



C.A From 01st Aug to 21st Aug 2019

GS-1

Groundwater resource

Context

Groundwater resources are over-exploited in 1,186 out of 6,881 “assessment units” (blocks, talukas, watersheds etc) in the country, the Jal Shakti Ministry said in reply to a question in Lok Sabha. This was as assessed in 2017, and translates to 17%, or one in every six of these units.

Details

- All these over-exploited assessment units are in 17 states and Union Territories.
- Punjab has the highest extent of over-exploitation at 79 per cent of its blocks, followed Rajasthan, Delhi, Haryana and Himachal Pradesh, each at 50 per cent or more.
- Tamil Nadu, which has the highest number of blocks (1,116 firkas), also has the highest number of over-exploited units at 462 firkas, or 40 per cent.
- In Maharashtra, where the Marathwada region is drought-hit, 3 per cent of the talukas are over-exploited.
- In Uttar Pradesh with 830 units (820 blocks and 10 cities), 11 per cent are over-exploited. In the eight Northeastern states none of the assessment units (districts and blocks) is over-exploited.

River interlinking project

Context:

Union Government has approved Rs 4,900 crore Kosi-Mechi Interlinking project for interlinking of Kosi and Mechi rivers of Bihar. This is the second major river interlinking project in the country to be approved by Central Government after the Ken-Betwa project in Madhya Pradesh.

About the project

- The river Kosi is an international river originating from Tibet and flowing through Nepal in Himalayan Mountains and the lower portion through plains of North Bihar.
- To overcome the acute problem of shifting of course of Kosi river, heavy sediment load, flooding etc. and to alleviate the severe suffering of the people of Bihar, the then His

Majesty's Government of Nepal and The Government of India signed an agreement on 25th April 1954 for implementation of Kosi project.

- The present proposal is an extension of Eastern Kosi Main Canal (EKMC) system upto river Mechi, a tributary of river Mahananda.

Benefits

- The aim of extension of EKMC upto Mechi river is mainly to provide irrigation benefits to the water scarce Mahananda basin command in the districts of Araria, Kishanganj, Purnea and Katihar during kharif season depending upon the pondage available in Hanuman Nagar barrage.
- This intrastate link scheme will thus transfer part of surplus water of Kosi basin to Mahananda basin. In view of irrigation benefit from the link canal, the project is fully justified.

Water stress: A report

India has more than three times the population of the other 16 extremely highly stressed countries combined, the WRI noted.

Details

- One-quarter of the world's population faces "extremely high" levels of baseline water stress, which means that irrigated agriculture, industries, and municipalities withdraw more than 80% of their available supply on average every year, new data from the World Resources Institute (WRI) show.
- India is 13th among these 17 countries.
- India has more than three times the population of the other 16 extremely highly stressed countries combined, the WRI noted.
- This implies that more than three-quarters of these populations facing extremely high water stress live in India.
- The WRI noted that last year, NITI Aayog declared that the country is "suffering from the worst water crisis in its history, and millions of lives and livelihoods are under threat".
- In addition to rivers, lakes and streams, India's groundwater resources are severely overdrawn, largely to provide water for irrigation.
- Groundwater tables in some northern aquifers declined at a rate of more than 8 cm per year between 1990 and 2014.

Steps taken

- The WRI took note of steps India has taken to mitigate water stress, including setting up the Jal Shakti Ministry.
- Other solutions India could pursue, the WRI suggested, include more efficient irrigation; conserving and restoring lakes, floodplains, and groundwater recharge areas; and collecting and storing rainwater.

Global scenario

- Globally, water withdrawals have more than doubled since the 1960s due to growing demand.
- Apart from the 17 countries facing withdrawals of 80% or more from available supply, 44 countries (home to one-third of the world) face “high” levels of stress, where on average more than 40% of available supply is withdrawn every year.
- Twelve out of the 17 most water-stressed countries are in the Middle East and North Africa.
- The region is hot and dry, so water supply is low to begin with, but growing demands have pushed countries further into extreme stress.
- The WRI said climate change is set to complicate matters further: The World Bank found that this region has the greatest expected economic losses from climate-related water scarcity, estimated at 6%-14% of GDP by 2050.
- The Aqueduct tool used by the WRI ranks countries on the basis of “water risk scores”, which are determined using 13 indicators of water risk.

Quit India movement:

Why in news?

On this day 77 years ago, Mumbai became the scene of massive public demonstrations against colonial rule. The previous day, August 8, 1942, Mahatma Gandhi had given the clarion call of 'Quit India' at Gowalia Tank (now August Kranti Maidan). The Quit India movement, which subsequently spread to other parts of the country, is among the key moments of India's freedom struggle.

What was going on in Mumbai during the Quit India movement?

Leaders of the movement

- There was Sardar Vallabhbhai Patel, of course, one of the Congress’s tallest leaders, who attracted massive crowds to his Mumbai rallies.
- Among the key local leaders who assisted him were Achyut Patwardhan, B G Kher, Nagindas Master, and S K Patil. Shankarrao Deo and Yusuf Meherally organised support both from the city and neighbouring Pune.
- The British government acted swiftly.
- Mahatma Gandhi was arrested from Birla House (now Gandhi Smriti) soon after he delivered the famous “Do or die” address, as were several regional Congress leaders. Gandhi was confined at the Aga Khan Palace in Pune and the latter at Yerwada Jail, also in that city.

Protests that rocked the city

- The arrests of major Congress leaders failed to deter agitators' grit. Protests around Dadar reached fever pitch, requiring both the military and police to be deployed.
- The situation also remained tense in a large stretch from Matunga to Kalbadevi and Thakurdwar in South Mumbai.
- The Bombay Stock Exchange had to remain shuttered for a long period, as did the city’s premier industries, including Godrej, Lever Brothers (today’s Hindustan Unilever), General Motors, and Richardson Cruddas.
- The city’s mills also remained closed, as did Zaveri Bazaar and the cloth market.

- Clashes with colonial authorities worsened when the latter began employing barbaric methods, such as whipping. Protesters consequently blocked public transport, police vehicles, and damaged telegraph cables and BEST bus stops.
- The Congress Women's Wing, also known as the Desh Sevika Sangh, led protests.

Quit India's non-Congress participants, and opponents

- Among the city's Muslim community, while some followed the All-India Muslim League's call to boycott the movement, others participated enthusiastically, such as the Jamiat-ul-Ulema and the All-India Azad Muslim Conference.
- The Rashtriya Girni Kamgar Sangh ensured that the city's mill workers joined the struggle. It also helped that many communist leaders at the time were also members of the Congress.
- Student politics also played a key role. Youth activists from VJTI, Elphinstone, Grant Medical, Khalsa, Ruia, Sydenham, St. Xavier's, and Wilson colleges worked together, taking out processions and paralysing communications.
- However, moderate politicians including Sir Jamnadas Mehta and Sir Cowasjee Jehangir opposed joining the movement, expressing concern over its timing, which coincided with imperial Japan's rapid advance from East Asia towards Indian frontiers.

Perseid meteor shower

What is it?

- On its journey around the Sun, the Earth passes through large swathes of cosmic debris.
- The debris is essentially the remnants of comets — great frigid chunks of matter that leave behind dirty trails of rocks and ice that linger long after the comets themselves have passed.
- As the Earth wades through this cloud of comet waste, the bits of debris create what appears from the ground to be a fireworks display in the sky — known as a meteor shower.

Recent cases

- Several meteor showers can be seen around the year.
- Among the brightest and best known of them is the Perseid Meteor Shower, which has been active from July 17 onward, and can be seen until August 26.
- The showers peaked on the night of Monday-Tuesday.

What is special about perseid?

- The Perseids occur as the Earth runs into pieces of cosmic debris left behind by the comet Swift-Tuttle.
- The cloud of debris is about 27 km wide — and at the peak of the display, between 160 and 200 meteors streak through the Earth's atmosphere every hour as the pieces of debris, travelling at some 2.14 lakh km per hour, burn up a little less than 100 km above the Earth's surface.
- The Perseids currently visible in the night sky are not due to the debris left behind by the comet Swift-Tuttle during its most recent pass, which happened in 1992.

- This particular comet goes around the Sun once in 133 years, and the meteors now visible were left behind by the pass before the last one — or perhaps even earlier.

When are they visible?

- Meteors are best seen on a cloudless night, when the entire sky is visible, and when the Moon is not extremely bright.
- Chances of a successful viewing are higher from locations far away from the lights of cities.
- Pollution and monsoon clouds make the Perseids difficult to view from India.
- The showers peak when the Earth passes through the most dense part of the debris cloud. Peaks can last for a few hours or several nights.
- They tend to be most visible after midnight and before dawn.
- The showers should be seen with naked eyes; binoculars and telescopes narrow the field of vision.

River interlinking project

Background

- IT IS an idea that has been in circulation for nearly four decades: can India build from scratch a national water grid, which will help transfer water from water-rich to water-deficit regions?
- This has led to proposals for water transfer from one river basin to another.
- The Special Committee for Inter-Linking of Rivers has submitted its progress report for the work done from July 2016 to March 2018, and the Union Cabinet chaired by the Prime Minister was updated on the report recently.

The reasons for?

- The Inter-Linking of Rivers programme aims to connect various surplus rivers with deficient rivers.
- The idea is to divert excess water from surplus regions to deficient regions to help improve irrigation, increase water for drinking and industrial use, and mitigate drought and floods to an extent.
- It is to be in accordance with the National Perspective Plan.
- This plan was formulated in 1980 by the Ministry of Irrigation (now Water Resources) to look into inter-basin transfers.
- The plan comprises two components: peninsular rivers development and Himalayan rivers development.
- India also has a National Water Development Agency (NWDA), which was set up in 1982, to conduct surveys and see how feasible proposals for interlinking river projects are.

Three projects

The status report of three priority links was shared with the Cabinet.

These were Ken-Betwa, Damanganga-Pinjal and Par-Tapi-Narmada.

KEN-BATWA:

- The project aims to link the rivers Ken (in the Bundelkhand region) and Betwa, both flowing through Uttar Pradesh and Madhya Pradesh.
- It proposes to “divert the surplus waters of river Ken through the Ken-Betwa link canal to river Betwa for meeting water requirements in the water-deficit Betwa basin”. Dams will be built across the Ken for storing and transferring water through the link canal.

DAMANGANGA-PINJAL:

- The project aims to divert excess water from rivers in western India to meet the domestic and industrial water requirements of Greater Mumbai.
- It proposes to move available water at the proposed Bhugad reservoir across the Damanganga and at the proposed Khargihill reservoir across the Vagh, a tributary of the Damanganga.
- These two reservoirs, proposed by the NWDA, will be linked to the Pinjal reservoir (proposed by Maharashtra) through pressure tunnels.

PAR-TAPI-NARMADA:

- The project proposes to transfer water from the Western Ghats to water-deficit regions of Saurashtra and Kutch via seven reservoirs proposed in northern Maharashtra and southern Gujarat.
- It is an attempt to save water at the Sardar Sarovar project by using feeder canals to service a part of the command area of the dam, officials say.

Issues and challenges

- Many experts and activists have questioned the idea of inter-basin transfer, for various reasons. The ecology of every river being unique, experts have stressed that letting the waters of two rivers mix may affect biodiversity.
- Because the programme proposes the construction of a massive network of canals and dams, it would lead to large-scale displacement of people and changes in agricultural patterns, and affect livelihoods.
- Experts have also objected to interlinking for financial reasons.
- In 2001, the total cost for linking the Himalayan and peninsular rivers was estimated at Rs 5,60,000 crore, excluding the costs of relief and rehabilitation, and other expenses such as measures to deal with submergence in some areas.
- Two years ago, a committee of the Ministry suggested that this cost was likely to be substantially higher now and the cost-benefit ratio might no longer be favourable.
- Another objection raised is that rainfall patterns are changing due to climate change, so the basins now supposed to be surplus, might cease to be so in a few years.

Gulf war

Why in news?

In an emotive gesture, Iraq on Thursday handed over the remains of 48 Kuwaiti nationals, more than 28 years after the Gulf War ended.

Background

- The Gulf War, which lasted between August 1990 and February 1991, was an international conflict that erupted after Iraq, under dictator Saddam Hussain, invaded neighbouring Kuwait, claiming it as its “19th province”.
- After Hussain defied UN warnings, the US and its allies forced Iraqi forces out of Kuwait.

What happened during the Gulf War?

- On August 2, 1990, Iraq annexed Kuwait, its south-eastern neighbour 25 times smaller in size.
- Although Hussain claimed Kuwait to be a part of Iraq, he invaded the region so that Baghdad could cancel a massive debt that it owed Kuwait, as well as acquire Kuwait's large oil reserves. Hussain also sought to link the annexation with the Palestinian conflict.
- Immediately after, the United Nations Security Council strongly reprimanded Iraq and warned of military action if its forces did not retreat by January 15, 1991.
- As Hussain refused to pay heed to the UN’s many warnings, a US-led coalition, consisting of 7 lakh troops from 35 countries assembled in Saudi Arabia -- Iraq's neighbour also threatened by Hussain's adventures in the region.
- After the January 15 deadline was flouted by Baghdad, coalition forces first launched Operation Desert Storm, which destroyed Iraq’s air defences, oil refineries, and key infrastructure.
- This was followed by Operation Desert Sabre, a ground offensive that went on to free Kuwait. The war finally ended on February 28, 1991, when the US declared a ceasefire.
- During the war, the Iraqi military is known to have lost between 8,000-50,000 people, as opposed to around 300 casualties incurred by coalition forces.

India during the Gulf War

- New Delhi had been one of the first powers to recognise the Baathist regime when it came to power, and Baghdad, in turn, had consistently maintained a pro-India stance, especially during the era when the rest of the region was seen to have gravitated towards Pakistan.
- When the Gulf War started, India, which at the time was led by PM Chandra Shekhar, maintained its signature non-aligned stance.
- However, it rejected Baghdad’s demand for linking the hostilities that were unfolding then with the Palestinian conflict.
- Between August 13 and October 20 of 1990, India evacuated over 1,75,000 of its nationals from war-torn Kuwait, the biggest such operation by the Indian government.
- The feat has been mentioned in the Guinness Book of World Records as the largest number of people being evacuated by a civilian airliner, and was depicted in the 2016 Hindi film ‘Airlift’.

Delimitation commission

Why in news?

SINCE THE bifurcation of Jammu and Kashmir state into the Union Territories of J&K and Ladakh, delimitation of their electoral constituencies has been inevitable. While the government has not

formally notified the Election Commission yet, the EC has held “internal discussions” on the Jammu and Kashmir Reorganisation Act, 2019, particularly its provisions on delimitation.

Why is delimitation needed?

- Delimitation is the act of redrawing boundaries of Lok Sabha and state Assembly seats to represent changes in population.
- In this process, the number of seats allocated to different states in Lok Sabha and the total number seats in a Legislative Assembly may also change.
- The main objective of delimitation is to provide equal representation to equal segments of a population.
- It also aims at a fair division of geographical areas so that one political party doesn't have an advantage over others in an election. Delimitation is carried out by an independent Delimitation Commission.
- The Constitution mandates that its orders are final and cannot be questioned before any court as it would hold up an election indefinitely.

How is delimitation carried out?

- Under Article 82, the Parliament enacts a Delimitation Act after every Census.
- Once the Act is in force, the Union government sets up a Delimitation Commission made up of a retired Supreme Court judge, the Chief Election Commissioner and the respective State Election Commissioners.
- The Commission is supposed to determine the number and boundaries of constituencies in a way that the population of all seats, so far as practicable, is the same.
- The Commission is also tasked with identifying seats reserved for Scheduled Castes and Scheduled Tribes; these are where their population is relatively large.
- All this is done on the basis of the latest Census and, in case of difference of opinion among members of the Commission, the opinion of the majority prevails.

How often has delimitation been done in the past?

- The first delimitation exercise in 1950-51 was carried out by the President (with the help of the Election Commission), as the Constitution at that time was silent on who should undertake the division of states into Lok Sabha seats.
- This delimitation was temporary as the Constitution mandated redrawing of boundaries after every Census.
- Hence, another delimitation was due after the 1951 Census. Pointing out that the first delimitation had left many political parties and individuals unhappy, the EC advised the government that all future exercises should be carried out by an independent commission.
- This suggestion was accepted and the Delimitation Commission Act was enacted in 1952. Delimitation Commissions have been set up four times — 1952, 1963, 1973 and 2002 under the Acts of 1952, 1962, 1972 and 2002. There was no delimitation after the 1981 and 1991 Censuses.

Why was there no delimitation then?

- The Constitution mandates that the number of Lok Sabha seats allotted to a state would be such that the ratio between that number and the population of the state is, as far as practicable, the same for all states.
- Although unintended, this provision implied that states that took little interest in population control could end up with a greater number of seats in Parliament.
- The southern states that promoted family planning faced the possibility of having their seats reduced. To allay these fears, the Constitution was amended during Indira Gandhi's Emergency rule in 1976 to suspend delimitation until 2001.
- Although the freeze on the number of seats in Lok Sabha and Assemblies should have been lifted after the 2001 Census, another amendment postponed this until 2026.
- This was justified on the ground that a uniform population growth rate would be achieved throughout the country by 2026.
- So, the last delimitation exercise — started in July 2002 and completed on May 31, 2008 — was based on the 2001 Census and only readjusted boundaries of existing Lok Sabha and Assembly seats and reworked the number of reserved seats.

Why is delimitation for Jammu and Kashmir in the news now?

- Delimitation of Jammu and Kashmir's Lok Sabha seats is governed by the Indian Constitution, but delimitation of its Assembly seats (until special status was abrogated recently) was governed separately by the Jammu and Kashmir Constitution and Jammu and Kashmir Representation of the People Act, 1957. As far as delimitation of Lok Sabha seats is concerned, the last Delimitation Commission of 2002 was not entrusted with this task. Hence, J&K parliamentary seats remain as delimited on the basis of the 1971 Census.
- This month, the Union government scrapped the state's special status and turned J&K into a Union Territory.
- Under this law, delimitation of Lok Sabha and Assembly seats in J&K UT will be as per the provisions of the Indian Constitution.
- The Act also states that in the next delimitation exercise, which is expected to kickstart soon, the number of Assembly seats will increase from 107 to 114. The increase in seats is expected to benefit Jammu region.

Chief of defence staff

What is the office of the Chief of Defence Staff (CDS)?

- The CDS is a high military office that oversees and coordinates the working of the three Services, and offers seamless tri-service views and single-point advice to the Executive (in India's case, to the Prime Minister) on long-term defence planning and management, including manpower, equipment and strategy, and above all, "jointmanship" in operations.
- In most democracies, the CDS is seen as being above inter-Service rivalries and the immediate operational preoccupations of the individual military chiefs. The role of the CDS becomes critical in times of conflict..

- He is the most senior military officer and military adviser to the President, and his remit extends to the National Security Council, the Homeland Security Council, and the Defence Secretary

So, why had India not appointed a CDS until now?

- India has had a feeble equivalent known as the Chairman, Chiefs of Staff Committee (CoSC); but this is a toothless office, given the manner in which it is structured.
- The seniormost among the three Service Chiefs is appointed to head the CoSC, an office that lapses with the incumbent's retirement.
- The current Chairman CoSC is Air Chief Marshal Birender Singh Dhanoa, who succeeded the former Chief of the Naval Staff Admiral Sunil Lanba on May 31. When ACM Dhanoa retires at the end of September 2019, he would have served as Chairman CoSC for a mere four months.

Early proposal

- The first proposal for a CDS came from the 2000 Kargil Review Committee (KRC), which called for a reorganisation of the "entire gamut of national security management and apex decision-making and structure and interface between the Ministry of Defence and the Armed Forces Headquarters".
- The Group of Ministers Task Force that studied the KRC Report and recommendations, proposed to the Cabinet Committee on Security that a CDS, who would be five-star officer, be created.
- In preparation for the post, the government created the Integrated Defence Staff (IDS) in late 2002, which was to eventually serve as the CDS's Secretariat.
- However, over the past 17 years, this has remained yet another nebulous department within the military establishment.

But what happened to the proposal?

- No consensus emerged among the Services, with the IAF especially opposed to such a move.
- The Congress, then in opposition, was against the idea of concentrating too much military power in the CDS's post.
- The Ministry of Defence (MoD) too, opposed it subtly for the same reasons, and because it could disrupt civil-military ties in the latter's favour.

What is the case for having a CDS?

- Although the KRC did not directly recommend a CDS — that came from the GoM — it underlined the need for more coordination among the three Services, which was poor in the initial weeks of the Kargil conflict.
- The KRC Report pointed out that India is the only major democracy where the Armed Forces Headquarters is outside the apex governmental structure.
- It observed that Service Chiefs devote most of their time to their operational roles, "often resulting in negative results".

- Long-term defence planning suffers as day-to-day priorities dominate.
- Also, the Prime Minister and Defence Minister do not have the benefit of the views and expertise of military commanders, in order to ensure that higher level defence management decisions are more consensual and broadbased.
- The CDS is also seen as being vital to the creation of “theatre commands”, integrating tri-service assets and personnel like in the US military.

And what are the arguments against?

- Theoretically, the appointment of a CDS is long overdue, but there appears to be no clear blueprint for the office to ensure its effectiveness.
- India’s political establishment is seen as being largely ignorant of, or at best indifferent towards, security matters, and hence incapable of ensuring that a CDS works.

Who at present advises India’s Prime Minister on military matters?

- In effect it is the National Security Adviser.
- This has been especially so after the Defence Planning Committee was created in 2018, with NSA Ajit Doval as its chairman, and the foreign, defence, and expenditure secretaries, and the three Service Chiefs as members.

Punjab flood

As Punjab grapples with floods, which Chief Minister Amarinder Singh termed as “unprecedented”, the blame is more on the rainfall in catchment area of Sutlej river in Himachal Pradesh, than on rain back home. Kanchan Vasdev explains why:

Which are the districts that witnessed the fury of floods in Punjab this time?

- Several villages in six districts including Patiala, Sangrur, Moga, Ropar, Jalandhar and Ferozepur were inundated.
- Mostly the districts lining the Satluj river in Malwa and Doaba regions of the state were affected due to overflowing of river in some areas and breaches in the bandh on the river in others.

Is heavy rain alone to be blamed for floods?

- Punjab experienced just 5 per cent more rain than last year as of August 20. Last year the state had witnessed 343.2 cm rainfall while this year it has been 357.3 cm.
- The districts that experienced heavy rainfall — between 15 to 20 cm — this year include Gurdaspur, Nawanshahar, Hoshiarpur, Jalandhar, Pathankot, Ludhiana, Patiala and Fatehgarh Sahib.
- Rest of the districts experienced a moderate rainfall ranging between 4-8 cms.
- Irrigation department says more than the rain in the state, it is the rainfall in the catchment area of Satluj river in Himachal Pradesh that was responsible for the floods.

How did the rain in Himachal Pradesh cause floods in Punjab?

- Bhakra dam, built on Satluj, is filled to the brim a month before the reservoir's filling season comes to an end. The dam's filling season lasts till September 22.
- But it crossed its permissible storage level of 1,680 feet on August 19 and reached 1,682 feet despite the Bhakra Beas Management Board (BBMB) opening the spillways by upto eight feet and releasing water in the Satluj river.
- The swelling of Satluj due to opening of spillways caused floods.
- The inflow in the reservoir was recorded at 1.30 lakh cusecs (cubic metres per second) on August 19.
- The rain stopped in the catchment area on August 19 and the inflow has come down to 50,000 cusecs while the outflow through turbines and floodgates collectively amounted to a release of 76,000 cusecs.

What is the carrying capacity of Satluj river?

- Satluj can safely handle 2.5 lakh cusecs but can carry up to 4 lakh cusecs of water.
- Irrigation experts say that opening of floodgates, coupled with silting of river, and poor maintenance of bandhs caused the breaches and overflowing of the river thereby leaving several parts inundated.
- The heavy silting in the river was caused by the state not issuing contracts for mining in the entire last fiscal year.
- Experts say the sand kept accumulating but it could not be mined thereby reducing the carrying capacity of the river.
- Also, the encroachments in the natural drains and channels are to be blamed for poor drainage.

Is the threat over?

- The IMD has forecast another spell of rain in catchment area on August 24, 25 and 26.
- With water level in Bhakra dam already at its highest point of permissible level and inflow still continuing, the threat is still there.
- The BBMB, in a meeting with three states including Punjab, Haryana and Rajasthan on Tuesday, decided to keep the level at 1680 feet by continuously releasing water through floodgates.
- The BBMB had on its own reduced the permissible limit at 1680 feet, bringing it down by five feet from 1685 feet in 1988 when Punjab had experienced worst floods.

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Atal Innovation Mission

Context: Atal Innovation Mission (AIM) launches Atal Community Innovation Centre (ACIC) Program.

About ACIC Program:

Aim:

- The programme aims at spurring community Innovation in underserved and unserved areas of the country.

Significance:

- ACIC can serve as the bridge between the knowledge base existing in communities and the advanced technical ecosystem prevalent in the market base, addressing the needs of society.

Features of the program:

- ACIC is a new initiative of Atal Innovation Mission to support community innovation drive in the country.
- The program is directed to encourage the spirit of innovation through solution driven design thinking to serve the society.
- It will focus on underserved/ unserved regions of the country which at present lack a vibrant start-up and innovation ecosystem.
- ACIC will be established either in PPP mode or with support of PSUs and other agencies.
- The maximum grant-in-aid support from AIM will be up to 2.5 crores subject following compliance to ACIC guidelines and contributing matching from the host institutions and their funding partner(s).

About Atal Innovation Mission (AIM):

- Atal Innovation Mission (AIM) including Self-Employment and Talent Utilization (SETU) is Government of India's endeavour to promote a culture of innovation and entrepreneurship.
- Its objective is to serve as a platform for promotion of world-class Innovation Hubs, Grand Challenges, Start-up businesses and other self-employment activities, particularly in technology driven areas.

Increase in SC judges.

Context:

Cabinet approves increasing strength of Supreme Court judges from 31 to 34.

At present, the sanctioned strength of the apex court is 31.

Why is it needed?

- 59,331 cases are pending in the top court. Due to paucity of judges, the required number of Constitution Benches to decide important cases involving questions of law are not being formed.
- Therefore, increase in strength is needed so that the SC can function more efficiently and effectively as it will go a long way to attain the ultimate goal of rendering timely justice to the litigant public.

Background:

- The Supreme Court (Number of Judges) Act, 1956 originally provided for a maximum of 10 judges (excluding the CJI). This number was increased to 13 by the Supreme Court (Number of Judges) Amendment Act, 1960, and to 17 in 1977.

- In 1988, the judge strength of the SC was increased to 26, and then again after two decades in 2009, it was increased to 31, including the CJI, to expedite disposal of cases to keep pace with the rate of institution.

Who appoints judges to the SC?

- In exercise of the powers conferred by clause (2) of Article 124 of the Constitution of India, the appointments are made by the President of India.
- The names are recommended by the Collegium.

Eligibility to become a Supreme Court judge:

- The norms relating to the eligibility has been envisaged in the Article 124 of the Indian Constitution.
- To become a judge of the Supreme court, an individual should be an Indian citizen.
- In terms of age, a person should not exceed 65 years of age.
- The person should serve as a judge of one high court or more (continuously), for at least five years or the person should be an advocate in the High court for at least 10 years or a distinguished jurist

Inter state river water dispute

Why in news?

ON WEDNESDAY, Lok Sabha gave its approval to a proposal to set up a permanent tribunal to adjudicate on inter-state disputes over sharing of river waters.

The Bill cleared by Lok Sabha seeks to make amendments to the Inter-State River Waters Disputes Act of 1956 that provides for setting up of a separate tribunal every time a dispute arises. Once it becomes law, the amendment will ensure the transfer of all existing water disputes to the new tribunal. All five existing tribunals under the 1956 Act would cease to exist.

Why the change

- The main purpose is to make the process of dispute settlement more efficient and effective. Under the 1956 Act, nine tribunals have so far been set up. Only four of them have given their awards.
- One of these disputes, over Cauvery waters between Karnataka and Tamil Nadu, took 28 years to settle.
- The Ravi and Beas Waters Tribunal was set up in April 1986 and it is still to give the final award. The minimum a tribunal has taken to settle a dispute is seven years, by the first Krishna Water Disputes Tribunal in 1976.
- The amendment is bringing a time limit for adjudicating the disputes. All disputes would now have to be resolved within a maximum of four-and-a-half years.
- The multiplicity of tribunals has led to an increase in bureaucracy, delays, and possible duplication of work.

- The replacement of five existing tribunals with a permanent tribunal is likely to result in a 25 per cent reduction in staff strength, from the current 107 to 80, and a saving of Rs 4.27 crore per year.
- The current system of dispute resolution would give way to a new two-tier approach. The states concerned would be encouraged to come to a negotiated settlement through a Disputes Resolution Committee (DRC).
- Only if the DRC fails to resolve the dispute will the matter be referred to the tribunal.

How it will work

- In the existing mechanism, when states raise a dispute, the central government constitutes a tribunal.
- Under the current law, the tribunal has to give its award within three years, which can be extended by another two years. In practice, tribunals have taken much longer to give their decisions.
- Under the new system, the Centre would set up a DRC once states raise a dispute.
- The DRC would be headed by a serving or retired secretary-rank officer with experience in the water sector and would have other expert members and a representative of each state government concerned.
- The DRC would try to resolve the dispute through negotiations within a year and submit a report to the Centre. This period can be extended by a maximum of six months.
- If the DRC fails to settle the dispute, it would be referred to the permanent tribunal, which will have a chairperson, a vice-chairperson and a maximum of six members — three judicial and three expert members.
- The chairperson would then constitute a three-member bench that would consider the DRC report before investigating on its own.
- It would have to finalise its decision within two years, a period that can be extended by a maximum of one more year — adding up to a maximum of four-and-a-half years.
- The decision of the tribunal would carry the weight of an order of the Supreme Court. There is no provision for appeal. However, the Supreme Court, while hearing a civil suit in the Cauvery dispute, had said the decision of that tribunal could be challenged before it through a Special Leave Petition under Article 136 of the Constitution

Section 144

Why in news?

The Jammu and Kashmir government imposed restrictions in Srinagar under Section 144 CrPC late Sunday night, shutting down mobile, broadband internet, and cable TV services. State leaders including Omar Abdullah, Mehbooba Mufti, and Sajad Lone have also been placed under house arrest.

According to an order issued by the government, “there shall be no movement of public and all educational institutions shall also remain closed. All public movement has been curtailed and educational institutions will remain closed”. Follow LIVE Updates

What is Section 144 CrPC?

- Section 144 of the Code of Criminal Procedure (CrPC) is issued in urgent cases of security threat or riot and bars the assembly of five or more people in an area where it has been imposed.
- The notification is issued by the District Magistrate of the area.
- The section also empowers the authorities to block internet access.

When is Section 144 CrPC imposed?

- When there are apprehensions of breach of public peace and order by some people, Section 144 CrPC is put into effect.
- Under this section, all civilians are barred from carrying of weapons including lathis, sharp-edged weapons or firearms in public places except for police or paramilitary or security forces.
- No order under this section can remain in force for more than two months.
- However, if the state government considers it necessary for preventing danger to human life or for preventing a riot, it can extend the impositions under the sections for not more than six months from the date of issuance of the initial order.

What is the punishment if someone violates Section 144 CrPC?

- Any person involved in such unlawful assembly can be booked for "engaging in rioting". The maximum punishment for such act is three years.
- Anyone who obstructs the police from breaking the assembly or abets the assembly is also punishable under law.

What is the difference between prohibitory orders under Section 144 and curfew?

- It must be noted that Section 144 CrPC is not equivalent to a curfew.
- Curfew orders are issued in more severe situations where people are instructed to stay indoors for a specific time or period.
- Establishments such as markets, schools, colleges, etc. are ordered to remain shut, and only essential services are allowed to run on prior notice. There is a complete restriction on traffic as well.

ICJ on consular access

Why in news?

Pakistan has "offered" India consular access to Kulbhushan Jadhav, who has been in jail in Pakistan since March 2016. The former Indian Navy officer was sentenced to death by a Pakistani military court on charges of espionage and terrorism.

Background

- The Hague-based International Court of Justice (ICJ) had ordered on July 17 that Pakistan must undertake an "effective review and reconsideration" of Jadhav's conviction and sentencing, and grant consular access to him without delay.

- The ICJ upheld India's stand that Pakistan is in egregious violation of the Vienna Convention on Consular Relations, 1963.
- India has asked Pakistan to grant "full consular access" to Jadhav in "full compliance and conformity" the ICJ verdict and the Vienna Convention.
- India wants to ensure that the meeting does not become a sham like the one in December 2017, when Jadhav's mother and wife visited him.

What is the concept of "consular access"?

- Consular access simply means that a diplomat or an official will have a meeting with the prisoner who is in the custody of another country.
- Usually, during the meeting, the diplomat will first confirm the identity of the person, and will then ask some basic questions — on how he/she is being treated in custody, and what he/she wants.
- The principle of consular access was agreed to in the 1950s and 60s. The Vienna Convention on Consular Relations (VCCR) was framed in 1963, at the height of Cold War.
- This was a time when "spies" from the US and USSR were caught in each other's countries and across the world, and the idea was to ensure that they were not denied consular access.
- All countries agreed to the principle, and more than 117 have ratified the Vienna Convention, making it one of the most universally recognised treaties in the world.
- Under Article 36 of the VCCR, at the request of a detained foreign national, the consulate of the sending State must be notified of the detention "without delay".
- The consulate has the right "to visit a national of the sending State who is in prison, custody or detention, to converse and correspond with him and to arrange for his legal representation".

Anti-Lynching Bill

Why in news?

Rajasthan Assembly Passes Anti-Lynching Bill.

Key features of the bill:

Definitions:

- "Mob"— a group of two or more individuals.
- "Lynching"— "an act or series of acts of violence or those of aiding, abetting or attempting an act of violence, whether spontaneous or preplanned, by a mob on the grounds of religion, race, caste, sex, place of birth, language, dietary practices, sexual orientation, political affiliation or ethnicity".

Punishment:

- For the offence of an assault by mob, leading to the victim suffering grievous hurts, the Bill provides for jail terms up to 10 years and a fine of Rs. 25,000 to Rs. 3 lakh.

- In cases of the victims suffering simple injuries, the Bill proposes imprisonment up to seven years and a fine up to Rs. 1 lakh.
- For hatching a conspiracy of lynching or aiding, abetting or attempting such an offence, the Bill seeks to punish the offenders in the same manner as if he actually committed the offence of lynching.

Prevention:

- The Bill empowers the state police chief to appoint a state coordinator of the rank of inspector general of police to prevent the incidents of lynching in the state with the district superintendents of police acting as the district's coordinator, to be assisted by a deputy superintendents of police, for taking measures to prevent incidents of mob violence and lynching.

Coverage:

- The Bill also enlists various other offences related to the lynching such as dissemination of offensive materials, propagation of hostile environment and obstructing legal processes, which would be punishable with jail terms varying from three to five years.

Compensation and rehabilitation:

- The Bill also stipulates the provision of compensation to victims by the state government as per the Rajasthan Victim Compensation Scheme.
- It also binds the state government to take necessary measures to rehabilitate the victims of mob lynching, suffering displacements from their native places.

UNSC RESOLUTION-47

Why in news?

Hours after news broke of the government's decision to remove the special status for the state of Jammu and Kashmir by modifying Article 370 of India's Constitution, Pakistan's prime minister, Imran Khan slammed the move as "illegal" and said that it would result in further deterioration of diplomatic relations between India & Pakistan.

What are the UN Security Council resolutions that Imran Khan spoke about?

- In his statement, Imran Khan referred to Resolution 47 of the UNSC that focuses on the complaint of the Government of India concerning the dispute over the State of Jammu and Kashmir, that India took to the Security Council in January 1948.
- In October 1947, following an invasion by soldiers from the Pakistan Army in plainclothes and tribesmen, the Maharaja of Kashmir, Hari Singh sought assistance from India and signed the Instrument of Accession.
- After the first war in Kashmir (1947-1948), India approached the UN Security Council to bring the conflict in Kashmir to the notice of Security Council members.

Who were the UNSC members who oversaw the issue?

- The UN Security Council increased the size of the investigating council to include six members along with permanent members of the UNSC.
- Along with the five permanent members, China, France, UK, US & Russia, non-permanent members included Argentina, Belgium, Canada, Colombia, Syria and the Ukrainian Soviet Socialist Republic.

What happened at the UNSC?

- India's position was that it was ready to hold a plebiscite, a direct vote in which an entire electorate votes on a specific proposal, to know of the people's desire and accept the results of the vote.
- Pakistan denied its involvement in the conflict and counter-accused India.
- In response the UNSC, under Resolution 39 (1948) stated "with a view to facilitating...the restoration of peace and order and to the holding of a plebiscite, by the two Governments, acting in co-operation with one another and with the Commission, and further instructs the Commission to keep the Council informed of the action taken under the resolution."
- It also ordered for the conflict to cease and to create conditions for a "free and impartial plebiscite" to decide whether Jammu and Kashmir would accede to India or Pakistan.

What did the UNSC order Pakistan to do?

- The UNSC ordered that Pakistan was to withdraw its tribesmen and Pakistan nationals who had entered "the State for the purpose of fighting" and to prevent future intrusions and to prevent "furnishing of material aid to those fighting in the State".
- The UNSC also stated that it gave "full freedom to all subjects of the State, regardless of creed, caste or party, to express their views" and the freedom to vote on the issue of the accession of the State.
- It was also ordered Pakistan to cooperate with maintaining peace and order.

What did the UNSC order India to do?

- The UNSC had a more comprehensive set of orders for India.
- It said that after the Pakistani army and tribesmen had withdrawn from the State and the fighting had ceased, India was to submit a plan to the Commission for withdrawing forces from Jammu and Kashmir and to reduce them over a period of time to the minimum strength required for civil maintenance of law and order.
- India was ordered to appraise the Commission of the stages at which steps had been taken to reduce military presence to the minimum strength and to arrange remaining troops after consultations with the Commission.
- Among other instructions, India was ordered to agree that till the time the Plebiscite Administration found it necessary to exercise the powers of direction and supervision over the State forces and police, these forces would be held in areas to be agreed upon with the Plebiscite Administrator.
- It also directed India to recruit local personnel for law and order and to safeguard the rights of minorities.

How did India & Pakistan react to the UNSC Resolution 47?

- Both countries rejected Resolution 47. India's contention was that the resolution ignored the military invasion by Pakistan and placing both nations on an equal diplomatic ground was a dismissal of Pakistan's aggression and the fact that the Maharaja of Kashmir, Hari Singh had signed the Instrument of Accession.
- India also objected to the Resolution's requirement that did not allow India to retain military presence which it believed it needed for defence.
- India also believed that the powers conferred on the Plebiscite Administrator undermined the state's sovereignty.
- India also wanted Pakistan to be excluded from the operations of the plebiscite.
- Pakistan on the other hand, objected to even the minimum presence of Indian forces in Kashmir, as allowed by the resolution.
- It also wanted an equal representation in the state government for the Muslim Conference, which was the dominant party in Pakistani-held Kashmir.
- Despite their differences with the provisions of Resolution 47, both India and Pakistan welcomed the UN Commission and agreed to work with it.

Article 371

Why in news?

Northeastern states of India have expressed apprehension that having rendered Article 370 irrelevant, the government might unilaterally move to abrogate or modify Article 371.

However, the government has clarified that it had no intention of removing Article 371 of the Constitution.

What is Article 371 all about?

- Articles 369 through 392 appear in Part XXI of the Constitution, titled 'Temporary, Transitional and Special Provisions'.
- Article 371 of the Constitution includes "special provisions" for 11 states, including six states of the Northeast.
- Articles 370 and 371 were part of the Constitution at the time of its commencement on January 26, 1950; Articles 371A through 371J were incorporated subsequently.

Overview:

Article 371, Maharashtra and Gujarat:

- Governor has "special responsibility" to establish "separate development boards" for "Vidarbha, Marathwada, and the rest of Maharashtra", and Saurashtra and Kutch in Gujarat; ensure "equitable allocation of funds for developmental expenditure over the said areas", and "equitable arrangement providing adequate facilities for technical education and vocational training, and adequate opportunities for employment" under the state government.

Article 371A (13th Amendment Act, 1962), Nagaland:

- Inserted after a 16-point agreement between the Centre and the Naga People’s Convention in 1960, which led to the creation of Nagaland in 1963.
- Parliament cannot legislate in matters of Naga religion or social practices, Naga customary law and procedure, administration of civil and criminal justice involving decisions according to Naga customary law, and ownership and transfer of land without concurrence of the state Assembly.

Article 371B (22nd Amendment Act, 1969), Assam:

- The President may provide for the constitution and functions of a committee of the Assembly consisting of members elected from the state’s tribal areas.

Article 371C (27th Amendment Act, 1971), Manipur:

- The President may provide for the constitution of a committee of elected members from the Hill areas in the Assembly, and entrust “special responsibility” to the Governor to ensure its proper functioning.

Article 371D (32nd Amendment Act, 1973; substituted by The Andhra Pradesh Reorganisation Act, 2014), Andhra Pradesh and Telangana:

- President must ensure “equitable opportunities and facilities” in “public employment and education to people from different parts of the state”.
- He may require the state government to organise “any class or classes of posts in a civil service of, or any class or classes of civil posts under, the State into different local cadres for different parts of the State”.
- He has similar powers vis-à-vis admissions in educational institutions.

Article 371E:

- Allows for the establishment of a university in Andhra Pradesh by a law of Parliament. But this is not a “special provision” in the sense of the others in this part.

Article 371F (36th Amendment Act, 1975), Sikkim:

- The members of the Legislative Assembly of Sikkim shall elect the representative of Sikkim in the House of the People.
- To protect the rights and interests of various sections of the population of Sikkim, Parliament may provide for the number of seats in the Assembly, which may be filled only by candidates from those sections.

Article 371G (53rd Amendment Act, 1986), Mizoram:

- Parliament cannot make laws on “religious or social practices of the Mizos, Mizo customary law and procedure, administration of civil and criminal justice involving decisions according to Mizo customary law, ownership and transfer of land... unless the Assembly... so decides”.

Article 371H (55th Amendment Act, 1986), Arunachal Pradesh:

- The Governor has a special responsibility with regard to law and order, and “he shall, after consulting the Council of Ministers, exercise his individual judgment as to the action to be taken”.

Article 371J (98th Amendment Act, 2012), Karnataka:

- There is a provision for a separate development board for the Hyderabad-Karnataka region.
- There shall be “equitable allocation of funds for developmental expenditure over the said region”, and “equitable opportunities and facilities” for people of this region in government jobs and education.
- A proportion of seats in educational institutions and state government jobs in Hyderabad-Karnataka can be reserved for individuals from that region.

Article 371I deals with Goa, but it does not include any provision that can be deemed ‘special’.

Significance:

- All these provisions take into account the special circumstances of individual states, and lay down a wide range of specific safeguards that are deemed important for these states.
- In these range of Articles from 371 to 371J, Article 371I, which deals with Goa, stands out in the sense that it does not include any provision that can be deemed “special”. Article 371E, which deals with Andhra Pradesh and Telangana, too, is not that “special”.

United Nations Convention on International Settlement Agreements

Why in news?

The United Nations Convention on International Settlement Agreements (UNISA) was signed by 46 countries in total.

India on Wednesday signed a key UN convention on international settlement agreements, even as experts called for local laws to support the treaty’s implementation in business contracts.

The United Nations Convention on International Settlement Agreements (UNISA) was signed by India’s High Commissioner to Singapore Jawed Ashraf, representing the Government of India. 46 countries signed the treaty named Singapore Convention on Mediation.

Significance

- “The signing of the convention is particularly important for the growth of mediation in India.
- “India has adopted this (convention) and with that we have significantly enhanced the ease of doing business in India.

Increase in sex ratio at birth

Context

The highest improvement was in Punjab at 126 points, but its SRB remained among the lowest among the states at 860 in NFHS-4.

Details

- The sex ratio at birth (SRB) in the country, defined as the number of female births per 1,000 male births, improved from 914 to 919 between the third and fourth National Family Health Surveys (NFHS), carried out in 2005-06 and 2015-16 respectively.
- The highest improvement was in Punjab at 126 points, but its SRB remained among the lowest among the states at 860 in NFHS-4.
- The sharpest decline was in Sikkim, where the SRB dropped 175 points to reach 809, the lowest among all states in 2015-16.
- Next to Punjab, the highest improvement in SRB was in Kerala, by 122 points from 925 in 2005-06. Its 1,047 in 2015-16 was the highest SRB among all states.
- Next to Sikkim, the five states with the highest declines included four more in the Northeast.

HIGHEST IMPROVEMENT			
State	NFHS-3 (2005-06)	NFHS 4 (2015-16)	Change
Punjab	734	860	+126
Kerala	925	1,047	+122
Meghalaya	907	1,009	+102
Haryana	762	836	+74
Tamil Nadu	897	954	+58
Maharashtra	867	924	+57

SHARPEST DECLINE			
State	NFHS-3 (2005-16)	NFHS 4 (2015-16)	Change
Sikkim	984	809	-175
Jharkhand	1,091	919	-172
Arunachal	1,071	920	-151
Assam	1,033	929	-104
Mizoram	1,025	946	-79
Manipur	1,014	962	-51

Source: Ministry of Health & Family Welfare

2015-16: TOP 6 & BOTTOM 6

Kerala	1,047
Dadra & Nagar Haveli	1,013
Meghalaya	1009
Chhattisgarh	977
Tripura	966
Goa	966
Punjab	860
A&N Islands	859
Puducherry	843
Haryana	836
Delhi	817
Sikkim	809

Source: NFHS-4 via Ministry of Health

UNIDO

Why in news?

UNIDO and National Institute of Solar Energy to initiate a skill development programme for different levels of beneficiaries in the solar thermal energy sector.

NISE and UNIDO will engage national and international experts to bring the best practices by developing specialized training material.

Background:

- The agreement is part of the ongoing MNRE-GEF-UNIDO project implemented jointly by UNIDO and to support capacity building and skill development of technical manpower in the Concentrated Solar Thermal Energy Technologies (CST) which are being used to replace conventional fossil fuels e.g. coal, diesel, furnace oil etc. and save costs and emissions in the industrial process heat applications.

About UNIDO:

- UNIDO is the specialized agency of the United Nations that promotes industrial development for poverty reduction, inclusive globalization and environmental sustainability.
- It is also a member of UNDP.
- As of 1 April 2019, 170 States are Members of UNIDO.
- Members regularly discuss and decide UNIDO's guiding principles and policies in the sessions of the Policymaking Organs.
- The mission of UNIDO, as described in the Lima Declaration adopted at the fifteenth session of the UNIDO General Conference in 2013, is to promote and accelerate inclusive and sustainable industrial development (ISID) in Member States.
- UNIDO's mandate is fully recognized in SDG-9, which calls to "Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation".

One nation one ration card

Why in news?

In a bid to implement 'One Nation, One Ration Card' across the country by June 1, 2020, the Centre on Friday kick-started inter-state portability of ration cards between Telangana-Andhra Pradesh as well as Maharashtra-Gujarat.

About the scheme

- One Nation One Ration Card' scheme, which will allow portability of food security benefits, will be available across the country from July 1, 2020.
- This means poor migrant workers will be able to buy subsidised rice and wheat from any ration shop in the country, so long as their ration cards are linked to Aadhaar.
- All the States have been given one more year to use point of sale (PoS) machines in the ration shops and implement the scheme, Food Minister Ram Vilas Paswan told journalists on Saturday.
- Already, 77% % of the ration shops across the country have PoS machines and more than 85% of people covered under the National Food Security Act (NFSA) have their cards linked to Aadhaar.

Is aadhar mandatory?

- While Aadhaar linkage is not necessary to access NFSA benefits in a beneficiary's local registered ration shop, located closest to her home address, it will be necessary to access the portability scheme, according to senior Food Ministry officials.

Applicability:

- Ten States -- Andhra Pradesh, Gujarat, Haryana, Jharkhand, Karnataka, Kerala, Maharashtra, Rajasthan, Telangana and Tripura -- already offer this portability, pointed out Mr. Paswan.
- Delhi had also begun implementing portability, though it was later stopped for technical reasons. Other States, including Himachal Pradesh, Madhya Pradesh, Jammu and Kashmir,

Punjab and Tamil Nadu, could easily implement the scheme, as they had PoS machines in all the ration shops.

Eligibility

- A senior Ministry official clarified that migrants would only be eligible for the subsidies supported by the Centre, which include rice sold at Rs. 3/kg and wheat at Rs. 2/kg.
- Even if a beneficiary moved to a State where grains were given for free, that person would not be able to access those benefits, as they were funded by the State exchequer.

Fortified grains

- In a bid to reduce nutrition deficiencies among beneficiaries, the Centre would roll out a pilot project in 15 districts to fortify rice grains with iron, folic acid, Vitamin A and Vitamin B12. The first fortified grains would be available in ration shops from this November.

UN Convention on International Settlement Agreements

Why in news?

The Union Cabinet chaired by Prime Minister Narendra Modi has approved the signing of the United Nations Convention on International Settlement Agreements (UNISA) resulting from mediation by the Republic of India scheduled to be held at Singapore on 7th August, 2019, or at United Nations Headquarters.

Benefit:

Signing of the Convention will boost the confidence of the investors and shall provide a positive signal to foreign investors about India's commitment to adhere to international practice on Alternative Dispute Resolution (ADR).

Initiatives to promote ADR Mechanisms:

- In order to encourage international commercial arbitration in India, to evolve a comprehensive ecosystem of arbitration the Government is establishing the New Delhi International Arbitration Centre (NDIAC) as a statutory body.
- The Commercial Courts Act, 2015, has been further amended and legislative exercise to further amend the Arbitration and Conciliation Act, 1996, is currently underway.
- These initiatives are being taken with a view to encourage the settlement of commercial disputes, domestic and international, in India through ADR Mechanism of Arbitration, Conciliation and Mediation.
- A new Chapter (IIIA) has been inserted in the Commercial Courts Act, 2015, for mandatory pre-institution mediation and settlement in certain category of cases.
- Therefore, the provisions of the 'Convention' are in line with the domestic laws and the efforts made to strengthen Alternative Dispute Resolution Mechanisms.

Background:

- The United Nations General Assembly adopted the United Nations Convention on International Settlement Agreements Resulting from Mediation ("the Convention") on 20th December 2018.
- The General Assembly authorized that the Convention will open for signature at a signing ceremony to be held on 7th August 2019 in Singapore and will be known as the "Singapore Convention on Mediation" (the Convention).
- The Convention provides a uniform and efficient framework for the enforcement of international settlement agreements resulting from mediation and for allowing parties to invoke such agreements, akin to the framework that the Convention on the Recognition and Enforcement of Foreign Arbitral Awards (New York, 1958) (the "New York Convention") provides for arbitral awards.
- The Convention defines two additional grounds upon which a court may, on its own motion, refuse to grant relief.
- Those grounds relate to the fact that a dispute would not be capable of settlement by mediation or would be contrary to public policy.

Transgender Persons (Protection of Rights) Bill, 2019

Why in news?

The Transgender Persons (Protection of Rights) Bill, 2019, which was introduced in the Lok Sabha on July 19, was passed by a voice vote on August 5. A contentious provision that criminalised begging by transgender people has been removed from the Bill.

Who is a transgender person?

- The Bill defines a transgender as a person whose gender assigned at birth does not match with his/her perceived gender.
- This includes trans-men, trans-women, "(whether or not such person has undergone Sex Reassignment Surgery or hormone therapy or laser therapy or such other therapy), person with intersex variations, genderqueer and person having such socio-cultural identities as kinner, hijra, aravani and jogta".

What are the provisions?

- The Bill states that a transgender person shall have the right to self-perceived gender identity.
- It prohibits discrimination against a transgender person on grounds including denial, discontinuation or unfair treatment in educational establishments, services, employment, healthcare.
- According to an analysis by PRS Legislative Research, every transgender person will have the right to be included in their household, and in case the immediate family is unable to take care of the person, he/she may be placed in a rehabilitation centre.
- The government shall provide education, sports and recreational facilities for transgender people.
- Provisions for separate HIV surveillance centres and sex reassignment surgeries should also be provided by the government, as per the Bill.

- The Bill mentions that the “appropriate Government” will formulate transgender sensitive, non-stigmatising and non-discriminatory welfare schemes and programmes.
- Additionally, the government should also take steps for the rescue, rehabilitation and protection of transgender persons.

The Grievance Redressal Mechanism

- The Bill states that every establishment will have to appoint a complaints officer to deal with complaints relating to the violation of any provisions.

What is the Certificate of Identity?

- A transgender person will have to make an application to the District Magistrate, who will issue a certificate of identity to the transgender person.
- Essentially, this certificate will be proof that the person is a transgender, reflecting their gender as “transgender”.
- Subsequently, the gender of the person as reflected in the certificate will be recorded in all official documents.
- In case of a minor child, such an application will be made by the parent or guardian of the child.
- A transgender person will be eligible for a revised certificate only if he/she undergoes surgery to change their gender.

What is the National Council for Transgender Persons?

- In order to exercise the provisions and functions of the Transgender Persons (Protection of Rights) Act, 2019, the Central Government will set up the National Council for Transgender Persons (NCT), on appointment.
- This body will consist of the Union Minister for Social Justice (Chairperson), a Minister of State for Social Justice (Vice- Chairperson), a Secretary of the Ministry of Social Justice, and one representative each from ministries including Health, Home Affairs, and Human Resources Development.
- Representatives of the NITI Aayog and the National Human Rights Commission will also be included, along with five members from the transgender community and five experts from non-governmental organisations.
- This body will advise, monitor and review the policies and schemes formulated by the central government for transgender people.

What constitutes offences and penalties under this Bill?

- Any person who is found to be compelling a transgender person into bonded labour (barring compulsory service imposed by the government), denying right of public passage to a transgender person, evicting a transgender from his/her place of residence, causing physical, sexual, verbal, economic and emotional abuse, can be penalised with imprisonment of not less than six months, that can extend up to two years, and be also fined.

PM Kisan Maan Dhan Yojana.

Context: Registration opens for PM Kisan Maan Dhan Yojana.

Aim: To improve the life of small and marginal farmers of the country.

Salient features of the scheme:

- The scheme is voluntary and contributory for farmers in the entry age group of 18 to 40 years.
- A monthly pension of Rs. 3000/- will be provided to them on attaining the age of 60 years.
- The farmers will have to make a monthly contribution of Rs.55 to Rs.200, depending on their age of entry, in the Pension Fund till they reach the retirement date i.e. the age of 60 years.
- The Central Government will also make an equal contribution of the same amount in the pension fund.
- The spouse is also eligible to get a separate pension of Rs.3000/- upon making separate contributions to the Fund.
- The Life Insurance Corporation of India (LIC) shall be the Pension Fund Manager and responsible for Pension pay out.
- In case of death of the farmer before retirement date, the spouse may continue in the scheme by paying the remaining contributions till the remaining age of the deceased farmer.
- If the spouse does not wish to continue, the total contribution made by the farmer along with interest will be paid to the spouse.
- If there is no spouse, then total contribution along with interest will be paid to the nominee.
- If the farmer dies after the retirement date, the spouse will receive 50% of the pension as Family Pension.
- After the death of both the farmer and the spouse, the accumulated corpus shall be credited back to the Pension Fund.
- The beneficiaries may opt voluntarily to exit the Scheme after a minimum period of 5 years of regular contributions.
- On exit, their entire contribution shall be returned by LIC with an interest equivalent to prevailing saving bank rates.
- The farmers, who are also beneficiaries of PM-Kisan Scheme, will have the option to allow their contribution debited from the benefit of that Scheme directly.
- In case of default in making regular contributions, the beneficiaries are allowed to regularize the contributions by paying the outstanding dues along with prescribed interest.

Significance of the scheme:

- It is expected that at least 10 crore labourers and workers in the unorganised sector will avail the benefit of the scheme within next five years making it one of the largest pension schemes of the world.

Surrogacy (Regulation) Bill 2019

Why in news?

The Surrogacy (Regulation) Bill 2019, which proposes to ban commercial surrogacy, was passed by Lok Sabha on August 5. The Bill was introduced by the Minister of Health and Family Welfare, Harsh Vardhan, in the House on July 15.

What is commercial surrogacy?

- Surrogacy is defined as the practice in which a woman gives birth to a child for a couple, referred to as an “intending couple”, with the intention to hand over the child to that couple.
- An ‘intending couple’ are a couple who have medically been proved as infertile. Ordinarily, in surrogacy, eggs are extracted from the intending mother and after fertilisation, are implanted in the surrogate mother’s uterus.
- Surrogacy can be either altruistic or commercial. In the former, no monetary considerations are involved, except medical expenses and insurance.
- In the case of commercial surrogacy, the woman who gives birth to a child for the intending couple is rewarded for it in cash or kind.

Who can be a surrogate mother?

- Chapter I of the Bill defines a surrogate mother as, “a woman bearing a child (who is genetically related to the intending couple) through surrogacy from the implantation of the embryo in her womb...”. A married woman between the ages of 25 and 35 who has a child of her own can be a surrogate or can help in surrogacy by donating her egg.
- The surrogate mother needs to be a close relative of the intending couple and can become a surrogate only once in her lifetime.
- Additionally, a woman cannot become a surrogate mother by providing her own gametes (unfertilised eggs).

When is surrogacy permitted?

- As per the Bill, only altruistic surrogacy will be permitted in India, in cases where either or both members of the couple suffer from infertility, of which the certificate of essentiality is proof.
- Additionally, a certificate of eligibility is issued to the intending couple and is proof that the couple has been married for at least five years, and are Indian citizens.
- The wife must be in the age group of 23-50, and the husband in the age group of 26-55.
- The intending couple should not have any surviving biological child, through adoption or through surrogacy.
- An exception is made if the intending couple has a surviving child who is mentally or physically challenged, or is suffering from a fatal illness with no permanent cure.

Where can surrogacy procedures be carried out?

- Only surrogacy clinics registered under the Surrogacy (Regulation) Act, 2019 will be able to perform procedures related to surrogacy.
- The Bill defines surrogacy procedures as “all gynaecological, obstetrical or medical procedures, techniques, tests, practices or services involving the handling of human gametes and the human embryo in surrogacy”.

Who can be guilty of commercial surrogacy?

- According to the Bill, if an individual is found advertising or undertaking surrogacy, exploiting the surrogate mother, selling, importing, purchasing or trading human embryos or gametes for surrogacy, conducting sex selection for surrogacy, or has abandoned, exploited or disowned a surrogate child, he/she can be liable for imprisonment of up to 10 years and a fine of up to Rs 10 lakh.

Other provisions

- In case abortion of a surrogate foetus is considered, only the consent of the surrogate mother is required, as per the provisions under the Medical Termination of Pregnancy Act, 1971.
- The intending couple has no say in this decision. On the other hand, after being born, the child is considered to be the biological child of the intending couple.

The Protection of Children from Sexual Offences (POCSO) Act

Why in news?

Amendments to The Protection of Children from Sexual Offences (POCSO) Act were passed by Parliament last month.

The Act, which came into force in 2012, is the first comprehensive law in the country dealing specifically with sexual abuse of children. The amendments to the Act include enhancement of punishment to include death penalty for child sex abuse.

Why was the POCSO Act introduced, and what is its significance?

- The Act came into force on November 14, 2012, and was specifically formulated to deal with offences including child sexual abuse and child pornography.
- The Act through its 46 provisions increased the scope of reporting offences against children, which were not earlier covered under the Indian Penal Code.
- This included aggravated penetrative sexual assault to include punishment for abuse by a person in position of trust or authority including public servants, police, armed forces, management or staff of an educational or religious institution.
- It also defined the procedure for reporting of cases, including a provision for punishment for failure to report a case or false complaint.
- It provided procedures for recording of the statement of a child by the police and court, laying down that it should be done in a child-friendly manner, and by the setting up of special courts.

What are the amendments passed by the Parliament?

- The Act has enhanced punishment under various sections of the Act including punishment for aggravated penetrative sexual assault to be increased to include death penalty.
- Other sections under which the punishment has increased includes the minimum punishment for penetrative sexual assault, which has been increased from seven years to 10 years -- and,

if the child is below 16 years of age, the minimum punishment has been increased to 20 years.

- The Act has also tightened the provisions to counter child pornography. While the earlier Act had punishment for storing child pornography for commercial purposes, the amendment includes punishment for possessing pornographic material in any form involving a child, even if the accused persons have failed to delete or destroy or report the same with an intention to share it.
- The Act has also removed the words "communal or sectarian violence", which had punishment for a person who sexually abused a child during the course of such violence. The words have been replaced with "violence during any natural calamity or in similar situations".

Why were these amendments brought?

- Union Women and Child Development Minister Smriti Irani cited a report of the National Crime Records Bureau from 2016 indicating an increase in the number of cases registered under the said Act "from 44.7 per cent in 2013 over 2012, and 178.6 per cent in 2014 over 2013, and no decline in the number of cases thereafter".
- She said there was a strong need to take stringent measures to deter the "rising trend of child sex abuse" in the country to "deter the perpetrators and ensure safety" for a child.
- The government has argued that there was a need to make rules for prescribing a manner in which pornographic material involving a child can be deleted, destroyed or reported.

What was the feedback/criticism the amendment Bill received from child rights experts?

- Many have criticised the provision for death penalty that has been added to the Act. Reports by NGOs working with children, as well as the latest National Crime Records Bureau's Crime in India Report, 2016, state that over 94 per cent of the accused in cases registered under The POCSO Act, are known to the victims, including close family members.
- This may deter victims, or put pressure on them to not file a complaint, given the possibility of death now.
- Further, while the Act states that the cases should be heard expeditiously, the pendency rate as per the NCRB is over 89 per cent.
- The delays affect the probability of conviction despite the stringent sections," a prosecutor in a Mumbai court said.
- The conviction rate is less than 30 per cent under the Act.
- Last month, the Supreme Court directed the setting up of special courts in each district across the country within sixty days over the alarming rise of pendency.

World education summit

Why in news?

Rajasthan has bagged the "best innovation and initiative leadership award" for its achievements in higher education in the World Education Summit-2019 held in New Delhi.

Initiatives takes

- Promoting higher education with the emphasis on inculcating ethical values among the students, improving their personality through extra-curricular activities and developing their skills to face competitive exams.
- “Free education for girls has helped improve their ratio in higher education.
- Against every 100 boys, rajasthan have 108 girls studying in the government colleges.
- Third higher education and human resource conclave would be organised in Rajasthan in November this year.

Two-day summit

- State Higher & Technical Education Secretary Vaibhav Galriya and Commissioner (College Education) Pradeep Kumar Borad were among those present.
- Representatives of eight countries and 17 States of India attended the two-day summit.

A cure for Ebola

Context

Scientists are a step closer to being able to cure the deadly Ebola haemorrhagic fever after two experimental drugs showed survival rates of as much as 90% in a clinical trial in Congo.

Details

- Two experimental drugs – an antibody cocktail called REGN-EB3 developed by Regeneron and a monoclonal antibody called mAb114 – will now be offered to all patients infected with the viral disease in an ongoing outbreak in the Democratic Republic of Congo (DRC).
- The drugs showed “clearly better” results, according to U.S. National Institute of Allergy and Infectious Diseases (NIAID), in a trial of four potential treatments being conducted during the second-largest Ebola outbreak in history, now entering its second year in DRC.
- The drugs improved survival rates from the disease more than two other treatments being tested – ZMapp, made by Mapp Biopharmaceutical, and Remdesivir, made by Gilead Sciences – and those products will be now dropped.
- The agency said 49% of the patients on ZMapp and 53% on Remdesivir died in the study.
- In comparison, 29% of the patients on REGN-EB3 and 34% on mAb114 died.

About Ebola

- Ebola has been spreading in eastern Congo since August 2018 in an outbreak that has now killed at least 1,800 people.
- Efforts to control it have been hampered by militia violence and some local resistance to outside help.
- A vast Ebola outbreak in West Africa from 2013 to 2016 became the world's largest ever when it spread through Guinea, Liberia and Sierra Leone and killed more than 11,300 people.
- The Congo treatment trial, which began in November last year, is being carried out by an international research group coordinated by the World Health Organization (WHO).

Legislative council

Why in news?

The Madhya Pradesh government has indicated that it plans to initiate steps towards creation of a Legislative Council. Not all states have two Houses. Which are the ones that do, and why is a second House needed?

Why a second House

- Just as Parliament has two Houses, so can the states, if they choose to. Article 71 of the Constitution provides for the option of a state to have a Legislative Council in addition to its Legislative Assembly.
- As in Rajya Sabha, members of a Legislative Council are not directly elected by voters.
- Opinion in the Constituent Assembly was divided on the idea.
- Among the arguments in its favour, a second House can help check hasty actions by the directly elected House, and also enable non-elected individuals to contribute to the legislative process.
- The arguments against the idea: a Legislative Council can be used to delay legislation, and to park leaders who have not been able to win an election.
- Under Article 169, a Legislative Council can be formed “if the Legislative Assembly of the State passes a resolution to that effect by a majority of the total membership of the Assembly and by a majority of not less than two-thirds of the members of the Assembly present and voting”. Parliament can then pass a law to this effect.

States with LCs

- Currently, six states have Legislative Councils.
- Jammu and Kashmir too had one, until the state was bifurcated into the Union Territories of J&K and Ladakh.
- Tamil Nadu’s then DMK government had passed a law to set up a Council but the subsequent AIADMK government withdrew it after coming to power in 2010.
- Andhra Pradesh’s Legislative Council, set up in 1958, was abolished in 1985, then reconstituted in 2007.
- The Odisha Assembly recently passed a resolution for a Legislative Council.
- Proposals to create Councils in Rajasthan and Assam are pending in Parliament; the PRS Legislative Research website lists the status of both Bill as pending.

Members

- Under Article 171 of the Constitution, the Legislative Council of a state shall not have more than one-third of the number of MLAs of the state, and not less than 40 members.
- In Madhya Pradesh, which has 230 MLAs, the proposed Legislative Council can have at most 76 members.
- As with Rajya Sabha MPs, the tenure of a Member of the Legislative Council (MLC) is six years, with one-third of members retiring every two years.
- One-third of the MLCs are elected by the state’s MLAs, another one-third by a special electorate comprising sitting members of local governments such as municipalities and district boards,

1/12th by an electorate of teachers and another 1/12th by registered graduates. The remaining members are appointed by the Governor for distinguished services in various fields.

LC vis-à-vis Rajya Sabha

- The legislative power of the Councils is limited.
- Unlike Rajya Sabha which has substantial powers to shape non-financial legislation, Legislative Councils lack a constitutional mandate to do so; Assemblies can override suggestions/amendments made to a legislation by the Council.
- Again, unlike Rajya Sabha MPs, MLCs cannot vote in elections for the President and Vice President.
- The Vice President is the Rajya Sabha Chairperson; an MLC is the Council Chairperson.

What next in MP

- Having promised a Legislative Council for Madhya Pradesh in its election manifesto, the ruling Congress is working on a resolution that will be presented in the next Assembly session. Rajendra Singh, chairman of the Congress manifesto committee in 2018, said the party has discussed the issue and is serious about constituting a second House.

XDR TB

Why in news?

In a groundbreaking development recently, the United States Food and Drug Administration approved a three-drug regimen against the most lethal form of multi-drug-resistant tuberculosis, known as the XDR (extensively drug-resistant) strain.

About XDR TB

- Essentially, this strain of TB is resistant to some of the most potent anti-TB drugs, making it difficult for patients suffering from this strain to be cured.
- A trial in the US, which enrolled 109 patients with the XDR strain, was able to cure 90 per cent of them.
- Cases of XDR TB are much fewer than those of the other drug-resistant strain, MDR/RR TB, and have been reported from 117 countries until 2017, a World Health Organization (WHO) report said. Out of 10,800 cases worldwide, India accounted for 2,650 cases, or almost one-fourth.
- As per WHO, two-thirds of cases of the XDR-strain are in China, India and Russia.
- These countries also share 47 per cent of the burden for MDR/RR TB.
- The average success rates for drugs to treat the XDR strain has been 34 percent globally.

Risk of transmission

- WHO explains that XDR can be contracted in two ways.
- It may develop in a patient who is already receiving treatment for TB and misuses the anti-TB drugs, or it can be contracted from a person who already has the disease.

- The risk of transmission for XDR remains the same as the risk of transmission of other strains of TB. Often, XDR TB may go undiagnosed since lower-middle-income countries lack the infrastructure to detect it.
- Worldwide, TB has surpassed HIV-AIDS as the leading cause of death due to infectious diseases.
- In 2017, over 13 lakh people died of the disease.

Nicotine notified as poison:

Why in news?

To strengthen enforcement of the ban on production and sale of electronic cigarettes, the State government has amended the Karnataka Poisons (Possession and Sale) Rules 2015, notifying nicotine as Class A poison under the rules.

Background

- Highly toxic chemicals, which even in very small quantities as gas or vapour in the air are dangerous to life (such as cyanogen, hydrocyanic acid, nitrogen peroxide, and phosgene), are notified under Class A.
- Electronic cigarettes are small battery-operated devices that vapourise liquid nicotine to provide the same experience as smoking tobacco.
- Although the Karnataka government had banned the sale and production of e-cigarettes in June 2016, illegal sale and smuggling of nicotine cartridges and e-cigarettes are rampant in the State.
- They are often marketed as a way to cut down or cut out cigarette smoking altogether, and sold as aids to quit smoking.

Expert study

- The ban was imposed after a study by the State Health Department and experts that showed that e-cigarettes encourage the younger generation to use conventional cigarettes.
- While use of two milligrams of nicotine is permitted only in chewable chocolates to help with de-addiction, e-cigarette manufacturers misuse this clause for their sale.
- The ban — invoking sections of Drugs and Cosmetics Act and Food Safety Act — also ordered the suspension of all kinds of promotion of e-cigarettes, including online promotion.

Use of nicotine

- Nicotine is used as a direct substance in e-cigarettes and the content ranges up to 36 mg/mL. Although regular cigarettes too have nicotine, it is in the range of 1.2 to 1.4 mg/ml..

GS-3

US fed rate cut

Late Wednesday evening India time, the United States Federal Reserve announced a quarter-percentage-point cut in interest rates — the first rate cut in 11 years.

What makes this rate-cut action — the first since the global financial crisis broke in 2008 — more significant is that barely six months previously, the US Fed was on a hawkish rate-hike trajectory, moving in the direction of bolstering the debt-laden American economy.

Why the rate cut by the Fed?

- The Fed has cited concerns about the global economy and muted US inflation among the key reasons for the decision to cut rates, and signalled a readiness to lower borrowing costs further if needed.
- At the same time, the central bank has underlined that the US economy grew “at a healthy pace” over the first six months of the year.
- Financial markets had expected the quarter-percentage-point rate cut, which lowered the US central bank’s benchmark overnight lending rate to a target range of 2%-2.25%.

Does the cut indicate a shift in policy?

- The cut in policy rates follows months of pressure from US President Donald Trump, who has been pushing the American central bank for a cut in rates to stoke growth.
- “Information received since the Federal Open Market Committee met in June indicates that the labour market remains strong and that economic activity has been rising at a moderate rate,” the Fed said in its statement. “Job gains have been solid, on average, in recent months, and the unemployment rate has remained low.”
- The Federal Open Market Committee (FOMC) is a panel within the Fed that is responsible for setting policy rates.
- The ambiguity in the Fed was reflected somewhat in the vote on the decision, with two members of the 10-member FOMC opposing the decision to cut rates.

What will be the impact on emerging market economies, including India?

- Theoretically, a rate cut in the US should be positive for emerging market economies (EMEs), especially from a debt market perspective. Emerging economies such as India tend to have higher inflation and, thereby, higher interest rates than those in developed countries such as the US and Europe.
- As a result, FIIs would want to borrow money in the US at low interest rates in dollar terms, and then invest that money in bonds of emerging countries such as India in rupee terms to earn a higher rate of interest.
- When the US Fed cuts its interest rates, the difference between the interest rates of the two countries increases, thus making India more attractive for the currency carry trade.
- A rate cut by the Fed would also mean a greater impetus to growth in the US, which could be positive news for global growth.
- But this could also translate into more equity investments in the US, which could temper investor enthusiasm for emerging market economies in a proportionate manner.

How did the stock markets react; why?

- Indian stocks tanked on Thursday. While domestic factors such as dismal July car sales data and slower GDP growth projections played a role in the selloff, one of the major factors was

Powell's characterisation of the rate cut as a mid-cycle adjustment. Markets have taken this as a sign that sharp further cuts were not imminent.

- Thursday's sell-off dragged benchmark indices to fresh five-month lows, with the BSE Sensex slipping below the 37,000 mark.
- The broader Nifty50, too, breached the 11,000 mark in the intra-day trade. Bonds in India too, fell as investors trimmed bets on aggressive interest-rate cuts in high-yield markets after the signal from the US Fed.
- According to analysts, there are also concerns that if Asian emerging market currencies such as the rupee continue to weaken sharply against the dollar, that may result in central banks such as the RBI turning more cautious about cutting the policy rate too aggressively.
- The surveys have been conducted by the National Sample Survey Organisation and the Periodic Labour Force Survey.

Employment-Unemployment survey

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UNEMPLOYMENT IN USUAL STATUS AMONG MALES ACROSS MAJOR RELIGIOUS GROUPS

RELIGIOUS GROUP	66TH ROUND (2009-10)		68TH ROUND (2011-12)		PLFS (2017-18)	
	RURAL	URBAN	RURAL	URBAN	RURAL	URBAN
Hinduism	1.5	2.9	1.7	2.8	5.7	6.9
Islam	1.9	2.5	2.2	3.8	6.7	7.5
Christianity	2.6	2.2	3.4	4.4	6.9	8.9
Sikhism	2.7	5.6	1.3	3.5	6.4	7.2

UNEMPLOYMENT IN USUAL STATUS AMONG FEMALES ACROSS MAJOR RELIGIOUS GROUPS

RELIGIOUS GROUP	66TH ROUND (2009-10)		68TH ROUND (2011-12)		PLFS (2017-18)	
	RURAL	URBAN	RURAL	URBAN	RURAL	URBAN
Hinduism	1.4	5.8	1.4	5.2	3.5	10.0
Islam	2.0	6.8	3.9	4.4	5.7	14.5
Christianity	6.0	4.6	6.4	8.8	8.8	15.6
Sikhism	1.7	8.3	1.3	5.5	5.7	16.9

Source: Minority Affairs Ministry

Source: Minority Affairs Ministry

news?

Minister for Minority Affairs Abbas Naqvi presented in Sabha data on the rates of unemployment across major groups over the last three unemployment surveys conducted by the National Sample Survey Organisation (NSSO) Periodic Labour Force (PLFS).

sets of data correspond to Employment and Unemployment Surveys conducted over the 66th (between July 2009-June and 68th Round (between 2011-June 2012) by the well as the PLFS (between 2017-June 2018).

Details

- The unemployment rates have been disaggregated for males and females as well as urban and rural areas.
- Workers in the "usual status" category include (a) persons who worked for a relatively large part of the 365 days preceding the date of the survey, and (b) persons from among the

remaining population who had worked for at least 30 days during the reference period of 365 days preceding the date of the survey.

- Category (a) refers to “principal status” and the category (b) to “subsidiary status” and the “usual status” definition includes both. As such, usual status is a more relaxed measure of unemployment.
- For instance, some of the unemployed under “principal status” might be working in a subsidiary capacity.

Tarballs

Why in news?

On Thursday, Girgaum chowpatty, a famous tourist spot in South Mumbai, saw big, black oil-emanating balls lying on its sandy beach. On July 5 and 6, Juhu beach in suburban Mumbai too had these strewn on its shore. A week later at the Marine Drive promenade, visitors complained about the smell of diesel.

What are these sticky black "tarballs", and why have they appeared on Mumbai's beaches?

What are tarballs?

Tarballs are dark-coloured, sticky balls of oil that form when crude oil floats on the ocean surface.

Tarballs are formed by weathering of crude oil in marine environments.

They are transported from the open sea to the shores by sea currents and waves, according to the research paper Diversity of bacteria and fungi associated with tarballs:

Tarballs are usually coin-sized and are found strewn on the beaches. However, over the years, they have become as big as basketballs and can weigh as high as 6-7 kgs.

Do tarballs indicate an oil spill?

- Most of the times, the presence of several tarballs indicate an oil spill.
- However, its annual occurrence on the west coast during the monsoon has led marine biologists and experts to demand an investigation in the matter.
- Experts have urged authorities to take stricter vigil and check if ships are dumping burnt oil waste off the western coast of India.
- A study published by NIO in 2013 stated that "oil-well blowouts, accidental and deliberate release of bilge and ballast water from ships, river runoff, discharges through municipal sewage and industrial effluents" also leads to the formation of tarballs.

Are tarballs harmful?

- Dismissed as annual occurrence by the Maharashtra Pollution control board, tarballs that travel towards the coast can get stuck to the fishing nets installed in the sea, making it difficult for fishermen to clean.
- In addition, it could affect marine life, especially filter feeders like clams and oysters.
- Tarball pollution is a major concern to global marine ecosystem. Microbes such as bacteria and fungi are known to be associated with tarballs.
- They presumably play an important role in tarball degradation and some are potential human and animal pathogens.
- NIO is currently fingerprinting the oil to determine its source and study the impact.

Tarball cases in the past

- Tarballs are difficult to break down, and can therefore travel for hundreds of miles in the sea.
- Noted cases of tarball occurrences have been witnessed at Goa beaches since 2010, in South Gujarat, Mangaluru and at Los Angeles beaches.
- There has never been a case of a beach closing down due to tarballs in India

Intermediate-Range Nuclear Forces (INF) treaty

Why in news?

The U.S. and Russia ripped up a Cold War-era missile pact on Friday in a move that raised the spectre of an arms race between the global superpowers.

About INF treaty

- The 1987 Intermediate-Range Nuclear Forces (INF) treaty limited the use of medium-range missiles, both conventional and nuclear.
- The INF Treaty banned all of the two nations' land-based ballistic missiles, cruise missiles, and missile launchers with ranges of 500–1,000 kilometers (310–620 mi) (short medium-range) and 1,000–5,500 km (620–3,420 mi) (intermediate-range).
- The treaty did not apply to air- or sea-launched missiles.
- By May 1991, the nations had eliminated 2,692 missiles, followed by 10 years of on-site verification inspections.

Economic growth

What does the government need to do? Will lower rates accelerate growth?

- The Reserve Bank of India (RBI) lowered the repo rate to 5.75% in the Monetary Policy Review in June.
- This was a level last seen nine years ago.
- Despite three rate cuts aggregating to 75 basis points in this cycle beginning February, economic growth has failed to pick up and, in fact, has been slowing down even more, There

is clamour for another big cut from the RBI in the upcoming monetary policy announcement this week.

- This is because the transmission of the earlier cuts by banks to borrowers has been poor. By the RBI's own assessment, only 21 basis points have been passed on to borrowers by banks in this cycle.

What are the repo and reverse repo rates?

- The RBI uses the repo rate to influence the interest rate structure in the economy and to manage inflation.
- Technically, the repo rate is the rate at which commercial banks would borrow from the RBI, and the reverse repo is the rate of interest they would earn when they deposit funds with the central bank.

What is the stand worldwide as far as governments are concerned on cutting rates?

- The traditional argument is that the lower the interest rate, the better for businesses as it brings down the cost of capital, making investments more attractive.
- Any government would love this as the country would then draw higher investments leading to higher growth and more job creation.
- Governments abhor higher interest rates as, theoretically, these push up project costs and keep investors away..
- A central bank also keeps an eye on the fiscal deficit maintained by the government. A high fiscal deficit usually makes it difficult for the central bank to rein in inflation, hence causing it to be hawkish and raising interest rates.
- The late economist and former RBI Deputy Governor Subir Gokarn's was a voice that was constantly egging the government of the day to keep the deficit under control.

Why aren't Indian commercial banks passing on the RBI's rate cuts to consumers quicker?

- Deposits from the public form a chunk of funds that commercial banks use to lend to borrowers. Deposit rates have remained high; only last week, the State Bank of India lowered its rates citing improved liquidity.
- If deposit rates remain high, then the cost of funds for a bank remains high no matter where the RBI pegs its repo rate.
- Deposit rates have remained high for two reasons.
- One, competing interest rates in the government's small savings schemes have remained high — even after a cut in late June, the Public Provident Fund and the National Savings Certificate yield 7.9%. Compare this with the 6.8% or so that one would get at SBI, the nation's largest bank.
- The other reason that deposit rates have remained high is the liquidity crunch triggered by the sudden inability of the non-banking finance company IL&FS to pay back loans since last September.

The RBI intervened to infuse liquidity soon after but these interventions were not enough..

Will lower rates spur economic growth?

- Capital is one of the three main factors of production, which are critical to the growth of a commercial entity, the other two being land and labour.
- But capital is only a necessary, not sufficient, condition. Land, unless allocated by the local government, is too costly for investors seeking to set up shop.
- On labour, even if adequate hands are available for a job, the skill quotient is still low. Training graduates to be job-ready is a form of tax that companies pay.
- Also to be taken into account is the market environment and demand. If end users are seeing lesser money in hand than earlier, demand will certainly be impacted.
- Therefore, in an environment where the other factors of production are not favourable for an investor, low interest rates by themselves may not prove attractive enough.
- Any revival of economic activity will be contingent on joint efforts by the government on the fiscal front to stimulate demand, and the RBI, to keep interest rates low.
- A rate cut in the upcoming monetary policy announcement this week has to be backed with some positive measures from the government. To hope that a rate cut will suffice to re-ignite economic activity would be naive.

'Deep Ocean Mission'

The story so far:

India's ambitious 'Deep Ocean Mission' is all set to be launched this year. Dr. Madhavan Rajeevan, Secretary, Union Ministry of Earth Sciences, announced on July 27 that the ₹8,000-crore plan to explore deep ocean minerals will start from October. He said, "We finally have the in-principle approval to go ahead with the mission. Now expenditure plans will be drawn up and circulated [to various institutions affiliated to the Ministry] for executing programmes and we hope to launch by October 31."

What will be mined from the deep ocean?

- One of the main aims of the mission is to explore and extract polymetallic nodules. These are small potato-like rounded accretions composed of minerals such as manganese, nickel, cobalt, copper and iron hydroxide.
- They lie scattered on the Indian Ocean floor at depths of about 6,000 m and the size can vary from a few millimetres to centimetres.
- These metals can be extracted and used in electronic devices, smartphones, batteries and even for solar panels.

Where will the team mine?

- The International Seabed Authority (ISA), an autonomous international organisation established under the 1982 United Nations Convention on the Law of the Sea, allots the 'area' for deep-sea mining.
- India was the first country to receive the status of a 'Pioneer Investor' in 1987 and was given an area of about 1.5 lakh sq km in the Central Indian Ocean Basin (CIOB) for nodule exploration.

- In 2002, India signed a contract with the ISA and after complete resource analysis of the seabed 50% was surrendered and the country retained an area of 75,000 sq km.
- According to a release from the Ministry of Earth Sciences, the estimated polymetallic nodule resource potential in this area is 380 million tonnes (MT), containing 4.7 MT of nickel, 4.29 MT of copper, 0.55 MT of cobalt and 92.59 MT of manganese.
- Further studies have helped narrow the mining area to 18,000 sq km which will be the 'First Generation Mine-site'.

Which are the other countries that are in the race to mine the deep sea?

- Apart from the CIOB, polymetallic nodules have been identified from the central Pacific Ocean. It is known as the Clarion-Clipperton Zone.
- According to the ISA's website, it has entered into 15-year contracts for exploration for polymetallic nodules, polymetallic sulphides and cobalt-rich ferromanganese crusts in the deep seabed with 29 contractors.
- Later it was extended for five more years till 2022.
- China, France, Germany, Japan, South Korea, Russia and also some small islands such as the Cook Islands, Kiribati have joined the race for deep sea mining.
- Most of the countries have tested their technologies in shallow waters and are yet to start deep-sea extraction.

When will India start mining?

- India's mining site is at about a depth of 5,500 metres, where there is a high pressure and extremely low temperature.
- The mining machine newly developed for 6000 metres depth was able to move about 900 metres and will be deployed soon at 5,500 metres.
- More tests are being conducted to understand how to bring the nodules up to the surface. A riser system comprising an umbilical cable or electromechanical cable and a hose is being developed."

What will be the environmental impact?

- According to the International Union for Conservation of Nature (IUCN), these deep remote locations can be home to unique species that have adapted themselves to conditions such as poor oxygen and sunlight, high pressure and extremely low temperatures.
- Such mining expeditions can make them go extinct even before they are known to science. The deep sea's biodiversity and ecology remain poorly understood, making it difficult to assess the environmental impact and frame adequate guidelines.
- Environmentalists are also worried about the sediment plumes that will be generated as the suspended particles can rise to the surface harming the filter feeders in the upper ocean layers.
- Additional concerns have been raised about the noise and light pollution from the mining vehicles and oil spills from the operating vessels.

Is deep sea mining economically viable?

- The latest estimate from the ISA says it will be commercially viable only if about three million tonnes are mined per year.
- More studies are being carried out to understand how the technology can be scaled up and used efficiently.

RBI RATE CUT

Context:

- The previous three cuts this year were 25 basis points each. Alongside a cut in the repo rate, the central bank also lowered its GDP growth projection from 7 per cent in June policy to 6.9 per cent now. Express Photo by Pradip Das
- In a bid to augur economic activity amidst slowing consumption demand, the monetary policy committee of Reserve Bank of India on Wednesday unanimously decided to go for its fourth cut this year.
- With a 35 basis point cut (highest this year) the repo rate, at which RBI lends to commercial banks, stood at a 9-year low of 5.4 per cent, since July 2010 when it was 5.25 per cent.
- The previous three cuts this year were 25 basis points each. Alongside a cut in the repo rate, the central bank also lowered its GDP growth projection from 7 per cent in June policy to 6.9 per cent now.

Why the rate cut?

- While inflation is a key consideration for a rate cut and it provided RBI the comfort to go for a cut, the decision was also taken to boost aggregate demand especially private investment. The monetary policy statement said that “inflation is currently projected to remain within the target over a 12-month ahead horizon”.
- The RBI statement further said that domestic economic activity continues to be weak, with the global slowdown and escalating trade tensions posing downside risks.
- It added that while private consumption, the mainstay of aggregate demand, and investment activity remain sluggish, the benign inflation outlook provides headroom for policy action to close the negative output gap.
- “Addressing growth concerns by boosting aggregate demand, especially private investment, assumes the highest priority at this juncture while remaining consistent with the inflation mandate,” said the RBI policy statement.

Why has GDP growth been revised downwards?

- This is the second consecutive policy statement where the RBI has lowered its GDP growth projection for 2019-20.
- While in June statement it revised its projection downward from 7.2 per cent (stated in April 2019) to 7 per cent.
- This time it further revised the growth projection further down to 6.9 per cent.
- The RBI said that “various high frequency indicators suggest weakening of both domestic and external demand conditions...business expectations Index of the Reserve Bank’s industrial outlook survey shows muted expansion in demand conditions in Q2, although a decline in input costs augurs well for growth”.

- It said that the monetary policy easing since February 2019 is expected to support economic activity, going forward.

NIIF

Why in news?

AustralianSuper, one of Australia's largest superannuation fund and Ontario Teachers' Pension Plan (Ontario Teachers'), one of Canada's largest single-profession pension plans, have each signed agreements with the National Investment and Infrastructure Fund (NIIF) of India for investments of up to \$1 billion each in NIIF's Master Fund.

About NIIF:

- National Investment and Infrastructure Fund (NIIF) is India's first sovereign wealth fund that was set up by the Government of India in February 2015.
- The objective behind creating this fund was to maximize economic impact mainly through infrastructure investment in commercially viable projects, both Greenfield and Brownfield.[]

Types of funds

- NIIF manages three funds: Master Fund, Fund of Funds and Strategic Fund. The funds were set up to make infrastructure investments in India by raising capital from domestic and international institutional investors.

Master Fund

- The Master Fund is an infrastructure fund with the objective of primarily investing in operating assets in the core infrastructure sectors such as roads, ports, airports, power etc.

Fund of Funds

- Fund of Funds anchor and/or invest in funds managed by fund managers who have good track records in infrastructure and associated sectors in India. Some of the sectors of focus include Green Infrastructure, Mid-Income & Affordable Housing, Infrastructure services and allied sectors.

Strategic Investment Fund

- Strategic Investment Fund is registered as an Alternative Investment Fund II under SEBI in India.
- The objective of National Investment and Infrastructure Fund II ("Strategic Fund") is to invest largely in equity and equity-linked instruments.

The Strategic Fund will focus on green field and brown field investments in the core infrastructure sectors.

IPCC REPORT: a Glance

Context

Activities like agriculture and cattle rearing are a major source of methane and nitrous oxide, both of which are hundreds of times more dangerous than carbon dioxide as a greenhouse gas.

A new report by the Intergovernmental Panel on Climate Change (IPCC) released Thursday presents the most recent evidence on how the different uses of land -- forests, agriculture, urbanisation -- are affecting and getting affected by climate change.

What is IPCC?

- The Geneva-based IPCC is the United Nations body for assessing the science related to climate change.
- It was created "to provide policymakers with regular scientific assessments on climate change, its implications and potential future risks, as well as to put forward adaptation and mitigation options".

The land-climate link

- Land use, and changes in land use, have always been an integral part of the conversation on climate change. That is because land acts as both the source as well as a sink of carbon.
- Activities like agriculture and cattle rearing, for example, are a major source of methane and nitrous oxide, both of which are hundreds of times more dangerous than carbon dioxide as a greenhouse gas.
- At the same time, soil, trees, plantations, and forests absorb carbon dioxide for the natural process of photosynthesis, thus reducing the overall carbon dioxide content in the atmosphere.
- This is the reason why largescale land use changes, like deforestation or urbanisation, or even a change in cropping pattern, have a direct impact on the overall emissions of greenhouse gases.

The IPCC's reports

- This is the first time that the IPCC, whose job it is to assess already-published scientific literature to update our knowledge of climate change science, has focused its attention solely on the land sector.
- It is part of a series of special reports that IPCC is doing in the run-up to the sixth edition of its main report, blandly called the Assessment Reports, that is due around 2022.
- Last year, the IPCC had produced a special report on the feasibility of restricting global rise in temperature to within 1.5 degrees Celsius from pre-industrial times.
- These reports were sought by governments to get a clearer picture of specific aspects of climate change.

What this report says

- The current report talks about the contribution of land-related activities to global warming -- how the different uses of land, like agriculture, industry, forestry, cattle-rearing, and urbanisation, was affecting emissions of greenhouse gases.
- An important part of the report talks about the manner in which even existential activities like food production contributes to global warming and is also affected by it.

- The report says that if pre-production activities like cattle rearing and post-production activities like transport, energy and food processing, is taken into account, then food production could contribute as much as 37 per cent of all greenhouse gas emissions every year.
- It points out that nearly 25 per cent of all food produced is either lost or wasted. And even the decomposition of the waste releases emissions.

Land, oceans, forests

- Land and ocean together absorb nearly 50 per cent of greenhouse gases emitted every year through natural processes in the carbon cycle.
- The importance of land, or ocean, as a carbon sink, thus cannot be overstated in the global fight against climate change.
- That is why afforestation, and reduction in deforestation, are vital approaches in a global strategy to combat climate change.

India's response

- India's action plan on climate change too, has a very important component on forests. India has promised that it would create an additional carbon sink of about 2.5 billion to 3 billion tonnes by the year 2032 by increasing its forest cover, and planting more trees.

RBI monetary policy

Why in news?

The RBI's repo rate has now fallen 110 basis points since February. The RBI also announced some measures to boost economic activity.

In its monetary policy review Wednesday, the Monetary Policy Committee of the RBI decided to cut the repo rate by 35 basis points (bps). Repo rate is the rate at which the RBI lends money to commercial banks. 100 bps make a full percentage point. The RBI's repo rate has now fallen 110 basis points since February. The RBI also announced some measures to boost economic activity.

Why does monetary policy matter?

- In any economy, economic activity, which is measured by gross domestic product or GDP, happens by one of four ways.
- One, private individuals and households spend money on consumption.
- Two, the government spends on its agenda.
- Three, private sector businesses "invest" in their productive capacity.
- And four, the net exports — which is the difference between what all of them spend on imports as against what they earn from exports.
- At the heart of any spending decision taken by any of these entities lies the question: What is the cost of money?

- Monetary policy essentially answers that question. In every country, the central bank is mandated to decide the cost of money, which is more commonly known as the “interest rate” in the economy..

What is the repo rate?

- Repo and Reverse repo are short for repurchase agreements between the RBI and the commercial banks in the economy.
- In essence, the repo rate is the interest rate that the RBI charges a commercial bank when it borrows money from the RBI.
- As such, if the repo falls, all interest rates in the economy should fall. And that is why common people should be interested in the RBI’s monetary policy.

But the interest rate for consumer loans has not reduced by 110 bps since February. Why?

- In the real world, the “transmission” of an interest rate cut (or increase) is not a hundred per cent. And that is why, even though when the RBI cut by 35 bps on Wednesday, lay consumers may only receive a much lower reduction in the interest rate on their borrowings.
- This is due to a lot of factors — but primarily, it has to do with the health of the concerned commercial bank.
- There is another key element that affects the banks’ decision. The reduced repo rate applies only to new borrowings of banks.
- The banks’ cost of existing funds is higher. Of course, funding costs would eventually come down — but this process would take time.
- This “lag” in monetary policy is a key variable in determining the efficacy of any rate cut by the RBI.
- It could take anywhere between 9 and 18 months for the full effect of an RBI decision to reflect in interest rates across the economy.

So, how does RBI decide the interest rate?

- Any central bank has a few main concerns.
- The first is to ensure price stability in the economy.
- The RBI continuously maps prices, inflation (which is the rate of increase in prices), and expectations of inflation (of households) to decide if it should increase or decrease interest rates.
- The other related concern for a central bank is to take care of economic growth. For instance, economic growth is anaemic at present (see charts), and partly as a consequence, the inflation rate has been below 4% for several months now.
- The RBI is, therefore, cutting interest rates to incentivise people to consume more and businesses to invest more.

Will the rate cut bring investments?

- Investments depend essentially on the “real” interest rate. The real interest rate is the difference between the repo rate and retail inflation.
- When making an investment decision, it is this interest rate that matters. As a variable, it allows an investor to compare the attractiveness of different economies.
- As can be seen in the third chart, real interest rates in India have been rising, and that is one of the biggest reasons why investments are not happening.
- The RBI’s move on Wednesday would reduce the real interest rate and hopefully attract more investment.

Methylmercury in ocean

Why in news?

The researchers warn that human exposure to the toxin through fish consumption is bound to increase as a result of climate change.

Despite a decrease in seawater concentration of methylmercury since the late 1990s, the amount of toxin that gets accumulated in certain fish which are higher in the food chain have been found to increase.

Reasons behind?

- The amount of methylmercury in fish higher in the food chain can change due to two reasons — ocean warming and dietary shifts due to overfishing by humans.
- Based on 30 years (1970s and 2000s) of data and ecosystem modelling, researchers have found that there has been up to 23% increase in methylmercury concentration in Atlantic cod fish in the Gulf of Maine in the northwestern Atlantic Ocean.
- The increase in the methylmercury concentration in cod fish has been due to changes in diet caused by overfishing.
- As a result of diet change, cod fish in the 2000s relied more on larger herring and lobster, which have higher concentrations of the toxin than other prey fish consumed in the 1970s.
- In contrast, there has been 33-61% reduction in methylmercury concentration in spiny dogfish fish between 1970s and 2000s.
- This is because, in the 1970s, spiny dogfish fish consumed more of squid and other cephalopods, which have a higher toxin concentration.

Role of ocean warming

- Besides dietary changes, ocean warming too causes changes in the methylmercury accumulation in fish.
- Fish metabolism is temperature dependent.
- So as ocean temperature increases, fish experience higher metabolism and more energy obtained from food is spent on maintenance rather than growth, leading to more methylmercury getting concentrated in predatory fish.

Estimated increase.

- This estimated increase in tissue MeHg [methylmercury] exceeds the modelled 22% reduction that was achieved in the late 1990s and 2000s as a result of decreased seawater MeHg concentrations.
- The researchers warn that human exposure to the toxin through fish consumption is bound to increase as a result of climate change.
- Hence, there is a need for stronger regulations to protect ecosystem and human health.

CPSE ETF

What is CPSE ETF?

- CPSE ETF, as the name suggests, is an exchange-traded fund (ETF) comprising public sector enterprises (PSEs).
- The ETF was launched by the government in March 2014 to help divest its stake in select public sector undertakings through the ETF route.
- The ETF is based on the Nifty CPSE index that comprises 11 PSEs such as ONGC, NTPC, Coal India, Indian Oil Corporation, REC, Power Finance Corporation, Bharat Electronics, Oil India, NBCC (India), NLC India and SJVN.
- The parameters based on which companies have been made part of the index include a criteria that they have paid at least 10% dividend in the last two consecutive years.

What are the benefits of CPSE ETF?

- Investors get to hold stake in the best of public sector enterprises — the so-called Maharatna, Navaratna and the Miniratna — that have a strong dividend-paying track record.
- Incidentally, the dividend yield of the CPSE ETF index is around 5%, higher than the other indices.
- While investors get an opportunity to diversify their portfolio through a single ETF, it also has the added advantage of an upfront discount that investors get if invested at the time of the further fund offering or fresh fund offering (FFO). Also, the fund has a very low expense ratio, which, in turn, enhances the returns.

How has the response to FFOs been till now?

- The new fund offer (NFO) of the CPSE ETF was launched in March 2014 and since then, there have been five rounds of FFOs. The popularity of the ETF can be gauged from the fact that each of the FFOs was oversubscribed, with investors across categories bidding in huge numbers.
- Till the sixth FFO in July, the government had raised ₹38,500 crore through the CPSE ETF. The sixth FFO attracted bids worth ₹40,000 crore which is five times the issue size of ₹8,000 crore.
- In other words, the last tranche has attracted as much subscription as the five tranches before it put together.
- This also assumes significance as the government has set a record divestment target of ₹1.05 lakh crore in the current financial year. The CPSE ETF is managed by Reliance Mutual Fund.

CIITES

Why in news?

India has submitted proposals regarding changes to the listing of various wildlife species in the CITES secretariat meeting, scheduled later this month in Geneva, Switzerland.

About the proposal

- The proposals submitted are regarding changes in the listing of the smooth-coated otter, small-clawed otter, Indian star tortoise, Tokay gecko, wedgefish and Indian rosewood.
- The country seeks to boost the protection of all the five animal species as they are facing a high risk of international trade.
- For the Indian rosewood, the proposal is to remove the species from CITES Appendix II. The species covered by CITES are listed in three appendices on the degree of protection they require.
- India is among the parties proposing the re-listing of the star tortoise from CITES Appendix II to Appendix I. The species faces two threats: loss of habitat to agriculture and illegal harvesting for the pet trade.

About CITES:

- CITES (Convention on International Trade in Endangered Species on Wild Fauna and Flora) is an international treaty to ensure that trade in wild animals and plants do not threaten their survival.

Iron ion battery

Why in news?

IIT Madras has fabricated a rechargeable iron ion battery and registered initial success.

About

- The rechargeable iron ion battery has been designed using mild steel as the anode.
- The iron ion battery is cost-effective and the amount of energy that can be stored in the battery is also high.
- While lithium ions are the charge carriers in lithium ion battery, the Fe^{2+} ions perform that function in the case of iron ion battery.
- When fabricated under controlled conditions, the amount of energy that can be drawn from the iron ion battery is 220 Wh per kg, which is 55-60% of lithium ion battery's performance.
- In iron ion battery, vanadium pentoxide is used as the cathode. Vanadium pentoxide was chosen as it has a layered structure with very large spacing between the layers.
- The large inter-layer spacing in vanadium pentoxide allows iron ions to easily move in and bind to the interlayers of the cathode and also easily get detached and move back to the anode.

Benefits of iron over Lithium:

- Iron has favourable physico-chemical properties like lithium.

- The redox potential of iron ion is higher than lithium ion and the radius of the Fe²⁺ ion is nearly the same as that of the lithium ion.
- Iron is more stable during the charging process and therefore prevents short-circuiting of the batteries.
- This, when compared with the popular lithium metal-based batteries helps cut down the cost and make it safer to handle.

CSR expenditure

Why in news?

High Level Committee on CSR recommends CSR expenditure to be made tax deductible expenditure

Recommendations by committee

The Committee has made far reaching recommendations.

- The main recommendations include, making CSR expenditure tax deductible, provision for carry forward of unspent balance for a period of 3 – 5 years, welfare of differently abled persons, disaster management and heritage protection), balancing local area preferences with national priorities, introducing impact assessment studies for CSR obligation of 5 crore or more, and registration of implementation agencies on MCA portal.
- The other recommendations include developing a CSR exchange portal to connect contributors, beneficiaries and agencies, allowing CSR in social benefit bonds, promoting social impact companies, and third party assessment of major CSR projects.
- The Committee has emphasized on not treating CSR as a means of resource gap funding for government schemes.
- The Committee discourages passive contribution of CSR into different funds included in Schedule VII of the Act.
- It has emphasized on CSR spending as a board driven process to provide innovative technology based solutions for social problems.
- The Committee has also recommended that companies having CSR prescribed amount below Rs. 50 lakh may be exempted from constituting a CSR Committee.
- The Committee has also recommended that violation of CSR compliance may be made a civil offence and shifted to the penalty regime.

Background

- The High Level Committee on CSR was constituted in October, 2018 under the Chairmanship of Secretary (Corporate Affairs) to review the existing CSR framework and make recommendations on strengthening the CSR ecosystem, including monitoring implementation and evaluation of outcomes.

GI tag

Why in news?

The famous Palani panchamirtham, given as 'prasadam' at the Murugan temple there, has been granted the Geographical Indication (GI) tag.

Details

- This is the first time a temple 'prasadam' from Tamil Nadu has been bestowed with the GI tag.
- The panchamirtham is a combination of five natural substances — banana, jaggery, cow ghee, honey and cardamom. Dates and diamond sugar candies are added for flavour.
- The panchamirtham is an 'abhishega prasadam' (food that is a religious offering), which is served in a semi-solid state.
- It is sweet in taste and one of the main offerings for Lord Dhandayuthapani Swamy, the presiding deity of Arulmigu Dhandayuthapani Swamy Temple, situated on Palani Hills.
- Not even a single drop of water is added during the preparation of the panchamirtham. This gives it its classic semi-solid consistency and taste. No preservatives or artificial ingredients are used.
- The whole process of producing the panchamirtham is automated. It is doubly ensured that the hygienic aspects are maintained.
- Devotees who visit the temple are offered the panchamirtham as a prasadam in the hill temple as well as in stalls run by temple administration at Adivaram. It is believed that the panchamirtham cures diseases of devotees.

Negative rate policy

Why in news?

With little room to cut rates further, some major central banks have resorted to unconventional policy measures, including a negative rate policy.

What is it?

Negative rate policy - once considered only for economies with chronically low inflation such as Europe and Japan - is becoming a more attractive option for some other central banks to counter unwelcome rises in their currencies.

This is how a negative rate policy works and its potential pitfalls:

WHY HAVE SOME CENTRAL BANKS ADOPTED NEGATIVE RATES?

- To battle the global financial crisis triggered by the collapse of Lehman Brothers in 2008, many central banks cut interest rates near zero.
- A decade later, interest rates remain low in most countries due to subdued economic growth. With little room to cut rates further, some major central banks have resorted to unconventional policy measures, including a negative rate policy.
- The euro area, Switzerland, Denmark, Sweden and Japan have allowed rates to fall slightly below zero.

HOW DOES IT WORK?

- Under a negative rate policy, financial institutions are required to pay interest for parking excess reserves with the central bank.
- That way, central banks penalise financial institutions for holding on to cash in hope of prompting them to boost lending.
- The European Central Bank (ECB) introduced negative rates in June 2014, lowering its deposit rate to -0.1% to stimulate the economy. Given rising economic risks, markets expect the ECB to cut the deposit rate, now at -0.4%, in September.
- The Bank of Japan (BOJ) adopted negative rates in January 2016, mostly to fend off an unwelcome yen spike from hurting an export-reliant economy.
- It charges 0.1% interest on a portion of excess reserves financial institutions park with the BOJ.

WHAT ARE THE PROS, CONS?

- Aside from lowering borrowing costs, advocates of negative rates say they help weaken a country's currency rate by making it a less attractive investment than that of other currencies. A weaker currency gives a country's export a competitive advantage and boosts inflation by pushing up import costs.
- But negative rates put downward pressure on the entire yield curve and narrow the margin financial institutions earn from lending.
- If prolonged ultra-low rates hurt the health of financial institutions too much, they could hold off on lending and damage the economy.
- There are also limits to how deep central banks can push rates into negative territory - depositors can avoid being charged negative rates on their bank deposits by choosing to hold physical cash instead.

WHAT ARE CENTRAL BANKS DOING TO MITIGATE THE SIDE-EFFECTS?

- The BOJ adopts a tiered system under which it charges 0.1% interest only to a small portion of excess reserves financial institutions deposit with the central bank.
- It applies a zero or +0.1% interest rate to the rest of the reserves.
- The ECB is also expected to take "mitigating measures", such as a partial exemption from the charge in the form of tiered deposits rates, if it were to deepen negative rates from the current -0.4%, analysts say.
- But designing such a scheme won't be easy in a bloc where cash is distributed unevenly among countries. It could even backfire by pushing rates up in certain countries, rather than down.

BASIC group

Why in news?

The BASIC countries -- a grouping of Brazil, South Africa, India and China -- held their 28th Ministerial meeting on Climate Change between August 14 and August 16 in Sao Paulo, Brazil. India was represented by Union Minister for Environment, Forest and Climate Change Prakash Javadekar, who underlined the importance of the grouping in "making the (2015) Paris (climate) Agreement accepted by all countries in its true letter and spirit".

Who are the BASIC, and what is the significance of the grouping?

- The BASIC group was formed as the result of an agreement signed by the four countries on November 28, 2009.
- The signatory nations, all recently industrialised, committed to acting together at the upcoming United Nations Climate Change Conference, commonly known as the Copenhagen Summit, scheduled in Copenhagen, Denmark from December 7-18 of that year.
- These nations have a broadly common position on reducing greenhouse gas emissions and raising the massive funds that are needed to fight climate change.
- The BASIC countries constituted one of the parties in the Copenhagen Accord reached with the US-led grouping; the Accord, was, however, not legally binding.

Relevance

- The BASIC group wields considerable heft purely because of the size of the economies and populations of the member countries.
- China, India, and Brazil are the world's second, fifth, and ninth-largest economies. And as Javadekar said in Sao Paulo this week, "Brazil, South Africa, India and China put together has one-third of the world's geographical area and nearly 40% of the world's population, and when we unitedly speak in one voice this shows our determination."
- BASIC nations -- expressed their concern about climate change and its adverse effects, and reaffirmed their commitment to the successful implementation of the United Nations Framework Convention on Climate Change (UNFCCC), its Kyoto Protocol and its Paris Agreement, based on the recognition of the needs and special circumstances of developing countries and in accordance with the principles of Equity and Common But Differentiated Responsibilities and Respective Capabilities (CBDR-RC), in the light of different national circumstances.

Role in fighting climate change

- BASIC is one of several groups of nations working together to fight climate change and carry out negotiations within the UNFCCC.
- Other than BASIC, there are the Organisation of Petroleum Exporting Countries (OPEC), the group of countries of Central Asia, Caucasus, Albania and Moldova (CACAM), the Cartagena Dialogue, the Independent Alliance of Latin America and the Caribbean (AILAC), and the Bolivarian Alliance for the Peoples of our America (ALBA in Spanish), etc.
- There are also the Group of 77 developing countries, the African Group, the Arab States, the Environmental Integrity Group, the Least Developed Countries the Small Island Developing States, etc.

Parker solar probe

Why in news?

- On August 12, NASA's Parker Solar Probe completed a year in service.

About

- It is part of NASA's "Living With a Star" programme that explores different aspects of the Sun-Earth system.
- The probe seeks to gather information about the Sun's atmosphere and NASA says that it "will revolutionise our understanding of the Sun".
- It is also the closest a human-made object has ever gone to the Sun.

Aim of mission

- The mission's central aim is to trace how energy and heat move through the Sun's corona and to study the source of the solar wind's acceleration.

The mission is likely to last for seven years during which it will complete 24 orbits.

Bond yield and curve

Why in news?

Bond yields have featured in news reports both globally and within India in recent months. In India, government bond yields fell sharply in the wake of the Union Budget, although they have come off the lows in the past few weeks. Internationally, US treasury bond yields plummeted last week, but they too have moderated after it became clear that governments almost everywhere have shown the desire to boost economic growth.

What are bonds?

- A bond is an instrument to borrow money.
- It is like an IOU.
- A bond could be floated/issued by a country's government or by a company to raise funds.
- Since government bonds (referred to as G-secs in India, Treasury in the US, and Gilts in the UK) come with the sovereign's guarantee, they are considered one of the safest investments.
- As a result, they also give the lowest returns on investment (or yield). Investments in corporate bonds tend to be riskier because the chances of failure (and, therefore, the chances of the company not repaying the loan) are higher.

What are bonds yields?

- Simply put, the yield of a bond is the effective rate of return that it earns.
- But the rate of return is not fixed — it changes with the price of the bond. But to understand that, one must first understand how bonds are structured.
- Every bond has a face value and a coupon payment.
- There is also the price of the bond, which may or may not be equal to the face value of the bond.
- Suppose the face value of a 10-year G-sec is Rs 100, and its coupon payment is Rs 5. Buyers of this bond will give the government Rs 100 (the face value); in return, the government will pay them Rs 5 (the coupon payment) every year for the next 10 years, and will pay back their Rs 100 at the end of the tenure. In this case, the bond's yield, or effective rate of interest, is 5%.

- The yield is the investor's reward for parting with Rs 100 today, but for staying without it for 10 years.

Why and how do yields go up and down?

- Imagine a situation in which there is just one bond, and two buyers (or people willing to lend to the government).
- In such a scenario, the selling price of the bond may go from Rs 100 to Rs 105 or Rs 110 because of competitive bidding by the two buyers.
- Importantly, even if the bond is sold at Rs 110, the coupon payment of Rs 5 will not change.
- Thus, as the price of the bond increases from Rs 100 to Rs 110, the yield falls to 4.5%.
- Similarly, if the interest rate in the broader economy is different from the initial coupon payment promised by a bond, market forces quickly ensure that the yield aligns itself with the economy's interest rate.
- In that sense, G-sec yields are in close sync with the prevailing interest rate in an economy.
- With reference to the above example, if the prevailing interest rate is 4% and the government announces a bond with a yield of 5% (that is, a face value of Rs 100 and a coupon of Rs 5) then a lot of people will rush to buy such a bond to earn a higher interest rate.
- This increased demand will start pushing up bond prices, even as the yields fall. This will carry on until the time the bond price reaches Rs 125 — at that point, a Rs-5 coupon payment would be equivalent to a yield of 4%, the same as in the rest of the economy.
- This process of bringing yields in line with the prevailing interest rate in the economy works in the reverse manner when interest rates are higher than the initially promised yields.

What is happening to US govt bond yields at present? What does it signify?

- The global economy has been slowing down for the better part of the last two years.
- Some of the biggest economies are either growing at a slower rate (such as the US and China) or actually contracting (such as Germany).
- As a result, last week, US Treasury bond yields fell sharply as there was confirmation of slowdown in Germany and China.
- Reason: investors, both inside the US and outside, figured that if growth prospects are plummeting, it makes little sense to invest in stocks or even riskier assets.
- It made more sense rather, to invest in something that was both safe and liquid (that is, something that can be converted in to cash quickly).
- US Treasury bonds are the safest bet in this regard. So, many investors lined up to buy US Treasury bonds, which led to their prices going up, and their yields falling sharply.

And what is a yield curve, and what does it signify?

- A yield curve is a graphical representation of yields for bonds (with an equal credit rating) over different time horizons.
- Typically, the term is used for government bonds — which come with the same sovereign guarantee.
- So the yield curve for US treasuries shows how yields change when the tenure (or the time for which one lends to the government) changes.

- If bond investors expect the US economy to grow normally, then they would expect to be rewarded more (that is, get more yield) when they lend for a longer period. This gives rise to a normal — upward sloping — yield curve (see chart).
- The steepness of this yield curve is determined by how fast an economy is expected to grow.
- The faster it is expected to grow the more the yield for longer tenures.
- When the economy is expected to grow only marginally, the yield curve is “flat”.

What then is yield inversion, and what does it mean?

- Yield inversion happens when the yield on a longer tenure bond becomes less than the yield for a shorter tenure bond.
- This, too, happened last week when the 10-year Treasury yield fell below the 2-year Treasury yield.
- A yield inversion typically portends a recession.
- An inverted yield curve shows that investors expect the future growth to fall sharply; in other words, the demand for money would be much lower than what it is today and hence the yields are also lower.

How good is yield inversion at predicting a recession?

- Although US Commerce Secretary Wilbur Ross was quoted as saying Monday that “eventually there’ll be a recession but this inversion is not as reliable, in my view, as people think”, yet US data show historically that barring one episode in the mid-1960s, a yield inversion has always been followed by a recession.

Sulphur dioxide pollution

Why in news?

A new report by Greenpeace India shows the country is the largest emitter of sulphur dioxide in the world, with more than 15% of all the anthropogenic sulphur dioxide hotspots detected by the NASA OMI (Ozone Monitoring Instrument) satellite. Almost all of these emissions in India are because of coal-burning, the report says.

Sources

- The vast majority of coal-based power plants in India lack flue-gas desulphurisation technology to reduce air pollution.
- The Singrauli, Neyveli, Talcher, Jharsuguda, Korba, Kutch, Chennai, Ramagundam, Chandrapur and Koradi thermal power plants or clusters are the major emission hotspots in India, the report says.
- In a first step to combat pollution levels, the Ministry of Environment, Forest and Climate Change introduced, for the first time, sulphur dioxide emission limits for coal-fired power plants in December 2015.
- But the deadline for the installation of flue-gas desulphurisation (FGD) in power plants has been extended from 2017 to 2022.

Other global sources

- The report also includes NASA data on the largest point sources of sulphur dioxide.
- The largest sulphur dioxide emission hotspots have been found in Russia, South Africa, Iran, Saudi Arabia, India, Mexico, United Arab Emirates, Turkey and Serbia.
- Air pollutant emissions from power plants and other industries continue to increase in India, Saudi Arabia and Iran, the report says.
- In Russia, South Africa, Mexico and Turkey, emissions are currently not increasing — however, there is not a lot of progress in tackling them either.

Emission trends

- Of the world's major emitters, China and the United States have been able to reduce emissions rapidly.
- They have achieved this feat by switching to clean energy sources;
- China, in particular, has achieved success by dramatically improving emission standards and enforcement for sulphur dioxide control.

Solid fuel burning

Context

Firewood, animal dung, and agricultural waste are some of the fuels commonly used in households across India as a means of generating energy for cooking, light, and heating, among other things.

According to a summary of seven research papers published in Ideas for India on August 19, the burning of such solid fuels, like firewood, impacts the health of household members and accounts for somewhere between 22% to 52% of all ambient air pollution in India.

The study postulates that, based on this evidence, switching to cleaner fuels such as LPG for household use will have a dramatic impact on pollution levels and health problems due to pollution.

Why should solid fuels be avoided?

- Firewood, animal dung, and agricultural waste are some of the fuels commonly used in households across India as a means of generating energy for cooking, light, and heating, among other things.
- One of the many pollutants produced on the burning of such solid fuels is fine particulate matter.
- Fine particulate matter refers to particles or droplets with a diameter of 2.5 micrometres (0.000001 metres) or less, and is also known as PM2.5.
- Such particles can travel deep into the respiratory system, and exposure to them can cause several adverse health effects, both short-term and long-term, including respiratory problems and heart disease.

What is Household Air Pollution and how dangerous is it?

- The emissions of PM2.5 generated by the burning of solid fuels in households is termed Household Air Pollution (HAP).

- The study claims that approximately 800,000 premature deaths occur in India every year as a result of exposure to HAP indoors.
- Moreover, the HAP produced indoors travels outdoors, and becomes a contributor to ambient air pollution, with around 300,000 more premature deaths per year attributable to exposure to outdoor HAP.
- The median estimate for the contribution of HAP is, according to the study, around 30%, far greater than that of industries (2%-10%), power plants (8%-15%), and transportation (8%-11%).
- The contribution of HAP to premature mortality is, as per the median across all studies, 58% higher than premature mortality due to coal use, 303% higher than that due to open burning, and 1,056% higher than that due to transportation.

How many people use solid fuels in India?

- In states such as Bihar, Uttar Pradesh, Madhya Pradesh, Orissa, Jharkhand, Rajasthan, Chattisgarh and Assam, around 72.1% of the population regularly uses solid fuels, and the median annual ambient is $125.3\mu\text{g}/\text{m}^3$, a level that is rated “unhealthy” as per the Air Quality Index, and can lead to serious health concerns with prolonged exposure.

What are the study's recommendations?

- The study asserts that immediate action is required to rectify the harm caused by HAP.
- It points to initiatives undertaken by the government of India to promote LPG for use in households as opposed to the traditionally used solid fuels, such as the Pradhan Mantri Ujjwala Yojana.
- However, the study claims that more effort is required, in particular, increasing the use of electricity as a substitute in these scenarios, and ensuring that the use of LPG is sustained.

Tardigrades

Why in news?

On April 11, the Israeli spacecraft Beresheet attempted to land on the Moon, but crashed on the surface.

It was carrying a number of items — including thousands of specimens of a living organism called tardigrade.

What are tardigrade?

- The tardigrade, also known as water bear, is among the toughest and most resilient creatures on Earth.
- The question is: did the thousands of dehydrated tardigrades on Beresheet survive the crash? And if they did, are they now living on the Moon?
- The tardigrade can only be seen under a microscope.
- Half a millimetre long, it is essentially a water-dweller but also inhabits land and, a 2008 study found, can survive in the cold vacuum of outer space.

- In 2017, another study found that if all other life were to be wiped out by a cataclysmic event — a large asteroid impact, a supernova or a gamma-ray bursts — the tardigrade would be the likeliest to survive.
- The tardigrade can endure extreme hot and cold temperature levels.

How do they survive?

- Although the tardigrades on the spacecraft were dehydrated, the organism is known to “come back to life” on rehydration.
- In fact, they themselves expel water from their bodies and set off a mechanism to protect their cells, and can still revive if placed in water later.
- However, there is no evidence of liquid water on the Moon, although there is ice.
- Without liquid water, it is possible that the tardigrades will remain in their current state, unless future astronauts find them and revive them in water.
- The tardigrade derives its name from the fact that it looks like an eight-legged bear, with a mouth that can project out like a tongue.
- Its body has four segments supported by four pairs of clawed legs.
- A tardigrade typically eats fluids, using its claws and mouth to tear open plant and animal cells, so that it can suck nutrients out of them. It is also known to feast on bacteria and, in some cases, to kill and eat other tardigrades.
- Although they are famed for their resilience, they are destructible too. Should a human being swallow a tardigrade with her food, her stomach acid will cause the flesh of the tardigrade to disintegrate.

On the Moon, should they find liquid water and revive, the tardigrades might not last very long in the absence of food and air, according to Live Science magazine, which quoted Kazuharu Arakawa, a tardigrade researcher at Keio University in Tokyo.

Cyber attacks in India

About 26% of these overall attacks cost organisations in the country upwards of \$5 million each.

Salient points

- Banking and finance, government and critical infrastructure were among the most targeted sectors in India by cybercriminals in 2018-19, according to tech major Cisco.
- Also, about 26% of these overall attacks cost organisations in the country upwards of \$5 million each.
- The hackers are persistent, and their campaigns are very targeted.
- Sectors like banking and finance (20.1%), government (19.6%) and critical infrastructure (15.1%) were among those that continue to face the highest threat of cyberattacks.
- Cybercriminals are also increasingly targeting sectors like defence (15.1%), IT, telecom and healthcare.
- They are using a host of mechanisms like point of sale attacks to target sectors like retail, hospitality, entertainment and e-commerce.
- Ransomware are used to attack public sector entities, transportation as well as banking and finance verticals..

Cost of breach

- According to Asia-Pacific Security Capabilities Benchmark Study conducted by Cisco that found 21% respondents saying cost of breach for them was between \$5-9.9 million, while another 5% said it was more than \$10 million for them.
- The cost of breach included loss of revenue, customers, and other costs related to the event. About 27% said the cost of less than \$100,000 — an indication that while the amount involved may be small but the volume of such attacks is growing.

Flyash

Why in news?

IIT Hyderabad scientists convert fly ash into waterproofing material.

Treating fly ash with stearic acid, used in soaps and shampoos, modified the nature of fly ash and helped develop materials with contrasting adhesion behaviours — high adhesions like a rose petal and low adhesion like a lotus leaf.

What is Fly Ash?

- Fly ash is a major source of PM 2.5 (fine, respirable pollution particles) in summer. It becomes air borne, and gets transported to a radius of 10 to 20 kms.
- It can settle on water and other surfaces.

Composition:

- Fly ash contains heavy metals from coal, a large amount of PM 2.5 and black carbon (BC).

Health and environmental hazards:

- Toxic heavy metals present: All the heavy metals found in fly ash nickel, cadmium, arsenic, chromium, lead, etc—are toxic in nature.
- They are minute, poisonous particles accumulate in the respiratory tract, and cause gradual poisoning .

Radiation:

- For an equal amount of electricity generated, fly ash contains a hundred times more radiation than nuclear waste secured via dry cask or water storage.

Water pollution:

- The breaching of ash dykes and consequent ash spills occur frequently in India, polluting a large number of water bodies.

Effects on environment:

- The destruction of mangroves, drastic reduction in crop yields, and the pollution of groundwater in the Rann of Kutch from the ash sludge of adjoining Coal power plants has been well documented.

Draft National Resource Efficiency Policy Released

Context:

Ministry of Environment, Forest and Climate Change released Draft National Resource Efficiency Policy, 2019 on 25.07.2019 inviting comments and suggestions from stakeholders including public/private organizations, experts and concerned citizens on the draft policy.

Background

- Natural resources form the backbone of any economic development.
- India, as one of the fastest growing economies with GDP at 2.6 trillion USD, has increased its material consumption to six times, from 1.18 billion tonnes (BT) in 1970 to 7 BT in 2015.
- The material consumption is expected to increase further to provide for an increasing population, rapid urbanization and growing aspirations.
- Enhancing resource efficiency and promoting the use of secondary raw materials has emerged as a strategy for ensuring that the potential trade-off between growth, resource constraints and environmental well-being can be minimized.

Salient features of policy:

- The Draft National Resource Efficiency Policy (NREP) envisions a future with environmentally sustainable and equitable economic growth, resource security, healthy environment (air, water and land), and restored ecosystems with rich ecology and biodiversity.
- The Draft National Resource Efficiency Policy is guided by the principles of

(i) reduction in primary resource consumption to 'sustainable' levels, in keeping with achieving the Sustainable Development Goals and staying within the planetary boundaries,

(ii) creation of higher value with less material through resource efficient and circular approaches,

(iii) waste minimization,

(iv) material security, and creation of employment opportunities and business models beneficial to the cause of environment protection and restoration.

- The Draft National Resource Efficiency Policy provides an overarching collaborative framework for resource efficiency across all sectors in the country, covering both biotic and abiotic resources and life cycle stages and aspires for cross-sectoral stakeholder partnerships for the cause of resource efficiency for sustainable development.