

# Abhimanu

Weekly current affairs Series

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**Week: II, June 2018**

**Abhimanu's IAS Study Group**  
Chandigarh

## NATIONAL ECONOMIC AFFAIRS

### PM's maternity scheme benefits 23.6 lakh

- After initial hiccups in implementing the maternity benefit programme Pradhan Mantri Matru Vandana Yojana (PMMVY), the government has finally made some headway and provided cash incentives to nearly 23.6 lakh beneficiaries out of an estimated 51.6 lakh a year.

#### About PMMVY:

- Pradhan Mantri Matritva Vandana Yojana (PMMVY), previously Indira Gandhi Matritva Sahyog Yojana (IGMSY), is a maternity benefit program run by the government of India.
- It is a conditional cash transfer scheme for pregnant and lactating women of 19 years of age or above for first two live births.
- It provides partial wage compensation to women for wage-loss during childbirth and childcare and to provide conditions for safe delivery and good nutrition and feeding practices.
- In 2013, the scheme was brought under the National Food Security Act, 2013 to implement the provision of cash maternity benefit of ₹6,000 stated in the Act.
- It is Centrally Sponsored Scheme under which the cost sharing ratio between the Centre and the States & UTs with Legislature is 60:40, for North-Eastern States & three Himalayan States; it is 90:10 and 100% Central assistance for Union Territories without Legislature.
- The total cash incentive of Rs. 6,000 will be released in three instalments. The first instalment will be provided during the first trimester of pregnancy. The second instalment will be issued during delivery of the child. And the third instalment will be given post three months, during lactation period.
- The first instalment disbursement amount is Rs. 3,000. This will be provided only when there is a registration of pregnancy which may be during the first 3 months. Or another criterion for claiming this amount is by receiving one antenatal medical checkup.
- The second installment amounts Rs. 1,500 which will be issued only when the beneficiary goes through institutional delivery.
- The final installment of Rs. 1,500 will be provided after completion of three months of delivery. To claim this amount, the beneficiary should either produce birth registration certificate, or proof of BCG/DPT 1 & 2/OPV vaccination of the child.
- All payments will be done by direct bank transfers and no cash payments will be done. The beneficiaries should provide their bank or post office account details. Linking of Aadhar card with the bank/post office account is mandatory.

#### Eligible beneficiaries of the scheme

- Any woman who belongs to the PW&LM category which means is either in pregnancy stage or has given birth to the child and is in lactating stage will get full benefits of the MBP.
- The beneficiaries must be resident of India with necessary residential certificate.
- The women who are employees of state government, public sectors, central government, etc. will not be eligible for this cash incentive MBP as they already are provided with maternity benefits from their departments.
- Apart from this, the benefit will only be provided for two live births per beneficiary.

## Credit enhancement fund

- In order to boost infrastructure financing, the central government is planning to set up a Rs 500-crore credit enhancement fund by next month, said a senior government official
- The 2016-17 Budget had first proposed setting up of the fund.

### About fund:

- The dedicated fund will operate as a non-banking financial company (NBFC) with 49 percent government stake. It has got support from investors such as India Infrastructure Finance Company Ltd (IIFCL), Life Insurance Corporation (LIC) of India
- China-based Asian Infrastructure Investment Bank (AIIB) will also infuse equity to pick up 10 percent
- The fund is fully subscribed and as the lead sponsor, IIFCL will hold 22.5 percent in the NBFC while the rest of the investors' shareholding is yet not known.
- Financial institutions and public-sector banks as shareholders will give credit enhancement to operational and stabilised projects, brownfield infrastructure projects.
- Other investors are state-owned lenders such as State Bank of India and Bank of Baroda and other investors like pension and insurance funds.
- According to Pratap, bank lending to the infrastructure segment has slowed down in the past few years and the annual growth rates plummeted to 3 percent between FY14 and FY17, against 43 percent from FY2000 to FY2013.
- The non-performing assets (NPAs) from the segment have also ballooned to 9 per cent in FY17, from 3 percent in FY13, he said.

### Analysis:

- There is a "mismatch" at present, where bonds floated by infrastructure finance firms are typically rated BBB. On the other hand, regulatory agencies mandate a rating of at least 'AA' for investments by the long-term pension and insurance funds
- More than 70 percent projects worldwide being implemented on SPV (special purpose vehicle) basis have a credit rating of BBB. The regulatory threshold for pension and insurance funds in India provides that you cannot invest below AA. So, in order to remove this mismatch, India is launching a dedicated fund may be next month.
- At present, only \$110 billion is being invested in infrastructure, against a requirement of \$200 billion, leading many analysts to classify India as an infrastructure deficit country.
- At present, the banking system does a bulk of infrastructure project financing and exposes itself to asset liability management (ALM) mismatches and hence, alternatives like raising of money through corporate bonds is necessary.
- Also, bank lending to the infra segment has slowed down in the past few years and the annual growth rates plummeted to 3% between FY14 and FY17, against 43% from FY2000 to FY13. The NPAs from the segment have also ballooned to 9% in FY17, from 3% in FY13.

## Govt plans to allow CSCs to offer banking services

- The information technology ministry is planning to get all the common services centres (CSCs) to act as business correspondents (BCs). The move is aimed at creating last mile access points for financial services across the country.
- There are approximately 290,000 CSCs in the country—access points with basic computing infrastructure run and operated by a local entrepreneur who lives in the same community.
- It is an integral part of the 'Digital India' initiative of the government to foster financial inclusion in the country.

### What are BCs?

- Business Correspondents are retail agents engaged by banks for providing banking services at locations other than a bank branch/ATM. BCs enable a bank to provide its limited range of banking services at low cost. They hence are instrumental in promoting financial inclusion.

## What are the functions of BCs?

- BCs have to do a variety of functions viz, identification of borrowers, collection of small value deposit, disbursement of small value credit, recovery of principal / collection of interest, sale of micro insurance/ mutual fund products/ pension products/ other third party products and receipt and delivery of small value remittances/ other payment instruments, creating awareness about savings and other products, education and advice on managing money and debt counseling, etc.

## What types of products can be provided by BCs?

- As per the RBI guidelines the products provided by BCs are: Small Savings Accounts, Fixed Deposit and Recurring Deposit with low minimum deposits, Remittance to any BC customer, Micro Credit and General Insurance.
- The BC model allows banks to provide door-step delivery of services especially 'cash in – cash out' transactions at a location much closer to the rural population, thus addressing the last-mile problem.

## Who can act as BCs?

- The RBI has provided a long list of entities and persons who can act as BCs. Initially the entities permitted to act as BCs included registered entities like NGOs/ MFIs. Later, the list expanded to include individuals like retired bank employees, retired teachers, retired government employees and ex-servicemen, individual owners of kirana / medical /Fair Price shops, individual Public Call Office (PCO) operators, agents of Small Savings schemes of Government of India/Insurance Companies, individuals who own Petrol Pumps, authorized functionaries of well-run Self Help Groups (SHGs) which are linked to banks. Any other individual including those operating Common Service Centres (CSCs) are also allowed to act as BCs of banks.
- Though the BC model was attractive it has not delivered effectively because of the many shortcomings associated with it. Firstly, banks have imposed higher restrictions on operations of BCs. Secondly, salaries of BCs were very low compared to the physical work they have to do to cover the distant areas. The JDY also heavily relies the operations of BCs for continuation of account activities by the village people who started the account as part of the programme.

## NATIONAL POLITY

### Chennai downpour: 2015

- On December 1, 2015 Chennai and its surrounding regions experienced an unprecedented, heavy rainfall.
- In a region where the average rainfall during the season is expected to be 8-10 mm per day, one of the rain gauges in the city recorded an abnormally high, 494 mm, rainfall over 24 hours that day. This led to death of nearly 250 people, and Chennai was declared a 'disaster zone'.

### Why it was happened?

- When clouds give out water droplets, the droplets evaporate mid-air, as they fall down. This cools the surrounding air, forming a cold pool of air which sinks down and flows horizontally.
- Unlike the Western Ghats, which run close to the west coast of India, the Eastern Ghats are nearly 200 km away from the coast. Therefore, the link between the mountains' orography and the rainfall over the region is not obvious.

- According to the model, the cold pool was obstructed by the Eastern Ghats from flowing downward. Hence it piled up and remained stationary over the Chennai region.
- The reason for the clouds remaining stationary was that there was a balance between the piling of cold pool along the mountain and the winds from the bay. This does not happen in all heavy rainfall incidences over Chennai.
- Sensitivity experiments were done to check this model. In the experimental model in which the orography was absent, the winds just swept downstream and the clouds moved inland. In the model where the evaporative cooling was removed, the cold pool did not form at all and the clouds moved over the Ghats.
- Cold pools are known to play an important role in the dust storms (Aandhi) that form in northern India. They form by the evaporation of raindrops. This process is more efficient in the drier and warmer environment as there is lot of scope of evaporation. So, the cold pools that form in these conditions, are deeper and more vigorous. As pre-monsoon conditions in north India are very dry and warm, cold pools that accompany the pre-monsoon thunderstorms there are far more destructive, causing widespread damages

## **Cabinet approves proposal for withdrawal of Nalanda University (Amendment) Bill, 2013**

- The Union Cabinet has approved the proposal for withdrawal of Nalanda University (Amendment) Bill, 2013 pending in the Rajya Sabha.
- The Nalanda University was established on the basis of a Joint Press Statement at the 4th East Asia Summit held in Thailand in October, 2009, which supported its establishment as a non-state, non-profit, secular and self-governing international institution
- Subsequently, the Nalanda University Act, 2010 was passed by the Parliament and came into effect from 25 November 2010.

### **Important highlights of the Bill:**

- Bill was proposed by the Ministry of External Affairs and has been referred to the Standing Committee for detailed examination.
- The Act establishes Nalanda University in Bihar as a result of decisions taken at the East Asia Summits.
- Under the Act, the University is a non-profit public-private partnership, supported by each member country as well as other sources. The Bill amends the Act to provide for the Government of India to meet the university's capital and recurring expenditure to the extent required.
- The powers of the University are amended to include the power to set up a consortium of international partners to meet the objectives of the University, and appoint persons working in any other University or academic institution, including those located outside India, as faculty of the University.
- The size of the Governing Board of the University is being increased to include two persons of eminence and two members from the academic faculty of the University. The Bill also makes provision for the appointment of Deans and Provosts.

## **PhD must for college teachers' promotion**

- The University Grants Commission (UGC) has brought out a new set of regulations to alter the conditions for recruitment and promotion of college and university teachers, so as to make universities more focussed on research and colleges on the teaching-learning process.
- Till now, college teachers who didn't have doctorate degrees could be promoted to associate professor based on their academic and research performance and interviews.

### **Important highlights:**

- The new regulations, prepared by the University Grants Commission, would supersede the earlier rules that made it mandatory for university and college teachers to pursue research.
- According to the new norms, universities will be asked to recruit only PhD degree holders as assistant professors from the 2021 session.

- Colleges, however, will have the liberty to recruit as assistant professors candidates who have either cleared the National Eligibility Test (NET) or State Level Eligibility Test (SLET) or hold a PhD degree.
- The mandatory requirement of a PhD degree for hiring assistant professors in universities will make the NET and the SLET irrelevant for such posts.
- But the NET will come into the picture when selecting candidates for fellowship programmes, such as the Junior Research Fellowship.
- The new regulations will replace the Academic Performance Indicators (API) for promotion with a teacher evaluation grading system. Under this system, every teacher will be evaluated on teaching, extension and mentoring activities and their performance categorised as "satisfactory", "good" and "very good".
- The proposed policy has not changed the required weekly 16 hours of teaching for assistant professors and 14 hours for associate professors and professors. But those pursuing research and involved in extension activities like community-related work will get up to two hours of relaxation from the required teaching hours.

## Analysis:

- Making research optional is a retrograde step. This will create separate cadres of college teachers and university teachers. It cannot be supported.
- Also, there were not enough PhD degree holders from socially deprived sections like the Scheduled Castes, Scheduled Tribes and Other Backward Classes. This decision will affect the interest of the deprived sections.
- At one level the government wants PhD for promotion in colleges. Then it says research is optional. In DU, the majority of the research comes from colleges. Making research optional is a very bad move.
- This decision leads to many college teachers to remain stuck at level 1 in the assistant professor rank for not having a doctorate degree.
- The requirement of PhD for promotion is arbitrary. There are so many very good teachers who don't have a PhD.

## Sanitation coverage in rural India under Swachh Bharat rises to 85%

- Sanitation coverage in rural India, under the Swachh Bharat Mission, has now risen to 85%. As per the data released by Ministry of Drinking Water and Sanitation, through mobilisation of rural communities, 7.4 crore toilets were built across rural India, and as an outcome, over 3.8 lakh villages and 391 districts were declared Open Defecation Free (ODF).

## About Swachh Bharat Mission- Gramin:

- The core intent of the Swachh Bharat Mission is to make India open defecation free by 2019. Keeping public spaces clean, constructing and maintaining both individual and community toilets are all part of the 'Swachh' agenda.
- Though the Swachh Bharat Mission found mention in the Prime Minister's Independence Day speech, it was formally inaugurated with much fanfare on October 2, 2014, Mahatma Gandhi's 145th Birth anniversary.
- The Swachh Bharat Mission (Gramin) is the successor of the erstwhile Nirmal Bharat Abhiyan (NBA). The aim of the NBA, earlier known as the Total Sanitation Campaign, was to make India open defecation free by 2017.

## Components of Swachh Bharat

- The Swachh Bharat Mission is split into two sub-Missions - Swachh Bharat Mission (Gramin) and Swachh Bharat Mission (Urban). While the Union Ministry of Drinking Water and Sanitation is the nodal agency for the rural mission, the Ministry of Urban Development will take care of the budgetary concerns of the urban component.
- Keeping the needs of the rural populace in mind, 1.34 lakh crore rupees has been earmarked for the rural mission, compared to the Rs. 62,009 crore budget for the urban mission.
- Apart from this, the mission will also be supported through the Swachh Bharat Kosh while is set up to channelize philanthropic contributions for the cause, Corporate Social Responsibility (CSR) contributions and funding from other multilateral sources.

- Swachh Bharat Mission for Urban Areas: The focus is on establishing close to 2.6 lakh individual toilets and 2.5 lakh community toilets across 4,401 towns and cities in India. Eradicating manual scavenging and improved municipal solid waste management is part of the agenda.
- Swachh Bharat Mission – Gramin: Gram Panchayats and Zilla Parishads will work on war footing to make sure that all households in all villages have functional water supply and toilet facilities. Productive use of night soil as bio-fertilizers is also on the cards.

**Analysis:**

- From the Central Rural Sanitation Programme of the 80's to the Nirmal Bharat Abhiyan of the previous UPA regime, sanitation and water supply schemes have managed to capture and hold the attention of the governments, both at the centre and the state level. Despite being a national obsession, most schemes have come and gone with very little to show on the ground.
- Census 2011 revealed that only 30.7% of households in rural areas had access to toilets. A 2008 UNICEF study sets the number even lower at a mere 21%. India tops the list of countries with the maximum number of people defecating out in the open.
- The TSC and NBA's central goal was to improve the toilet coverage in the country. In the past decade, the increase in toilet coverage across India has just been 1% per year.

## **Cabinet okays Bill on dam safety, makes 'owners' responsible**

- The Centre has decided to bring a legislation on dam safety which will empower authorities to take regulatory action and lay down safety standards for existing and new dams in the country. The proposed law lays the onus of dam safety on the dam owner and includes 'penal provisions'.

**Highlights:**

- It will help all states and Union Territories adopt uniform dam safety procedures. It will ensure safety of dams and help in safeguarding human life, livestock and property.
- The bill provides for mandatory surveillance, emergency action plan, comprehensive dam safety review, inspection and operation & maintenance of all dams in the country to ensure their safe functioning.
- The bill also provides for setting up a national committee on dam safety which will recommend necessary regulation.
- Besides, the proposed legislation talks about setting up a National Dam Safety Authority as a central regulatory body which will implement policy, guidelines and standards for dam safety across the country.

**Analysis:**

- Lack of legal and institutional architecture for dam safety has long been an issue of concern in India. The country has reported 36 dam disasters, the worst in Gujarat (Machudam in Morbi) where 2,000 people died and 12,700 houses were destroyed in 1979. Construction of Machu dam was completed in 1972 but its flanks were washed away in heavy floods seven years later.
- Learning from the disasters, the Centre initiated the Dam Rehabilitation and Improvement Project (DRIP-I) in 2012 for strengthening dam safety and operational performance through comprehensive repair and rehabilitation work. It will continue till June 2020.

### UN Security Council

- The UN General Assembly has elected Belgium, the Dominican Republic, Germany, Indonesia and South Africa to serve as non-permanent members on the Security Council for two years starting in January.
- The five new members will replace Bolivia, Ethiopia, Kazakhstan, the Netherlands and Sweden on the council.

#### About UNSC:

- The United Nations Security Council (UNSC) is one of the organs of the United Nations.
- There are 15 members on the UN Security Council, including the five permanent ones — Britain, China, France, Russia and the United States — and 10 non-permanent members, half of which are elected each year. Each candidate country needed to secure two thirds of the votes in order to clinch a seat.
- The Security Council held its first session on 17 January 1946 at Church House, Westminster, London. Since its first meeting, the Security Council has taken permanent residence at the United Nations Headquarters in New York City. It also travelled to many cities, holding sessions in Addis Ababa, Ethiopia, in 1972, in Panama City, Panama, and in Geneva, Switzerland, in 1990.
- A representative of each of its members must be present at all times at UN Headquarters so that the Security Council can meet at any time as the need arises.
- The UN Charter established six main organs of the United Nations, including the Security Council. It gives primary responsibility for maintaining international peace and security to the Security Council, which may meet whenever peace is threatened.

#### According to the Charter, the United Nations has four purposes:

- to maintain international peace and security;
- to develop friendly relations among nations;
- to cooperate in solving international problems and in promoting respect for human rights;
- and to be a centre for harmonizing the actions of nations.
- All members of the United Nations agree to accept and carry out the decisions of the Security Council. While other organs of the United Nations make recommendations to member states, only the Security Council has the power to make decisions that member states are then obligated to implement under the Charter.

### G7 Summit

- G7 Summit is an event conducted annually where world leaders from seven powerful economies of the world, US, Canada, UK, France, Germany, Japan and Italy come together to discuss burning issues happening around the globe. They, by mutual understanding, also form policies or figure out remedies for the concerned issue.

#### Main highlights of the communique:

- The G7 leaders issued a joint pledge to combat protectionism and cut trade barriers after two days of often fierce arguments between the US and both the summit hosts and Europe.
- Urged Russia to cease its destabilising behavior, to undermine democratic systems and its support of the Syrian regime.
- There was also an agreement to disagree on climate change in the wake of Trump's decision to leave the Paris climate accord in 2017 which further underlined the divide between the Group of Seven's powerhouse and its six co-members.
- Commitment to modernise the WTO to make it fairer as soon as possible. This can be done by reducing tariff barriers, non-tariff barriers and subsidies.

#### About G7:



- The Group of Seven (G7) is an informal bloc of industrialized democracies—Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States—that meets annually to discuss issues such as global economic governance, international security, and energy policy.
- Proponents say the forum's small and relatively homogenous membership promotes collective decision making, but critics note that it often lacks follow-through and excludes important emerging powers.
- Russia belonged to the forum from 1998 through 2014—then the Group of Eight (G8)—but was suspended after its annexation of Crimea in March of that year.
- The G7's future has been challenged by continued tensions over Ukraine, concerns over the eurozone's economic performance, and the larger Group of Twenty's (G20) rise as an alternative forum. Meanwhile, the election of U.S. President Donald J. Trump has deepened divisions within the bloc, throwing its traditional commitment to free trade into turmoil and raising questions over its cooperation on global climate policy.
- The G7 is a forum for dialogue at the highest level attended by the leaders of the world's most important industrially advanced democracies. Its chief features are the intergovernmental nature of the preparatory process and its informality, which makes it easier for the leaders to discuss the world's major issues and to rapidly devise and agree on solutions to them. Given that it is not an international organization, it is devoid of any kind of administrative structure or permanent secretariat.

## Water Management Index

- NITI Aayog has prepared a report on Composite Water Management Index (CWMI).

### Highlights of index:

- The report ranks Gujarat as number one in the reference year (2016-17), followed by Madhya Pradesh, Andhra Pradesh, Karnataka and Maharashtra.
- In North Eastern and Himalayan States, Tripura has been adjudged number 1 in 2016-17 followed by Himachal Pradesh, Sikkim and Assam.
- In terms of incremental change in index (over 2015-16 level), Rajasthan holds number one position in general States and Tripura ranks at first position amongst North Eastern and Himalayan States. NITI Aayog proposes to publish these ranks on an annual basis in future.
- The CWMI is an important tool to assess and improve the performance of States/ Union Territories in efficient management of water resources.
- This has been done through a first of its kind water data collection exercise in partnership with Ministry of Water Resources, Ministry of Drinking Water & Sanitation and all the States/ Union Territories.
- The index would provide useful information for the States and also for the concerned Central Ministries/Departments enabling them to formulate and implement suitable strategies for better management of water resources. Simultaneously a web portal on the subject has also been launched.

### About Composite Water Management Index (CWMI)

- CWMI has been developed by NITI Aayog comprising 9 broad sectors with 28 different indicators covering various aspects of ground water, restoration of water bodies, irrigation, farm practices, drinking water, policy and governance (Box-1).
- For the purposes of analysis, the reporting states were divided into two special groups – 'North Eastern and Himalayan states' and 'Other States', to account for the different hydrological conditions across these groups.

## New UAE visa rules

- The United Arab Emirates is loosening its residency laws and will grant long-term visas for up to 10 years to investors and highly-skilled professionals.
- The 10-year residency visas will be granted to specialists in science, medicine and research, and to "exceptional students."
- The UAE Cabinet while approving these rules said that plans are also on track to allow foreign investors 100 percent ownership of their UAE-based companies this year. Under current laws, foreign companies must have

an Emirati owning 51 percent of the shares, unless the company operates in a free zone. Major brands Apple and Tesla are believed to be exceptions to the rule.

## **Important highlights of steps taken by UAE government:**

- A new system in place to replace the bank guarantees required for private sector employees' visas
- Release the current bank guarantees totaling AED 14 billion back to private sector companies
- Implement a new insurance system for private sector employees valued at AED 60 per year to replace the AED 3,000 bank guarantee per employee
- Facilitate the process for job seekers in the UAE and grant a six-month temporary visa without fee
- Exempt transit tourists from entry visa fees for the first 48 hours of their stay
- Grant a two-year visa for talented and outstanding students
- Allow visa status adjustment without having to leave and re-enter the country
- Facilitate the voluntary departure of people overstaying their visa without incurring a ban.

## **Analysis:**

- Indian workers are expected to be among the major beneficiaries of the measures. These will go a long way in easing the financial burden on Indian workers, professionals and entrepreneurs.
- The low-cost insurance policy which replaces the bank guarantees will cut costs for employers and offer greater protection to vulnerable low-income workers.
- The employee will have better protection as he or she can complain to the ministry of human resources and emiratization in the event of non-payment of minimum entitlements and then the ministry can draw on the insurance to provide a pay out.
- The insurance policy will cover end of service benefits, holiday and overtime allowances, unpaid wages, return air ticket and cases of work injury, with the maximum pay out capped at 20,000 dirhams per person. The current system of bank guarantees doesn't cover entitlements such as gratuity and holiday allowances.

## **SCIENCE AFFAIRS**

### **Severe uranium contamination in India's groundwater**

- An International study has found widespread uranium contamination in groundwater from aquifers in 16 Indian states
- The main source is natural, but human factors such as groundwater-table decline and nitrate pollution may be exacerbating the problem.

#### **About Uranium Contamination and study:**

- Several studies have linked exposure to uranium in drinking water to kidney diseases. The World Health Organisation has set a provisional safety standard of 30 microgrammes of uranium per litre.
- Uranium is not, however, included in the list of contaminants monitored under the Bureau of Indian Standards' Drinking Water Specifications.
- The researchers sampled water from 324 wells in Rajasthan and Gujarat, and analysed the water chemistry.
- In a subset of samples, they measured uranium isotope ratios. They also analysed similar data from 68 previous studies of groundwater geochemistry in Rajasthan, Gujarat and 14 other states.

- Nearly a third of all water wells we tested in Rajasthan contained uranium levels that exceed the WHO safe drinking water standards
- By analysing previous water quality studies, we also identified aquifers contaminated with similarly high levels in 26 other districts in northwestern India and nine districts in southern or southeastern India.
- Factors contributing to the contamination include the amount of uranium in an aquifer's rocks and various chemical interactions between rock and water. In many parts of India, these factors co-occur and result in high uranium concentrations in groundwater.
- Human activities, especially over-exploitation of groundwater for irrigation, may have exacerbated the problem. Many of India's aquifers are composed of clay, silt and gravel carried down from the Himalayas by streams or uranium-rich granitic rocks. When overpumping of these aquifers' groundwater occurs and their water levels decline, it induces conditions that enhance uranium enrichment in the shallow groundwater that remains.
- One of the takeaways of this study is that human activities can make a bad situation worse, but we could also make it better. The results strongly suggest there is a need to revise current water-quality monitoring programmes in India and re-evaluate human health risks in areas of high uranium prevalence.

## **Interstellar Mapping and Acceleration Probe**

- It a science mission of NASA planned for launch in 2024 that will sample, analyze, and map particles streaming to Earth from the edges of interstellar space.

### **About IMAP mission:**

- The Interstellar Mapping and Acceleration Probe (IMAP) mission will help researchers better understand the boundary of the heliosphere, a sort of magnetic bubble surrounding and protecting our solar system. This is the fifth mission in NASA's Solar Terrestrial Probes (STP) Program portfolio.
- Another objective of the mission is to learn more about the generation of cosmic rays in the heliosphere. Cosmic rays created locally and from the galaxy and beyond affect human explorers in space and can harm technological systems, and likely play a role in the presence of life itself in the universe.
- The spacecraft will be positioned about one million miles (1.5 million kilometers) away from Earth towards the Sun at what is called the first Lagrange point or L1. This will allow the probe to maximize use of its instruments to monitor the interactions between solar wind and the interstellar medium in the outer solar system.

## **10th Meeting of Global Alliance to Eliminate Lymphatic Filariasis**

- India is hosting the 10th meeting of Global Alliance to Eliminate Lymphatic Filariasis. India has highest burden of Lymphatic Filariasis and there is need of taking leadership role to Eliminate lymphatic filariasis.

### **About Lymphatic Filariasis:**

- Lymphatic filariasis (LF) is caused by infection with threadlike worms called nematodes of the family Filarioidea: 90% of infections are caused by *Wuchereria bancrofti* and the remainder by *Brugia* spp. .
- Humans are the exclusive host of infection with *W. bancrofti*.
- Although certain strains of *B. malayi* can also infect some animal species (felines and monkeys), the life cycle in these animals is perceived as epidemiologically distinct from that in humans.

### **Transmission**

- The major vectors of *W. bancrofti* are mosquitoes of the genus *Culex* (in urban and semi-urban areas), *Anopheles* (in rural areas of Africa and elsewhere) and *Aedes* (in islands of the Pacific).
- The parasites of *B. malayi* are transmitted by various mosquito species of the genus *Mansonia*; in some areas, anopheline mosquitoes are responsible for transmitting infection. Brugian parasites are confined to areas of east and south Asia, notably India, Indonesia, Malaysia and Thailand.

# Current Affairs

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- Transmission in a community is influenced by the number of infected persons (prevalence), the density of microfilaria in the blood of infected persons, the density of vector mosquitoes, characteristics of the vector that affect development of infective larvae and frequency of human-vector contact.

## Elimination strategy

- Elimination of lymphatic filariasis is possible by interrupting the transmission cycle. Providing treatment on a large-scale to entire communities where the infection is present can stop the spread of infection.
- This strategy of preventive chemotherapy, called mass drug administration (MDA), involves a combined dose of 2 medicines given.
- Adult worms can remain viable for years. Therefore it is necessary to deliver several rounds of MDA. At least five rounds are recommended to reduce infections in the community to levels below a threshold at which mosquitoes are unable to continue spreading the parasites from person to person and new infections are prevented.
- Vector control is supplemental to the core strategy of MDA and can enhance elimination efforts by reducing the mosquito density and preventing human-mosquito contact. Malaria control interventions such as residual spraying and sleeping under long-lasting insecticidal nets have collateral benefits in reducing transmission of LF.