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Comprehensive **NEWS** Analysis

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APRIL
Week - 02

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Contents

Topic	Page No
Polity and Governance	1 - 10
1. One Nation- One Card	
2. Armed Forces (Special Powers) Act (AFSPA) – The Debate on Security Vs Human Rights	
3. Rafale Deal Controversy	
4. Media and Elections	
International Relations	11 - 17
5. Status of India's Oil Import	
6. Development assistance by India	
7. Omar al-Bashir	
8. Wikileaks	
Economy	18 - 21
9. State of world population 2019 report	
10. India's Steel Industry	
11. International Finance Corporation (IFC)	
Geography and Environment	22 - 29
12. El Nino	
13. Border surveillance	
14. Melting of Himalayan Glaciers	
Science and Technology	30 - 36
15. First Image of Black hole	
16. Cold Plasma	
17. NaMo TV and the laws for DTH channels	

Miscellaneous

37 - 41

18. Jallianwala Bagh
19. World Homeopathy Day
20. Kailash Manasarovar Yatra 2019
21. Bold Kurukshetra 2019

Polity and Governance

1. One Nation- One Card

Recently the Prime Minister has launched the indigenously-developed National Common Mobility Card (NCMC).

Dubbed as 'One Nation One Card', the inter-operable transport card would enable the holders to pay for their travel expenses (bus, metro, and railways), toll taxes, and parking charges, retail shopping and even withdraw money across the country.

This type of system already exists in various developed countries like UK, Singapore, etc. and now it will be used in India too.



Salient features of NCMC:

- It consists of
 1. NCMC card
 2. SWEEKAR (Swachalit Kiraya: Automatic Fare Collection System or AFC),
 3. SWAGAT (Swachalit Gate – a gate and card-reader system)
- These three facilities will allow the use of national mobility card across the country without any conflict with current point-of-sale (PoS) machines.
- NCMC runs on RuPay card to enable both money transactions and manage travel expenses.
- The stored value on the card supports online transaction for all travel needs with minimal financial risk to involved stakeholders.
- All public and private banks can issue the cards just like the way credit; debit and prepaid cards are issued. NCMC has partnered with 25 banks for this initiative.
- The list includes SBI and the Punjab National Bank. In addition to this, payTM payment bank can also issue the card.
- Along with a swipe-to-pay option, NCMC will also be a contactless card = allow quick payments.

Agencies are involved:

- NCMC is an initiative of the Ministry of Housing & Urban Affairs (MoHUA).

- Specifications for card & terminal: by NPCI (National Payments Corporation of India).
- Specifications for Automatic Fare Collection (AFC) System with Bank interface: by C-DAC (Centre for Development of Advanced Computing) and NPCI.
- Gates & card-reader system: Bharat Electronics Limited (BEL).

Need/significance of NCMC:

Problems with cash transactions:

- Public transport is extensively used across the country as an economical and convenient mode of transport by all sections of society.
- Although cash is the most preferred payment mode, there are several associated challenges like cash handling, revenue leakages, cash reconciliation, etc. = need for digitization of fare collection.

Problems with foreign technologies:

- Considering the cash transaction challenges, the transit operators implemented several initiatives for digitizing the fare collection using Automatic Fare Collection (AFC) system (gates, readers/validators, backend infrastructure, etc.)
- However, the primary challenge associated with the implementation of the AFC system in India is the absence of an indigenous solution provider. Until now, the AFC system implemented at different Metros in India is from foreign players which come with the issues of vendor lock-in and lack of interoperable system.
- Thus there was a need to create indigenous standards and AFC system under the Make in India initiative.
- Note- In economics, vendor lock-in, also known as proprietary lock-in or customer lock-in, refers to the situation where a customer is completely dependent on a vendor for products and services & unable to use another vendor without considerably switching costs.

Indigenous: NCMC is India's first indigenously developed payment ecosystem for transport.

- This is the first gate and the reader manufactured by an Indian company. This is also the first indigenous payment reader which has been certified as per International standards.
- With this, India joins the very few elite nations who have indigenous capacity on gate and reader production.
- Thus the country no longer needs to be dependent on foreign technology.
- **Works across the country:** In some cases, travel cards issued in a particular city did not function in a different city or state. This newly launched card will eliminate this issue and will be usable across the country.

- **High cost-benefit:** due to savings on closed loop card lifecycle management cost and reduced operating cost.
- **Digitization of payments:** NCMC Ecosystem will further help the government in digitization of low-value payments and reduced cost for the entire ecosystem.

2. **Armed Forces (Special Powers) Act (AFSPA) – The Debate on Security Vs Human Rights**

A debate on Armed Forces Special Powers Act (AFSPA) has been sparked off after the Congress in its manifesto announced that it would review the AFSPA Act in Jammu and Kashmir (J&K). Since independence, J&K has been the focal point of national and global political agendas and the 2019 General Elections is no different. Here's what the act is all about:

Armed Forces Special Powers Act (AFSPA):

- AFSPA like many other controversial laws is of a colonial origin.
- The AFSPA was first enacted in 1942 as an ordinance by the then viceroy Linlithgow in the wake of the massive scale of violence across the country stirred by Quit India Movement launched by Mahatma Gandhi.
- After independence, the AFSPA was enacted in 1958 to help the army maintain the rule of law or public order in the “disturbed areas” of North East India. AFSPA was then implemented in J&K due to the surge in the insurgency in 1990.
- Under this law, the armed forces have the power to prohibit the gathering of 5 or more individuals in an area. In some cases, the forces can use force or even open fire after giving a due warning if they feel a person is in contravention of the law.
- If there is a reasonable suspicion, then the army can also arrest a person without a warrant, enter or search premises without a warrant, and prohibit the possession of firearms. Legal action cannot be taken against the armed forces even in case of any wrongful action.

What is a disturbed area and who has the power to declare it?

- A disturbed area is declared by means of a notification under Section (3) of the AFSPA. An area can be considered disturbed if there are differences or disputes between different religious, racial, language, regional or caste groups.
- A whole or part of the state or union territory can be declared as a disturbed area by the Central Government, the Governor of the State or the Administrator of the Union Territory.
- As per Section (3) of the AFSPA, it is mandatory to seek the opinion of the state government that whether an area is disturbed or not. However, the state government's opinion can be overruled by the governor or the centre.

- If an area is declared as the disturbed area, then it will be under the control of the armed forces for at least 3 months.

Arguments in favor of AFSPA (by armed forces)

- **Protect borders:** With the powers given by AFSPA, the armed forces have been able to protect the borders of the country for decades.
- **Effective Counter-insurgency:** A strict law is needed to tackle the insurgent elements inside the country particularly in the Kashmir and northeastern region
- **Morale of forces:** AFSPA boosts the morale (mental well-being) of the armed forces for ensuring the public order in the disturbed areas as removal of the Act would lead to militants motivating locals to file lawsuits against the army.
- **Operational requirements:** Absence of such a legal statute would adversely affect organisational flexibility and the utilization of the security capacity of the state = armed forces cannot fulfill their assigned role.

There are adequate safeguards provided by the Act and the Army's guidelines as follows

- Section 5 of the Act mandates that arrested civilians should be handed to the nearest police station with a 'least possible delay' in addition to a 'report of circumstances that led to the arrest'.
- Army HQ has also mandated that all suspects who are arrested will be handed over to civilian authorities within 24 hours.
- According to the army's guidelines, a curfew may be opened in towns and villages only in self-defence and that too when the source of terrorist or militant curfew can be clearly identified.

Arguments against AFSPA:

- **Violates Human Rights:** There are several instances where the armed forces have been found to be misusing the oppressive powers given by the Act like fake encounters, sexually exploiting the women in the disturbed areas. What's more disturbing is the fact that the armed forces escape with impunity for their actions since legal suits cannot be led against them as per the Act. Thus AFSPA clearly violates human rights.
- **Colonial-era law:** AFSPA is generally compared to the Rowlatt Act of the British regime because just like the Rowlatt Act, any suspicious person can be arrested only based on suspicion in the AFSPA also.
- **Not a better solution:** Critics assert that there is no need to run the nation on the basis of the curfew while the issue could be addressed on the basis of the curfew (election).

Supreme Court's verdict on AFSPA:

- On July 8, 2016, in a landmark ruling, The Supreme Court of India ended the immunity of the armed forces from prosecution under AFSPA as follows:

- **No excessive force:** Army and paramilitary forces cannot use excessive and retaliatory force during counter-insurgency operations in areas declared as disturbed under the AFSPA.
- **Criminal courts have the jurisdiction:** over cases of alleged excesses by security forces which earlier were under a blanket of immunity provided by AFSPA.
- **Equality before law:** Court said it does not matter whether the victim was a common person or a militant or a terrorist, nor does it matter whether the aggressor was a common person or the state. The law is the same for both and is equally applicable to both.
- **AFSPA is not invincible:** The provisions of the Armed Forces (Special Powers) Act and the purported immunity it offers to the use of force “even to the extent of causing death” are not invincible.
- **Preservation of rule of law:** Such legal protection has to yield to larger principles of human rights, and the use of excessive or retaliatory force should be thoroughly inquired. This is essential for both democracy and the rule of law in the country.

Present status of AFSPA:

- Currently, AFSPA is enforced in J&K, Assam, Nagaland, and parts of Arunachal Pradesh and Manipur.
- The law has been repealed where insurgencies have decreased and when governments have attained confidence in managing the region using their own police force.
- The centre had removed AFSPA from Tripura and Meghalaya in 2015 and 2018 respectively.
- The centre also partially withdrawn AFSPA from Arunachal Pradesh.

Solutions:

- **Repeal AFSPA:** Jeevan Reddy Committee suggested the repeal of AFSPA and incorporates some of its provisions into other laws like CrPC, unlawful activities prevention act which provides protection to forces.
- **Amend AFSPA:** The lacunae in the Act, as a result of unclear definitions like “disturbed”, “dangerous” and “land forces” need to be amended to ensure greater clarity.
- **Establish committees:** at the district level with representatives of the army, administrators, and the public which will report, assess and track complaints in that area.
- **No delay:** All investigations should be done without delay and if there is a delay, the reasons for the same must be communicated with the victims.

Furthermore, all cases of human rights violation should be fast-tracked. AFSPA could not achieve its desired objectives even after 60 years of its

enforcement. One can never tolerate human rights violation committed in the name of AFSPA, so the government needs to bring a scientific and humanitarian approach towards solving the socio-economic problems of the disturbed areas rather than implementing the oppressive Act.

3. Rafale Deal Controversy

Why in news?

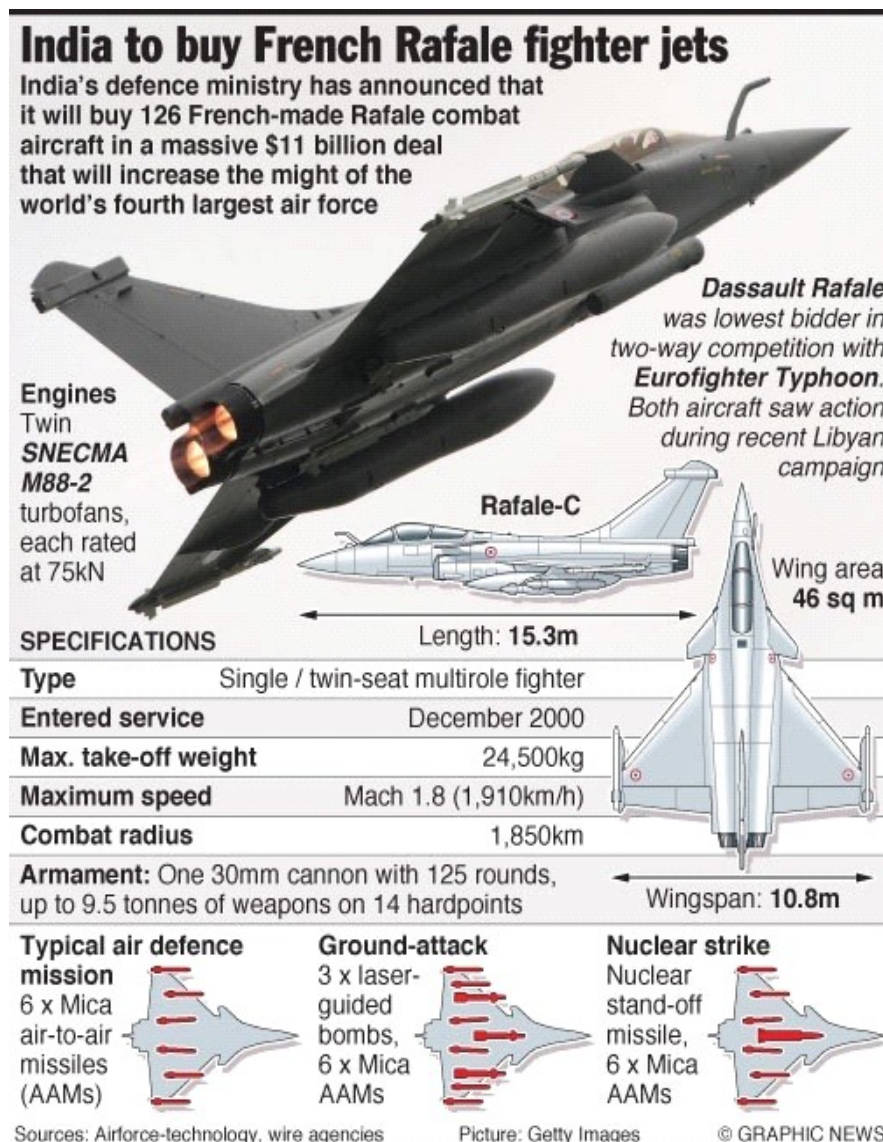
The Defence Minister refused to share the price details on Rafale purchase, citing the Security Agreement provisions.

What is the Rafale aircraft?

- Rafale is a twin-engine medium multi-role combat aircraft.
- It is manufactured by the French company Dassault Aviation.
- Dassault claims Rafale has 'Omnirole'.
- This is the capability to perform several actions at the same time.
- Rafale can carry out both air-to-ground as well as air-to-air attacks.
- It can also carry out interceptions during the same flight.
- The aircraft is fitted with an on-board oxygen generation system (OBOGS).
- It suppresses the need for liquid oxygen re-filling or ground support for oxygen production.

How did the deal evolve?

- Indian Air Force (IAF) raised the requirement for Medium Multi Role Combat Aircraft (MMRCA) in 2007.
- This was to replace the aging fleet of MiG aircrafts.
- **Tender** - Tenders for 126 Medium Multi Role Combat Aircraft (MMRCA) fighters were issued by India in 2007.



- It was an open competition between companies including Dassault Aviation of France.
- Dassault was announced as the lowest bidder in 2012.
- **Earlier Deal** - Of the 126 jets required, 18 fighters were to be imported in a fly-away condition.
- Hindustan Aeronautics Ltd (HAL) would manufacture the remaining 108 jets.
- This was agreed to be with Transfer of Technology (ToT) from Dassault.
- **Stall** - India and France were unable to decide on a price for the jets.
- The workshare agreement between HAL and Dassault Aviation was signed in 2014.
- But with the new NDA government in place, clarity on the progress of the deal remained unclear.
- **New deal** - On PM's visit to France in 2015, India's intention to buy 36 Rafale aircraft in "fly-away" condition was announced.
- Defence Minister announced the previous 126 fighter jet deal to be dead.
- Subsequently, the deal for the acquisition of 36 aircraft was signed by the Defence Ministers of India and France in 2016.
- This was done through a government-to-government deal.

What are the present concerns?

- **ToT** - The current deal has a 50% offset component.
- Accordingly, Dassault will manufacture items worth 50% of the deal in India.
- However, the absence of transfer of technology (ToT) component is raised as an issue.
- Also, no role is guaranteed for any Indian public sector company, including HAL.
- **Deal** - The present deal as direct government-to-government agreement, as against the earlier open tender, is criticised.
- Also, the 36 fighters are said to be purchased at a much higher price than earlier negotiated.

What is the dispute with sharing price details?

- **Earlier deal** - The previous government's price for 126 aircraft was never finalised, and no contract was signed or executed.
- Hence, no official figure on the price was ever given.
- **New Deal** - Recently, the Defence Minister declined to share the cost of the Rafale fighters under the new deal, with Rajya Sabha.
- It was said that the price details were "**classified information**".

- This was as per the **Inter-Governmental Agreement** (IGA) between the Governments of India and France.
- Accordingly, material exchanged under IGA is governed by the provisions of the **Security Agreement**.
- However, in 2016, Minister of State for Defence had shared the price in the Lok Sabha in a written reply.
- The basic price of each Rafale aircraft was said to be around Rs 670 crore.
- At the time of its signing, the 36-aircraft deal was said to be worth around Rs 59,000 crore.

What is the Security Agreement?

- **Security** - Signed between the two nations in 2008, it has some confidentiality provisions.
- It relates to Protection of Classified Information and Material in the field of Defence.
- For any contract or sub-contracting contract with classified information and material, a security annex shall be drawn up.
- The competent security authority from the information forwarding party shall specify what has to be protected by the receiving party.
- **Renewal** - It was specified that the Agreement shall remain in force for a period of 10 years.
- It shall be renewed by “tacit consent” for new 5-year period.
- Accordingly, the agreement will continue unless one of the Parties notifies its intention to not renew.
- This has to be given in writing 6 months prior to the end of the current period of validity.
- The initial 10-year life of the Agreement signed in 2008, ended on January 24, 2018.
- It is not clear if it has been renewed by tacit consent by the government.

What is the parliamentary procedure?

- It has generally been the practice to share the cost of defence deals with Parliament.
- However, in some cases, the details have been kept secret for reasons of national security.
- Nevertheless, the government is duty-bound to share the pricing details with Comptroller and Auditor General (CAG) and the Public Accounts Committee (PAC) of Parliament.

4. Media and Elections

The Press Council of India (PCI) issued guidelines for the media to give objective reports about the election and cautioned it against the phenomenon of paid news.

Guidelines issued for the newspapers during elections:

- Do not indulge in unhealthy election campaigns, exaggerated reports about any candidate or party during the elections.
- Do not promote reports which tend to promote feelings or enmity or hatred between people on the grounds of region, religion, race, caste, community or language.
- Refrain from publishing false or critical statements in regard to the personal character and conduct of any candidate to prejudice the prospects of that candidate in the elections.
- Do not publish unverified allegations against any candidate or party.



Important Info:

Press council of India (PCI)?

- **Origin:** The Press Council of India was first set up in the year 1966 by the Parliament on the recommendations of the First Press Commission.
- **Status:** It is a statutory body functioning under the Press Council Act, 1978.
- **Objective:** Preserving the freedom of the press and of maintaining and improving the standards of press in India.
- **Function:** It is a quasi-judicial authority. It adjudicates the complaints against and by the press for violation of ethics and for violation of the freedom of the press respectively.

Funding:

- The Council is funded by the revenue collected by it as fee levied on the registered newspapers in the country on the basis of their circulation. No fee is levied on newspapers with circulation less than 5000 copies.
- The deficit is made good by way of grant by the Central Government.

Structure:

- **Chairman:** The Press Council is headed by a Chairman, who has by convention, been a retired judge of the Supreme Court of India.
- **Members:** The Council consists of 28 other members of whom
 - 20 represent the press and are nominated by the press organisations/news agencies,
 - 5 members are nominated from the two Houses of Parliament and
 - 3 represent cultural, literary and legal fields as nominees of the Sahitya Academy, University Grants Commission and the Bar Council of India.
- **Tenure:** The members serve on the Council for a term of three years. A retiring member shall be eligible for re-nomination for not more than one term.

International Relations

5. Status of India's Oil Import

Context:

Indian officials are working closely with U.S. officials to ensure that two upcoming deadlines in early May, for the extension of the Iran oil sanctions waiver, as well as the final decision on withdrawing India's preferential Generalised System of Preferences (GSP) status, end positively for the government.

The Generalised System of Preferences

- **The Generalised System of Preferences (GSP)** is one of the oldest trade preference programmes in the world, and was designed to provide zero duties or preferential access for developing countries to advanced markets.
- The U.S. GSP programme was established by the U.S. Trade Act of 1974, and promotes economic development by eliminating duties on thousands of products when imported from one of the 129 designated beneficiary countries and territories.
- In April 2018, the Office of the United States Trade Representative (USTR) announced that it would review the GSP eligibility of India, Indonesia, and Kazakhstan. The proposed review for India was initiated in response to market access petitions filed by the U.S. dairy and medical device industries due to recent policy decisions in India, which were perceived as trade barriers.

Big impact:

- For over 40 years, GSP has fulfilled its purpose of promoting economic growth in a large number of developing countries by allowing increased exports of eligible products.
- This tremendous benefit to the global economy is a small aspect of the U.S. trade balance; for example, of the total \$2.4 trillion U.S. imports in 2017, only \$21.2 billion arrived via GSP, amounting to less than 1% of total U.S. imports.



- Despite GSP's low significance in the U.S. trade balance, its benefits ultimately help U.S. consumers and exporters by contributing to lower pricing of final products.
- Most of the 3,500 Indian products imported by the U.S. under the GSP are raw materials or important intermediaries of value chains.
- In many cases, Indian exports are less-expensive, high-quality alternatives that reduce the costs of final products, thereby creating value that is subsequently exported the world over by U.S. companies or directly conveyed to the U.S. consumer.
- Indeed, this enables the U.S. economy to be more globally competitive.

GSP should be continued:

- Despite continued economic growth over the last two decades or so, India is a lower middle-income country.
- GSP allows Indian exporters a certain competitive edge and furthers the development of the country's export base.
- It also allows India to integrate with global value chains (GVC) and hence, with global markets.
- These advantages provide opportunities for small enterprises and help in the overall livelihood creation endeavour in India.
- Further, it is important to note that Indian exports to the U.S. under the GSP programme are mostly intermediaries, and are not in direct competition with U.S. producers — ultimately, these goods benefit the U.S. economy. India's continued eligibility for GSP makes good economic sense given the low value, high-quality, and nature of its imports.
- In addition to the economic perspective, the U.S. should consider continuing India's GSP eligibility as a gesture of goodwill that reaffirms its commitment to the mutually beneficial relationship between our two countries. The India-U.S. relationship has continued to grow stronger as India liberalises along a positive and steady trajectory.
- India has made systematic efforts to reduce trade imbalance with the U.S. and has enhanced purchases of shale gas and civilian aircraft. Adhering to the rules-based international trading system, India is in the process of examining its export subsidies.
- As per a CII survey, the U.S. remains a favoured destination for Indian companies which have invested \$18 billion in the U.S. and support as many as 1.13 lakh jobs.
- Today, our two countries engage in countless areas of mutual cooperation, and a supportive stance in recognition of our greater goals and shared values would promise significant progress in the future. If viewed through a transactional prism, the broader strategic dimensions of the partnership could get blurred.

- India and the U.S. will continue to intensify their economic relationship and interdependencies, and it is, therefore, critical to maintain the vision of the potential this partnership offers. The GSP remains a central aspect of the overall trade engagement and must remain available for Indian exporters keen to address the U.S. markets.

Lower quotas:

- While the decision on the GSP could be deferred until after elections, **the discussions on the Iran oil sanctions waiver have indicated an extension is likely, with India allowed a lower quantity of oil imports from Iran.**
- Recently, following discussions with U.S. Under Secretary for Terrorism and Financial Intelligence Sigal Mandelkar during his visit to discuss “U.S. nuclear-related sanctions on Iran and the global coalition to combat Iran’s state support for terrorism,” the Ministry of External Affairs (MEA) said both sides had been “continuously engaged” on the issue of India’s oil imports from Iran since November, 2018.
- It is important to note that India, Turkey and China remain the only countries with significant imports.
- After initial defiance where it said it only recognised “UN sanctions, not unilateral sanctions”, the Modi government has softened its stand in negotiations for the sanctions waiver from America.
- According to informed sources, the U.S. is considering an extension of the six-month waiver, but reducing the quantity of oil India can import from the previous allowance of nine million barrels a month.
- The deadline, for the announcement of the cancellation of U.S. preferential duties or GSP status, set for May 2, 2019, may be put off if the U.S. Trade Representative in Washington Mark Lightizer accepts an appeal from India-Causus co-chairs senators Mark Warner and John Cornyn, who wrote to him on April 12, 2019 as well as one from Republican Congressman George Holding who wrote to him on March 27, 2019.
- In the letter, the senators asked that the U.S. TR should “consider delaying the issuance of a Presidential proclamation to withdraw India’s GSP benefits by at least 30 days, beyond the 60 day calendar, in order to move the negotiations beyond India’s elections...to provide a real opportunity to resolve these market access issues, potentially improving the overall U.S.-India relationship or years to come. “
- Despite the appeals, U.S. officials say there has been a growing sense of frustration in their administration on trade issues.

Outstanding issues

- “While we were pleased that growing U.S. exports to India, largely crude oil and LNG, led to a 7.1% reduction in our bilateral goods trade deficit last year (2018), many structural challenges in our trade

relationship have yet to be resolved. Trade has frankly been an area of frustration in the relationship, but the door is open if India is prepared to bring a serious proposal to the table,” a Senior State Department official is reported to have said.

- According to the officials, out of the nine outstanding issues on trade, the two sides were able to narrow differences on all but two or three, which were irreconcilable, and led to the U.S. notice on cancelling GSP.
- These include the issue of certifying dairy products from “vegetarian” cows, and the price caps on medical devices like stents — both of which had originally triggered the GSP review in April 2018.
- The U.S. also remains concerned about duties and regulations in the Information Technology industry, — an issue for which the European Union has filed a case against India at the World Trade Organisation (WTO) recently.

2. China enlarges its circle in Europe

- China’s Premier surveyed construction of a long-sought bridge over Croatia’s Mali Ston Bay, home to China’s largest infrastructure project in Europe — built by a Chinese company with Chinese workers, and financed in large part by EU money.
- Li Keqiang was there on 11th of April, 2019. He declared. “This bridge will be a rainbow on earth.”
- The reassuring language was part of a broader effort to convince increasingly sceptical European nations that China comes in peace.
- Fresh from a summit meeting with EU leaders this week, Mr. Li arrived in Croatia for the annual meeting of an economic bloc that China has forged with 16 Central and Eastern European nations.
- It is important to note that the thickening ranks of China’s economic allies have left European officials increasingly wary. In the month of March, 2019, Italy formally signed on to China’s vast Belt and Road Initiative (BRI). On 12th April, 2019, the summit was capped by Greece’s announcement that it had joined, too.

Dragon head:

- China has already moved ahead with plans to make the Greek port of Piraeus the “dragon head” of its infrastructure push, and it has stepped up investment in Greece, which is still smarting from the austerity measures imposed by its European partners.
- China’s presence is no longer a novelty in this part of Europe, where its track record is decidedly more complicated than it was when the economic bloc was formed.
- For instance, after years of investments failing to materialise, Poland, the largest nation in the group and once one of its biggest champions,

has cooled on China. The arrest in Poland of a Chinese regional director of the tech giant Huawei underscored the changing nature of the relationship.

- In fact, the pace of Chinese investment in Europe has slowed for the past two years, according to the Mercator Institute for Chinese Studies.
- In 2018, there was more than \$19 billion in direct Chinese investment in Europe, a decline of 40% from 2017, and more than 50 percent from the 2016 peak of around \$42 billion.

6. Development assistance by India

India has built a 25-bed maternity hospital in Nepal. The hospital has been built under the Government of India's Small Development Projects Scheme.

Development assistance:

- Development assistance is a key instrument in India's foreign policy.
- **Target regions:** The focus of development assistance has been the countries in India's neighbourhood and in Africa, though India is focussing South East Asia, East and Central Asia, the Caribbean, Latin America, Pacific Island Countries, etc.



- **The main instruments of India's development assistance include:**
 - Lines of Credit (LOC),
 - Grant assistance,
 - Small Development Projects (SDP),
 - Technical Consultancy,
 - Disaster Relief and Humanitarian aid,
 - as well as capacity-building programmes under Indian Technical and Economic Cooperation Programme (ITEC).

Small Development Projects (SDPs): As of February 2019

- Small Development Projects (SDPs) constitute an active pillar of India's development assistance to neighbouring countries such as Afghanistan, Nepal, Bhutan Bangladesh, Myanmar.
- Additionally, Government undertakes SDPs in some other partner countries such as Suriname, Dominica, Papua New Guinea, Samoa, Niue etc.
- The Government extends assistance annually to the SDP programme in Nepal for the implementation of projects each costing less than NPR 5 crore (approximately INR 3.125 Crore). The Government has implemented about 200 SDPs in Nepal between the years 2008 and 2017.

7. Omar al-Bashir

In Sudan, the Army removed President Omar al-Bashir from power and detained him. Also, a three-month state of emergency has been put in place.

About:

- Protests against Omar al-Bashir, who has governed Sudan since 1989, have been underway for several months.
- Mr Bashir is the subject of an international arrest warrant issued by the International Criminal Court (ICC), which accuses him of organising war crimes and crimes against humanity in Sudan's western Darfur region.
- Now, the Army has suspended Sudan's constitution and has decided to oversee a two-year transitional period followed by elections.



Omar al-Bashir and International Criminal Court (ICC):

- Omar al-Bashir has been wanted by the ICC for crimes against humanity, war crimes and genocide in Darfur, Sudan since 2005.
- In the Darfur region, he oversaw the war in Darfur that has resulted in alleged death tolls between 200,000 and 400,000.
- With the issuance of two ICC arrest warrants in 2009 and 2010, **al-Bashir became the first ever sitting head of state to be wanted by an international court.**

- **This was also the first genocide charge ever brought by the ICC.**
- The UN Security Council, having referred the situation to the ICC, has consistently failed to ensure al-Bashir's arrest.

8. Wikileaks

The WikiLeaks founder Julian Assange was arrested in London to face a charge in the United States of conspiring to hack into a Pentagon computer network in 2010, bringing to an abrupt end a seven-year saga in which he had taken refuge in Ecuador's embassy in Britain to avoid capture.

Background:

- Julian Assange is an Australian computer programmer who set up Wikileaks in 2006 with the aim of obtaining and publishing confidential documents and images.
- The organisation hit the headlines four years later when it released footage of US soldiers killing civilians from a helicopter in Iraq.
- The indictment against Assange, issued last year in the state of Virginia, alleges that **he conspired in 2010 with Chelsea Manning to access classified information on Department of Defense computers.**
- Assange took refuge in the Ecuadorian embassy in London in 2012 to avoid extradition.

Recent development:

- Julian Assange has been arrested at the Ecuadorian embassy in London. The Ecuadorian government suspended the citizenship it had granted Mr. Assange and evicted him, clearing the way for his arrest.
- At a subsequent court hearing, he was found guilty of jumping bail, and he was detained partly in connection with an American extradition warrant.
- He now faces up to five years in US prison if convicted on the charges of conspiracy to commit computer intrusion. Mr. Assange indicated that he would fight extradition.

Economy

9. State of world population 2019 report

Context:

According to State of World Population-2019 report by the United Nations Population Fund (UNFPA), India's population grew at an average of 1.2% annually between 2010 and 2019 which is more than double the annual growth rate of China.

- The release of report also marks 50 years of the UNFPA being established to support countries to bring down fertility levels.
- It also marks 25 years of International Conference on Population and Development (ICPD) in 1994, where 179 governments agreed on a rights-based approach to sexual and reproductive health to address population growth.
- Reproductive health can be defined as a state of well-being related to one's sexual and reproductive life. It implies, "that people are able to have a satisfying and safe sex life and that they have the capability to reproduce and the freedom to decide if, when and how often to do so".

Highlights

- The world's population rose to 7.715 billion in 2019, up from 7.633 billion in 2018, with the global average life expectancy of 72 years.
- The least developed countries recorded the highest population growth, with countries in Africa registering an average of 2.7% a year.
- Much of the overall increase in global population till 2050 is projected to occur in high fertility countries, mostly in Africa, or in countries with large populations, such as Nigeria and India.
- India's population grew at 1.2% a year between 2010 and 2019, marginally higher than the global average of 1.1% a year in this period.
- Around half of India's population in 24 states have achieved the replacement fertility rates of 2.1 children per women, which is the desired family size when the population stops growing.
- However, the country's large youth population will continue to fuel population growth even as the size of the ageing population increases.
- Replacement level rate is the average number of children born per woman—at which a population exactly replaces itself from one generation to the next, without migration. This rate is roughly 2.1 children per woman for most countries, although it may vary with mortality rates.
- In India, the total fertility rate per woman declined from 5.6 in 1969 to 3.7 in 1994 and 2.3 in 2019.
- As of 2019, India's population stood at 1.36 billion, growing from 942.2 million in 1994 and 541.5 million in 1969.

- 27% of India's population was in the age bracket of 0-14 years and 10-24 years, while 67% of the country's population was in the 15-64 age bracket. 6% of the country's population was of the age 65 and above.
- India registered an improvement in life expectancy at birth. The life expectancy at birth in 1969 was 47 years, growing to 60 years in 1994 and 69 years in 2019.

The findings on women aged between 15-49 years were published for the first time as part of United Nations Population Fund's (UNFPA) State of World Population 2019 report. It includes data on women's ability to make decisions over three key areas:

1. Sexual intercourse with their partner,
2. Contraception use and
3. Health care.

According to the analysis, the absence of reproductive and sexual rights has major and negative repercussions on women's education, income and safety, leaving them "unable to shape their own futures". Early marriage continues to remain an obstacle to female empowerment and better reproductive rights. The report highlights the threat to women's and girls' reproductive rights posed by emergencies caused by conflict or climate disasters.

United Nations Population Fund

- UNFPA is the United Nations sexual and reproductive health agency. It was established as a trust fund in 1967 and began operations in 1969.
- In 1987, it was officially renamed the United Nations Population Fund. However, the original abbreviation, UNFPA (United Nations Fund for Population Activities), was retained.
- The mandate of UNFPA is established by the United Nations Economic and Social Council (ECOSOC).
- UNFPA is a subsidiary organ of the UN General Assembly.
- UNFPA is entirely supported by voluntary contributions of donor governments, intergovernmental organizations, the private sector, and foundations and individuals, NOT by the United Nations regular budget.
- UNFPA works directly to tackle Sustainable Development Goal 3 on health, Goal 4 on education and Goal 5 on gender equality.

10. India's Steel Industry

Context:

India was a net importer of steel during the 2018-19 fiscal year, the first time in three years, as the country lost market share among its traditional steel buyers and imports jumped on demand for higher quality steel domestically.

- The country's finished steel exports fell by 34% in the fiscal year that ended in March, 2019 to 6.36 million tonnes, according to preliminary government data given to Reuters. During the same period, finished steel imports rose 4.7% to 7.84 million tonnes.
- India's exports during the fiscal year declined after rival steelmakers in China, Japan, South Korea and Indonesia, blocked from markets in the United States and Europe by tariffs and other protectionist measures, ate away at the country's markets in West Asia and Africa, according to an Indian government official with close knowledge of the matter.

Supplies to India rise:

- Imports from the four Asian countries also climbed as they diverted supply into India, the source said.
- Imports of value-added steel, primarily for the auto sector and high-end electrical steel, were the biggest source of imports, the source said.
- "The imports for producing value-added steel for the auto sector were mainly by foreign steelmakers like POSCO," the source said, declining to be identified.

Ministry of Steel initiatives

- THE NATIONAL STEEL POLICY 2017 envisages creation of 300 million tonnes (MT) of steel capacity in the country by 2030-31 as against existing capacity of about 137 MT.
- THE DOMESTICALLY MANUFACTURED IRON & STEEL PRODUCTS POLICY 2017, gives preference to domestic manufacturers of iron and steel products and has brought an estimated savings of around Rs.8500 crores worth of foreign exchange.
- Government has facilitated setting up of an innovative institutional mechanism namely STEEL RESEARCH AND TECHNOLOGY MISSION OF INDIA (SRTMI) to promote joint collaborative research projects of national importance in iron & steel sector in India. SRTMI has been registered under the Societies Registration Act in 2015.
- In 2018, Union Minister of Steel, unveiled the CORPORATE SPORTS POLICY for Central Public Sector Enterprises (CPSEs) under the Ministry of Steel. The policy provides a framework for promotion of sports by Steel Ministry CPSEs.

11. International Finance Corporation (IFC)

In February 2019, the US Supreme Court ruled in favour of a group of fishermen and a Gujarat village panchayat in a suit against the US-headquartered International Finance Corporation (IFC).

About:

- **Parent organization:** IFC is a member of the World Bank Group.

- **Mandate:** IFC is the largest global development institution focused exclusively on the private sector in developing countries.
- **Functions:** It is an international financial institution that offers investment, advisory, and asset-management services to encourage private-sector development in less developed countries.
- **Governance:** The IFC is owned and governed by its member countries. It is a corporation whose shareholders are member governments that provide paid-in capital and have the right to vote on its matters.
- **Established in:** 1956.
- **Headquarters:** Washington, DC.

Recent case against IFC:

- The coal-fired power plant, near Mundra port in Gujarat's Kutch district and with a capacity of 4,150 MW, is the **country's first to deploy energy-efficient super-critical technology** (which results in energy efficiency 40.5% higher compared to other coal-based power technologies).
- Of the estimated project cost of \$4.14 billion, \$450 million was funded in 2008 by International Finance Corporation (IFC).
- The plant is located near Tragadi village in Mandvi taluka, and Navinal village in neighbouring Mundra taluka.
- In 2015, fishermen of these area filed a suit, through EarthRights International, against IFC in the Federal District Court for the District of Columbia for the damage done to the environment through plant. Later the case reached the US Supreme Court.



Geography and Environment

12. El Nino

Context:

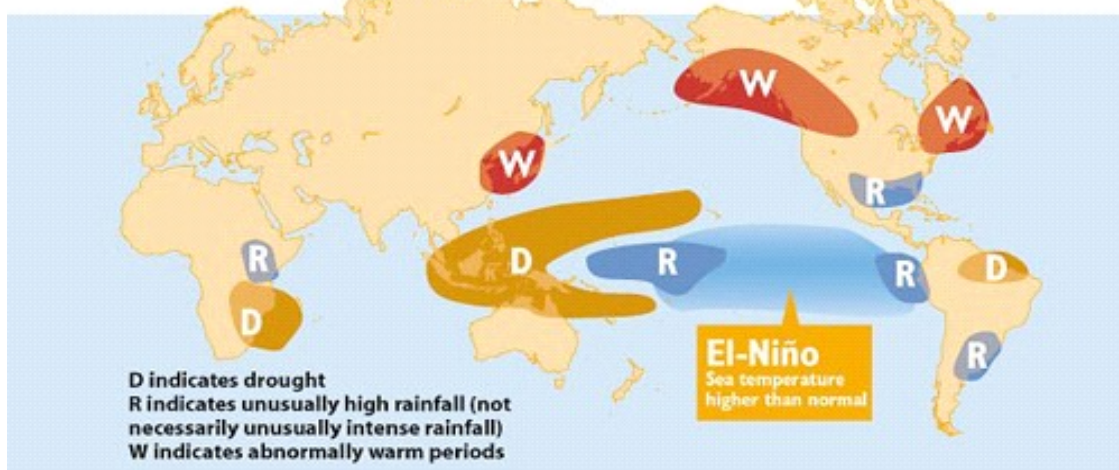
Recently, Skymet forecasted a below average monsoon in 2019 on the back of a prospective El Nino that is often associated with less rainfall.

About El Nino

- El Niño means The Little Boy, or Christ Child in Spanish. El Niño was originally recognized by fishermen off the coast of South America in the 1600s, with the appearance of unusually warm water in the Pacific Ocean.
- The name was chosen based on the time of year (around December) during which these warm waters events tended to occur.
- The term El Niño refers to the large-scale ocean-atmosphere climate interaction linked to a periodic warming in sea surface temperatures across the central and east-central Equatorial Pacific.
- Typical El Niño effects are likely to develop over North America during the upcoming winter season.
- Those include warmer-than-average temperatures over western and central Canada, and over the western and northern United States.
- Wetter-than-average conditions are likely over portions of the U.S. Gulf Coast and Florida, while drier-than-average conditions can be expected in the Ohio Valley and the Pacific Northwest.
- The presence of El Niño can significantly influence weather patterns, ocean conditions, and marine fisheries across large portions of the globe for an extended period of time.

Climatic impacts of warm El Niño events (October-March)

El Niño has different impacts in different parts of the world and at different times of the year. During the northern hemisphere winter, El Niño's expected impacts include drought in southern Africa, continuing drought in northern Australia and Indonesia, high rainfall in three continents and unseasonably warm weather in parts of North America and eastern China.



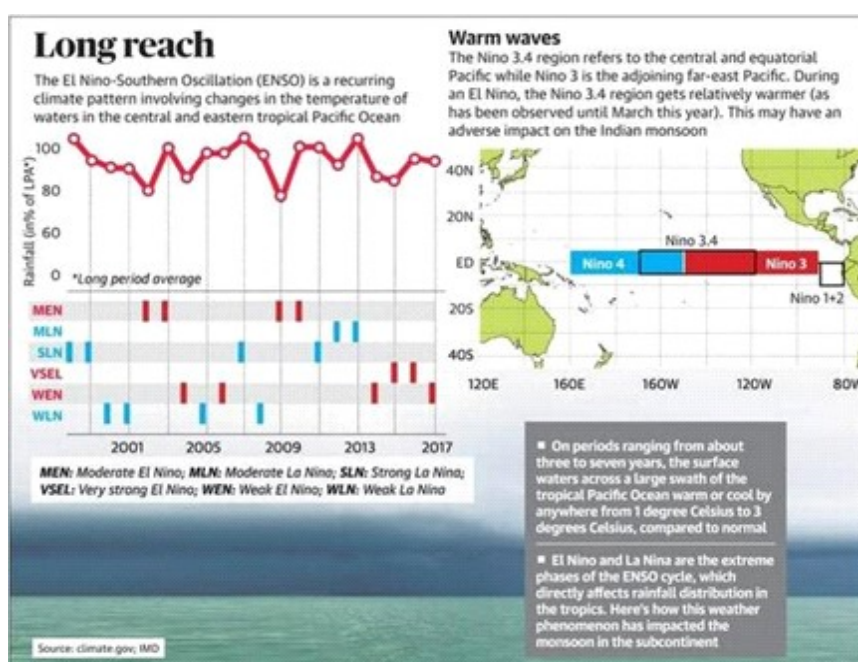
Impact of El Nino on Indian Monsoon

El Nino and the Indian Monsoon rains are inversely related. Trade winds coming from South America normally blow westward towards Asia during Southwest Monsoon. Warming of the Pacific Ocean results in weakening of these winds. Therefore, moisture and heat content gets limited and results in reduction and uneven distribution of rainfall across the Indian sub-continent.

Does El Nino always lead to droughts in India?

The most prominent droughts in India, six of them, since 1871 have been El Nino triggered droughts, including the recent ones that occurred in 2002 and 2009. Nevertheless, it is important to note that all El Nino years do not lead to drought in India. The year 1997-98 is a stark reminder as it was a strong El Nino year but that did not cause drought in India, in fact, rainfall was in excess. On the other hand, a moderate El Nino in 2002 resulted in one of the worst droughts.

Going by historical data of 135 years from 1880 to 2014, about 90% of all evolving El Nino years have led to below normal rainfall and 65% of evolving El Nino years have brought droughts. From this fact, one thing is clear that El Nino years adversely affect the weather in India in terms of Monsoon rain, with very few exceptions. During an El Nino year, the rainfall is generally below the normal average, which has its negative bearing on crop production.



Way Forward:

- The government must expand the farm insurance cover and advice banks and financial institutions to settle crop insurance claims in the drought-hit areas without delay. Otherwise, we will be seeing a lot of farmer suicides. High quality seeds of alternative crops must be distributed among farmers in the drought-affected areas.
- The government must realistically assess the ground level situation in order to estimate the shortfall of oilseeds and pulses and help traders with market intelligence.
- It should also bring down the cereals' inflation by liquidating the extra stock it was holding, which is way above the buffer requirement.

- Scrapping the APMC Act and allowing free flow of agriculture goods among the states. This would help bridge the mismatch of demand and supply of goods, which is the underlying factor contributing inflation.
- The distribution of pulses through public channels at subsidised prices as was done in 2008 to all the households is needed.
- The government should also provide the fuel subsidy that enables farmers to provide supplementary/alternative irrigation through pump sets in the drought and deficient rainfall areas to protect the standing crops.

13. Border surveillance

Context:

India's **land border covers around 15,106 km** sharing boundaries with Pakistan, Afghanistan, China, Nepal, Bhutan, Bangladesh and Myanmar. Varied terrains, climatic conditions and hostile neighbours make its borders complex and border management an important part of its security. Home Minister, Rajnath Singh inaugurated the electronic border surveillance project on 5th March 2019 along the India-Bangladesh border.



International borders of India:

- The **Northern borders** of India are defined by **Himalayan mountain range**.
- The **Western border** contains mainly the **Thar desert**.
- The border with **Bangladesh Khasi and Mizo hills** and regions defined by **River Ganga and Brahmaputra**.
- Mountains in the Northern part consist mainly ice while those in the North-East may be deeply forested.
- The **total coastline of India is about 7500 km** along the **Indian Ocean** that connects it to various nations in its southern part. These include Bangladesh, Indonesia, Myanmar, Pakistan Thailand, Sri Lanka and Maldives.

Safeguarding the borders of India:

- **Effective border management** requires proper planning and measures that safeguard India's frontiers and safeguard it from the risks involved in the movement of goods and people across the borders.



- **Smart border management** with technological solutions is a step towards improving border security.
- **Central Armed Police Forces** including Sashastra Seema Bal (SSB), Border Security Force (BSF), Indo Tibetan Border Police (ITBP), etc and Indian Army are responsible for securing India's international borders.
- The **maritime borders of India** that are recognised as per **United Nations Convention on the Law of the Sea** are secured by the **Indian Navy**.
- All states in India except Madhya Pradesh, Chattisgarh, Jharkhand, Delhi and Haryana have an international border or a coastline.

New electronic surveillance project along Indo-Bangladesh border:

- **Bangladesh shares 4,096 km of international border with India** which are guarded by **Border Security Force (BSF)** on the Indian side.
- A new electronic surveillance was inaugurated by Rajnath Singh in **Dhubri district of Assam**. This 61 km long border is formed mainly **by Brahmaputra river and consist of vast char lands and various river channels** makes border surveillance a tough task.
- A char is a tract of land surrounded by the waters of an ocean, sea, lake or stream.
- The project is called **BOLD-QIT** (Border Electronically Dominated Quick response team Interception Technique) under **CIBMS** (Comprehensive Integrated Border Management System).
- Wide range of **electronic gadgets** has been installed along the Indo-Bangladesh border in the Dhubri district of Assam.

- This consists of Microwave communication, OFC (Optical Fibre) cables, DMR (Digital Mobile Radio) communication, day and night surveillance cameras, and intrusion detection systems. These **modern gadgets provide feedback to BSF control rooms** and enables **Quick Reaction Teams** to prevent any possibility of Illegal Cross Border Crossings/ Crimes.
- A 'Virtual Fence' for human-less real-time investigation of borders is created by CIBMS. These include – infrared and laser-based intrusion alarm systems, thermal imagers, aerial surveillance, sonar and ground systems, satellite imagery, etc.
- CIBMS provides an all-weather and round the clock surveillance system.
- **Round the clock surveillance** is needed along the riverine border check illegal immigration, smuggling of arms & ammunition, etc.
- Using e-surveillance will save time and energy loss of security personnel in doing continuous patrolling physically.
- Some of the **challenges for using CIBMS in India** include –
 - 1.Operation and maintenance cost
 - 2.Lack of technical expertise
 - 3.High cost of devices
 - 4.Lack of easy availability of spare parts
 - 5.Erratic power supply
 - 6.Adverse climatic and terrain conditions.
- A mix of well-trained personnel and use of modern technological methods can yield better results.

Space technology in Border Management:

- ISRO is set to launch a **satellite** exclusively for **Home Ministry**.
- The satellite will be used for improving communication and navigation, managing security, operational planning and border management.
- The Navy and the Air Force have dedicated satellites for themselves. Now the Ministry of Home Affairs is also planning to get a satellite dedicated for their own purposes for securing India's borders.
- These satellites will help the security forces to know any activity occurring on border with the help of **satellite imagery**.

Conclusion:

Keeping a strong vigil on its border is very important for any nation to check any kind of illegal activities or intrusion through them. For India, the task becomes difficult where terrain and climate is very complex across some of its border areas. Focussing on improved technology will help in making the task easier for the security forces and make its borders more secure.

14. Melting of Himalayan Glaciers

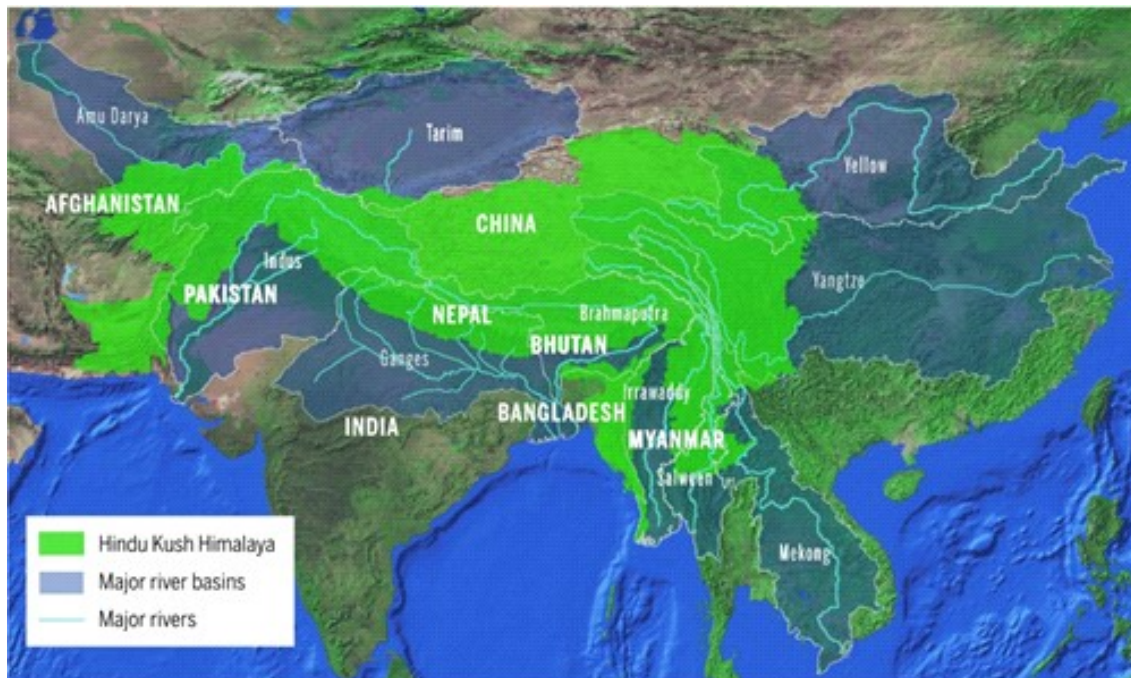
Introduction:

At the Paris climate conference in December 2015, 195 countries adopted the first-ever universal, legally binding global climate deal. This set out a global action plan to limit global warming to well below 2°C and pursuing efforts to limit it to 1.5°C. But despite the global efforts, there are forecasts that the world global temperature may rise above 1.5°C.

The **Hind Kush Himalayas** will warm by around 1.8°C by the end of the 21st century.

THE HINDU KUSH HIMALAYA ASSESSMENT REPORT:

- The report was made together by researchers, experts and policymakers, brought by Hindu Kush Himalayan Monitoring and Assessment Report (HIMAP) and International centre for Integrated Mountain Development (ICIMOD)



- The Assessment has been titled "Mountain, Climate Change, Sustainability and People".
- According to report, even the most ambitious goal set by the Paris Agreement to limit global warming would lead to a 2.1 spike in temperature in the Hindu Kush Region, leading to melting of 1/3rd of the region's glaciers by 2100, potentially destabilizing Asia's rivers.
- If the Green House Gas emissions continue at their current level, the region can lose up to 2/3rd of its ice. So, the amount of GHG emissions will determine the amount of glaciers melted in these mountainous ranges.
- The melting of these glaciers will put a threat on 1.9 billion people.
- Hind Kush, the world's third pole is 3,500 km long spread over 8 countries in South Asia and home to 10 major river basins is under severe threat of climate change.

- 8 Countries covered by Hindu Kush Himalayas (HKH region): Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal and Pakistan.
- 10 Major river basins in HKH region: Amu Darya, Brahmaputra, Ganges, Indus, Irrawaddy, Mekong, Salween, Tarim, Yangtze, Yellow rivers.
- The HKH region form the largest area of permanent ice cover outside of the North and South Poles, and so are often referred to as "Third Pole".
- HKH region is home to 4 global biodiversity hotspots, several important bird areas, and hundreds of mountain peaks. It provides ecosystem services (water, food, energy, etc) to nearly 2 billion people through its river basins.
- Melting of glaciers can be a threat to water and food security and increase the risks of disasters.
- Elevation Dependent Warming is a phenomenon of more increase in temperature in mountains than at lower altitudes.
- Since the 1970s, about 15% of ice in the HKH region has disappeared as temperature have risen.
- Water supply in the region is closely dependant on rainfall during monsoon and trickling meltwater from glaciers during dry season.
- Lower flows of river water due to glacial melting will cut power from hydro dams that generate much of the region's electricity.
- Farmers in the foothills and downstream will face a serious impact.

Impacts of climate change globally:

- Climate change is bringing rising incidents of disasters like wildfires, cyclones, hurricanes, droughts, floods, etc.
- Rising human development and industrial progress are held responsible for the climate change occurring today. Natural resources like trees are being cut for urbanization and non-renewable resources (like fossil fuels) are being used at a very high rate.
- Global temperatures are rising and extreme weather conditions are being witnessed.
- Mountain glaciers and ice sheets covering Antarctica, Greenland and Arctic Sea are vanishing.
- Rapid rise in sea level in recent years has threatened low-lying islands and coastal cities.
- Wildlife and their habitats are affected. Some species are being pushed towards extinction.
- Ocean acidity is increasing that threatens shellfish, including crustaceans, affecting marine food chains.

- Agriculture is facing a threat.

Initiatives done by the Government of India in recent years to save the environment:

- Formation of International Solar Alliance (ISA)
- Focus on increasing forest cover.
- National Clean Air Program (NCAP)
- Launch of National Air Quality Index in 2015
- Namami Gange Program for cleaning Ganga river.
- Swachh Bharat Abhiyaan.
- Pradhan Mantri Ujjawala Yojana to increase LPG connections.
- Waste management has emerged as a priority issue.
- Focus on electrical vehicles.
- Reducing the use of single use

Conclusion:

The United Nations had focused on environment in the famous Rio Summit in 1992. The development today has to be 'sustainable' as mentioned in the United Nations Sustainable Development Goals that along with socio-economic and other factors focuses on climate and environment as well.

But, even after several efforts and talks at various national and international levels, 2014-2023 was predicted to be the hottest decade in 150 years. The world needs to control the Green House Gas emissions as targeted by the Paris Agreement otherwise; the consequences of increasing global temperature can be threatening.

Science and Technology

15. First Image of Black hole

Context

The Event Horizon Telescope (EHT), which uses a network of telescopes around the globe to turn the Earth into an enormous radio telescope, has taken the first direct image of a black hole. This image shows the large black hole in the centre of another galaxy called galaxy Messier 87, which is 55 million light years away.

About black hole

- Black holes are places in space so dense, with such immense gravity that beyond a certain boundary called the “event horizon,” nothing — not even particles and electromagnetic radiation such as light—can escape from it.
- They form at the end of some stars’ lives. When stars, which are around twenty times bigger than the sun exhaust all the energy, they can collapse in on themselves forming a black hole.
- There are four types of black holes:
 - Stellar
 - Intermediate
 - Supermassive
 - Miniature
- The idea of a body so massive that even light could not escape was briefly proposed by astronomical pioneer and English clergyman John Michell in a letter published in November 1784.
- In 1915, Black holes were predicted by Einstein’s theory of relativity – although Einstein himself was sceptical that they actually existed. Einstein said that though his equations on theory of gravity indicated that such objects were theoretically possible, but they “do not exist in physical reality.”
- In 1974, Hawking for the first time predicted the existence of Hawking radiation which are released by black holes.

About event horizon telescope

- Event horizon telescope consists of eight radio observatories around the world, including telescopes in Spain, the US and Antarctica
- In 2006, an international team of more than 200 researchers, led by Harvard University astronomers, launched the Event Horizon Telescope (EHT) project with a sole aim: to capture a direct shot of a black hole.
- Thirteen partner institutions worked together to create the EHT, using both pre-existing infrastructure and support from a variety of agencies.

Key funding was provided by the US National Science Foundation (NSF), the EU's European Research Council (ERC), and funding agencies in East Asia.

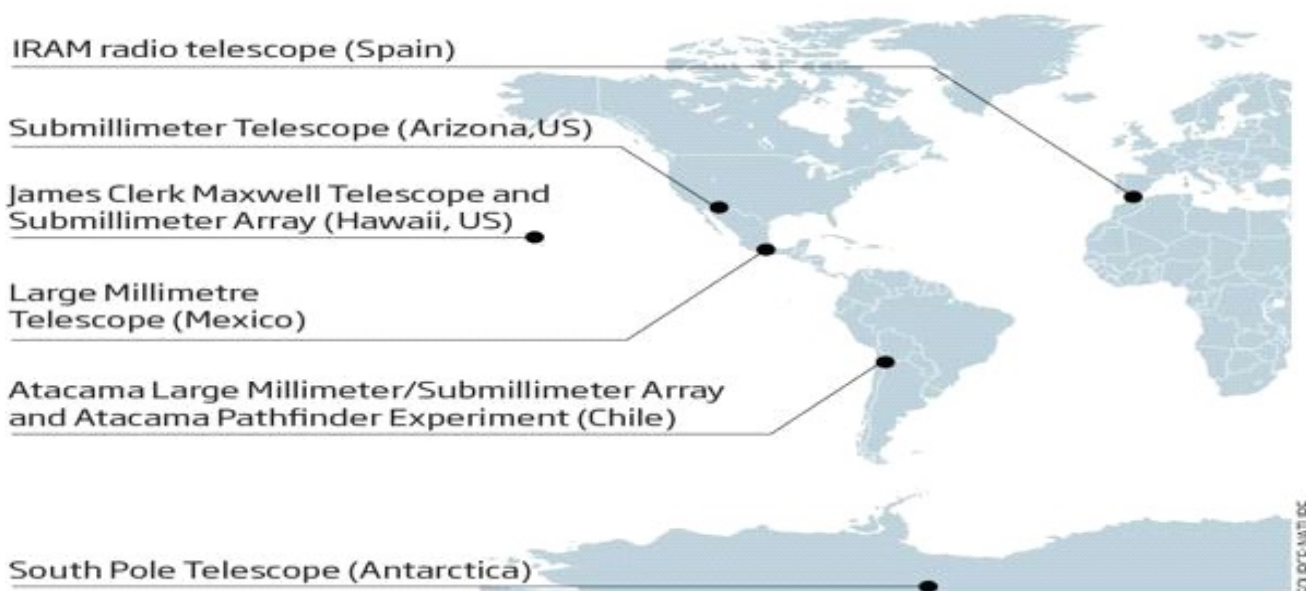
- The EHT observations use a technique called **very-long-baseline interferometry (VLBI)** which synchronises telescope facilities around the world and exploits the rotation of our planet to form one huge, Earth-size telescope observing at a wavelength of 1.3 mm.
- VLBI allows the EHT to achieve an angular resolution of 20 micro-arcseconds — enough to read a newspaper in New York from a sidewalk café in Paris
- Observations at the different sites were coordinated using atomic clocks, called hydrogen masers, accurate to within one second every 100 million years. Researchers combined radio-wave data from each telescope, creating the image.

When observations were launched in 2017, the EHT had two primary targets.

- First was Sagittarius A*, the black hole at the centre of the Milky Way, which has a mass of about 4m suns.
- The second target, which yielded the image, was a supermassive black hole in the galaxy M87, into which the equivalent of 6 billion suns of light and matter has disappeared.

All together now

The Event Horizon Telescope needs eight radio observatories in six different locations around the world to work in sync



Finding

The image doesn't show the black hole's event horizon, but a shadow cast by the light around it due to the unstable orbits of photons around the central object. This helps to infer some of the black hole's properties

Unprecedented image could revolutionise our understanding of black holes

Elements of a black hole

Accretion disc

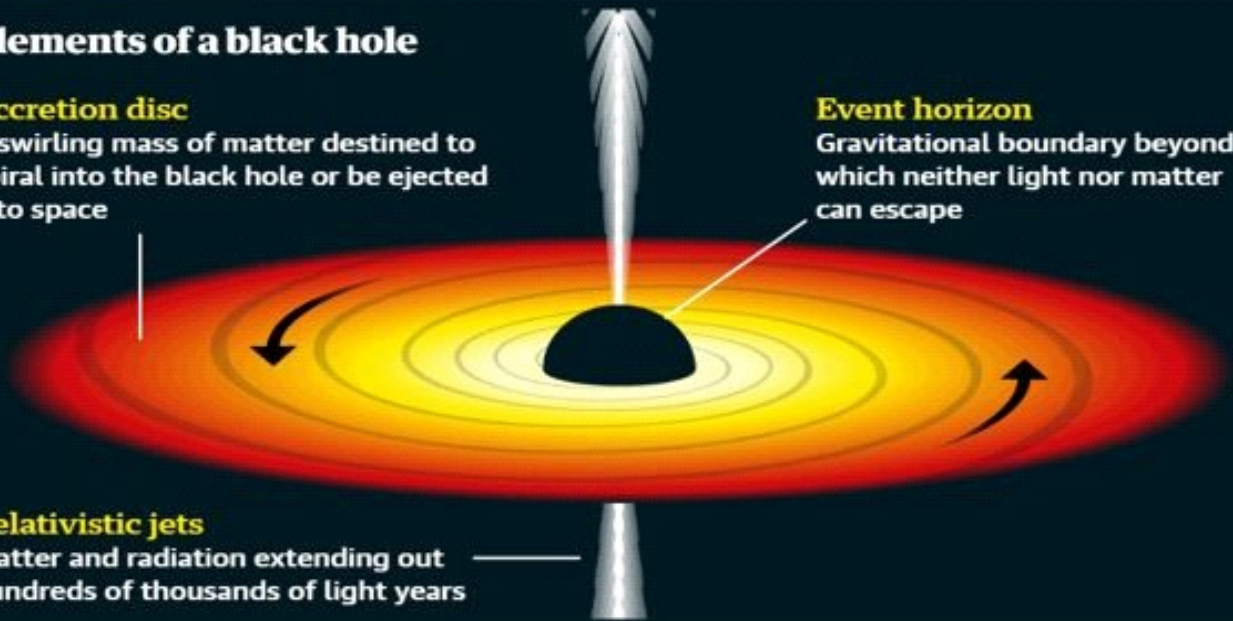
A swirling mass of matter destined to spiral into the black hole or be ejected into space

Event horizon

Gravitational boundary beyond which neither light nor matter can escape

Relativistic jets

Matter and radiation extending out hundreds of thousands of light years



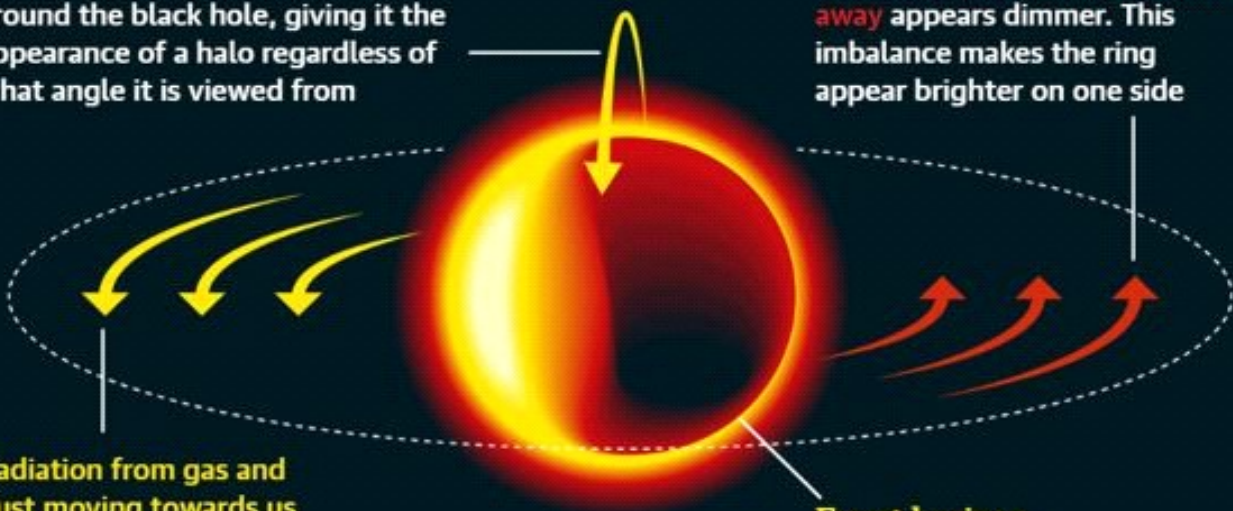
What the Event Horizon Telescope image shows us

Gravity bends light from the disc around the black hole, giving it the appearance of a halo regardless of what angle it is viewed from

Radiation from particles moving away appears dimmer. This imbalance makes the ring appear brighter on one side

Radiation from gas and dust moving towards us appears brighter

Event horizon



- The researchers were able to deduce the mass of the M87* at 6.5 billion times that of the Sun.
- EHT scientists also deduced the radius of the event horizon as 3.8 micro-arcseconds.
- Rotation of the black hole is in a clockwise direction, and that its spin points away from earth.
- The ring of light around the black hole looks a little lopsided.

This comes from a prediction of Albert Einstein's theory of general relativity that the powerful gravitational pull of a black hole will actually bend light around it, making the light skimming the side of the black hole that's

rotating towards us appear brighter than the light on the side that's spinning away.

Significance of Image

- **Einstein's Relativity is a real scientific law:** Image of a black hole is the first direct proof of existence of black hole and proves that Einstein's Relativity is a real scientific law.
- **More precise knowledge about blackhole:** The image doesn't show the black hole's event horizon, but it is enough to infer some of the black hole's properties
- **Accurate estimates for black hole masses:** EHT observations were able to deduce the mass of the M87* at 6.5 billion times that of the Sun. Previous estimates — based on models as well as spectroscopic observations of the galaxy by the Hubble Space Telescope — ranged between 3.5 and 7.7 billion solar masses.
- **Help in proving other theories:** It would help in proving other theories such as the Big Bang theory, where the plot is similar

Conclusion

The Event Horizon Telescope's first run prove that event horizons really exist. Astronomers now hope to carry out further observations of M87 to deduce the shape and depth of the shadow region more accurately. They are also hopeful to add more telescopes to the array that will allow for higher-resolution images. As well as M87, the EHT team is attempting to take the first image of Sagittarius A.

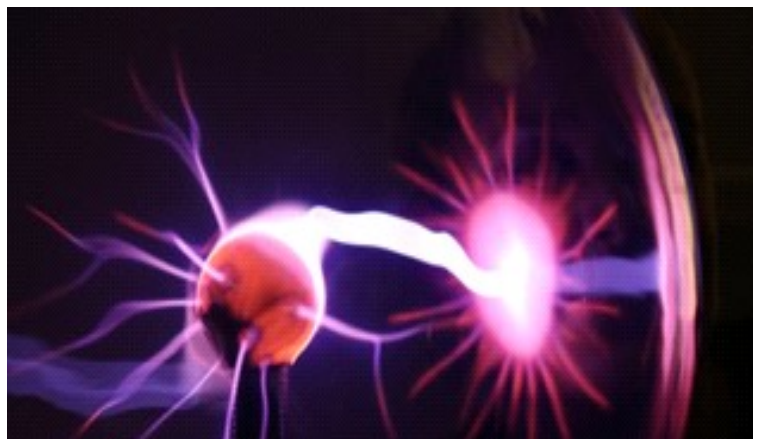
The experiment of EHT owes to international collaboration and use of interdisciplinary expertise. Future runs could help us to understand the basics of our universe more precisely and accurately.

16. Cold Plasma

The team from University of Michigan in the US has found that dangerous airborne viruses can be rendered harmless on-the-fly when exposed to 'cold plasma'.

About:

- **Names:** Cold plasma is also known as non-thermal plasma or non-equilibrium plasma.
- **What is it?** Cold plasma is a partially ionised gas comprising ions, electrons, ultraviolet photons and reactive neutrals such as radicals, excited and ground-state molecules.



- **Recent discovery:** The researchers have measured the virus-killing speed and effectiveness of non-thermal plasmas. A non-thermal plasma reactor was able to inactivate or remove from the air stream 99.9 % of a test virus.

Procedure:

- To gauge non thermal plasmas' effectiveness, researchers pumped a model virus into flowing air as it entered a reactor.
- Inside the reactor, borosilicate glass beads are packed into a cylindrical shape, or bed. The viruses in the air flow through the spaces between the beads, and that is where they are inactivated.

Significance of discovery: Achieving these results in a fraction of a second within a stream of air holds promise for many applications where sterile air supplies are needed. Scientists hope to one day harness this capability to replace the surgical mask.

17. NaMo TV and the laws for DTH channels

Context

NaMo TV, a 24-hour channel raised several questions about its identity, ownership and content.

NaMo TV case

- NaMo TV is a 24-hour channel exclusively featuring Prime Minister Narendra Modi's speeches and pro-BJP content and was launched on various DTH and cable TV platforms on March 31.
- The channel is listed among Hindi News channels on some DTH platforms. However, no such channel is mentioned in the list of channels permitted by the I&B Ministry.
- Opposition parties asked the Election Commission to take action as the channel was launched after the model code of conduct came into effect ahead of the Lok Sabha election.
- Subsequently, the Election Commission of India has issued notice to the Ministry of Information and Broadcasting, in order to determine the legal status of NaMo TV.
- The I&B Ministry has apparently told the Election Commission that NaMo TV is a 'platform service'. It is A kind of "advertising platform" and claimed that it does not need government's approval

One can view TV through various Distribution Platform Operators (DPOs)

1. Cable TV services
2. DTH services
3. Internet Protocol Television services,
4. Terrestrial TV services in smaller geographic regions.

There are four types of channels on TV

1. Private satellite channels: It broadcast through satellites and need I&B permissions;
2. Doordarshan channels: It is run by public broadcaster Prasar Bharati;
3. Platform services channels: It is owned and operated by the DPOs and distributed exclusively to their own subscribers;
4. Ground-based channels: It come with a strong local focus and are referred to as “local channels”, usually an integral part of most cable TV networks.

Broadcasting norms and Regulations

- As per the Constitution, legislative & executive power over ‘Posts and telegraphs; telephones, wireless, broadcasting, and other like forms of communication’ vests with the Union
- All satellite-based channels require the ministry’s permission to be down linked in the country irrespective of the content, or the platform it is available on.
- But the regulation allows the DTH platforms to offer its own value-added services, for which there is no license required.

Issue with NaMo TV

1. **Violation of poll code:** NaMo TV was launched after the election code of conduct was in force. For most parties, NaMo TV is a propaganda tool for ahead of the Lok Sabha election and it gives an unfair advantage to a party.
2. **Identity and ownership:** There are no clarity over category of NaMo TV whether it is news channel or an add-on service offered by a direct-to-home (DTH) operator or an entertainment channel

The content on TV is broadly classified as follows

- **Non-news and Current affairs (entertainment):** The content or “programs” consists of a program code and the advertising code which all content transmitted or retransmitted on television must adhere to.

Program code prohibits airing any content that may not be suitable for public viewing which may be otherwise prohibited under the Cinematograph Act, 1952. The Advertising code, on the other hand, regulates the content that can be advertised and prohibits advertising of those content that is in violation of public morality and decency and any other content that can create social disharmony etc.

- **News and Current affairs:** For the moment, there is no statutory regulatory mechanism and the News and the Current Affairs TV channels in India are regulated by a self-regulatory body known as the News Broadcasters Association (NBA) which has formulated a standards code known as the NBA Code.

- **Advertisements:** There is no statutory provision or body to regulate the ad content in India. Hence, a self-governing body called the Advertising standards council of India (ASCI) has been formed to regulate the ad content in India.
- **Films on Television:** Based on the content of the films, the CBFC awards a certificate to the films which range from unrestricted public viewing (“U”) to restricted to adult viewing (“A”). Any content awarded an “A” certificate cannot be aired on TV.
- **As Platform service:** Many DTH Operator has told that NaMo TV is a ‘platform service’. While platform services have traditionally been exclusive offerings by each DTH operator, NaMo TV is available across DTH operators in the country.
- **Highlight loopholes in regulatory framework:** There is no legal architecture covering ground operations of local cable operators or multi-system operators. NaMo TV broadcast feed available to the world via satellite without going through the process of acquiring a broadcast license highlight the loophole.
- **DTH operator’s accountability:** NaMo TV is running across many networks. It is alleged that DTH operators are taking benefits of loopholes in regulatory framework, as there is no law for platform service yet.

Conclusion

Election Commission of India has issued notice to the Ministry of Information and Broadcasting, in order to determine the legal status of NaMo TV and the ball is in Ministry of information and Broadcasting court. But NaMo TV highlight the loopholes in regulatory framework through which broadcast feed available to the world via satellite without going through the process of acquiring a broadcast license. The government must bring a legal architecture covering platform services and local cable operator’s operation.

Miscellaneous

18. Jallianwala Bagh

Context:

Recently, The Vice President of India visited Jallianwala Bagh in Amritsar and paid tributes to martyrs on the 100th anniversary of one of the goriest episodes in human history and the darkest chapter of the British rule in India, the Jallianwala Bagh massacre. The commemoration ceremony to pay homage to the martyrs was organized by the Ministry of culture, Government of India.

- Jallianwala Bagh's importance lies not in the numbers killed but in what preceded it and in what followed. **The Anarchical and Revolutionary Crimes Act of 1919, better known as the Rowlatt Act, came into force a month before the massacre in Jallianwala Bagh.** It shocked most Indians who had expected to be rewarded, not punished, for willingly fighting alongside the British in the First World War.
- During **World War I (1914–18)** the British government of India enacted a series of repressive emergency powers that were intended to combat subversive activities. By the war's end, expectations were high among the Indian populace that those measures would be eased and that India would be given more political autonomy.
- The **Montagu-Chelmsford Report**, presented to the British Parliament in 1918, did in fact recommend limited local self-government. Instead, however, the government of India passed what became known as the **Rowlatt Acts** in early 1919, which essentially extended the repressive wartime measures.
- The acts were met by widespread anger and discontent among Indians, notably in the Punjab region. Gandhi in early April called for a one-day general strike throughout the country. In Amritsar the news that prominent Indian leaders had been arrested and banished from that city resulted in mass protests.
- The arrest and banishing of Saifudeen Kitchlew and Satya Pal sparked protests on April 10, in which soldiers fired upon civilians, buildings were looted and burned, and angry mobs killed several foreign nationals and severely beat a Christian missionary.
- A force of several dozen troops commanded by Brig. Gen. Reginald Edward Harry Dyer was given the task of restoring order. Among the measures taken was a ban on public gatherings.

Rowlatt Act, 1919

- The act was officially known as the Anarchical and Revolutionary Crimes Act, 1919 and was passed in March 1919 by the Imperial Legislative Council.

- The act was passed as per recommendations of the Rowlatt Committee chaired by a judge, Sir Sidney Rowlatt.
- This act authorized the government to imprison for a maximum period of two years, without trial, any person suspected of terrorism.
- The act provided a speedy trial of the offenses by a special cell that consisted of 3 High Court Judges. There was no court of appeal above that panel.
- This panel could also accept the evidences which were not even acceptable in the Indian Evidences Act.
- It also placed severe restrictions on the freedom of the press.
- The act was widely condemned by Indian leaders and the public. The bills came to be known as 'black bills'.

The Massacre

- On April 13, 1919, Baisakhi day, following unrest in Amritsar after protests against the Rowlatt Act, Brigadier General (temporary rank) Reginald Dyer took a strike force of 50 rifles and 40 khukri-wielding Gurkhas into an enclosed ground, Jallianwala Bagh, where a peaceful public meeting of 15,000-20,000 was being held.
- Immediately and without warning, he ordered fire to be opened on the crowd. The firing of 1,650 rounds was deliberate and targeted, using powerful rifles at virtually point blank range. The firing resulted in death of several hundreds of people and many times more were wounded.
- Atrocity however did not stop at it, several repressive measures followed after the brutal killing such as the infamous crawling order, the salaam order, public floggings, arbitrary arrests, torture and bombing of civilians by airplanes — all under a veil of strictly enforced censorship.

A history of evasion

The massacre, followed by the praising and rewarding of its perpetrator, General Dyer, by the British public, removed all illusions about benign British rule in the country. It also marked the start of a liberation struggle like no other under Mahatma Gandhi; Rabindranath Tagore troubled by the incident renounced his Knighthood and questioned the morality of the British government and failure of rulers to act.

After calls for an investigation, including by liberals in Britain, a Disorders Inquiry Committee, under Chairmanship of Lord Hunter, was set up. The committee selectively criticized Dyer but let off the Lieutenant Governor, Michael O'Dwyer.

The conservative Lords however took a different tack and criticized the government for being unjust to the officer. Similar sentiments in Dyer's favor came from the right-wing press — the Morning Post started a fund for him which collected £26,000 — as well as from conservative sections of the public who believed he had saved India for the empire.

Rudyard Kipling, a famous writer too supported Dyer by putting an ambivalent comment on the wreath he sent to Dyer's funeral in 1927: "He did his duty as he saw it."

Many people having ties with colonial history have called the incident an isolated one which had nothing to do with British rule and an exception. Winston Churchill who criticized the incident too quoted that it was not the British way of doing things and tried to save the larger colonial enterprise from being called as inherently repressive.

While there remains little doubt that Dyer was indeed wrong, British government cannot be exonerated from the atrocities it committed during the colonial era, as the incident was not an isolated one and he was one of a line of several such — John Nicholson, Frederick Cooper, J.L. Cowan — who resorted to severe disproportionate violence in 1857 and after the 1872 Kuka rebellion.

Way Forward:

Healing a wound

- Any British government can ill-afford to apologise for the glory days of its country's history. After all, incidents such as the Jallianwala Bagh massacre are a frequent adjunct to a system as repressive as the British Raj and admitting blame can also have legal and financial consequences.
- While apologising in Parliament can be called symbolic, in a court of law, it is admitting a liability. Recent, British apology therefore can best be called symbolic which only addresses the concerns of its MPs and not those who actually suffered.
- There is little doubt that an incident like this can best be healed with time but there are many ways to heal a wound between nations. Mere words are certainly not one of them.

19. World Homeopathy Day

The two-day Convention on World Homeopathy Day was inaugurated by Secretary, Ministry of AYUSH Dr. Vaidya Rajesh Kotecha in Delhi.

About:

- The World Homoeopathy Day is observed every year on **April 10**, to commemorate the birth anniversary of the founder of Homoeopathy, **Christian Fredrich Samuel Hahnemann**.
- On the occasion, the '**CCRH Archives on Homeopathy**' a digital repository of accumulated knowledge in homeopathy, having important homoeopathic literary material spread all over the world was officially launched.

Homeopathy:

- It is an alternative medical system that was developed in 1796 by Samuel Hahnemann in Germany.

- The name homeopathy is derived from the Greek words for 'similar suffering' referring to the '**like cures like**' principle of healing.

- **Its key underlying theories are as follows:**

- **Like cures like:** A substance taken in small amounts will cure the same symptoms it causes if taken in large amounts.
- **Law of minimum dose:** The lower the dose of the medication, the greater its effectiveness.
- Homeopathy treats each person as a unique individual. Treatments are "individualized" or tailored to each person—it is not uncommon for different people with the same condition to receive different treatments.
- **Following bodies have been established under Ministry of Ayush in India for advancement of homeopathy:**
 - **Central Council for Research in Homoeopathy (CCRH):** It was established in 1978 as a research body in the field of homeopathy.
 - **The Central Council of Homoeopathy:** It was established in 1973 to monitor higher education in homeopathy.
 - **National Institute of Homoeopathy:** It is affiliated to the West Bengal University of Health Sciences and conducts the degree course in Homoeopathy. It was established in 1975.
 - **India's first advanced Homoeopathy Virology lab:** It was inaugurated at Dr. Anjali Chatterjee Regional Research Institute for Homoeopathy in It will develop new drugs and technologies in Homoeopathy.



20. Kailash Manasarovar Yatra 2019

Registration for Kailash Manasarovar Yatra 2019 has begun. The last date for registration is the 9th of May.

About:

- **Organized by:** Kailash Manasarovar Yatra 2019 is being organized by Ministry of External Affairs with the support of the state governments of Uttarakhand, Delhi, and Sikkim; and the cooperation of Indo Tibetan Border Police (ITBP).
- **Routes:** Kailash Manasarovar Yatra 2019 is scheduled from 8th June to 8th September this year through two routes.
 - **Route 1** is through Lipulekh Pass, Uttarakhand.

- **Route 2 is** through Nathu La Pass, Sikkim.
- **Funding:** Ministry of External Affairs does not provide any subsidy or financial assistance to Yatris.
- **Eligibility:** An Indian citizen, holding a valid Indian passport, aged minimum 18 years and maximum 70 years as on 1st January of the year, is eligible to apply for the Yatra. Those who hold foreign nationalities are not eligible. **OCI card holders are, therefore, ineligible.**
- **Religious significance:** Kailash Manasarovar Yatra (KMY) is known for its religious value and cultural significance. Being significant to Hindus as the abode of Lord Shiva, it holds religious importance also for the Jains and the Buddhists.

Mount Kailash”

- Mount Kailash is a 6,638 m high peak in the Kailash Range (Gangdise Mountains), which forms part of the Transhimalaya in the Tibet Autonomous Region of China.
- The mountain is located near Lake Manasarovar and Lake Rakshastal, close to the source of some of the longest Asian rivers: the Indus, Sutlej, Brahmaputra, and Karnali/Ghaghara.

21. Bold Kurukshetra 2019

The 12th edition of BOLD KURUKSHETRA culminated on 11 April 2019 after a closing ceremony was held at Babina Military Station.

About:

- Bold Kurukshetra is a series of joint military training exercise between **India and Singapore.**
- The four day long joint training focused on developing interoperability and conduct of joint tactical operations in mechanised warfare. The troops learnt about each other's organisations and best practices being followed in combat.

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62



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83



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100



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105



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144



149



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296



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