aim to flag up fakes whenever they appear. Another strategy focuses on the provenance of the media.

- ✓ Digital watermarks are not foolproof, but a blockchain online ledger system could hold a tamper-proof record of videos, pictures, and audio so their origins and any manipulations can always be checked.

Digi Yatra

News Excerpt

Union Minister for Civil Aviation launched Digi Yatra for paperless entry to make travel hassle-free. DigiYatra launched from Indira Gandhi International Airport, New Delhi for three airports in the country, namely New Delhi, Varanasi, and Bengaluru. This means passengers won't need to carry their ID cards and boarding pass.

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Pre-Connect

Crowd Congestion at Airports in India

- Post-pandemic, Air travel has increased in India. According to government data, Air traffic has been 1-7% above pre-covid levels.
- The government on its part is beefing up the infrastructure lacunae at the airports. But the long-term solution lies in the use of technology.
- Big Data Analytics can help streamline long queues for more organized participation by passengers.
- Anonymized, Aggregated data can be used to understand the movements of people.
- The use of real-time crowd analytics technology will maximize safety and provide an intelligent response to the crisis.

Understanding Digi Yatra

- Digi Yatra is launched to achieve contactless, seamless processing of passengers at airports based on **Facial Recognition Technology (FRT)** (For More on FRT Refer- Polity Section of September 2022 CC).
- The use of FRT will make flying more convenient and reduces congestion at airports. The facial recognition system at various airports across the globe has helped bring efficiency.
- The underlying concept of Digi Yatra is to digitize the current manual processes of airport travel.
- It will help in enhancing security standards and improve the current system and at the same time result in lower-cost operations.
- With this technology, the entry of passengers would be automatically processed based on the facial recognition system at all checkpoints, including entry into the airport, security check areas, aircraft boarding, etc.

How will it work

- ✓ Passenger has to register their details on the DigiYatra app using Aadhaar-based validation and a self-image capture. Then, they have to scan their boarding pass and share its detail with airport authorities.
- ✓ At the airport e-gate, the passenger has to first scan the bar-coded boarding pass and the facial recognition system installed at the e-gate will validate the passenger's identity and travel document. Once this process is done, the passenger can enter the airport through the e-gate.
- ✓ The passenger will have to follow the normal procedure to clear security and board the aircraft.

Digi Yatra Foundation

- ❖ The Digi Yatra project is being implemented by the DigiYatra Foundation
- ❖ It has been set up as a **joint venture (JV) company in 2019**, whose shareholders are AAI (26% shares) and BIAL, DIAL, GHIAL, MIAL and CIAL.
 - These 5 shareholders equally hold the remaining 74% of the shares.
- ❖ The Foundation was formed, with the objective of **creating the Digi Yatra Central Ecosystem (DYCE)**.
- ❖ Digi Yatra Foundation will be a **pan-India entity and the custodian** of the Passenger ID validation process.
- ❖ It will also develop **consensus** amongst the Aviation Stakeholders in India.
- ❖ It would also define the criteria for compliance and guidelines for the local airport systems.

PEPPER IT WITH

Violation to Privacy, Data protection laws, AI, Digital India mission, Smart sensors, Authentication & fraud detection, Aadhar ecosystem.

SECURITY

No Money for Terror

News Excerpt

India hosted the Third Ministerial 'No Money for Terror' conference conducted by the Ministry of Home Affairs.

Pre-Connect

About No Money for Terror

- The idea behind NMFT is to implement and share expertise and good practice in combating terror financing.
- The first NMFT was the result of the deadly terrorist attack on France in 2015. The first NMFT conference was held in Paris in 2018.

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Ways of Terror Financing

Money Laundering: It involves the generation of funds through criminal activities, such as drug trafficking, smuggling, human trafficking, and corruption, and using it for terror-related activities.

Organized Crime: One of the sources of terror funding is organized crime and the gangs often have deep links with terrorist outfits. The money made in gun-running, drugs, and smuggling is pumped into terrorism. These groups help with logistics and communication too.

New payment Technology: It appeared groups are quick to adapt to new anonymous payment technology and to collect and transfer funds while evading monetary enforcement structures.

Foreign Funding: Certain countries support terrorism as part of their foreign policy where evoking violence may benefit them.

Dark web and crowdfunding: The darknet includes the use of the Onion Router (TOR) and recruitment on encrypted chat forums platforms beyond the gaze of the security agencies for propaganda.

Homegrown terrorism financing: It has also led to a resurgence of militants or radicalized individuals, also called 'lone wolves', 'DIY', or 'freelancer' terrorists with radical ideologies and its more seamless spread along with motivational messages.

Cryptocurrencies: Misuse of new financial technologies, methods such as blockchain technologies, virtual cryptocurrency, digital crowdsourcing, and prepaid phone card have been used to finance terrorism. In 2020, the US Department of Justice disrupted three terrorist networks linked to al-Qaeda and Islamic State which used cryptocurrency.

Hawala Terror Financing: Use of hawala for terrorist financing has been prevalent for a long time. Hawala is an informal financial mechanism for laundering funds received through Friday prayer donations, religious charities, and criminal pursuits, including narcotics sales.

Fake non-profit organizations and non-financial businesses and professions are involved in terror financing through the Money Transfer Service Scheme and hawala networks

Legal and Institutional Mechanism in India against Terrorism

Legal

- ❖ The Maharashtra Control of Organised Crime Act (1999)
- ❖ Unlawful Activities (Prevention) Act, 1967 to combat terror financing and criminalizing
- ❖ The Foreign Exchange Management Act (1999)
- ❖ Prevention of Money Laundering Act (2002)
- ❖ The Narcotic Drugs and Psychotropic Substances Act (1985)
- ❖ The Foreign Exchange Management Act (FEMA) has been used at least twice to issue show-cause notices to suspected terror operatives and hawala dealers.

Institutional

- ❖ **National Security Guard** is a force to deal with anti-terror activities and is trained to deal with specific situations.
- ❖ **The fake Indian Currency Notes (FICN)** network is one of the channels of terror financing in India.
- ❖ **The terror Funding and Fake Currency (TFFC) Cell** has been constituted by National Investigation Agency (NIA) to conduct a focused investigation of terror funding and fake currency cases.
- ❖ **FICN Coordination Group (FCORD)** shares information among the security agencies of the states or centers to counter the problem of circulation of fake currency notes.
- ❖ **India's Annual Resolution on Counter-Terror** refraining terrorists from acquiring a weapon of mass destruction.

- In 2019, the NMFT conference was held in Melbourne regarding Terror Financing risks, especially in the context of the Indo-Pacific.

Understanding Terror Financing

Terror financing includes the collection, solicitation, or provision of funds to support terrorist acts or organizations by both legal and illicit sources. A person, organization, or group is said to be financing terror if by any means directly or indirectly, unlawfully and willfully, provides or collects funds with the intention of fully or partially carrying out terrorist activity.

Key Highlights of Third No Money for Terror

- **Zero-tolerance of terrorism:** The conference highlighted the need for a “uniform, unified and zero-tolerance approach” in tackling terrorism. Secondly, the imposition of costs upon countries that support terrorism directly or indirectly.
- **Rising above Geo-political interests:** It was highlighted that many countries use terrorism as an instrument of state policy and hence there is a need to rise above regional interests and fight terrorism.
- **Combating Terror Financing:** Terror Financing was addressed as more dangerous than terror activities. Hence, an inclusive approach to restricting terror financing was discussed.
- **Terrorism groups as a threat to regional security:** The issue of Change in power, and the rise in influence of ISIS and Al-Qaeda was discussed. The issue of minority attacks in Bangladesh was highlighted by the issue of the rise of radicalization of youth and related violence because of terrorism.
- **Failures of regional dialogues:** The failures in regional dialogues against terrorism were highlighted basically because of political inclinations referring to the India-Pakistan rivalry.

Global Initiatives for Terror Financing

- ❖ **United Nations Office of Counter-Terrorism (UNOCT)** leads and coordinates an all-of-UN approach to prevent and counter terrorism and violent extremism.
- ❖ **Terrorism Prevention Branch (TPB)** of United Nations Office on Drugs and Crime (UNODC) supports Member States to prevent and counter terrorism through inclusive strategies, policies, and legal means, with a focus on the safety and protection of people.
- ❖ **Financial Action Task Force (FATF)** is an inter-governmental policymaking body to combat money laundering and the financing of terrorism.

Way Forward

- ✓ Creating a comprehensive monitoring framework by strengthening Intelligence and security agencies.
- ✓ There should be Joint operations, and intelligence coordination between countries to use their intelligence mechanisms to share information related to attacks and conspiracies.
- ✓ There is a need to strengthen investigation and police operations through regular training.
- ✓ There is a need to strengthen the legislative and technological framework to prevent the misuse of legal entities and new technologies.
- ✓ To prevent the misuse of differences in the financial systems employed by different countries. There is a need for deeper coordination and understanding between governments

PEPPER IT WITH
Delhi Declaration, Left Wing Extremism, Narco-Terrorism

India-China Border Conflict

News Excerpt

Another transgression by Chinese troops was reported in the Yangtse area of the Tawang sector in Arunachal Pradesh across the Line of Actual Control (LAC) between India and China.

Pre-Connect

India-China Border Dispute

- The border between India and China is not demarcated throughout. Along certain stretches of its 3,488 km length, there is no mutually agreed Line of Actual Control (LAC).

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- India believes in the border it had inherited firm boundaries from the British. China on its part felt the British had left behind a disputed legacy on the boundary between the two newly formed republics.
- The India-China border is divided into three sectors, viz. Western, Middle, and Eastern.
 - Western Sector: The boundary dispute in the Western Sector pertains to the Johnson Line proposed by the British in the 1860s that extended up to the Kunlun Mountains and put Aksai Chin in the then princely state of Jammu and Kashmir. India used the Johnson Line and claimed Aksai Chin as its own. In the 1950s China reversed its position and stated that it had never acceded to the Johnson Line and claimed Aksai Chin.
 - Middle Sector: It is the only one where India and China have exchanged maps on which they broadly agree.
 - Eastern Sector: The disputed boundary in the Eastern Sector of the India-China border is over the MacMahon Line. Representatives of China, India, and Tibet in 1913-14 met in Shimla, where an agreement was proposed to settle the boundary between Tibet and India, and Tibet and China. Though the Chinese representatives at the meeting initialed the agreement, they subsequently refused to accept it. The Tawang tract claimed by China was taken over by India in 1951.

China Border Aggression

Since the take over of Chinese Leadership by Xi Jinping, China is flexing its muscle because of multiple reasons:

- **China has three war strategies:** The strategy encompasses propaganda, psychological and legal warfare through authoritarian rule. Both the Doklam standoff and the eastern Ladakh clash are examples of the “three warfares strategy”.
- **Suspicion over border infrastructure:** India’s border development and infrastructure including the DSDBO road, have infuriated China as a calculated move to gain a tactical advantage.
- **Indo-Pacific approach:** Capturing the Himalayan frontier could even help China secure a greater foothold in the Indian Ocean as a maritime front against India would be strategic encirclement.
- **China’s territorial expansion approach:** Through this approach, China not only retains its core land grabs but it would force India to legitimize its Chinese capture. China follows the colonial time’s map for border demarcation.
- **China fears loss of its territories:** India’s increasing high-altitude air bases and military bases are one of the main triggers for a clash. China accused India of firing shots at its troops.
- **Indo-Sino war effect:** China is still recovering from the 1962 war effects of military clashes along the Tibet-Sikkim border, thus prefers using such subtle techniques of expanding borders.
- China has several times accused India **of altering the territorial status quo**. Recently in the Yangtse incident, China said that the joint India-US military exercise Operation Yudhabhyas had violated the terms of the 1993 and 1996 border agreements.
- **Tibet and Dalai Lama:** For China, the border dispute is intrinsically linked to Tibet and the Dalai Lama, and India’s involvement in this issue fuels China’s anger. Eg: Tawang standoff.
- India’s **increasing comprehensive national power worries** China which includes increasing economic growth, strategic partnerships, and another potential.

India’s Response

✓ Strategic changes:

- India has an advantage over the Naval and air forces but it lacks manpower hence strategically overcoming the geographical and physical barriers is the main focus of India.
- India has **adopted a risk-taking aggressive strategy** as a result of which the Snow Leopard counter-operation at Rezang La/Rechin La in Tawang was carried out disrupting China’s assumption that India won’t respond to low-level clashes.
- It has been strategically cleared that China’s behavior is adversarial and no loss of territory along the India-China border will be permitted.

- ✓ **Canceled Registration of NGOs:** After a recent Arunachal standoff India has recently canceled the FCRA registration of NGOs doubting receiving funds from the Chinese embassy.
- ✓ **Investment in combat forces:**
 - India has invested in modernizing its conventional and non-conventional combat forces as an indication of battle preparedness.
 - Sukhoi-30 advanced fighter jets and Chetak helicopters are already deployed at Chabua, Assam.
 - The tri-service structures like the theatre commands are prerequisites for war preparation and prevention.
- ✓ **Cordial relations with Neighbours who also share borders with China on the military front** alone side-lining other differences. For example: Having good military relations with the Myanmar army and Bangladesh despite other issues.
- ✓ India has **increased proximity with Southeast Asian countries** and its diplomatic-military exchanges with the United States, Japan, and Australia have irritated and worried China.
- ✓ **Schemes like Agnipath** will engage more qualified youth, augments our army's strength, and make them part of police forces, CRPF, armed police, and security forces.
- ✓ **Developing border infrastructure:**
 - India has started to bolster its border infrastructure to neutralize China's logistical advantage, including the building of roads, railways, and airports near the LAC.
 - A total of 73 strategic roads and 125 bridges have been sanctioned along different sectors on the Indian side of the LAC.
- ✓ **Strengthening ties with the US:** Both have deepened the partnership by signing the long-pending Basic Exchange and Cooperation Agreement (BECA), which allows for the sharing of high-end military technology, logistics, and geospatial maps.
- ✓ **Diplomatic response:**
 - India is in favor of solving the tensions through talks that have not worked out.
 - The current focus is to ensure the restoration of the status quo for overall de-escalation, especially over disputed land.
 - India has already signed treaties like the Establishment of a Working Mechanism for Consultation and Coordination on India-China Border Affairs in 2012 and Border Defense Cooperation Agreement between India and China in 2013.
 - India supported Taiwan taking stance on the **One-China policy** and questioned, the blocking of the proposal to designate Pakistan-based Abdul Rauf Azhar as a global terrorist.
- ✓ **Economic strengthening: India is focussing on Aatmanirbharta i.e Self-sufficiency and supporting MSMEs.**
- ✓ **Secondly, India has made clear that there will be no trade relations amid border tensions.**

India China talks regarding peace and tranquillity in LAC

- ❖ **1993:** Agreement on the Maintenance of Peace and Tranquillity Along the LAC in the India-China Border Areas.
- ❖ **1996:** Agreement on Confidence-Building Measures in the Military Field along the LAC in the India-China Border Areas.
- ❖ **2005:** Modalities for the Implementation of Confidence-Building Measures in the Military Field along the LAC in the India-China Border Areas.
- ❖ **2012:** The Working Mechanism for Consultation and Coordination on India-China Border Affairs.
- ❖ **2013:** The Border Defence Cooperation Agreement.

PEPPER IT WITH

Mao's Five Finger Policy, QUAD, China in IOR

Way Forward

- India's G20 leadership might bring some opportunities for negotiations between India and China.

- Strong political leadership with a clear vision and a grand strategy to deal with the Border dispute with China is required. India has to move towards a more capital-intensive ground force.
- A “National security policy” and formulating a “limited-hybrid war” doctrine are required.
- The political wisdom of both governments is required with increasing military capabilities, assertive behavior, and intense distrust, the notion of peace along the LAC.

Securing SLOC in Asia

News Excerpt

SLOC protection has become a crucial condition for the sustenance and growth of regional economies.

Pre-Connect

Sea Lanes of Communication

- The Sea Lines of Communication (SLOC) in maritime terms, is a short, economical, and safe for transporting cargo route taken by a shipping transit from A to B.
- The SLOCs serve as commercial trade routes during peace, but during war, these routes are considered strategic paths.
- The SLOCs vary in length with landmass, choke points, reefs, foul ground, and location of ports and harbors.
- The SLOC in Indo-Pacific is a catalyst of economic development and prosperity in the region. SLOC connects the **Red Sea to the Indian Ocean through the Bab al-Mandab, the Persian Gulf through the Strait of Hormuz, and the Indian and Pacific Oceans through the Straits of Malacca.**

Choke Points in Indo-Pacific

The Straits of Hormuz

- Significance: It is the world's most important oil transit choke point with an average daily oil flow of about 18 million barrels per day which is almost 35% of all seaborne oil passing through the strait. The Strait of Hormuz is an extremely important commercial thoroughfare in Asia as more than 85% of this flow of energy is for Asia. The strait is deep and 21 miles wide at its narrowest point.
- Challenges: The strait's shallow depth renders ships in the area prone to mine hits, attacks by missiles launched from land, and interception by fast attack craft. Iranian officials have made open threats to close the Strait of Hormuz after the US's withdrawal from the 2015 nuclear agreement with Iran and six other powers. Iran in collaboration with China has been strengthening its joint intelligence collection capabilities in the region. It has led transatlantic powers to expand their military presence in the zone.



Horn of Africa

The Horn of Africa is located at the intersection of the Red Sea and the Western Indian Ocean, the region has long served as a powder keg for great-power struggles. There are several challenges in securing this region such as the intra-Arab conflict has added to regional tensions, the growing sophistication of terror attacks, and smuggling.

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The Indian Ocean

Significance

- The Indian Ocean is the world's third-largest ocean and has extensive hydrocarbon reserves offshore Saudi Arabia, Iran, India, and Western Australia.
- It provides a major energy and trade sea route linking the Middle East, the Persian Gulf, Europe, Asia, and the Americas.
- Offshore oil and gas exploration and extraction activity increase the strategic importance of the east coast of Africa, the Bay of Bengal, the Timor Sea, and Australia's northwest coast. It is equally significant for the US in the fight against terrorism.

The Eastern Indian Ocean

Challenge:

- After India China border conflict in Ladakh in 2020, the Eastern Indian Ocean has become a matter of conflict. India had set up airbases in Andaman Nicobar to counter China's expansion through the Bay of Bengal.
- Indian pressure on China in the eastern Indian Ocean could impact international traffic flows has a risk of regional blowback against India and could lead China to react in unpredictable ways.

The Western Pacific

Challenge:

- Territorial disputes in the South China Sea, and the differing perspectives over military operations in the Exclusive Economic Zones (EEZs).
- The major challenges include piracy, terrorism, criminal trafficking, illegal fishing, and arguments over the Law of the Sea Convention.



South China Sea / Strait of Malacca

- The Strait of Malacca is the key choke point in Asia. Singapore, Malaysia, and Indonesia are located along the strait.
- Southern Thailand and India's Andaman and Nicobar Islands are located at the northern entrance to the strait.
- The contested South China Sea is located to the northeast of the strait. The economies of northeast Asia depend on energy flows that pass through the strait.

Challenge:

- China's aggressive territorial expansion policy is the biggest challenge.
- Piracy in Southeast Asia is a critical threat. There has been a significant rise in piracy as incidents increased from 20 to 27 in 2021.
- The number of attacks in the Singapore and Malacca straits has led to challenging maritime traffic movement through the SLOC.
- The closing of the strait would lead to costly diversions to alternative routes through the Sunda and Lombok Straits in the Indonesian archipelago.

Great Power Competition in IOR

India:

- ✓ India is natural to Indian Ocean Region and has supported the peaceful Indo-Pacific region. India's economic growth is associated with Indian Ocean Region.
- ✓ Earlier India's role in the region was limited to non-geo-economic factors but with the rise of China the strategy has changed and "the pearl of strings strategy" has alerted policy makers in India to rethink the subject.
- ✓ India has joined QUAD and the Indo-Pacific paradigm to put a mutually workable model into practice.
- ✓ India has opened its horizons to reach the South-East economies and has been vocal on the South China Sea dispute. It has come up with a Blue Economy draft to unveil its tremendous potential.
- ✓ Increased competition with China will lead to the strengthening of relationships with the United States and other regional partners in the Indo-Pacific, such as Australia, Japan, and others.
- ✓ China-India competition is expanding into the Indian Ocean region and as a result, is more maritime-focused than in the past leading to strong competition between naval forces.

US and China

- ✓ China's Belt and Road Initiative (BRI) does not restrict its ambitions to the narrow interpretation of the Indo-Pacific but the whole Indian Ocean Region.
- ✓ China has actively pushed into areas of previous U.S. security primacy like the Horn of Africa and increasingly into the Middle East.
- ✓ China has set up its first overseas military base in Djibouti, a few miles away from the U.S. military base is assumed as China's permanent Indian Ocean naval squadron with the most advanced warships.
- ✓ For China, every step is a foreign policy objective and every foreign policy objective has to be in line with materializing its superpower endeavor.
- ✓ The US is pressurized due to the growing trade war and maritime competition with China. This has the potential to spur further development of naval assets on both sides.
- ✓ Powers like the US, China, Russia, the UK, and France are increasingly trying to make significant gains in the region and there is some uncalled competition. Also, there is greater

Shifting Trade Pattern In Asia

- ❖ There has been move towards stronger partnerships and alliances.
- ❖ China as usual has resilience and determination to remain the so-called 'factory of the world'.
- ❖ In compulsion to work with neighbours amid pressure from US and South Asian allies, China might recognize the right to free navigation in the South China Sea.
- ❖ China would likely desist from enforcing an undeclared blockade in the South China Sea as China is in itself extremely reliant on Asian sea lanes for the provision of resources and energy
- ❖ China will be balancing between political ends and economic imperatives keeping geopolitical tensions aside.
- ❖ Domestic politics inside China and in other Southeast Asian countries will play a part in strategic competition in Asia.
- ❖ Asian powers will be in conflict if nationalism-fueled political ambitions overlap development needs.

India's initiatives

- ❖ **Security and Growth for all (SAGAR)** Policy is an integrated regional framework for security in Indian Ocean Region.
- ❖ India is perceived as **Net Provider of Security** in the Indian Ocean Region as most of the major SLOCs are located along Indian island territories.
- ❖ **BIMSTEC** was created for effective international cooperation among states around Bay of Bengal.
- ❖ **International Fusion Centre (IFC)** for the Indian Ocean region was established in Gurugram in 2018 for sharing data on threats to commercial shipping for marine security.
- ❖ **The Indian Ocean Tsunami Warning and Mitigation System** was created by UN in 2005 after Tsunami incident in 2004.

convergence amongst these countries to put up a joint front against China's expansionist outlook.

Securing Sea lanes

- US-led Combined Maritime Forces (CMF) has led to a naval coalition of 33 countries and is successfully leading in the western Indian Ocean to ensure the safe passage of commercial shipping.
- The CMF is assisted by the European Naval Force (EUNAVFOR) Somalia, and other regional maritime forces from India, Japan, and China, especially in cases of piracy.
- India has sought a partnership with France, Australia, and Indonesia to protect the IOR region's interest. India's security role in the regional SLOC remains mostly limited to the Eastern Indian Ocean.
- Quad has expanded its security engagement in the Indian Ocean Region because of Chinese assertiveness.
- Since 2022, the Indian Navy has joined the US-led Combined Maritime Forces as an 'associate partner' in the Western Indian Ocean, the IN's role is limited to countering.

PEPPER IT WITH

One China Policy, Strait of Taiwan, Malacca Dilemma

Conclusion

Looking at the threat to maritime security maintaining international cooperation in policies and operations with UNCLOS rule-based approach is required. Securing the Sea Lanes of Communication should be everyone's priority. Increased involvement of the private sector in the Blue Economy will be economically beneficial. The digital economy can be supported by critical submarine fiber-optic cables. Thus, multidimensional security along with an economy, and digital technology approach is required.




OPEN TEST FOR PRELIMS (OTP) 1

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ART & CULTURE

Savarkar and Marathi literature

News Excerpt

Vinayak Damodar Savarkar was not only an Indian independence activist, politician, lawyer, and writer, but also a major contributor to Marathi literature.

Savarkar Literary Contributions

Savarkar was a poet, novelist, writer of short stories, playwright, historian, and champion of the purification of language. His work in Marathi literature includes:

- He composed his first poem '**Swadeshicha phatka**' at the age of 11.
- He was the first to compose **powadas (ballads)** in Marathi in modern times.
- He was the first Marathi journalist to contribute newsletters to Marathi periodicals '**Londonchi baatmipatre**' (Newsletters from London)- from foreign countries.
- He wrote 'Joseph Mazzini'(a biography of an Italian revolutionary) in Marathi outside India. His 'taarakaas pahun (gazing at the stars) is the first Marathi poem composed outside Indian shores
- He also wrote books- **1857 Che Swantantra Samar (the first Independence struggle of India of 1857), Shikhancha Itihas (History of the Sikhs), Mazi Janmathep (a narration of his jail term in the Andamans).**
- He also wrote Marathi plays such as **Sanyast Khadga (a play), Kale Pani (Black Water), Mala Kay Tyache (What is it to me), Hindutva: Who is a Hindu? and Gomantak. His plays Usshaap, Sanyastakhadga, and Uttarkriya are notable for their dialogues and dramatic content.**

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Gandhi-Mandela Award

News-Excerpt

Recently, the 14th Dalai Lama was conferred the Gandhi Mandela Award 2022. Himachal governor calling him “universal ambassador of peace”. The Tibetan spiritual leader is the recipient of the 1989 Nobel Peace Prize.

About Gandhi Mandela Award

- The award was instituted by the Gandhi Mandela Foundation on the 150th birth anniversary of the Father of the Nation, MK Gandhi.
- It is a highly prestigious International award, for promoting Gandhian and Nelson Mandela's values, community service, and social development (in Asia & African countries)
- The award is given annually, and the nominations are invited from the Head of the States that includes President, Vice president, and Prime Minister of Asian & African Countries
- The award is given to personalities who have carried forward the legacies of Gandhi and Mandela by making significant contributions in the fields of Peace, Social Welfare, Culture, Environment, Education, Healthcare, Sports, and Innovation.

Understanding Dalai Lamas

- The Dalai Lama belongs to the Gelugpa tradition of Tibetan Buddhism, which is the largest and most influential tradition in Tibet.
- The institution of the Dalai Lama is a relatively recent one. There have been only 14 Dalai Lamas in the history of Tibetan Buddhism.
- The Dalai Lama is the head monk of Tibetan Buddhism and traditionally has been responsible for the governing of Tibet until the Chinese government took control in 1959.
- All of the Dalai Lamas are thought to be manifestations of the bodhisattva of compassion, Avalokitesvara.

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- Under Tibetan Buddhism, bodhisattva includes lineages of rebirths called “tulku.” Any person who is believed to be a rebirth of a previous teacher, master, or leader, is considered a tulku. Tibetan Buddhism has hundreds of such lineages, but the most respected and well-known is the Dalai Lama.
- Once a sitting Dalai Lama dies Disciples closest to the Dalai Lama set to identify signs indicating the location of his rebirth. There are usually predictions about where and when a Dalai Lama will be reborn, but further tests and signs are required to ensure the proper child is found.
- At present, the selection process for the next Dalai Lama remains uncertain. China wants its own Dalai Lama, it had already caused the disappearance of Panchen Lama the second most important tulku lineage in Tibetan Buddhism when he was 6 years old. The Chinese government appointed its own Panchen Lama.

Legend of Lachit Borphukan

News-Excerpt

A three-day celebration of the 400th birth anniversary of the legendary Assamese general and folk hero Lachit Borphukan began in New Delhi. This ceremony will be a tribute to Lachit for his contribution to the **‘strengthening of India’s naval force’** and also for revitalizing inland water transport.

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Pre-Connect

Ahom's

- The Ahom kingdom was established in 1228 when Sukaphaa entered the Brahmaputra valley in the early 13th century to the early 19th century.
- This was a prosperous, multi-ethnic kingdom that spread across the upper and lower reaches of the Brahmaputra valley, surviving on rice cultivation in its fertile land.
- The Ahoms engaged in a series of conflicts with the Mughals from 1615-1682, starting from the reign of Jahangir till the reign of Aurangzeb.
- The full contingent of the Ahom Army consisted of infantry, navy, artillery, elephantry, cavalry, and Spies.

Battle of Saraighat

- The battle of Saraighat was fought on the banks of the Brahmaputra in Guwahati in 1671.
- It is considered as one of the greatest naval battles on a river which resulted in the victory of Ahoms over the Mughals.
- The Ahom soldiers were experts in guerilla fighting
- They also learned the technique of constructing boat bridges in the Brahmaputra.
- Few important forts: Chamdhara, Saraighat, Simlagarh, Kaliabar, Kajali, and Pandu.

Borphukan Borphukan (Ahom language: Phu-Kan-Lung) was one of the five Patra mantris (councilors) in the Ahom kingdom

About Legend of Lachit Borphukan

- ✓ Lachit was a brilliant military commander in the Ahom kingdom.
- ✓ He was Known for his leadership in **the 1671 Battle of Saraighat**. which was fought against Mughal forces.
- ✓ He was chosen as one of the five Borphukans of the Ahom kingdom by king Chakradhwaj Singha, and given administrative, judicial, and military responsibilities.
- ✓ He has become one of the greatest Assamese heroes, symbolizing the valour, courage, and intelligence that defines the Assamese self-identity.

Indian council for cultural relations

News-Excerpt

Indian Council for Cultural Relations (ICCR) to honor Sheikh Mujibur Rahman to commemorate the 50th anniversary of the country's Liberation War as well as India's ties with Dhaka.

About ICCR

The Indian Council for Cultural Relations (ICCR), is an autonomous organization of the Government of India, involved in India's global cultural relations, through cultural exchange with other countries and their people.

- It was founded on 9 April 1950 by Maulana Abul Kalam Azad, the first Education Minister of independent India.
- The ICCR Headquarters is situated in New Delhi
- Registered as a Society under the Societies Act, ICCR operates as an independent body under the administrative control of the Ministry of External Affairs.

Role of ICCR

- The Council addresses its mandate of cultural diplomacy through a broad range of activities
- In addition to organizing cultural festivals in India and overseas, the ICCR financially supports several cultural institutions across India and sponsors individual performers in dance, music, photography, theatre, and the visual arts
- It also administers the Jawaharlal Nehru Award for International Understanding, established by the Government of India in 1965.

Significance

ICCR has instituted several awards, which are conferred upon foreign nationals for their contributions in different fields, under its mandate of promoting India's cultural relations. Such awards include–

- ✓ World Sanskrit Award
- ✓ Distinguish Indologist Award
- ✓ Gisela Bonn Award

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Sheikh Mujibur Rahman

- ❖ He was a Bengali leader who became the **first prime minister of Bangladesh (1972–75)** and later became the **president of the same in 1975**.
- ❖ He began his formal **political career in 1949** as a **co-founder of the Awami League**.
- ❖ He played a **crucial role in advocating political autonomy for East Pakistan**, the detached eastern part of Pakistan (now Bangladesh).
- ❖ **Sheikh Hasina Wazed**, the **current prime minister of Bangladesh**, is the **daughter** of Sheikh Mujibur Rahman.

Contemporary Ethics Case Studies

Q. As a kid, you participated in a school function where for the first time you saw an IAS officer and got inspired to become an IAS officer. But you were conscious of your economic background. You told this to the officer who awarded you at the school function and he told you to work hard honestly and nothing else will matter. You worked hard and finally got selected as an IAS officer. One thing you never forget in your life is, to be honest in your work. Soon, you were posted as a District Magistrate and worked with full sincerity and commitment. He fought against the local politicians and the mafia, which was not liked by the Chief Minister of the state whose election funding is dependent on such criminal elements as a result you were removed from the post of DM and given an insignificant posting.

However, you were determined to fight corruption at any cost. You soon with help of like-minded people formed an NGO which took up the corruption cases of the common man and fought against the corrupt officials. You decided to work for the NGO after your office hours with the permission of the government and thus violated no conduct rules. Soon your work started bearing fruits as you knew the system from within and were able to get many corrupt officers punished and ensured that poor people get justice. Media started covering your work and local people appreciated your work but it also caused a lot of heartburn to your fellow IAS officers and politicians alike. They threatened that if you don't wind up your NGO, they shall initiate a case against your NGO for illegal funding and malpractices, which can cause not only your suspension but also dismissal from service.

- (a) What are the various options available to You? What are the merit and demerit of each option? What option you must choose?

Q. You are a senior officer in the Ministry of Consumer Affairs, Food & Public Distribution, Government of India. You were given charge of preparing a new National Building Code of India. As a result, you have access to some confidential and crucial information about policy decisions that the Government is about to announce. These decisions are likely to have far-reaching impacts on the housing and construction industry. If the builders have access to this information beforehand, they can make huge profits.

Your senior is known for his integrity and shares a tremendous rapport with you. He asked you to disclose this information to a builder who has done a lot of quality work for the Government.

- (a) What are the Options available to you? Evaluate each of these options and choose the option which you would adopt, giving reasons.

Q. You are appointed as the Director-General of Police in a state there were two reasons for your appointment your impeccable track record and your rapport with the Chief Minister. As soon as you were appointed an urgent file came to your table in which there was an immediate need to fill up three vacancies at the level of Deputy Superintendent of Police (DSP) in the state. Following the rules, you formed a Departmental Promotion Committee (DPC) with yourself as the Chairman. The DPC examined the records of eligible officers in order of seniority, ranked them on merit, and recommended the top three for promotion. Accordingly, you sent the list to the Chief Secretary (CS) for approval.

You waited for almost a month but there was no response from the CS. You dialed the CS and he asked you to meet him informally. You decided to meet him and during your discussion, the CS told you that the Chief Minister was holding up the file since he wanted officer No.4 on the merit list to be promoted. You explained to the CS that DPC had done a fair assessment of the candidates and you stood by the DPC list.

After some time, You were officially informed that the original file was lost and that he should get the DPC to meet again and make a recommendation. It is clear to you that the CM wanted the list to be revised so that his favorite could be promoted.

- (a) Highlight the Ethical Dilemmas in the case study.
(b) What are the various options available to you in this situation? Evaluate each of these options and choose the most appropriate one, giving your reasons for it.



**SCAN THIS QR FOR
MODEL ANSWER**

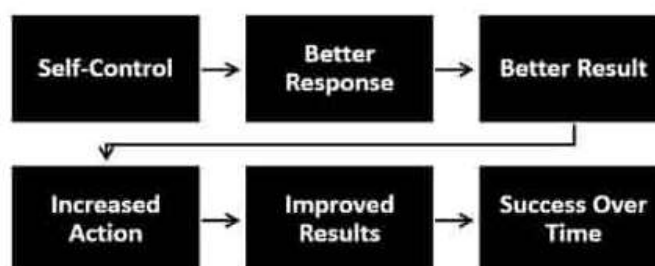
PHILOSOPHY OF THE MONTH

Nothing is more difficult than being successful

- The common thread among all successful people, irrespective of their field is their integral and extensive self-mastery. While for failure it is the inability or strength to take up the path that leads to achievement
- No success is possible without the power of self-control and sacrifice. Any goal chosen by any individual will lead to success only when an individual fulfills the sum of renunciations of every kind and nature that the goal requires.
- However, the real challenges lie in remaining successful, as soon as the individual becomes complacent about her/his success it pushes them onto the path of failure.
- Therefore, the best thing one can do is not to think about success and go on to do her/his duty with self-control and self-discipline. The same is true for failures too much excessive thinking about failure might lead to depression. Hence, one should look at failures objectively.
- Success never comes to those who wish to become successful for the sake of it. Even if it comes it won't sustain long as soon somebody more sincere will replace them as Success depends entirely on sincerity.
- One must be pure and have a very high and disinterested spiritual consciousness to be successful without being affected by it.
- Attaining success is not difficult, but maintenance of that is difficult, which requires persistence effort, self-control, discipline, devotion to duty, and integrity.



SELF-CONTROL STUDY



Emotions – Sifting through the smokescreen

- Aristotle defined the structure of an oral argument based on Ethos (Establishing the speaker's authority and status), Logos (Presenting one's logical argument), and pathos (swaying the listener by appealing to their emotions).
- The meaning of Ethos, Logos, and Pathos has changed completely in recent times. Ethos is built superficially through alternative facts and exaggeration; Logos is manifested as logical fallacies and pathos instead of appealing to the listener's emotion is the barrage of the speaker's emotions which are not real and often greatly exaggerated.
- Human culture is like a pendulum in which the norms of one generation are countered by the coming generation and the cycle continues. The same is for human emotions.
- Aristotle advocated the Golden mean which promotes the idea of balance in all things as it is never good for any society to be near any extreme. In recent times the social pendulum has shifted to an extreme which has given birth to issues like cancel culture and call-out culture.
- The responsibility for the reversion to the Golden Mean will be on well-educated people, the micro pockets of intellectuals. Further, there are four ways we can revert to the Golden Mean. It includes
 - Being conscious and seeking inner balance and achieving emotional regulation.

- Replace negative emotions like anger, and hurt with positive complex emotions like affection, confidence, and thankfulness.
 - Moderate the intensity of emotions expressed. An emotionally intelligent person would apply the right balance of emotional type and intensity and distinguish between emotions felt, input, and emotions expressed output.
 - Provide support to those who find it hard to fight the urge to be emotional through compassion, but also through tough love and a reality check when needed.
- The path to achieving “The Golden Mean” is by understanding the true meaning of Love. Love is not an emotion, but the core of one’s being. All emotions are a form of love. For instance, anger is a defence when something one loves is threatened.
 - To truly be at the golden mean, one must introspect, and identify the objects of one’s love. As it helps a person to reframe his/her reaction and can turn anger into tolerance, forgiveness and jealousy, and hatred into motivation and inspiration.
 - Only by channeling one’s love, and balancing between its forms, can one become a Master of Emotion, and bring more positivity and change to the world.

Low Emotional Intelligence	High Emotional Intelligence
Aggressive Demanding Egotistical Bossy Confrontational	Assertive Ambitious Driving Strong willed Decisive
Glib Selfish Impulsive	Enthusiastic Sociable Persuasive
Resistance to Change Passive Unresponsive Slow	Patient Stable Predictable Consistent
Critical Picky Fussy Perfectionistic	Detailed Careful Meticulous Neat




OPEN TEST FOR PRELIMS (OTP) 1

GENERAL STUDIES 1 (ONLY)

JAN. 15

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- ✓ MENTORING CALL
- ✓ ALL INDIA RANKING
- ✓ POST TEST DISCUSSION
- ✓ DETAILED ANALYSIS REPORT OF RESULT

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PT CONCATENATION

Polity

Right to Convert

About: Ministry of Home Affairs Stand on fraudulent conversions

- Ministry of Home Affairs has asserted in the Supreme Court that the right to religion does not include the right to convert other people to a particular religion, especially through fraud, deception, coercion, allurement, and other means.
- The word 'propagate' in Article 25 (right to freedom of religion) does not include the right to convert. It is rather like a positive right to spread one's religion by exposition of its tenets.

LINK IT WITH: Freedom of Religion, Article 21, India's form of Secularism.

PMAY-G

About: Centre issues stern warning to non-performing states under PMAY-G

- The Centre will withdraw its share of funds allocated to errant States under the centrally sponsored Pradhan Mantri Gramin Awas Yojana (PMAY-G).
- The scheme was launched in 2016 in pursuance of the goal of Housing for all by 2022.
- It is a revamped version of the previous Indira Awas Yojana
- The overall target is to construct 2.95 crore pucca houses with basic amenities by March 2024.
- Identification of beneficiaries eligible for assistance and their prioritization to be done using information from the Socio-Economic and Caste Census (SECC) ensuring total transparency and objectivity.
- An annual list of beneficiaries will be identified from the total list through a participatory process by the Gram Sabha. Gram Sabha will need to justify in writing with reasons for any alteration of priority in the original list.
- The cost of unit assistance is to be shared between Central and State Governments in the ratio of 60:40 in plain areas and 90:10 for North Eastern and hilly states.

LINK IT WITH: Swachh Bharat Mission-Gramin, Har Ghar Nal se Jal, Integrated Action Plan (IAP) for Selected Tribal and Backward Districts, and Mahatma Gandhi National Rural Employment Guarantee Scheme

Bribe and Public Servant

About: Role of Circumstantial evidence in bribe cases involving public servant

- A Constitution Bench of the Supreme Court has asserted that the demand and acceptance of a bribe or illegal gratification by a public servant can be inferred by a court on circumstantial proof in the absence of direct evidence.
- This rule will apply to the following sections of the Prevention of Corruption Act:
 - Section 7 -public servant taking gratification other than legal remuneration in respect of an official act.
 - Section 13 (1)(d)(i) and (ii) -criminal misconduct by a public servant.
- Now, The prosecution can prove its case of corruption with the help of any other witness, oral or documentary evidence, or circumstantial evidence in cases in which the complainants have turned hostile. The trial would not abate or result in an acquittal.
- If a bribe-giver offers to pay illegal gratification without there being any demand from the public servant and the latter simply accepts the offer and receives the payment, it would be a case of "acceptance" under Section 7 of the PC Act.
- If the accused public servant makes a demand for a bribe and accepts the payment, it would be a case of "obtainment" and an offence under 13 (1)(d)(i) and (ii) of the PC Act.
- But both the offer by the bribe-giver and the demand and acceptance of the illegal gratification have to be effectively proved by the prosecution as a fact. So mere acceptance and receipt of the illegal gratification without anything more would not make it an offence under Sections 7 and 13 (1)(d)(i) and (ii) of the Act.

- So the court has discretion in the "presumption of fact" but foundational factors using relevant documentary or oral evidence, however, should be there on record.
- Court also asserted that presumption in law under Section 20 of the Act is distinct from the presumption in fact and the former is a mandatory presumption while the latter is discretionary

LINK IT WITH: Central Vigilance Commission, Central Bureau of Investigation, Anti-Corruption bureau, Lokpal and Lokayukta, Public Account Committee.

SC/ST List

About: Constitution (Scheduled Tribes) Order (Second Amendment) Bill, 2022

- Lok Sabha has passed the bill to include the Narikoravan and Kuruvikaran hill tribes of Tamil Nadu in the scheduled list of the tribe of the state.
- In recent times Cabinet had approved enlisting several tribes in the SC/ST list these include:
 - Hatti - Trans-Giri area of Sirmour district in Himachal Pradesh.
 - Binjhia- Chhattisgarh (already enlisted as ST in Jharkhand and Odisha)
 - 5 subcategories of the Gond Dhuria, Nayak, Ojha, Pathari, and Rajgond- Uttar Pradesh from SC to ST.
 - Betta-Kuruba or Kadu Kurba- Karnataka
 - Bharia (variations added include Bhumia and Bhuyian), Gadhwā (Gadwa), Dhanwar (Dhanawar, Dhanuwar), Nagesia (Nagasia, Kisan), and Pondh (Pond)- Chattisgarh
- For understanding the procedure for exclusion or inclusion in SC/ST list- Refer-September CC-Page 17.

LINK IT WITH: Particularly Vulnerable Tribal Group, Tribal Profile of India, XaXa Committee Report recommendation, Janjatiya Gaurav Divas, National Commission for Scheduled Tribe/Caste

India International Arbitration Centre

About: Parliament passes a bill renaming the New Delhi International Arbitration Centre as the India International Arbitration Centre.

- It will help India emerge as an attractive destination for arbitration at the global level.
- The arbitration will be provided at more affordable charges.

LINK IT WITH: Judicial Pendency in India, Alternative Dispute Redressal Mechanism

Social Issues

Scented Sanitary Napkins

About: Chemicals used in manufacturing menstrual pads in India can potentially impact health.

- Phthalates and volatile organic compounds used in sanitary napkins can have a long-term health impact. There is no regulatory framework that can dictate chemical content limits in sanitary pads for manufacturers.
- Phthalates or phthalic acid esters (PAES), which fall in the plastics category, are typically used "to make the material softer and more flexible, increase plasticity, reduce viscosity, or reduce friction during manufacturing.
- VOCs add fragrances, adsorbents, moisture barriers, adhesives, and binders in sanitary pads. These are compounds that have a low water solubility and high vapor pressure, which are released in the form of gas from certain solids or liquids.
- Key health concerns include memory loss, loss of appetite, tiredness, menstrual cycle issues, and paralysis of the central nervous system.

LINK IT WITH: Application of Volatile Organic Compound, Bio-degradable vs Compostable Sanitary Napkin.

MPOX

About: World Health Organization has renamed monkeypox as mpox, citing concerns the original name of the decades-old animal disease could be construed as discriminatory and racist.

- Monkeypox is a zoonosis, that is, a disease that is transmitted from infected animals to humans. According to the WHO, cases occur close to tropical rainforests inhabited by animals that carry the virus.
- The monkeypox virus is an orthopoxvirus, which is a genus of viruses that also includes the variola virus, which causes smallpox, and the vaccinia virus, which was used in the smallpox vaccine
- While vaccination eradicated smallpox worldwide in 1980, monkeypox continues to occur in a swathe of countries in Central and West Africa and has on occasion shown up elsewhere.
- Human-to-human transmission is limited i.e. monkeypox does not spread easily between people and the overall risk to the general public is very low.
- Transmission, when it occurs, can be through contact with bodily fluids, lesions on the skin or internal mucosal surfaces, such as in the mouth or throat, respiratory droplets, and contaminated objects longest documented chain of transmission is six generations, meaning the last person to be infected in this chain was six links away from the original sick person

LINK IT WITH: SARS, Zoonotic Diseases, lymphadenopathy.

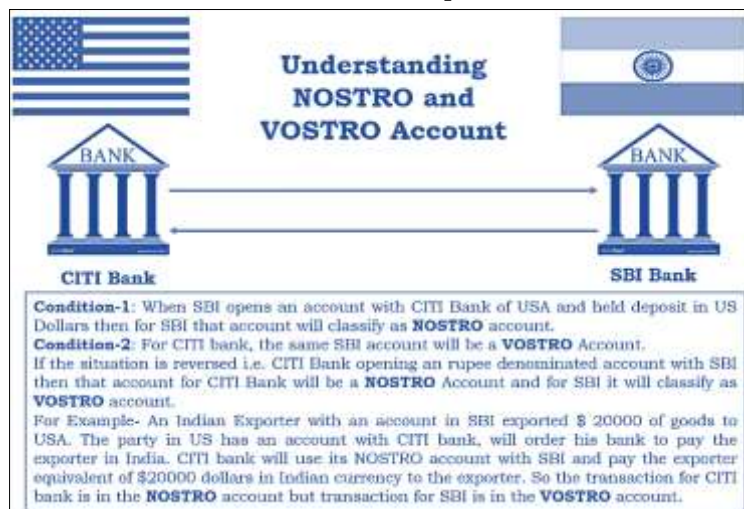
Economy

Nostro vs Vostro Account

About: The government of India decided to open 9 Vostro accounts with 2 Indian banks to circumvent sanctions imposed on Russia and do trade in the Indian rupee.

- Nostro and Vostro are Latin words that mean “Our Money with you” and “Yours Money with us” respectively.
- A Vostro account is an account that a domestic bank holds for a foreign bank in the domestic bank’s currency.
- A Nostro account is an account of a domestic bank held in a foreign bank in foreign currency.
- They have wide applications ranging from foreign trade to remittance transfer.

LINK IT WITH: Loro Account, Letter of Credit, SWIFT, Purchase order Financing, IFSC, MICR.



Fake Reviews

About: The Department of Consumer Affairs issued guidelines to curtail fake and deceptive product and service reviews on e-commerce websites.

Necessity

- Through the use of online reputation management companies' reviews are manufactured on e-commerce websites leading to financial loss and an increase in trust deficit on the e-commerce websites.

Working

- Without acknowledging the terms and conditions of the website, and providing an email or telephone number, users will not be able to write reviews.
- The website has to make certain that all systems have anti-fraud mechanisms in place to protect personal data from internal and external fraud.

Moderation

- All reviews whether positive or negative will be dealt with with similar standards and Operandi. This would particularly tackle negative reviews from being filtered out.
- To make ensure that the experiences are genuine. It will be ascertained through a user's frequency of writing reviews, history of contributions, location, and use of language.
- The date of review will also be mentioned so that readers can identify the more recent reviews irrespective of the website's default filter.
- The reliability and consistency of the moderation process can be assessed using random sampling and survey methods

Impact

- The guidelines would ensure that negative reviews on e-commerce platforms are not removed without reason, thus, ensuring customers are apprised of the problems sooner.
- It will also help to keep a check on a prevailing tendency among sellers to re-list products that had to be taken down because of lower ratings.

LINK IT WITH: Deepfakes, Malpractices of e-commerce websites, Misinformation Feeds.

Kirit Parekh Panel

About: A committee has been formed by the Government to review the prices of gas produced in India.

- The Committee will be responsible for recommending price caps for natural gas produced from legacy fields of State-owned firms.
- The committee had recommended
 - For the old fields of Oil and Natural Gas Corporation (ONGC) and Oil India Ltd (OIL). It has recommended a floor or minimum base price and cap or ceiling rates. This will ensure that the price does not fall below the cost of production.
 - For the gas from difficult fields such as those lying in deepsea or which are in high-pressure, high-temperature zones, the committee has suggested not tinkering with the existing mechanism of paying them higher rates based on a different formula to compensate for the greater risk and cost involved. This would ensure that explorers, who are seeing a rise in the cost of services due to the spike in global energy rates, are not put to any disadvantage.

LINK IT WITH: Energy Imports of India, Oil and gas resources in India.

FSSAI

About: FSSAI proposes standards for mithais and namkeens

- The Food Safety and Standards Authority of India (FSSAI) has issued the Draft Regulation named Food Safety and Standards (Food Products Standards and Food Additives) Amendment Regulations, 2022 to set standards and labeling norms for traditional Indian sweets (mithais) and namkeens sector.
- The draft regulation defines Indian Mithais as sweets and Namkeens as salty savory products that are “traditional and innovative-based from Indian heritage and culture.”
- The draft regulation has categorized traditional Indian sweets into milk-based, non-milk-based, and composite sweets. Milk-based- mithais are those that include milk-concentration-based, Channa-based, and khoa-based mithais. Non-milk-based traditional sweets refer to those that are grain-based, dry fruits, nuts, and seeds-based mithais.
- The draft regulation has also proposed some labeling norms that mithai packages should have the name of the product (such as Khoa burfi) along with relevant categories (such as khoa-based mithai) on the label. In the case of milk-based mithais, the Food Business Operator will have to declare the percent and type of milk solids under the list of ingredients on the label.
- Standards for various categories of Namkeens including fruit and vegetable-based, dry fruit and nut-based and composite products have also been proposed by the draft regulation.

LINK IT WITH: Climate Change and food adulteration, Nutritional Security in India.

Clean Jet Fuel

About: India's project of cleaner jet fuel is facing numerous challenges.

- **About the project**

- Indian Institute of Petroleum, a laboratory of the Council of Scientific & Industrial Research has undertaken a project on jet fuel in the city of Dehradun with the goal that can help clean up the smog hanging over its big cities. Boeing Co. is one of the important Partners of this project.

- **About jet fuel**

- It is biofuel, which is made from waste cooking oil and the seeds of plants like Pongamia and jatropha that aren't consumed.

- **Challenges**

- The new technology for the production of fuel is more expensive than traditional jet fuel.
- There are difficulties in collecting sufficient raw materials which in turn hampers scientists' ability to produce them on a wide enough scale to be commercially viable.
- Significant Investments would be needed in building the infrastructure needed to transport and store sustainable aviation fuel.
- Dehradun scientists are also seeking approval for the fuel from ASTM International, the Pennsylvania-based organization that develops and publishes standards for products and services globally.

- **Advantages of the Fuel**

- one advantage the fuel would have over other alternatives being used in the US is that it doesn't have to be blended with regular jet fuel and can be used as it is.
- Tapping used cooking oil or biomass waste is a more sustainable route. However, to commercialize this indigenous fuel a workable supply chain is needed.

LINK IT WITH: Biofuels, Aviation Turbine Fuel, Jatropha plant.

\$5 Trillion Economy by FY27

About: India targets to achieve the \$5 trillion economy mark by FY27.

- **Need of the Hour**

- Amidst the global slowdown, India's growth has been robust and inflation is also under control. Watchful and prudent fiscal management and credible monetary policy become essential for India to fulfill its growth aspirations.

- **Factors that will boost growth**

- Softening commodity prices and normalization of supply chains will improve growth and inflation outlook.
- The corporate earnings outlook is improving with moderation in input prices.
- strengthening credit growth and the flow of financial resources to the commercial sectors leads to sustained momentum in activity.
- Banks need to raise more structural liquidity (deposits) to fund credit demand.

LINK IT WITH: Atmanirbhar Bharat, Export Capabilities of India, Skill India.

Mixing of Dimethyl Ether in LPG

About: Oil Minister has suggested mixing Dimethyl Ether in LPG to meet the increasing demand

- Oil Minister, at World LPG Week 2022, has suggested mixing of renewable Dimethyl Ether (DME) in liquefied petroleum gas (LPG) to meet the rising demand for the fuel used for cooking in households.

- **About Dimethyl ether**

- It is a synthetically produced alternative fuel. It is a colorless gas under normal atmospheric conditions It is used extensively in the chemical industry and as an aerosol propellant, solvent, fuel, and refrigerant.
- It exhibits comparable calorific value and similarity of its thermal efficiency to traditional fuels.
- It is a clean-burning fuel with low emission and low particulate matter. Its physio-chemical properties make it a suitable substitute (or blending agent) for LPG, which is a mixture of propane and butane.

• Tracking LPG cylinders

- The new LPG cylinders will come fitted with QR codes, while the same will be posted on the existing ones, which will help the consumers to track.
- The technology of track and trace cylinders would be a great step forward in managing this huge set of cylinders under use.

LINK IT WITH: Biofuels, Ethanol Blending, Ujwala Scheme, Biogas, Swachh Bharat Abhiyan-Grameen.

India's Non-GMO Certificate

About: US says that India's non-GMO certificate requirement has hurt its exports, especially apple and rice.

- The US, through a complaint at the WTO against India's mandatory non-GMO (genetically modified origin) certification requirement for food, has said that implementation of the order had caused trade disruptions for American exports, especially apples and rice, and should be immediately withdrawn.
- On the other hand, India stated that the requirement to regulate the import of "GM" food is not new, as provided in the Environmental Protection Act, and that the requirement has not caused any trade disruptions.
- As per the US, India still refused to furnish an explanation of the scientific basis and risk assessment that justifies this non-GM certificate requirement on a consignment basis.

• Legal Position of GM crops in India:

- The apex body namely the Genetic Engineering Appraisal Committee (GEAC) allows for the commercial release of GM crops.
- Use of the unapproved GM variant can attract imprisonment and fines under the Environment Protection Act, 1986.
- An order was issued by FSSAI in August 2020 that 24 food crops the country imports would need a 'non-GM-origin-cum-GM-free certificate' issued by a Competent National Authority of the exporting country.
- The items include pineapples, apples, wheat, rice, tomato, potato, maize, melon, plum, papaya, potato, eggplant, and bean, among others.

LINK IT WITH: Genetic Engineering, Sanitary and phytosanitary (SPS) measures, UNCTAD, Generalised System of Preferences (GSP).

CDSL

About: Certain services at CDSL were disrupted due to a suspected cyber-attack recently.

- Certain services at CDSL were disturbed due to a suspected cyber-attack recently, however, the problem has been identified and fixed.

What is CDSL?

- Central Depositories Services India Ltd (CDSL) is a government-registered share depository, alongside its other state-owned counterpart National Securities Depository Ltd (NSDL).
- In share depositories, shares are held in an electronic or dematerialized form and they enable securities transactions. They play a similar role to banks play in handling cash and fixed deposits. While banks enable customers to keep their cash in electronic form, share depositories help consumers to store shares in a dematerialized form.
- It was founded in 1999. It is a Market Infrastructure Institution (MII) which is considered a crucial part of the capital market structure.
- It provides services to all market participants, including exchanges, clearing corporations, depository participants, issuers, and investors.
- It describes its foundational goal as "convenient, dependable, and secured depository services".
- The current Chairperson of CDSL is Balkrishna V Chaubal (retired as Deputy Managing Director of State Bank of India).

LINK IT WITH: Cyberwarfare, Ransomware, Sensex, Primary vs Secondary Market

Remittances

About: Remittances to India are set to touch a record \$ 100 billion in 2022 as forecasted by The World Bank's latest migration and development brief titled, 'Remittances Brave Global Headwinds'.

- Remittance denotes a sum of money sent by one party to another. It describes the money sent by someone working abroad to their family back home.
- In the case of India largest sources of remittances have been from Indians working in the Gulf Cooperation Council (GCC) countries. (UAE, Bahrain, Saudi Arabia, Oman, Qatar, Kuwait). The quantum jump in the remittances recorded is due to a "gradual shift in destinations" for Indian Migrants aided by a "structural shift in qualifications" that helped them reallocate to the "Highest income earner category", especially in services.
- **General Trend in Remittances in 2022**
 - World Remittances are expected to touch \$794 billion in 2022, up from \$781 billion in 2021 representing a growth of 4.9% compared to 10.2 % in 2021 (the highest since 2010).
 - Out of \$ 794 billion, \$ 626 billion went to LMIC s (Low and Middle-Income countries).
 - The top five countries receiving remittances this year are expected to be India(\$ 100 billion), followed by Mexico (\$60 billion), China (\$50 billion), the Philippines (\$38 billion), and Egypt (\$32 billion).

Future Trends

- Growth in remittances will fall to 2 % in 2023 as the GDP growth in high-income countries continues to slow, decreasing migrants' wage gains.
- For South Asia as a whole growth in remittances is expected to fall from 3.5 % in 2022 to 0.7% in 2023.
- Higher Inflation combined with a slowdown will limit remittance flow in the US and from GCC countries.
- Nonetheless, remittances to India are forecast to grow by 4 % next year.
- The demand for labor is expected to soften as construction activities for the FIFA World cup in Qatar have ended.

LINK IT WITH: Indian Diaspora, Pravasi Bharatiya Diwas, Brain Drain from India

Pension Bill

About: Expenditure on the pension has emerged as one of the major components of the Committed Expenditure of the Centre and states in recent years.

- **Committed Expenditure:**
 - Expenditure on unproductive and current heads such as salaries and pensions interest payments and subsidies.
 - The expenditure on pensions is one of the key components of the government's Committed Expenditure.
 - If the Committed Expenditure is higher, it simply indicates that the government has lesser flexibility for determining the purpose for which revenue expenditure is to be incurred.
- **CAG Report titled 'Union and State Finances at A Glance' for 2019-20:**
 - Expenditure on Pension has been higher than the expenditure on the 'salary and wages' of the Centre and three states – including Gujarat, Karnataka, and West Bengal – during 2019-20.
 - The Centre's total Committed Expenditure accounted for 37 percent of its total revenue expenditure of Rs 26.15 lakh crore in 2019-20.
 - 67 cents on Interest Payment and Servicing of Debt
 - 19 percent on expenditure on Pensions and Salary
 - 14 percent Wages
- The Centre's pension bill was 132 percent of its expenditure on salary and wages in 2019-20.

- In five states - Uttar Pradesh, Bihar, Maharashtra, Tamil Nadu, and Odisha, pension expenditures accounted for more than two-thirds of expenditure on salary and wages.
- The expenditure on pension in Rajasthan where the Congress-led state government has decided to implement the Old Pension Scheme amounted to Rs 20,761 crore in 2019-20. This is almost 42.7 percent of its expenditure (Rs 48,577 crore) on salary and wages.
- As per the data given by RBI the combined pension expenditure of all states and UTs have doubled to Rs 3.45 lakh crore in 2019-20 from Rs 1.63 lakh crore in 2013-14.

International Relations

Iran abolishes Morality Police

About: Iran has abolished its 'morality police' after more than two months of protests triggered by the arrest of Mahsa Amini for allegedly violating the country's strict female dress code.

- The death of a 22-year-old Iranian of Kurdish origin, after her arrest by the morality police in Tehran, led to Women protesting in Iran against the Morality Police.
- **Morality Police:** It is formally known as the Gasht-e Ershad or "Guidance Patrol" and was established under hardline President Mahmoud Ahmadinejad, to "spread the culture of modesty and hijab", the mandatory female head covering.
- Finally, the Morality police have been abolished and the Attorney General has stated that it has nothing to do with the judiciary.

Russia's nuclear icebreaker

About: Russia recently celebrated its Arctic power with a flag-raising ceremony and the docking of two nuclear-powered icebreakers that would provide a year-round passage in the Western Arctic.

- **Significance of Russian Icebreaker**
 - To enhance Russia's standing as a great Arctic power.
 - Both icebreakers were built as part of Russia's large-scale, methodical effort to re-equip and renew the domestic icebreaker fleet to reinforce Russia's position as a "great Arctic power."
 - Russia has reactivated and renovated many Soviet-era Arctic military facilities during the previous two decades.
 - It is critical for Russia to research and develops the Arctic to ensure safe and sustainable transportation in this region and to enhance traffic via the northern sea route.
 - **Reduce the time it takes to get to Asia:** Expanding this critical transport corridor would enable Russia to realize its export potential fully and construct efficient logistical lines, notably to South East Asia. The inauguration of the Northern Sea Route will reduce the time it takes Russia to reach Asia by up to two weeks compared to the present route through the Suez Canal.

White Paper Revolution

About: There have been protests against the country's tough zero-Covid policy in recent weeks.

- The protest is called a white paper revolution because blank sheets of white A4-sized paper are used by many of the demonstrators during these protests.
- Many of the protestors are demanding the resignation of the Chinese President and the end of the Chinese Communist Party's rule.

Why are demonstrators using white paper to protest?

- The humble white sheet of paper has become a symbol of the protests. It symbolizes the lack of free speech in the country.
- It has been used as a sign of protest previously in Hong Kong in 2020, to avoid slogans banned under the city's new national security law. It has also been used by demonstrators in Moscow this year to protest Russia's war with Ukraine.
- It has also been used by the students at universities in cities including Nanjing and Beijing in silent protest, a tactic used in the country to evade censorship or arrest.

- White is a common funeral color in China and it is hence used by demonstrators to mourn those lost in the protests.
- Users of China's state-controlled social media namely WeChat and Weibo are showing solidarity by posting blank white squares or photos of themselves holding blank sheets of paper.
- The extent of the protest was so large that it led to the blocking of the hashtag "white paper exercise" on Weibo prompting users to lament the censorship.

Egypt President as Chief Guest for Republic Day Parade

About: Ministry of External Affairs stated that Abdel Fattah Al Sisi will be the first guest for Republic Day Celebrations since 2020, as plans for guests in 2021 and 2022 were canceled due to the COVID-19 pandemic.

- Indian Prime Minister has sent a formal invitation to the President of Egypt which was handed over to the Egyptian president by the External Affairs Minister.
- Both countries will be celebrating the 75th anniversary of establishing diplomatic relations this year.
- Egypt has been invited as a 'Guest Country' during India's Presidency of G-20 in 2022-23.
- India and Egypt have warm and friendly relations based on civilizational and deep-rooted people-to-people ties.

Environment

PATH TO NET ZERO

ABOUT: Net zero means achieving an overall balance between greenhouse gas emissions produced and emissions taken out of the atmosphere.

- At ongoing COP 27, India has outlined its plan to become net zero by 2070.
- Under the Paris agreement, countries have to submit two kinds of plans i.e. short-term and long-term, called Nationally Determined Plans.
- In its NDC India has promised three target plans.
- To, achieve targets India is planning at a large scale,
 - Energy and electricity
 - Transport
 - Urban design
 - Forestry
- India has not mentioned agriculture in its long-term target, which produces methane emissions. Second highest common greenhouse gas.
- India has taken a stand at COP27 that, don't ask developing countries to act, let developed one reach net zero by 2030.
- India has batted for phase down of all fossil fuels not only just coal.
- Accordingly, India has identified several climate-specific technologies,
 - biofuels
 - smart grids
 - solar photovoltaics
 - energy storage etc.
- Under the international climate change conference, developed countries are bound to transfer the required technology to developing countries.

BALKAN LNYX

- It's considered a critically endangered species by IUCN.
- The 'forest ghost' lives in tree-covered mountains straddling Albania, Kosovo, and North Macedonia, and is now among the world's most endangered mammals.
- Victims of deforestation and poaching have left less than 40 in number
- They are timid and elusive carnivore that sleeps during the day and hunts at night for deer, hare, chamois, and rabbit.

Bamboo Fruit and Rat Boom

- Melocanna baccifera called 'Mulli' in northeast India is a tropical bamboo species, that has an association with the occurrence of bamboo death, rat floods, and famines in northeast India.
- Research, found a correlation between the sugar content of these species and a population boom in rats, during the 'Mautam' mass bamboo flowering cycle that occurs in 48 years.
- The Jawaharlal Nehru Tropical Botanic Garden and Research Institute (JNTBGRI), Thiruvananthapuram, conducted the study between 2009 and 2022 at its Bambusetum where the species was introduced during 1988-1996.
- The species is native to the northeast India Myanmar region.
- During its gregarious flowering, the bamboo produces large fruits which draw animal visitors/predators.
- Of these, black rats greatly relish the fleshy, berry-like fruit. During this period, they also multiply rapidly, a phenomenon dubbed as 'rat flood.'
- Once the fruits are gone, they start devouring standing crops, causing famines that have claimed thousands of human lives.

Extreme Weather Events

- The heatwave duration is projected to increase from, on average, 3 days in the current climate to 11 days by the end of the 21st century.
- The team studied the period from 1951 to 2020 to find India's risk of sequential extremes.
- And found that the risk will increase significantly under the warming climate and variability in the El Nino-Southern Oscillation (ENSO) -- a recurring climate pattern involving changes in the temperature of waters in the central and eastern tropical Pacific Ocean.
- Examples of sequential extremes are the heatwave and flood in Pakistan this year that affected millions of people.
- the study found that the fraction of the total population and urban area exposed to sequential extremes will increase rapidly if the global mean temperature rises above 1.5 degrees Celsius from the pre-industrial level.
- Uttar Pradesh, Bihar, Jharkhand, Chhattisgarh, and Karnataka have a higher projected risk of sequential extremes than the other states.
- Heatwaves cause mortality and pose challenges for public health infrastructure, while prolonged extreme rainfall results in floods, which damage agriculture and infrastructure and cause human migration and loss of lives.

Lake Effect Snow

- Extreme snowfall events happen periodically along the eastern edge of Great Lake.
- This phenomenon is called the lake-snow effect, the lake plays a crucial role.
- It starts with cold, dry air from Canada. As the bitter cold air sweeps across the relatively warmer Great Lakes, it sucks up more and more moisture that falls as snow.
- Lake-effect snow is strongly influenced by the differences between the amount of heat and moisture at the lake's surface and in the air a few thousand feet above it.
- Once the snow reaches land, elevation contributes an additional effect. Land that slopes up from the lake increases lift in the atmosphere, enhancing snowfall rates. This mechanism is termed the "orographic effect."
- Lake-effect snowfall in the Buffalo area is typically confined to a narrow region where the wind is coming straight off the lake. Drivers on Interstate 90 often go from sunny skies to a blizzard and back to sunny skies over a distance of 30 to 40 miles.

Rhino Horns Smuggling

- Rhino is an Indian subcontinent species, listed as vulnerable in IUCN red list.
- Their preferred habitat is grasslands and wetlands located in the foothills of the Himalayas and the Brahmaputra and Ganges valley.
- At present they are restricted to small patches of Indo -the Nepal Tarai region and northern parts of West Bengal and Assam.

- Within India, rhinos are mainly found in the seven Protected Areas viz. - Kaziranga NP, Pobitora WLS, Orang NP, Manas NP in Assam, Jaldapara NP, and Gorumara NP in West Bengal, and Dudhwa NP in Uttar Pradesh.
- In addition, a transient population is also observed in Katarniaghat WLS in Uttar Pradesh and Valmiki TR in Bihar, which experience visits of rhinos from adjoining Nepal.
- Its placed in schedule 1(part 1) of the wildlife protection act 1972.
- The wildlife justice commission has been set up at the international level in 2015.

Boreal Forest

- It's a forest named after the Greek god of the north wind, covers 10% of the world's land surface, and has a significant impact on climate.
- It spread over 1.2 billion hectares and counts two third of the world's forest land.
- The boreal forest holds twice as much carbon as all tropical forests combined, and also helps purify a massive amount of freshwater.
- Global warming is having an especially devastating effect on northern lands including the boreal zone, as temperatures are increasing two or three times quicker than on the rest of the planet.
- In the boreal forest, the most prevalent type of fire is a crown fire, which spreads quickly from treetop to treetop. These blazes are more intense and more difficult to fight than fires on the ground.
- Some species even depend on the fires -- jack pines or black spruces have sap-coated cones that open up to deposit seeds as the flames spread, ensuring their survival.

Indian Skimmer

- They are endangered species on the IUCN list, it's a water bird species.
- In India, the species can be sighted near the Chambal river in Central India, in a few parts of Odisha, and Andhra Pradesh.
- According to studies, this bird has always shown up alone
- During November and early December, birding hits a low ebb due to the rains. There could be fewer pairs of eyes to catch the Indian skimmer.
- Indian skimmers on the Indian coast have almost been restricted to Pulicat. In the south, there is a record from Odiyur lake (Mudaliyarkuppam backwaters).
- Inland eBird records of the Indian skimmer are restricted to the south, coming largely from the Thiruporur belt: Sightings at Illalur lake, Kattur lake, and Siruthavur lake have been documented. There are also records from Pallikaralai marsh.

Black Coral

- Corals are marine invertebrates or animals which do not possess a spine. In scientific classification, corals fall under the phylum Cnidaria and the class Anthozoa.
- Many of these corals are branched and look like feathers, fans, or bushes, while others are straight like a whip. Unlike their colorful, shallow-water cousins that rely on the sun and photosynthesis for energy, black corals are filter feeders and eat tiny zooplankton that is abundant in deep waters.
- Black corals can be found growing both in shallow waters and down to depths of over 26,000 feet (8,000 meters), and some individual corals can live for over 4,000 years.
- Recently discovered five new species of black corals living as deep as 2,500 feet (760 meters) below the surface in the Great Barrier Reef and Coral Sea off the coast of Australia.
- They are also called the "rainforests of the seas".

TURTLE

- Two Indian turtle species — the red-crowned roofed turtles (Batagur Machuga) and Leith's soft-shell turtle (Nilssononia lecithin) — have made it to Appendix I of the Convention on International Trade in Endangered Species (CITES). A decision was made on 19th cop19 in Panama.
- Red-crowned roofed turtle is native to India, Nepal, and Bangladesh and known to be widely found in the Ganga and Brahmaputra river basins, according to the Wildlife Institute of India

(WII). At present in India, the National Chambal River Gharial Sanctuary is the only geographic area where the species is found in substantial numbers.

- Leith's soft-shell turtle inhabits rivers and reservoirs mainly in southern peninsular India, in states like Odisha, Madhya Pradesh, Karnataka, Andhra Pradesh, Kerala, Maharashtra, and Tamil Nadu. Its presence is substantial in the Cauvery, Tungabhadra, Ghataprabha, Bhavani, Godavari, and Moyar drainages.
- Major threats for these turtles and other species are increasing loss of habitat due to pollution and unchecked urbanization. Other reasons for habitat loss include water extraction and irrigation, leading to irregular flow of upstream dams and reservoirs.
- Earlier in 2019 during the 18th CITES plenary meeting in Geneva, Indian star tortoises were added to Appendix I.
- Leith's soft-shell turtle is endemic to India, There are four species under the genus *Gibsonia* and they are extensively sought in international illegal trade for their high demand in traditional Chinese medicine and soup delicacy.

SEA CUCUMBER

- Sea cucumbers are marine invertebrates that live on the seafloor found generally in tropical regions. They're named for their unusual oblong shape that resembles a fat cucumber.
- Wildlife Protection Act, 1972: Schedule I.
- The 19th Conference of Parties (COP19) to the Convention on International Trade in Endangered Species (CITES) in Panama City has accepted a proposal to include sea cucumbers in Appendix II of the Convention.
- An analysis published by the Wildlife Conservation Society-India (WCS-India) this September showed that sea cucumbers were the most frequently trafficked marine species in India from 2015-2021.
- Tamil Nadu recorded the highest number of marine wildlife seizures during this period, according to the analysis. The state was followed by Maharashtra, Lakshadweep, and Karnataka.
- In 2020, the Lakshadweep Islands administration created the world's first conservation area - 239 sq. km - for sea cucumbers.

Science & Technology

New Scales Of Measurement

About: Scientists have agreed upon new metric prefixes to express the largest and smallest measurements.

- In a world where data is growing rapidly, scientists have agreed upon new metric prefixes to express the largest and smallest measurements.
- Prefixes Ronna and Quetta have been added for larger measurements, while ronto and quecto have been added for smaller measurements.
- Four new prefixes have been adopted by the International System of Units (SI) with immediate effect at the General Conference on Weights and Measures in Versailles.
- This new scale measures the Earth's weight as six ronnagrams and Jupiter's weight as two quettagrams.

New oral drug for lowering cholesterol

About: An oral drug that lowers cholesterol in animal models by 70% has been identified by scientists.

- This is a new strategy for reducing cholesterol and it could also have implications for cancer treatments.
- According to the researchers, PCSK9 inhibitors are the next most popular cholesterol-lowering medications after statins.
- While PCSK9 inhibitors are highly effective at removing excess cholesterol from the blood, unlike statins, they cannot be taken orally, creating barriers to their use. They can be administered only as shots.

- An orally administered small-molecule drug developed by University Hospitals (UH) and Case Western Reserve University School of Medicine, US, reduces PCSK9 levels and lowers cholesterol in animal models by 70%.
- Keeping low levels of Cholesterol lowering is one of the most important therapies for prolonged life and it protects people from heart disease, which is still the number one cause of morbidity and mortality in the Western world.
- Statins were the only drug that lower cholesterol so far. This is a drug class that would represent a new way to lower cholesterol, a new way to hit PCSK9.
- Nitric oxide is a molecule that is known to prevent heart attacks by dilating blood vessels. Nitric oxide can also target and inhibit PCSK9, resulting in the lowering of cholesterol.
- The findings may also impact patients with cancer, as emerging evidence suggests targeting PCSK9 can improve the efficacy of cancer immunotherapies.

History's first 'parastronaut'.

About: Potential candidates for the Parastronaut project could also include, for the first time, people who have deficiencies in their lower limbs, whether from amputation or congenital defects.

- The European State Agency (ESA) has announced that the "parastronaut project" required "a complete change in philosophy" about the concept of medical aptitude, which originally came from the military and the selection of fighter pilots.
- After carrying out a feasibility study, the ESA said potential candidates could include people who have deficiencies in their lower limbs, whether from amputation or congenital defects.
- Applicants with shorter heights of up to 1.3 meters (4.3 feet) or different leg lengths were also eligible.
- The educational and psychological requirements for astronaut candidates remained the same.
- A new class of career astronauts (5 new astronauts) for the parastronaut program:
 - The ESA announced the first astronaut recruit with physical ability, Britain's John McFall, who will join a separate "parastronaut" program.
 - The European Space Agency has selected its new class of career astronauts two women and three men from five different Western European countries.
 - The agency chose France's Sophie Adenot, Spain's Pablo Alvarez Fernandez, Britain's Rosemary Coogan, Belgium's Raphael Liegeois, and Switzerland's Marco Sieber out of more than 22,500.

Oceansat

About: PSLV-C54 successfully places earth observation satellite, 8 nanosatellites in orbit.

- The Indian Space Research Organisation (ISRO) has successfully placed nine satellites, including an Earth Observation Satellite (EOS-06) in multiple orbits with the help of the space agency's Polar Satellite Launch Vehicle (PSLV-C54).
- The eight nanosatellites include the ISRO Nano Satellite-2 for Bhutan (INS-2B), Anand, Astrocast (four satellites), and two Thybolt satellites.
- The EOS-6 satellite is the third-generation Oceansat satellite.
- This is the 56th flight of the Polar Satellite Launch Vehicle (PSLV) and the 24th flight of the PSLV-XL version with 6 PSOM-XIs.
- Ocean color data, sea surface temperature data, and wind vector data will be collected by EOS-06 for use in oceanography, climate, and meteorology applications.
- Furthermore, the satellite supports value-added products such as potential fishing zones based on chlorophyll, SST, and wind speed, as well as land-based geophysical parameters.
- Bilateral cooperation between India and Bhutan has reached a historic milestone with this achievement. This satellite's launch today is the culmination of two years of collaborative engineering and science efforts between ISRO and Bhutanese scientists and engineers.

- ISRO is planning to have its mission to the sun with its satellite Aditya-L1, a coronagraphy spacecraft to study the solar atmosphere, with a PSLV rocket next year.

Cervical cancer

About: The rate of cervical cancer remains high in many low-and middle-income countries.

- According to an observational study published in the Lancet Global Health journal, more than 6,00,000 new cases of cervical cancer and more than 3,40,000 deaths from the disease have been reported around the world in 2020.
- As per this study, in India, 1,23,907 new cases of cervical cancer and 77,348 deaths have been reported.
- Though the incidence of cervical cancer has decreased in many parts of the world notably in Latin America, Asia, Western Europe, and North America over the past three decades, the burden remains high in many low- and middle-income countries.
- The study used the International Agency for Research on Cancer's (IARC) Global Cancer Observatory (GLOBOCAN) 2020 database to estimate the burden of cervical cancer incidence and mortality rates in 185 countries.
- In 2020, the overall incidence was 13 per 1,00,000 women; mortality was 7 per 1,00,000 women. As many as 172 out of the 185 countries witnessed more than the 4 cases per 1,00,000 women per year threshold for elimination set by the World Health Organisation (WHO).
- The development of effective vaccination against the human papillomavirus (HPV), which causes cervical cancer, and screening programs have been successful to make cervical cancer a largely preventable disease.

Viasat

About: The Tech titan Microsoft and satellite company Viasat have announced a partnership to bring satellite-based Internet connectivity to 10 million people across the world, with five million of them based in Africa.

- This is a planned collaboration, a part of Microsoft's Airband initiative, in which the software giant aims to provide internet access to 250 million people by the end of 2025. 100 million of these targeted users are based in Africa.
- The Company will through its assets and expertise help enable telehealth, distance learning and education, precision agriculture, clean power, and other services to reach new areas through the transformational provision of power and connectivity.
- Satellite technology has the advantage that it can bring internet access to remote areas that other connectivity tools cannot easily penetrate.
- The Airband initiative has carried out projects in the Democratic Republic of the Congo, Nigeria, Guatemala, Mexico, and the U.S. New countries for expansion include Egypt, Senegal, and Angola.

The App scale

About: The App scale Academy program is a growth and development program to train early to mid-stage startups to build high-quality apps for the world.

- The Ministry of Electronics and Information Technology (MeitY) Startup Hub and Google will be helping 100 Indian startups, from different Indian cities, to scale their app businesses with the second edition of App scale Academy.
- This will be a great help to many talented innovators as they can turn their creative ideas into successful app businesses through App scale Academy.

Geminids Meteor

About: This year, the Geminids reached their peak around December 13-14, when, with a clear sky and away from bright city lights, one can watch scores of meteors streak across the sky.

- **Meteors:** When meteoroids enter Earth's atmosphere (or that of another planet, like Mars) at high speed and burn up, the fireballs or "shooting stars" are called meteors.
- **Meteoroids:** They are objects in space that range in size from dust grains to small asteroids. They are like space rocks.

- **Geminids**

- These are one of the best and most reliable annual meteor showers.
- If their peak coincides with the new moon, and the weather is clear, the Geminids can produce approximately 100-150 meteors per hour for viewing.
- This year, however, the moon is bright, so only 30-40 meteors per hour will be visible in the Northern Hemisphere.
- They are unique because, unlike most meteor showers, they originate not from a comet, but from an asteroid.

- **Causes of Geminids**

- The 3200 Phaethon was discovered on October 11, 1983. It is named after the Greek mythology character Phaethon, son of the Sun God Helios.
- It takes 1.4 years to complete one round of the Sun. As the 3200 Phaethon moves close to the Sun while orbiting it, the rocks on its surface heat up and break off.
- The Geminids occur when the Earth passes through the trail of this debris.

- **Why they are called Geminids**

- The name comes from the constellation Gemini, from whose location in the sky the meteor shower seems to originate.
- According to NASA "The constellation for which a meteor shower is named only serves to aid viewers in determining which shower they are viewing on a given night".
- The constellation is not the source of the meteors and also, one should not look only to the constellation of Gemini to view the Geminids – they are visible

Lecanemab

About: A drug named Lecanemab has been successful in reducing cognitive decline in patients with Alzheimer's disease.

- **Alzheimer's disease –**

- It is a progressive neurologic disorder that causes the brain to shrink (atrophy) and brain cells to die.
- It affects parts of the brain that control thought, memory, and language.
- It can seriously affect a person's ability to carry out their daily activities.
- Lecanemab has been jointly developed by pharma companies Biogen and Eisai and was tested on patients with early Alzheimer's.
- The results of the study were presented at the Clinical Trials on Alzheimer's Disease conference in San Francisco, U.S.
- The result showed modest effects in arresting the decline in cognitive and functional aspects in patients with early disease.
- This has inculcated hope in a world where an estimated 55 million people live with the debilitating effects of Alzheimer's disease.

- **What is lecanemab and how does it work?**

- Lecanemab belongs to a class of drugs called monoclonal antibodies. These antibody-mediated drugs target beta-amyloid, the protein deposition that is seen in patients with Alzheimer's disease, and disrupts cell function.
- It was observed during the clinical trial that lecanemab "robustly removed the amyloid plaques."
- Lecanemab appears to have shown desirable effects in early dementia both via clinical improvements (scores in the CDR and ADAS-Cog rating scales) and reduction in amyloid plaques.

PERSON IN NEWS



**Dr Purnima
Devi Barman**

Dr. Barman is an Indian wildlife biologist from the state of Assam. She won UNEP's Champions of the Earth Award 2022 under the Entrepreneurial vision category. She is working in **Assam to protect storks also known as Hargila in Assam**. She started her work in 2007 focusing on the villages in **Assam's Kamrup district**, where the birds were most concentrated. For the conservation of Storks, she first changed the perception of the Bird as a bad omen. **She started Hargila Army which today has over Over 10,000 women as an active participants**. Hargila Army is involved in a variety of conservation projects ranging from building nests for the bird to the planting of saplings to cleaning drives on the banks of rivers and in wetlands. **Dr. Baraman was also the recipient of the 2017 Nari Shakti Puraskar**.



PT Usha

Legendary Athlete PT Usha **was elected as the first woman president of the Indian Olympic Association (IOA)**. She also became the first Olympian and first international medallist to head the IOA in its 95-year-old history. She was the first Indian woman sprinter to reach the final of an Olympic track event. At the 1984 Los Angeles Olympics, Usha achieved a fourth-place in the 400m race but lost the bronze medal by one-hundredth of a second. She bagged the Adidas Golden Shoe award for the best athlete at the 1986 Seoul Olympics. **She also earned five gold medals at the 1985 Asian Championships, the most for any woman athlete in a single event**. She is a recipient of the prestigious Arjuna and Padma Shri awards.



**Dominique
Lapierre'**

Recently, famous French author Dominique Lapierre passed away. He had a special bond with India and was awarded the Padma Bhushan in 2008. He wrote many books on India and gave much of his considerable royalties to help Kolkata's poor and homeless. Further, he also gave money for the treatment of the victims of the Bhopal gas tragedy. His best-known work is *Freedom at Midnight* which told the story of India's struggle for independence and the great humanitarian tragedy of the Partition. **Other books include Five Past Midnight in Bhopal: The Epic Story of the World's Deadliest Industrial Disaster and the City of Joy (on the city of Calcutta).**




Indira Gandhi

She was the first Women Prime Minister of India and also is the second longest-serving PM of India, after her father. She was actively involved in the freedom struggle. In her childhood, she founded **the Bal Charkha Sangh and in 1930, the 'Vanar Sena'** of children during the Non-Cooperation Movement. She went to war with Pakistan in support of the independence movement and war of independence in East Pakistan, which resulted in an Indian victory and the creation of Bangladesh for **which she was awarded Bharat Ratan in 1971**. Her famous publications include **'The Years of Challenge' (1966-69), 'The Years of Endeavour' (1969-72), 'India' (London) in 1975; 'Inde' (Lausanne) in 1979, 'My Truth' (1979) and numerous other collections of speeches and writings.**



**Dr. Rajendra
Prasad**

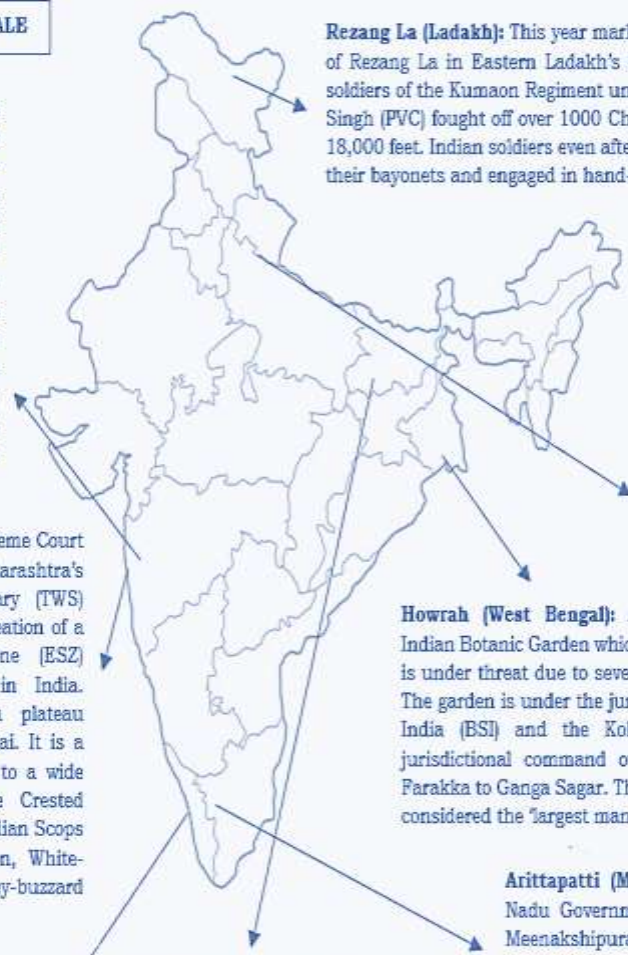
The First President of India, Dr. Prasad was an accomplished lawyer. His journey in the freedom struggle began with Gandhiji's Champaran Satyagraha when he was called on by Gandhiji with volunteers. Later, during the Non-Cooperation movement, He gave up his law practice and started a **National College near Patna, in 1921 which was later shifted to Sadaqat Ashram on the banks of the Ganga**. He also launched Salt Satyagraha at **Nakhas Pond in Patna**. He presided over the **Bombay session of the Indian National Congress in October 1934 and 1939 following the resignation of Subhas Chandra Bose**. In 1946 he was elected as the President of the constituent assembly. He was **awarded Bharat Ratan in 1962**. His noted publication included

	<p>“Satyagraha at Champaran” (1922), “India Divided” (1946), his autobiography “Atmakatha” (1946), “Mahatma Gandhi and Bihar, Some Reminiscences” (1949), and “Bapu ke Kadmon Mein” (1954)</p>
 <p>C. Rajagopalchari</p>	<p>C.Rajagopalchari or Rajaji as he was popularly known was a freedom fighter, able administrator, and a person known for his intellectual prowess. In 1917 he became the chairperson of the municipality of Salem and served there for two years. In 1916 he formed the Tamil Scientific Terms Society, an organization that translated scientific terms into simple Tamil. He started his political career as a legal advisor to INC and defended Indian Independence activist, P. Varadarajulu Naidu against charges of sedition in 1917. He organized Dandi March at Vedaranyam, near Nagapattinam in Madras Presidency. In 1937 after the provincial elections he was elected as the first Premier of the Madras Presidency from the Congress party. To end untouchability and caste prejudice he issued the Temple Entry Authorization and Indemnity Act, under which Dalits and Shanars were allowed to enter temples. He opposed Mahatma Gandhi during the Quit India Movement. He gave the CR formula which was devised to solve the political deadlock between the All India Muslim League and the Indian National Congress on the independence of British India. He also served as the last governor-general of India. Post-Independence, he served as Chief Minister of Madras and Governor of West Bengal as well as Home Affairs Minister after the death of Sardar Patel. He was social conservation and a supporter of Economic liberalization, he introduced the Hindi language in Tamil Nadu Schools and wanted to introduce the varna system. He served as Editor of the newspaper Young India. He wrote a Tamil translation of the Ramayan, which was later published as Chakravarthi Thirumagan. The book won the Sahitya Akademi Award in the Tamil language in the year 1958. He was awarded Bharat Ratna in 1955.</p>

MAP CONNECT

PLACES IN NEWS-INDIA

MAP NOT TO SCALE



Pune (Maharashtra): Pune Municipal Corporation (PMC) is implementing the river rejuvenation project of the Mula and Mutha rivers with the help of the Japan International Cooperation Agency (JICA). Both Mula and Mutha originate in the Western Ghats and meet at Pune before merging into the Bhima river. Bhima river is a tributary of the Krishna River and hence Mula and Mutha drain into the Bay of Bengal.

Mumbai (Maharashtra): The Supreme Court (SC) exempted Maharashtra's Tungreshwar Wildlife Sanctuary (TWS) from its order mandating the creation of a one-kilometer eco-sensitive zone (ESZ) around all Protected Areas in India. Tungreshwar is a mountain plateau situated between Virar and Vasai. It is a dense forest region. It is home to a wide variety of birds such as the Crested Serpent-eagle, Emerald Dove, Indian Scops Owl, Yellow-footed Green Pigeon, White-eyed Buzzard, and Oriental Honey-buzzard throughout the year.

Cochin (Kerala): Gajotsavam is being organized at Fort Kochi. It is a month-long event to celebrate the elephant and create awareness about the pachyderm. It is part of the Wildlife Trust of India (WTI) Right to Passage project. It will also address issues of policy, advocacy, capacity building, and technology related to issues regarding the wild elephant.

Bihar: The government of Bihar had started the implementation of the Gangajal Aapurti Yojana. Under the scheme water challenges of arid and semi-arid regions of Bihar will be addressed. The schemes contribute to SDG 3 on Good Health and well-being, SDG 6 on Clean Water and Sanitation, SDG 11 on Sustainable Cities and Communities, and SDG 13 on Climate Action.

Rezag La (Ladakh): This year marks the 60th anniversary of the Battle of Rezang La in Eastern Ladakh's Chushul sector. In the battle, 120 soldiers of the Kumaon Regiment under the leadership of Major Shaitan Singh (PVC) fought off over 1000 Chinese soldiers at an altitude of over 18,000 feet. Indian soldiers even after they ran out of bullets fought with their bayonets and engaged in hand-to-hand combat with the Chinese.

Bijnor (Uttar Pradesh): The Amargarh Tiger Reserve has witnessed a rise in the population of vultures. Although the overall vulture population has declined, the population of Griffon vultures has increased. These vultures reside in the higher reaches of the Himalayas. They are included in the 'near threatened' category of the IUCN Red List but have a stable population.

Howrah (West Bengal): Acharya Jagadish Chandra Bose Indian Botanic Garden which is India's largest botanical garden is under threat due to severe land erosion by the Ganga river. The garden is under the jurisdiction of the Botanical Survey of India (BSI) and the Kolkata Port Trust (KPT) has the jurisdictional command over the length of the river from Farakka to Ganga Sagar. The garden was founded in 1787. It is considered the 'largest man-made plant kingdom'.

Arattapatti (Madurai, Tamil Nadu): The Tamil Nadu Government had declared Arattapatti and Meenakshipuram villages as the first biodiversity heritage sites in the State, under Section 37 of the Biological Diversity Act, 2002. Arattapatti village is known for three important raptors the Laggar Falcon, the Shaheen Falcon, and Bonelli's Eagle. It is also home to wildlife such as the Indian Pangolin, Slender Loris, and pythons. The area is surrounded by a chain of seven hillocks or inselbergs that serve as a watershed. They also recharge the Anaikondan tank, built during the reign of Pandiyar kings in the 16th century. Several megalithic structures, rock-cut temples, Tamil Brahmi inscriptions, and Jain beds add to the historical significance of the region.

Region in News

Black Sea

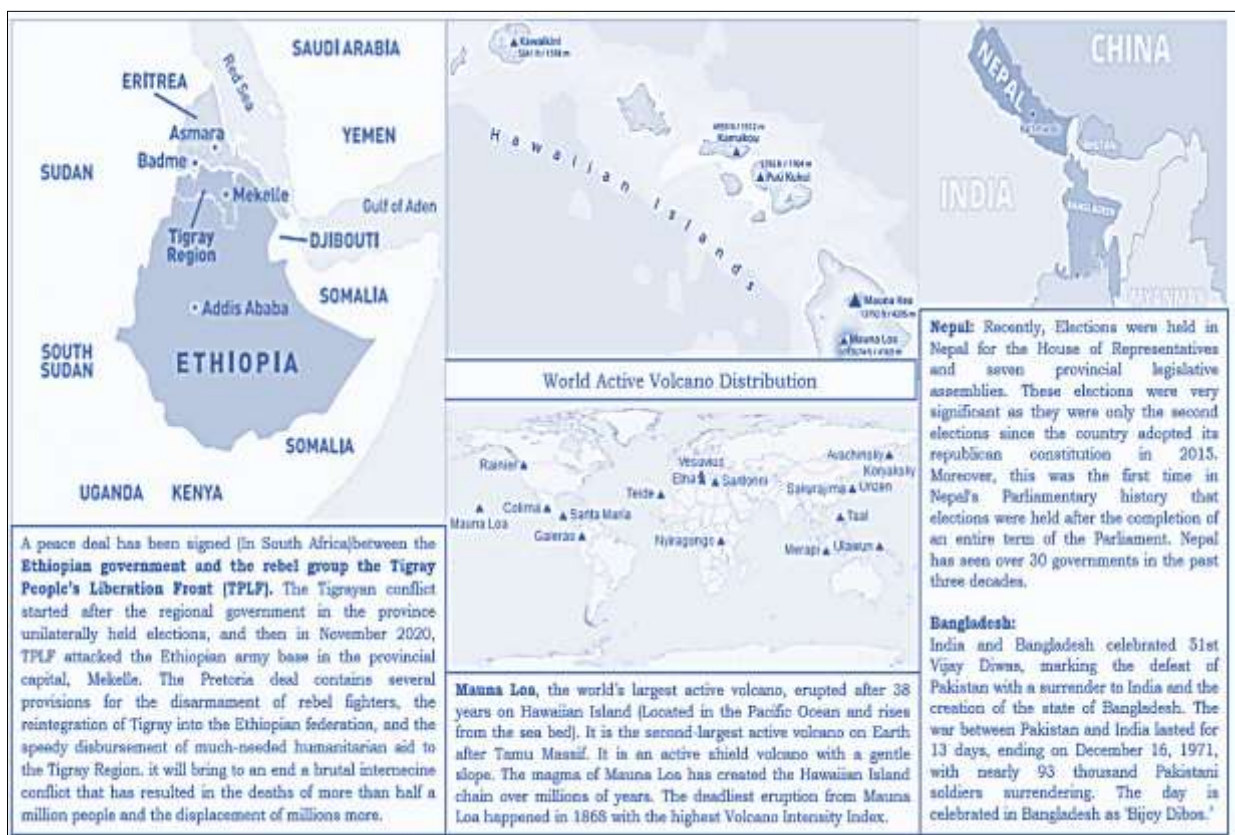
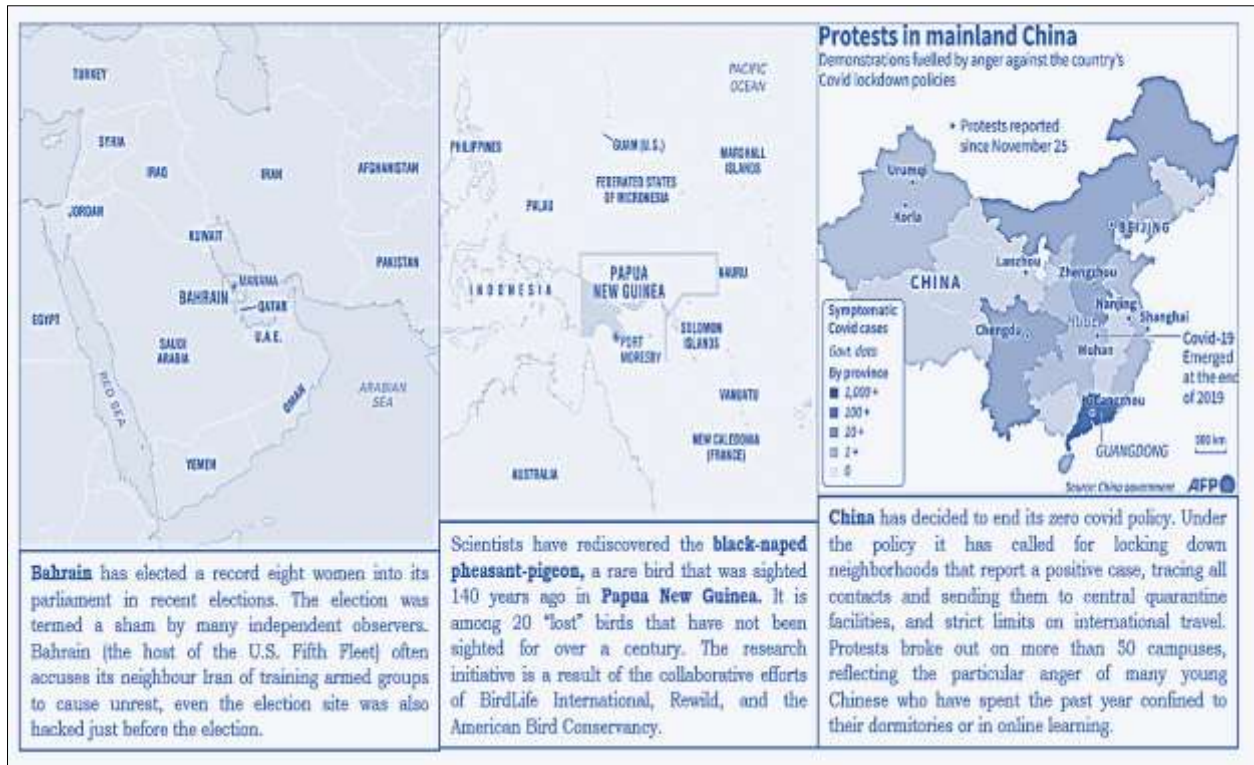
- The Black Sea, also known as the **Euxine Sea**, is one of the major water bodies and a famous inland sea in the world. This marginal sea of the **Atlantic Ocean** is **located between Eastern Europe and Western Asia**.

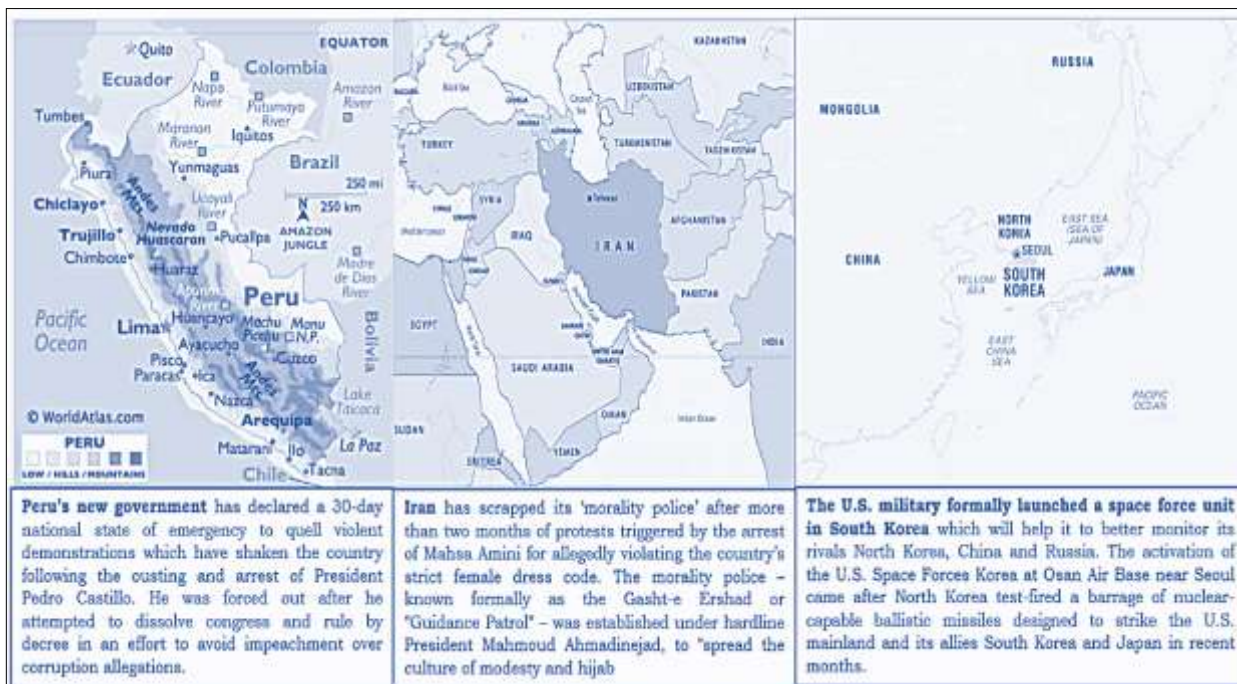
- There are various theories behind its name the Black Sea. According to one theory, it was considered an inhospitable sea because of the presence of savage tribes on its shores. During the Ottoman Empire period, the Black Sea was called names such as Bahr-e Siyah or Karadeniz, which means "the Black Sea" in Ottoman Turkish. Another theory suggests that the objects that drown in the water get black sludge covering after some time.



- It is Bordered by **Ukraine, Russia, Georgia, Turkey, Bulgaria, and Romania**.
- It is connected with the Aegean Sea through the **Bosporus, the Sea of Marmara, and the Dardanelles**, and with the Sea of Azov by **Kerch Strait**.
- It receives many rivers, including the **Danube, Dniester, Bug, Dnieper, Kuban, Kızıl, and Sakarya**.
- It is surrounded by the **Pontic, Caucasus, and Crimean Mountains** in the south, east, and north, respectively. The **Strandzha mountains** also constrain it to the southwest and **Dobrogea Plateau** to the northwest.
- It is known for its anoxic water due to the significant absence of oxygen in the water. It is the largest water body with a meromictic basin, which means the movement of water between the lower and upper layers of the sea is a rare phenomenon to find anywhere in the world. This makes a considerable temperature difference between these layers, making the lower layers completely free of oxygen and inactive. **The anoxic condition is also caused due to the presence of the process of Eutrophication in the sea.**
- Water layers lower than 150 meters of the Black sea contain 92 percent of hydrogen sulfide, a toxic and poisonous gas,
- Strategically, the Black Sea is crucial for NATO, **it serves as a barrier for NATO to counter Russia, defend against Iran, and also counter China**. It has vast economic potential because it links Europe with Asia.

Places in News-World

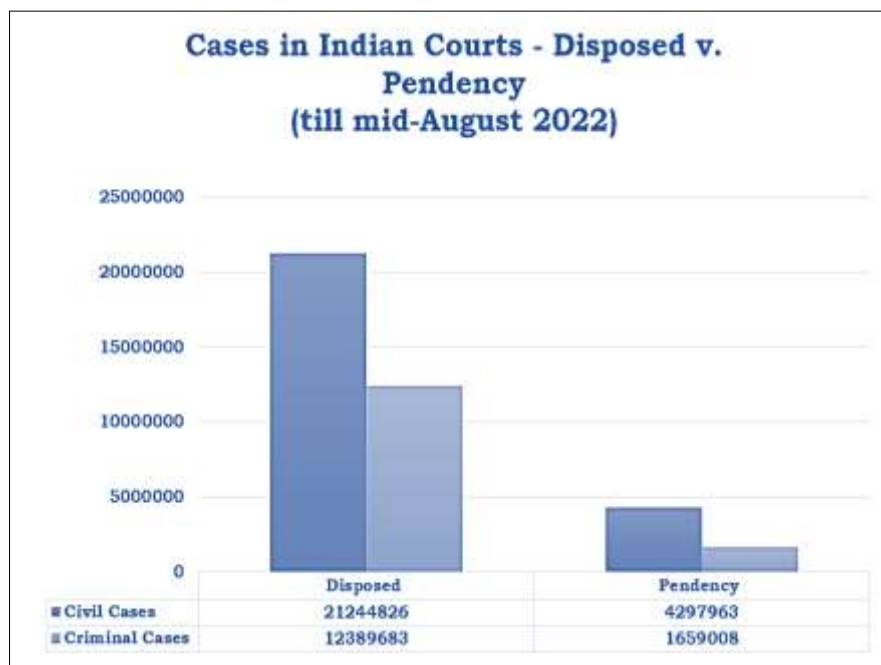




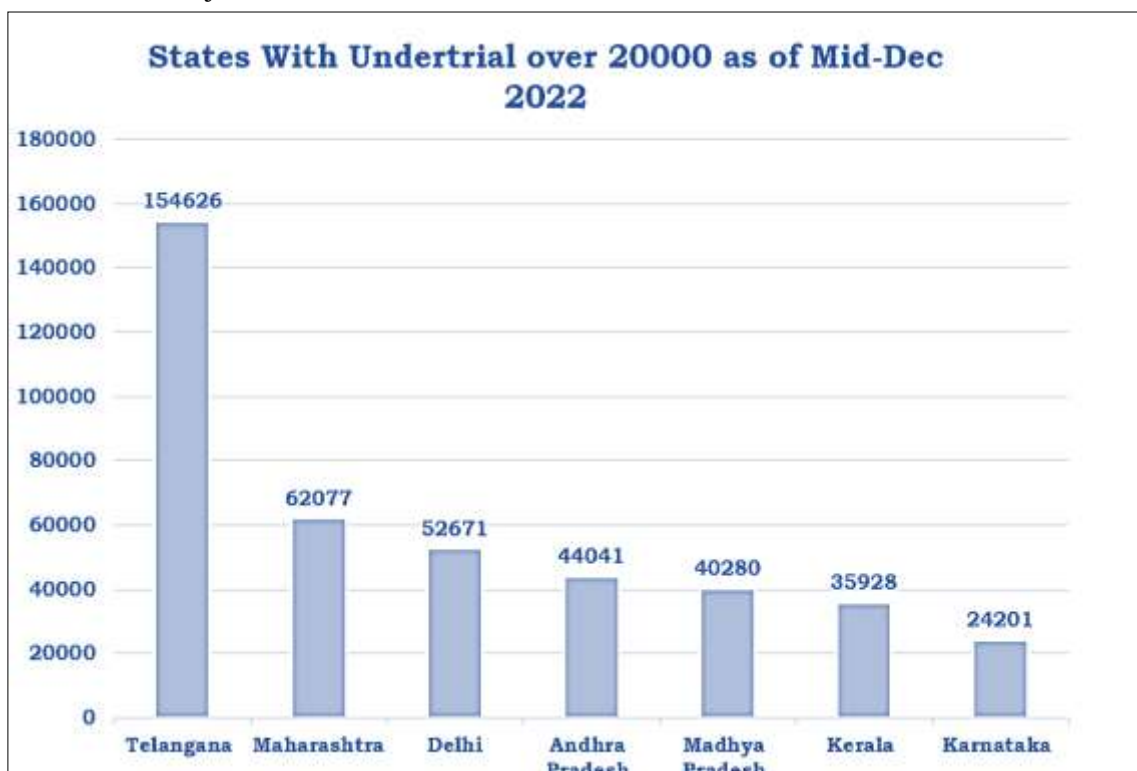
DATA OF THE MONTH

Slow Wheels of Justice

- The National Judicial Data Grid displays case dashboards on its website that give a thorough breakdown of the situation, with separate portals for District and High Courts, and provide a broader picture of how vast and overburdened the country's judicial system is.
- As per the data given by Ecourts.gov.in, there were more than 3500 District and Taluka Court complexes, where the total number of pending cases was over 42 million. Whereas in 25 High Courts, near about 5.9 million cases are pending.
- As of Mid December, Over 3 lakh cases filed by women are pending in High Courts with maximum pendency in Rajasthan> Madhya Pradesh> Bombay High courts. Similarly, over 36 lakh cases filed by women that are pending in district and subordinate courts across the country since 2014 with maximum pendency in Uttar Pradesh>Maharashtra> Bihar.
- The high number of pending cases is despite various fast-track courts set up by the government. As on October 2022, a total of 838 fast-track courts were functional for heinous crimes, crimes against women, children, etc. The number of pending cases filed by women is a cause of grave concern amid rising crimes against women, which rose 15.3% in 2021, according to the National Crime Records Bureau.



- As per National Judicial Data Grid, over half a million undertrials are languishing in jails across the country.



- There are several ways through which such mammoth pendency can be resolved these includes:
 - SC and HCs should identify in which areas of the pending cases the question and law involved are the same or substantially the same. Such cases should be clubbed together.
 - Article 145(3) of the Constitution should be strictly followed and stages of such cases should be eliminated.
 - In the lower judiciary, judges should focus on judgments rather than grant adjournments, which is administrative work that can easily be done by a junior registrar.
 - Frequent transfers of subordinate courts' judges and staff require reconsideration. It should be accepted as a norm that if a judge accepts a particular case, he or she shall finally dispose it of before the transfer or at least complete a stage.
 - Penalize adjournment culture to deter it and use incentives and disincentives to tackle all large-volume types of cases that take advantage of the delay in the courts
 - Online cases in the wake of the COVID-19 pandemic have opened up new vistas for the administration of justice.
 - The Supreme Court and High Courts shall act in tandem in the matter of Articles 32 and 226 to avoid the multiplicity of litigation on the same or substantially the same subject matter.
 - In criminal cases, police personnel should be held accountable for the delay in filing charge sheets and other formalities.
 - Default bail should be made easy. Moreover, there is a need for a comprehensive mechanism for the protection of witnesses.
 - Enable Magistrates to exercise jurisdiction effectively and meaningfully under Article 20 of the Constitution to protect people from wrongful arrest and for granting custody and bail.
 - Judges should promote mediation and lawyers must focus on mediation. It would benefit judges, lawyers, and litigants alike.

Concept Clearing Assignment

1. India has recently been handed over the leadership of G20. What do you think is India's main contribution to the group? What challenges does India present itself with?
2. Given China's ambition in the Indian Ocean, what steps India has taken to establish a peaceful Indo-Pacific region? Do you think India's response is apt?
3. What are the causes of an economic bubble? Explain its stages. Recently there was news of malpractices in the FTX market. In this context what should be the steps taken by the stakeholders so that such crashes would not happen in the future?
4. An innovative new 'blended finance program' may open up a "graduation" route to formal credit for entrepreneurs and workers in the unorganized sector. Discuss. How would Blended finance program help in achieving India's social goals?
5. As the market evolves, understanding Indian gamers and their preferences is critical for ecosystem players to deliver technology that drives the segment forward. In this context Should India Tax Online Gaming? What is Government's stance in this regard?
6. What is Bluebugging? What threats does it pose to the nation? Also, explain the terms Blue-snarfing and bluejacking.
7. What is base editing? Explain its significance, and discuss its potential applications. How is it different than Crisper?
8. What is a deepfake? Can this be a security issue? Examine. Also, explain the possible strategy to counter it.
9. Protection of Sea Lanes of Communication has become a crucial condition for the sustenance and growth of regional economies. Comment.
10. The creation of a strong coastal security ecosystem is required due to the Indian Ocean region's growing geostrategic and economic importance. Do you agree? Explain.
11. The cases of suicide in India are increasing considerably in comparison to previous years. Discuss the growth in suicide cases and the government's strategy to deal with it.
12. Critically analyze the state of teenage girls getting pregnant in India and what are the consequences to society as a whole.
13. Constitution is not a mere lawyer's document, it is a vehicle of Life, and its spirit is always the spirit of Age. Discuss the uniqueness of our constitution.
14. What are the reasons for the brutality that humans inflict upon animals? Evaluate the success of legal provisions and institutions related to animal protection in India.
15. Critically analyze India's Policy towards refugees and why there is an urgent need for a uniform Refugee Policy.

THEMATIC ESSAYS

1. Success occurs twice in life, once in mind and once in reality
2. To believe that you are a diamond, you have to believe that you are rare. You have to believe that you can dazzle, once shown on the right path.



**SCAN THIS QR TO GET
MODEL CONTENT**

PT Oriented Questions

1. Which of the following tribe has recently been included in the Schedule tribe list of Tamil Nadu by the Scheduled Tribes (Second Amendment) Bill, 2022?
 1. Narikoravan
 2. Kurivikkaran
 3. Mal Paharia
 4. Parhaiyas
 Select the correct answer using the codes below:

(a) 1 and 2 only	(b) 2 and 3 only
(c) 1 and 3 only	(d) 2, 3 and 4 only

2. With reference to the Phthalates or phthalic acid esters, consider the following statements:
 1. It is a kind of plastic.
 2. Its primary role is to improve elasticity and gel properties.
 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

3. Consider the following statements regarding Mpox:
 1. Monkeypox has been named Mpox due to racist language.
 2. It could be a threat to mainly gay and bisexual men
 3. There is no vaccine for Mpox.
 Which of the statements given above is/are correct?

(a) 1 only	(b) 2 only
(c) 1 and 2 only	(d) 2 and 3 only

4. Consider the following statements regarding Central Depositories Services India Ltd (CDSL):
 1. It is a government-registered share depository.
 2. CDSL help customers keep their cash exclusively in electronic form.
 3. It is a Market Infrastructure Institution that provides services to corporations only.
 Which of the statements given above is/are correct?

(a) 1 only	(b) 2 only
(c) 2 and 3 only	(d) 1, 2 and 3

5. Consider the following statements regarding boreal forests:
 1. The forest is named after the Greek god of the north wind.
 2. It covers 10 percent of the world's land surface
 3. It encircles the Antarctic region.
 Which of the statement given above is/are correct?

(a) 1 only	(b) 2 only
(c) 1 and 2 only	(d) 1, 2 and 3

6. With reference to Black Coral, which of the following statements is/are incorrect?
 1. They are found growing only in shallow waters
 2. They are filter feeders and eat tiny zooplankton
 3. They don't require the sun for energy.
 Select the correct answer using the code below:

(a) 1 only	(b) 2 only
(c) 1 and 3 only	(d) 2 and 3 only

7. With reference to Lecanemab, consider the following statements:
 1. It belongs to a class of drugs called monoclonal antibodies
 2. It targets beta-amyloid seen in patients with lupus disease.
 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

8. Consider the following statements regarding lab-grown meat:
 1. The cultivated meat is directly grown from a stainless-steel bioreactor.
 2. The process is similar to the manufacturing process of regenerative medicine.
 3. The development of cells requires a nutrient-rich growth medium.
 Which of the statements given above is/are incorrect?

(a) 1 only	(b) 2 only
(c) 1 and 3 only	(d) 2 and 3 only

9. With reference to base editing, consider the following statements:

1. T-cells are first removed and then modified cells are reintroduced into the body
2. One donor of T cells supplies T cells to multiple recipients.
3. It is similar to CRISPR-Cas9 gene editing but more precise.

Which of the statements given above is/are correct?

- (a) 1 only (b) 2 only
(c) 1 and 2 only (d) 2 and 3 only

10. With reference to the Deep Fakes, which of the following statement is/are correct?

1. These are videos either presented out of context or doctored with simple editing tools.
2. The generator gets valuable information on improving the next Deepfake from the discriminator.
3. Discriminator identifies fake videos and creates them.

Select the correct answer using the codes below:

- (a) 1 only (b) 2 only
(c) 2 and 3 only (d) 1,2 and 3

11. With reference to Zombie Fires, which of the following statement is/are incorrect?

1. They are the result of thundering.
2. These fires can continue to burn hidden under a layer of snow.
3. After the snow melts the wildfires re-ignite and spread once again.

Select the correct answer using the codes below:

- (a) 1 only (b) 2 only
(c) 1 and 2 only (d) 2 and 3 only

12. With reference to the Conference of Parties (COP-19), consider the following statements:

1. The sea cucumbers were listed as 'threatened' and included in Appendix II.
2. Pangolins were included in the official pharmacopeia.
3. Big Cat Task Force was established to curb illegal activities against big cats.

Which of the statement given above is/are correct?

- (a) 1 only (b) 2 only
(c) 2 and 3 only (d) 1,2 and 3

13. Consider the following statement with respect to Fujiwhara Effect:

1. It is any interactivity between tropical storms formed around the same time in the same ocean region
2. It can cause Urban flooding.
3. No incidence or possibility of the Fujiwhara Effect is noticed till now.

Which of the statement given above is/are correct?

- (a) 1 only (b) 2 only
(c) 1 and 2 only (d) 2 and 3 only

14. With reference to the SUMAIV-Surakshit Matritva Aashwasan initiative, consider the following statements:

1. It provides a Task Force to identify key areas of problem in the health ecosystem.
2. It is an initiative under the RMNCH+A framework.

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

15. With reference to Malaria, consider the following statements:

1. African countries are worst hit by malaria deaths.
2. UN launched the High Burden High Impact Approach to deal with malaria.

Which of the statement given above is/are correct?

- (a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2

16. Consider the following statements regarding the Indian Council for Cultural Relations (ICCR):

1. It was founded by Jawaharlal Nehru.
2. It is an independent body under the Ministry of External Affairs.

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

17. Consider the following statements with reference to the No Money for Terror conference:

1. This is the joint initiative of India and the Financial Action Task Force.
2. It focuses on cooperation between countries to curb terror funding.
3. The first ever No Money for Terror conference was held in India in 2022.

Which of the statements given above is/are correct?

- (a) 1 only (b) 2 and 3 only
(c) 1 and 3 only (d) 1,2 and 3

18. With reference to India's Refugee Policy, consider the following statement:

1. There is no specific legislation related to the problem of refugees.
2. India is a party to the 1951 Refugee Convention.
3. Foreign citizens are entitled to the right to life.

Which of the statement given above is/are correct?

- (a) 1 only (b) 2 only
(c) 1 and 3 only (d) 2 and 3 only

19. Which among the following are the grounds for divorce under the Indian Divorce Act, of 1869?

1. Adultery
2. Conversion to another religion.
3. Failure in observing the restitution of conjugal rights for at least two years.
4. Infertility of men or women.

Select the correct answer using the codes below:

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

20. Nine dash line sometimes seen in the news is associated with which of the following sea?

- (a) South China Sea
(b) Caribbean Sea
(c) Baltic Sea
(d) Caspian Sea

21. With reference to Black Sea Grain Initiative, consider the following statements:

1. It is an initiative of the United Nations.
2. It aims to limit food price inflation.

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

22. With reference to Anemia, consider the following statements:

1. Iron deficiency is highest in the central and eastern States.
2. The Government of India has also included staple food fortification to address anaemia in multiple States.

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

23. Which among the following Space Agency launched World's First Pastronaut?

- (a) European Space Agency (b) NASA
(c) ISRO (d) JAXA

24. With reference to laws related to Acid Attacks in India, consider the following statements:

1. Both denial of treatment and delay in registering an FIR of a victim is a punishable offences.
2. Right of the Persons with Disability Act is applicable for Acid Attack victims only for reservation in government jobs.

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

25. Consider the following statements with regard to weightage in different indices of the Consumer Price Index (CPI):

1. Fuel and Light have bigger weightage in CPI (All India) than CPI (Rural)
2. Housing carries second largest weightage in CPI (Urban)

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

26. In the context of proposals to the use of hydrogen-enriched CNG (H-CNG) as fuel for buses in public transport,

consider the following statements (CSE-2019):

1. The main advantage of the use of H-CNG is the elimination of carbon monoxide emissions
2. H-CNG as fuel reduces carbon dioxide and hydrocarbon emissions.
3. Hydrogen up to one-fifth by volume can be blended with CNG as fuel for buses
4. H-CNG makes the fuel less expensive than CNG.

Which of the statements given above is/are correct?

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

27. Why are dewdrops not formed on a cloudy night? (CSE 2019)

- (a) Clouds absorb the radiation released from the Earth's surface.
(b) Clouds reflect back the Earth's radiation.
(c) The Earth's surface would have low temperatures on cloudy nights.
(d) Clouds deflect the blowing wind to ground level.

28. Which of the following is/are the possible consequence/s of heavy sand mining in riverbeds? (CSE 2018)

1. Decreased salinity in the river

2. Pollution of groundwater
3. Lowering of the water-table

Select the correct answer using the code given below:

- (a) 1 only (b) 2 and 3 only
(c) 1 and 3 only (d) 1, 2 and 3

29. The Partnership for Action on Green Economy (PAGE), a UN mechanism to assist countries transition towards greener and more inclusive economies, emerged at (CSE 2018)

- (a) The Earth Summit on Sustainable Development 2002, Johannesburg
(b) The United Nations Conference on Sustainable Development 2012, Rio de Janeiro
(c) The United Nations Framework Convention on Climate Change 2015, Paris
(d) The World Sustainable Development Summit 2016, New Delhi

30. "momentum for change : climate neutral now" is an initiative launched by

- (a) The intergovernmental panel on climate change
(b) The UNEP secretariat
(c) The UNFCCC secretariat
(d) The world meteorological organization

ANSWERS

1 A	11 D	21 C
2 C	12 A	22 B
3 C	13 C	23 B
4 A	14 B	24 B
5 C	15 A	25 D
6 C	16 B	26 B
7 A	17 B	27 B
8 A	18 C	28 B
9 C	19 B	29 B
10 B	20 A	30 C



FEEDBACK FORUM