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SEPTEMBER 2018

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## **SEPTEMBER 1**

### **General Studies-02**

#### **Ban on oxytocin suspended for one month**

**News:** The Delhi High Court suspended for a month the Centre's ban on private companies manufacturing and distributing oxytocin, a drug used to induce labour during childbirth and control bleeding after it.

#### **Beyond News**

- A Bench of Justices gave the interim order on pleas challenging the government's ban, which was slated to come into effect.
- The government in April restricted private companies from manufacturing or supplying the drug to prevent its alleged misuse in the dairy sector, where it was injected into animals to increase their milk production.
- As per the Centre's notification, the State-run Karnataka Antibiotics and Pharmaceuticals Ltd (KAPL) was solely allowed by the Centre to make the drug meet the country's needs.
- The court noted that the material placed before it showed that when the decision was taken in February this year to restrict the sale of oxytocin, KAPL was not licensed to manufacture the drug and it was issued one only this April.
- The court was hearing pleas of BGP Products Operations GmbH, a subsidiary of Mylan Laboratories, Neon Laboratories and NGO All India Drug Action Network, which works to ensure access to essential medicines.
- The NGO contended in its plea that it would not be advisable to depend on one company alone, especially when it allegedly has not made the product earlier.

#### **Kerala set to collect funds abroad**

**News:** The Kerala State government is reaching out across the world in a massive resource mobilisation drive to generate funds for the post-flood relief, rehabilitation, and reconstruction programme.

#### **Beyond News**

- Talking to reporters after a Cabinet meeting, Chief Minister said the large Malayali diaspora in various countries would have a key role in funding the programme.
- The Loka Kerala Sabha, a government-sponsored platform for expatriate Malayalis, would seek to mobilise the diaspora for the world-wide campaign, along with other Malayali associations.

- State Ministers and senior officials would visit countries such as the UAE, Oman, Bahrain, Saudi Arabia, Qatar, Kuwait, Singapore, Malaysia, Australia, New Zealand, UK, Germany, the US, and Canada to seek funds from non-resident Keralites and other communities.
- Simultaneously, efforts would be made to tap Malayalis in other States as well as within Kerala.
- The Cabinet meeting nominated Ministers to head the resource mobilisation campaign in each district. They would visit the districts from September 13 to 15 and receive contributions from individuals, institutions, and organisations. Prior to the campaign, District Collectors would convene a meeting of Heads of Departments.
- Chief Minister said another campaign would be launched at schools and colleges to collect donations from students.
- Chief Minister said citizens and communities across the world had responded well to the proposed rehabilitation and reconstruction programme for flood victims. The Chief Minister's Distress Relief Fund had received a total of ₹1,026 crore, with 4,17,000 donations being made online.

### **Aadhaar authentication: 13 banks fined face penalties**

**News:** In an unprecedented move, the Unique Identification Authority of India (UIDAI), slapped **monetary penalty on 13 banks for violating norms pertaining to authentication of Aadhaar.**

#### **Beyond News**

- For some banks, the penalties are as high as ₹1 crore. Banks from both public and private sectors were penalised.
- The banks penalised include ICICI Bank, IndusInd Bank, IDBI Bank, Ratnakar Bank, Karnataka Bank and Lakshmi Vilas Bank.
- According to UIDAI sources, the measures taken include disincentives against a few authentication user agencies and banks that did not comply with the directions of UIDAI issued under Aadhaar Act/Regulations from time to time.
- UIDAI, in its show-cause notice to the banks, asked them to cite reasons as to why criminal proceedings should not be initiated against them.
- UIDAI said that a few banks were causing inconvenience to the people by not making the minimum stipulated enrolment and updates. Sources said these 13 entities were much short of the enrolment update targets despite repeated requests.
- These banks were accused of sending back people from their premises. UIDAI had directed to set up Aadhaar Enrolment and Update facility inside banks' premises at a minimum of one out of every 10 branches by August 30, 2017.

- UIDAI also said that the selection of branches for enrolment and update facility will be such that it covers all the district headquarters where it is present, and that there is maximum coverage of blocks in every district.
- UIDAI had also decided keep on hold the eKYC facility of these banks due to non-compliance of its directions. Later, the eKYC facility of 5 banks had been restored, while that of 8 others is under process of restoration subject to compliance.
- Meanwhile, UIDAI relaxed norms for banks on the minimum number of Aadhaar enrolments and updations, till November 1.

### General Studies-03

#### Monitoring drains to generate flood alerts

**News:** After the floods of 2017 in Bengaluru, KSNDMC is installing sensors at outlets and inlets of major lakes.

#### **Beyond News**

- While the civic body is slowly rebuilding the network, Karnataka State **Natural Disaster Management Centre (KSNDMC)** is in the process of **installing sensors that could send alerts if major, vulnerable Storm Water Drains (SWDs) overflow.**
- KSNDMC is in touch with a local manufacture to supply more than 25 of these sensors, which will be installed in places which civic officials have identified as vulnerable to flooding.
- These sensors will be put at outlets and inlets of major lakes, which tend to overflow, as well as **important SWDs.** They will measure water levels, and can send out alerts to officials and residents if the drains are liable to overflow.
- The sensors are expected to be installed within a month.
- KSNDMC sees this as an important cog in the flood alert system. Coupled with data from their 36 telemetric weather stations and rain gauges, the system can be a guidance for civic officials to prioritise their disaster preparedness.
- The city, in effect, is a pilot to test whether such a system can be extended to other urban sprawls where flooding is a frequent phenomena during monsoons. This is part of a three-year project, funded by the Department of Science and Technology (DST), which recognises ‘the technological solution’.



- A key part of the project is to create an urban flood model that simulates hydrologic and hydraulic behaviour using high-resolution terrain data, inundation maps, and analyse vulnerable zones. Eventually, a control unit for pre- and post-flood management will be created along with a mobile app, states the project brief.
- However, there are challenges to surmount, particularly as the models are being scaled from two relatively small microsheds to the entire city.
- It is a complex process, even to apply it to one (of the three) valley system in the city. High-resolution terrain data is needed, and a lot of other variables need to be looked at to fine-tune this model to the expanse of the city.

## Monsoon ailments claim 6, leptospirosis biggest killer

**News:** Rainwater-related ailments have claimed the lives of six people in Mumbai, including two minors, in the past two weeks: three succumbed to dengue, one to malaria and two to leptospirosis.

### Beyond News

- The last is emerging as this season's biggest killer, having claimed 11 lives so far. In comparison, there have been only four dengue-related and two malaria-related deaths.
- A civic health official said, Cases begin increasing from September, when the weather is favourable for dengue-spreading aedes mosquito to breed. There is no specific treatment for dengue, and patients have to be treated symptomatically. People should be aware and seek medical help if symptoms arise.
- After the deaths, a house survey, rodent-control measures, fogging and larvicidal measures were carried out in those areas, and elsewhere.



**Bugged by the rain**

DISEASE	CASES		
	AUGUST	JULY	JUNE
Malaria	804	634	356
Leptospirosis	46	97	05
Dengue	153	60	21
Gastroenteritis	645	1089	779
Hepatitis	135	104	94

**DEATHS THIS SEASON**

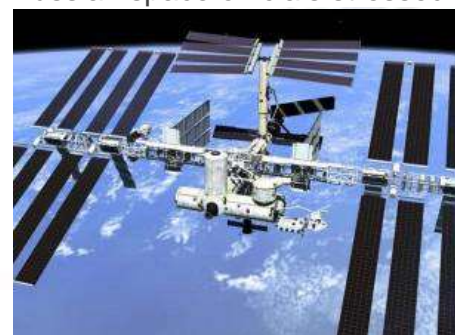


## Space station reports leak, but crew is safe

**News:** Astronauts scrambled to patch a tiny hole in a Russian capsule that was allowing air to leak from the International Space Station. NASA and Russian space officials stressed the six astronauts were in no danger.

### Beyond News

- The leak was detected, possibly from a micrometeorite strike when it caused a small drop in cabin pressure.



- It was traced to a hole about 2 millimeters across in a Soyuz capsule docked at the space station.
- The crew taped over the hole, slowing the leak. Later, the two Russian spacemen put sealant on a cloth and stuck it over the area, while their colleagues took photos for engineers on the ground. Flight controllers, meanwhile, monitored the cabin pressure while working to come up with a better long-term solution.
- Mission Control outside Moscow told the astronauts to let the sealant dry overnight and that more leak checks would be conducted .
- The makeshift repairs seem to have stabilized the situation, at least for now, officials said. Earlier, flight controllers tapped into the oxygen supply of a Russian cargo capsule to partially replenish the atmosphere in the station.
- The leaking Soyuz one of two up there arrived at the orbiting lab in June with three astronauts. It's their ride home, too, come December, and also serves as a lifeboat in case of an emergency. A NASA spokesman said it was premature to speculate on whether the three might have to return to Earth early if the leak, even as small as it is, cannot be stopped.
- The hole is located in the upper, spherical section of the Soyuz, which does not return to Earth, according to NASA. The 250-mile-high outpost is home to three Americans, two Russians and one German. Orbital debris is a constant threat, even the tiniest specks.

## **SEPTEMBER 2 & 3**

### **General Studies-02**

#### **India, Cyprus vow to curb money laundering**

##### **News**

- **India and Cyprus signed two agreements on combating money laundering and cooperation in the field of environment** as President Ram Nath Kovind met his Cypriot counterpart Nicos Anastasiades and held wide-ranging talks here.

##### **Beyond News**

- Indian President is in Cyprus on the first leg of his three-nation visit to Europe to continue India's high-level engagements with European countries.
- Indian President and Mr. Anastasiades exchanged views on economic cooperation.



- India was the fastest growing major economy in the world today with a growth rate of 8.2% last quarter.
- This agreement would further strengthen the institutional framework to facilitate investment cross-flows.
- India and Cyprus signed two MoUs [memoranda of understanding] on combating money laundering and cooperation in the field of environment in the presence of Presidents of both countries.
- Held discussions on issues of mutual interest, including promotion of business collaboration in the fields of IT and IT-enabled services, tourism, shipping and renewable energy.
- The President also paid tributes to a statue of Mahatma Gandhi.

### **U.S. continues to press Pakistan to ‘indiscriminately’ target terror groups: Pentagon**

**News:** The U.S. has consistently engaged with Pakistan’s top military officials, pressing them to indiscriminately target all terrorist groups that threaten regional stability and security, the Pentagon has said.

- The remark comes after the Pentagon said **it will reprogramme \$300 million of its Coalition Support Fund(CSF) for Pakistan due to its failure to tackle militant groups.**

#### **Beyond News**

- The Pentagon’s move, which needs to be approved by the U.S. Congress, is part of a broader suspension of aid announced in January.
- Due to a lack of Pakistani decisive actions in support of the South Asia Strategy, the remaining \$300 million was reprogrammed by the DoD in July 2018 time frame for other urgent priorities before the funds expire on September 30.
- The department is awaiting congressional determination on whether this reprogramming request will be approved or denied.
- The move comes ahead of the Islamabad visit of U.S. Secretary of State Mike Pompeo.
- The top American diplomat is expected to raise **issues related to counter terrorism** during his meetings with the top Pakistani leaders.
- The \$300 million that the Pentagon has decided to scrap is not a military aid to Pakistan, but what it owes to Islamabad for its support in the war against terrorism and should reimburse it, Foreign Minister Shah Mehmood Qureshi has asserted, sparking fresh bilateral tensions ahead of a key visit.

### **‘No construction sans solid waste management policy’**

**News:** The Supreme Court said it was “pathetic” that some States and Union Territories had not bothered to frame a **solid waste management policy.**

- The court ordered that further construction activities be stopped in some States and Union Territories that remained unmindful of the interests of their people to live in a clean environment.

### Beyond News

- A Bench imposed fines on some States and the Union Territory of Chandigarh for not placing on record their respective policies under the **Solid Waste Management Rules, 2016**.
- While Andhra Pradesh was ordered to pay ₹5 lakh, Maharashtra, Madhya Pradesh, Uttarakhand and Chandigarh were imposed costs of ₹3 lakh each.
- The amount would have to be deposited with the Supreme Court Legal Services Committee within two weeks and would be used for juvenile justice issues.
- The SC noted that other States, including, Bihar, Tamil Nadu and Arunachal Pradesh had deposited the costs imposed on them on July 10.
- Hence, the Bench imposed ₹1 lakh each on the defaulting States and UTs whose lawyers were present in court. These included Bihar, Chhattisgarh, Goa, Himachal Pradesh, Jammu and Kashmir, Karnataka, Kerala, Meghalaya, Punjab, West Bengal, Lakshadweep and Puducherry. For the remaining States/Union Territories, who were either not present or not represented by lawyers, the burden of costs went up to ₹2 lakh.

### UN begins talks on treaty to protect imperilled high seas

**News:** United Nations kicked-off talks on a 2020 treaty that would regulate the high seas, which cover half the planet yet lack adequate environmental protection.

### Beyond News

- Four sessions of talks, each lasting two weeks, are planned to take place over two years, with the **goal of protecting marine biodiversity and avoiding further pillaging of the oceans**.
- Talk will focus on “the high seas and the international zone of marine waters, or about 46% of the planet’s surface.
- In 1982, the UN adopted the Convention on the Law of the Sea, but left the high seas free from restrictions.
- The convention took effect in 1994, without the participation of the U.S.
- Since then, shipping routes have expanded considerably, and the resources of the ocean deep have aroused significant interest, whether by fishing or mineral extraction.
- Talks will focus on creating protected areas on the high seas, more sharing of maritime resources and technology, and research on environmental impacts.
- Some whale-hunting nations, like Japan, Iceland and Norway, are expected to be more cautious than others because they fear overly strict fishing restrictions.



## General Studies-03

### New hybrids will help raise yields of silkworm farmers

**News:** Sericulture farmers could soon see higher yields of silkworm cocoons, with the Central Silk Board notifying some of the recently **developed races of mulberry** (which feeds on mulberry leaves) **and vanya** (forest-based) silkworm eggs. These races are now authorised for commercial production.

#### **Beyond News**

- The newly developed hybrid of mulberry silkworm (PM x FC2) can produce 60 kg of cocoons per 100 Disease Free Layings (silkworm eggs) and is said to be ‘better than’ the earlier race titled PM x CSR.
- The tropical tasar silkworm (BDR-10) has 21% more productivity than the traditional Daba breed and the Eri silkworm (C2) race is found to be ‘better’ than the local breed, according to industry experts. It can produce 247 numbers of Eri cocoons per 100 DFLs, says a press release.
- The new hybrid of mulberry silkworm is suitable for farmers across Tamil Nadu, Karnataka, Andhra Pradesh, Telangana, and Maharashtra.
- The national average of cocoon production for mulberry silkworm is 50-55 kg per 100 DFLs.
- The recently developed hybrid can produce 60 kg of cocoons per 100 DFLs. The silk yield from the cocoons will also be higher. As a result, a farmer’s income can go up 5-10%.
- When new varieties are developed, these go through tests at trial farms and large-scale testing with farmers.
- The PM x FC2 hybrid has been under commercial production for the last couple of years and the notification would help farmers adopt large-scale culture.
- An official of the Central Silk Board said the total annual raw silk requirement in the country is 30,000 tonnes. Production of the bivoltine variety is close to 6,000 tonnes and almost 4,000 tonnes are imported. Efforts are on to improve import substitute bivoltine raw silk production.

### NGT puts curbs on Western Ghats States

**News:** The six Western Ghats States, including Kerala, have been restrained by the National Green Tribunal (NGT) from giving environmental clearance to activities that may adversely impact the eco-sensitive areas of the mountain ranges.



## Beyond News

- The panel directed that the extent of Eco-Sensitive Zones of Western Ghats, which was notified by the Central government earlier, should not be reduced in view of the recent floods in Kerala.
- The Tribunal Bench, in its order, noted that any alteration in the draft notification of zones may seriously affect the environment, especially in view of recent incidents in Kerala. It was on a petition filed by the Goa Foundation that the Bench issued the order.
- The Principal Bench of the panel, which permitted the Ministry of Environment Forest and Climate Change (MoEF and CC) to re-publish the draft notification on Eco-Sensitive Zones, which expired on August 26, ordered that the matter may be finalised within six months. It also ordered that the draft of the republished notification be placed on the record of the tribunal.
- Pulling up the ghats States for the delay in filing objections regarding the notification, the tribunal observed that the “delay on account of objections of States may not be conducive to the protection of the eco-sensitive areas” and the matter must be finalised at the earliest.
- The WGEEP had earlier proposed “much larger areas for being included in the eco-sensitive zone” though the Kasturirangan-led High Level Working Group, also appointed by the MoEF and CC to look into the WGEEP report, had reduced it. The Ministry had accepted the Kasthurirangan report and issued the draft notifications on ecologically sensitive zones.

## Over 1,400 killed in 10 States this monsoon

**News:** More than 1,400 people have so far lost their lives due to rains, floods and landslides in 10 States during the monsoon season this year, according to data released by the Union Home Ministry.

## Beyond News

- According to the Ministry’s National Emergency Response Centre, 488 people have died in Kerala and 54.11 lakh in 14 districts of the State have been severely hit by rains and floods, the worst in a century. As many as 14.52 lakh people displaced by floods are living in relief camps across the State. Standing crops on 57,024 hectares of land were damaged in the State.
- As many as 254 people have died in Uttar Pradesh, 210 in West Bengal, 170 in Karnataka, 139 in Maharashtra, 52 in Gujarat, 50 in Assam, 37 in Uttarakhand, 29 in Odisha and 11 in Nagaland.



- Forty-three people have been missing 15 in Kerala, 14 in Uttar Pradesh, five in West Bengal, six in Uttarakhand and three in Karnataka, while 386 have been injured in rain-related incidents across the 10 States.
- Rains and floods have hit 30 districts in Odisha, 26 districts in Maharashtra, 25 in Assam, 23 each in Uttar Pradesh and West Bengal, 14 in Kerala, 13 in Uttarakhand, 11 each in Karnataka and Nagaland, and 10 in Gujarat.
- In Assam, 11.47 lakh people have borne the brunt of rains and floods, which have also hit crops covering 27,964 hectares of land. In West Bengal, the deluge has hit 2.28 lakh people and damaged crops on 48,552 hectares of land.
- In Uttar Pradesh, 3.42 lakh people have been impacted and crops on 50,873 hectares damaged. In Karnataka, 3.5 lakh have been hit and crops on 3,521 hectares of land damaged.

### [Solar eruptions may not be slinky shaped: Study](#)

**News:** Solar eruptions may not have slinky-like shapes as commonly believed, according to a study that **may help protect satellites in space as well as the electrical grid on Earth in the future.**

#### **Findings**

- Revisiting older data, researchers found new information about the shape of coronal mass ejections (CMEs) large-scale eruptions of plasma and magnetic field from the Sun.
- Knowing the shape and size of CMEs is important because it can help better forecast when and how they will impact Earth.
- CMEs are one of the main sources for creating beautiful and intense auroras, like the Northern and Southern Lights.
- However, they can also damage satellites, disrupt radio communications and wreak havoc on the electrical transmission system.

### [An app that will give you real-time flood alerts](#)

**News:** The **Tamil Nadu State Disaster Management Authority (TNSDMA)** will launch 'TN-SMART', a web application to collate data related to disaster management and provide flood alerts in specific areas this month.

#### **Beyond News**

- The disaster support system called Tamil Nadu – **System for Multi-hazard potential impact Assessment and Emergency Response Tracking (TN-SMART)** will collate existing data on the earlier disasters and also assess the impact of the weather forecast issued by the meteorological department.
- This real-time risk assessment system will help provide flood alerts across the State and prepare for response.
- The system would be in place to tackle the oncoming North-east monsoon and aid in decision making.

- There are plans to install automatic weather stations and rain gauges in river basins and also flow meters in storm water drain network to assess impact of flooding. Alerts on inundation in specific areas would be provided based on the rainfall and increase in the water level of the rivers.
- Such data collated by other departments like Water Resources Department would also be utilised for the flood forecast in the city and neighbouring districts.
- The real-time data would also help in deciding on mitigation and rescue measures. It will however take time for the system to be implemented as it is a three-year project.

## **SEPTEMBER 4**

### **General Studies-02**

#### **Ahead of 2+2 dialogue, Indo-US homeland security officials discuss draft plan on six areas**

**News:** Ahead of the maiden 2+2 dialogue between India and the United States, top homeland security officials of the two countries have worked on a **draft plan related to six areas, including anti-terror cooperation in intelligence sharing, terror financing and cyber security.**

#### **Beyond News**

- During the Indo-U.S. Homeland Security Dialogue, held recently, senior officers deliberated on a draft work plan relating to the activities of the six sub-groups, an official privy to the development said.
- The six sub-groups formed under the Indo-U.S. homeland security dialogue cover the areas of (i) Illicit finance, Illegal smuggling of cash, financial fraud and counterfeiting, (ii) cyber information, (iii) megacity policing and sharing of information among federal state and local partners, (iv) global supply chain, transportation, port, border and maritime security, (v) capacity building and (vi) technology upgradation.
- Cooperation in matters related to counter terror initiatives and intelligence sharing were given stress during the recent meeting, the official said.
- The first edition of the much-awaited 2+2 dialogue on strategic affairs between the U.S. and India will take place in New Delhi during which a range of bilateral, regional and global issues of mutual interests will be discussed.
- Under the new framework finalised last year, External Affairs Minister and Defence Minister will hold talks with Secretary of State Mike R Pompeo and Secretary of Defence James Mattis from the U.S.
- India will push for a waiver from the U.S. for the missile deal with Russia, as the air defence system was critical for its security preparedness.

- India is expected to convey to the U.S. that it is going ahead with the Rs 40,000 crore deal with Russia to procure a batch of S-400 Triumf air defence missile systems, notwithstanding the American sanctions on military transactions with Moscow, according to official sources.

## Panel urges plan to save Himalayan springs

**News:** A NITI Aayog constituted group of experts has urged the government to set up a dedicated mission to salvage and revive spring water systems in the country's Himalayan States given their vital importance as a source of water for both drinking and irrigation for the region's inhabitants.

### **Beyond News**

- Spanning States across the country's north and northeast and home to about 50 million people, the Indian Himalayan Region (IHR) has been heavily reliant on these natural groundwater sources, that are under increasing threat from the urbanisation caused by a constant push for development and climate change.
- The extent of the crisis plaguing the mountainous region was recently evident when more than half a dozen districts of Himachal Pradesh and the State capital Shimla faced a severe drinking water crisis this May after major water sources either went fully or partially dry. While poor water management was said to be the key cause, according to State authorities, they also attributed reduced snowmelt and depressed flow from springs as contributors to the crisis.
- Also, with almost 64% of the cultivable area in the Himalayas fed by natural springs, they are often the only source of irrigation in the region.
- The report noted that there were also multiple sources of pollution in springs and these were due to both geogenic, or 'natural' causes and anthropogenic, or man-made, ones.
- Meghalaya with 3,810 villages with springs had the highest number of these water sources in the Eastern Himalayan States, Sikkim had the greatest density with 94% of its villages having a spring. In the Western Himalayas, Jammu & Kashmir had both the highest number of villages with springs at 3,313 and the greatest density of 50.6%.
- The group recommends a multidisciplinary, collaborative approach of managing springs that will involve building upon the existing body of work on spring water management. The programme could be designed on the concept of an action-research programme as part of a hydrogeology-based, community-support system on spring water management.
- With over 60,000 villages in the IHR, "growing" urbanisation – due to 500 townships and 10 cities – was increasing demographic pressure on the region's water resources.

- The task force moots an 8-year programme to overhaul spring water management. This includes: preparing a digital atlas of the country's springsheds, training 'para-hydrogeologists' who could lead grassroots conservation and introduction of a 'Spring Health Card.'

## General Studies-03

### The impact of the river linking project

**News:** India's massive civil engineering project, the **National River Linking Project** (NRLP), will not only reduce inflow of the northern rivers, but also significantly reduce the sediments deposited by the rivers in deltas, a study shows.

#### Findings

- Fertile deltas will be under threat, with coastal erosion expected to threaten the land and livelihoods of local economies that support 160 million people.
- Four researchers sought to fill critical knowledge gaps in the understanding of the impact of the project: reduction in river discharge due to extensive canal works, and silt trapping in newer reservoirs and barrages.
- The NRLP, which comprises 29 canals totalling 9,600 km, will involve the movement of 245 trillion litres of water, the study shows.
- Researchers supplemented data from the National Water Development Agency, which is implementing the project, with over 500 documents culled from various sources. On implementation, water discharge in 23 out of 29 rivers will reduce considerably, they say. The Ganga will see a 24% decrease in flow. Its tributaries Gandak (-68%) and Ghaghara (-55%) will be the worst affected. While the Brahmaputra will see only a 6% loss, its tributaries will see massive flow reductions: Manas (-73%), Sankosh (-72%) and Raidhak (-53%). Changes in water flow and trapping of silt in reservoirs will see a dip in the sediment deposited by rivers.
- In the Ganga-Brahmaputra delta, projected aggradation (the amount of silt deposited by rivers in its delta) will decrease by 30% to 2.5 mm per year on average. This will aggravate loss of land in a delta where sea level rise is estimated to be 5.6 mm on average annually.
- The story for other deltas is similarly worrying. Already, reduced inflows due to natural and man-made processes has led to shoreline losses in the Krishna, Godavari and Mahanadi rivers. The NRLP will compound the problem. Though the Cauvery will see increases in flow (33%, with its tributary Penna seeing a staggering 450% increase), there will be almost no impact in its sediment discharge.
- Researchers set up a simulation with thousands of randomly generated planets, and tracked the evolution of their climates over billions of years.

- These lucky planets sit in the right location around their stars. They happened to have the right amount of carbon, and they do not have too many minerals and elements from the crust dissolved in the oceans that would pull carbon out of the atmosphere, researchers said.
- They have enough water from the start, and they cycle carbon between the atmosphere and ocean only, which in the right concentrations is sufficient to keep things stable.

### NGT forms panel on potable groundwater

**News:** The **National Green Tribunal (NGT)** has constituted a monitoring committee to finalize an action plan to enhance availability of potable groundwater.

#### **Beyond News**

- A Bench constituted the committee to “monitor the situation for six months with a view to enhance the availability of groundwater by adopting suitable measures, check contamination and take a final call on the plans for proper utilization of treated effluents”.
- The monitoring committee will be headed by former Delhi High Court Judge S.P. Garg. It will also have representatives from the Central Pollution Control Board, Central Ground Water Authority and jurisdictional SDM, the Bench said.
- The committee has been asked to “take stock of all actions taken so far” and prepare a time-bound action plan to deal with the matter.

### Water worlds could be habitable

**News:** The conditions for life surviving on planets entirely covered in water are more fluid than previously thought, **opening up the possibility that water worlds could be habitable**, scientists say.

#### **Findings**

- Scientists have assumed that planets covered in a deep ocean would not support the cycling of minerals and gases that keeps the climate stable on Earth, and thus would not be friendly to life.
- The study, found that ocean planets could stay in the “sweet spot” for habitability much longer than previously assumed.
- As telescopes get better, scientists are finding more and more planets orbiting stars in other solar systems.
- Such discoveries are resulting in new research into how life could potentially survive on other planets, some of which are very different from Earth some may be covered entirely in water hundreds of miles deep.
- Since life needs an extended period to evolve, and because the light and heat on planets can change as their stars age, scientists usually look for planets that have both some water and some way to keep their climates stable over time.

## PoP idols not welcome

**News:** As the Bengaluru city gets ready to celebrate Ganesh Chaturthi on September 13, environment-conscious citizens, residents' associations and civic activists have taken that **initiative to ensure that more and more people shift from Plaster of Paris (PoP) idols to eco-friendly options.**



### **Beyond News:**

- Last year, of the 3.48 lakh idols immersed in lakes and mobile tanks in Bengaluru, less than 5% were made of PoP, according to data from the Karnataka State Pollution Control Board (KSPCB). But there is further scope to reduce the number of PoP idols.
- Members of the HSR Citizens Forum, for instance, plan to conduct clay idol workshops for residents, neighbourhood schools and corporate houses.
- Last year, the forum had helped residents make 800 Ganesha idols.
- Various communities in Whitefield have been attending workshops on how to make idols of clay for the past two months. Whitefield Rising, a voluntary group of residents, has tied up with **Green Utsav**, which organises zero-waste events, to conduct a series of sessions for residents.
- Last week, the BBMP and KSPCB, during a joint raid on three shops near Lalbagh, had seized over 800 PoP idols. Officials said that many of the PoP idols were being sourced from neighbouring States.
- In manufacturing units on Mysuru Road and in Pottery Town, no PoP idols were found.
- For its part, the KSPCB is tying up with environment groups and NGOs to sell clay idols.

## The bedaquiline boost

**News:** The “treatment landscape” for patients with multidrug-resistant TB (MDR-TB) is set to be “dramatically transformed” following a recent communication by the World Health Organisation (WHO).

### **Beyond News:**

- Based on assessment of new evidence, the WHO made an important change in the regimen to treat patients with MDR-TB, which is resistant to at least two of the first-line drugs. All injectables are to be replaced with a fully oral regimen to treat MDR-TB patients, and the powerful alternative drug, bedaquiline, has been included in the fully oral regimen.



- Injectables to treat MDR-TB can cause serious adverse effects leading to many patients discontinuing treatment midway; the treatment success rate for MDR-TB was only 54% for patients starting treatment in 2014. Replacing injectables with bedaquiline will, therefore, lead to major improvement in treatment outcomes and in the quality of life of patients.
- The WHO's interim guidelines recommended that the drug be given to MDR-TB patients only as a last resort as large-scale clinical trials (Phase III) using bedaquiline have not been carried out. In Phase IIb trials, the drug was found to have cardiotoxicity, and there were also more deaths during the trial.
- As per WHO Global TB Report 2017, **India had an estimated 84,000 new MDR/rifampicin-resistant-TB cases** in 2016 among those notified. Based on the first-ever drug susceptibility testing on nearly 5,000 TB patients (new and previously treated) carried out in India in 2014-2016, 6.19% were found to be multidrug-resistant.
- India has been getting bedaquiline drug courses (11,000 so far) for free under the conditional access programme of USAID, which will end next year. With the drug becoming cheaper, and its effectiveness and safety now proven, India should waste little time to make the switch to treat all MDR-TB patients with bedaquiline.

**SEPTEMBER 5**

### **General Studies-01**

#### **34% Indians not active enough: WHO**

**News::**Thirty-four per cent of Indians 24.7% male and 43.9% females are not active enough to stay healthy, according to the latest study released by the World Health Organisation (WHO), which noted that, globally, more than 1.4 billion adults are at risk of diseases from not doing enough physical activity.

#### **Findings:**

- The study notes that there is no improvement in global levels of physical activity since 2001. The data shows that if current trends continue, the 2025 global activity target of a 10% relative reduction in insufficient physical activity will not be met.
- Insufficient activity puts people at greater risk of cardiovascular disease, Type 2 diabetes, dementia, and some cancers, according to the first study to estimate global physical activity trends over time.
- **Worldwide, around 1 in 3 women and 1 in 4 men do not do enough physical activity to stay healthy.**



- The highest rates of insufficient activity in 2016 were found in adults in Kuwait, American Samoa, Saudi Arabia and Iraq, where more than half of all adults were insufficiently active. Comparatively, around 40% of adults in the United States, 36% in the UK and 14% in China were insufficiently active.
- Unlike other major global health risks, levels of insufficient physical activity are not falling worldwide, on average, and over a quarter of all adults are not reaching the recommended levels of physical activity for good health,” warns the study.
- In 2016, around one in three women (32%) and one in four men (23%) worldwide were not reaching the recommended levels of physical activity to stay healthy that is, at least 150 minutes of physical activity of moderate intensity or 75 minutes of physical activity of vigorous intensity per week.
- The new study is based on self-reported activity levels, including activity at work and at home, for transport, and during leisure time, in adults aged 18 years and older, from 358 population-based surveys in 168 countries, and includes 1.9 million participants.

## **General Studies-02**

### **Aadhaar mandatory for organ transplants**

**News:** Aadhaar is now mandatory for Indian patients to register in the Tamil Nadu Network for Organ Sharing.

#### **Beyond News**

- As part of measures to streamline the deceased donor transplant programme, the **Transplant Authority of Tamil Nadu (TRANSTAN)** has recently made Aadhaar cards compulsory for Indians to register in the organ waitlist registry, while foreigners have to submit a No Objection Certificate (NoC) from the respective Embassies.
- Earlier, any identity card, including voter’s ID, was acceptable for Indian patients. From last month, we have made Aadhaar card mandatory for registrations. Similarly, for international patients, an NoC from their Embassy is essential for registration. This is to confirm that they have come to the State for organ transplantation.
- If a patient was in need of two organs such as liver and kidney, two separate IDs were issued earlier. Now, the authority has brought in a single unique ID for a patient, irrespective of the number of organs he or she registers for.
- Except activation and inactivation of patients, hospitals cannot modify patient details. TRANSTAN has brought in a change in the activation of patients.
- A patient becomes active only after 24 hours of activation by the hospital.
- Similarly, if a recipient gets transferred from one hospital to another, he/she becomes active only after 48 hours. This was to prevent patients from choosing hospitals as and when a deceased donor is identified.
- A utilisation report that states details of donors and patients with the signature of the consultant and seal of hospital is now being insisted by TRANSTAN.
- Post-transplant, TRANSTAN staff contact the recipient to know his/her status. Following this, the transplant coordinators will follow up the patients after a gap of one month, three months, six months and a year.

## West Coast begins tsunami mock drill

**News:** At the stroke, an earthquake with a magnitude of 9.0 in Makran Trench south of Iran was simulated triggering evacuation of about 90,000 people living in certain vulnerable coastal villages of Goa, Gujarat and Maharashtra as **part of a major Indian Ocean wide tsunami mock drill – IOWave18.**

### **Beyond News**

- India along with 23 other countries are participating in the two-day exercise which is fifth in the series in the last nine years and is being organised by the **Inter-governmental Oceanographic Commission (IOC)** of UNESCO, which has coordinated the setting up of the Indian Ocean Tsunami Warning and Mitigation System (IOTWMS) after the December 26, 2004 tsunami.
- The exercise is being conducted in real time lasting for around 12 hours and the ITEWC will issue 15 tsunami bulletins in all through satellite, email, fax, SMS and on website to coastal States on the west coast and countries of the Indian Ocean too.
- Four villages of two districts in Gujarat in Kutch and Jamnagar, four villages in four districts of Maharashtra and North Goa and Agatti in Lakshadweep Islands had participated.

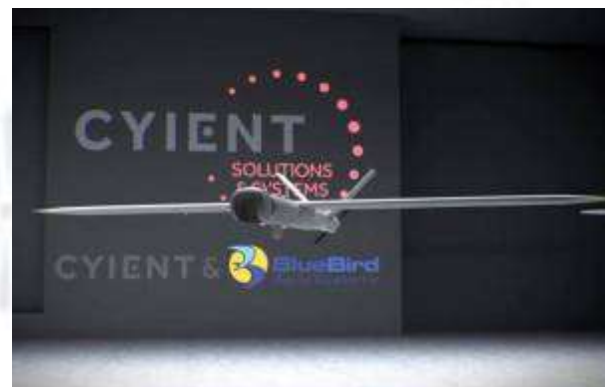
## General Studies-03

### Army selects mini-UAV for high-altitude surveillance

**News:** The Army has selected SpyLite mini-UAV for high-altitude aerial surveillance.

### **Beyond News**

- The mini-UAV is built by Cyient Solutions & Systems (CSS), a joint venture between Cyient Ltd of India and BlueBird Aero Systems of Israel.
- The CSS offered, and successfully demonstrated, its flagship mini-UAV system, SpyLite, which was the only one that met end-user requirements to conduct real-time surveillance and target acquisition at very high altitudes and in extreme weather conditions. The SpyLite was also the only UAV system to complete and pass the trial.
- The statement said SpyLite demonstrated quick operational readiness supported by launch and recovery in high altitudes and harsh terrains. Using high-end payloads, the system delivered high-quality day and night videos.
- Its low visual and acoustic signature underlined its suitability for covert operations.
- According to the company website, SpyLite has an endurance of 4-5 hours and a maximum flight ceiling of 30,000 feet making it **ideal for operations along the border with China as well as on the Siachen glacier.**



## Japan to test mini ‘space elevator’

**News:** A Japanese team has developed a “**space elevator**” and will conduct a first trial this month, blasting off a miniature version on satellites to test the technology.

### **Beyond News**

- The test equipment, produced by researchers at Shizuoka University, will hitch a ride on an H-2B rocket being launched by Japan’s space agency from southern island of Tanegashima next week.
- The test involves a miniature elevator stand-in a box just 6 cm long, 3 cm wide, and 3 cm high.
- If all goes well, it will provide proof of concept by moving along a 10-metre cable suspended in space between two mini satellites that will keep it taut.
- The mini-elevator will travel along the cable from a container in one of the satellites. It’s going to **be the world’s first experiment to test elevator movement in space**, a university spokesman said .
- The movement of the motorised “elevator” box will be monitored with cameras in the satellites.
- It is still a far cry from the ultimate beam-me-up goals of the project, which builds on a long history of “space elevator” dreams.
- But technical barriers have always kept plans stuck at the conceptual stage.
- Japanese construction firm Obayashi, which is collaborating with the Shizuoka university project, is also exploring other ways to build its own space elevator to put tourists in space in 2050.
- The company has said it could use carbon nanotube technology, which is more than 20 times stronger than steel, to build a lift shaft about 96,000 km above the earth



## Scientists to assess biodiversity loss

**News:** The **Kerala State Biodiversity Board (KSSB)** is setting up a multidisciplinary team of 100 scientists from various research institutes **to assist panchayat-level Biodiversity Management Committees (BMCs) to carry out a rapid assessment of the biodiversity loss caused by the recent floods in Kerala.**

### **Beyond News**

- A consultative meeting convened by the KSSB here constituted a core committee to lead the mammoth study, the first of its kind in the State. The format for the assessment has been approved and the core committee comprising 12 scientists has been tasked with preparing a manual of procedure to be given to the BMCs.

- KSBB chairman said the data collection exercise was expected to be completed by mid-October. The information will then be subjected to a detailed analysis to come up with a response plan for restoration of ecological restoration.
- The rapid assessment will cover the damage caused to agricultural biodiversity and rare, endangered and threatened species in diverse ecosystems. It will also study the possible spread of alien invasive species in the wake of the floods and their impact on endemic species. The impact of the floods on the riverine and aquatic ecosystems is another thrust area.
- The KSBB has drawn up a three- pronged strategy to address the impact of the floods on the ecology and biodiversity of the State. The rapid assessment is to be followed by a chain study to understand how the disaster has affected various ecosystems. The third part of the strategy will focus on developing a long term action plan for ecological restoration.

**SEPTEMBER 6 & 7**

### **General Studies-01**

#### **‘Action on climate change could add \$26 trillion to world economy’**

**News:** Ambitious action on climate change could contribute an extra \$26 trillion to the world economy by 2030, international experts said, urging nations and businesses to step up their engagement.

#### **Beyond News**

- The economic benefits offered by a shift to a low-carbon economy have been “grossly underestimated, according to the Global Commission on the Economy and Climate, a think tank grouping former heads of government and top economic and business leaders.
- Dynamic action on climate could also generate “over 65 million new low-carbon jobs” by 2030 and avoid over 7,00,000 premature deaths due to air pollution, it said.
- But policymakers were not taking sufficiently bold action to escape the legacy economic systems, the study found. The shift would involve change in five key areas: **the development of clean energy systems, improved urban planning, a shift towards more sustainable agriculture, smart water management and decarbonising industry.**



- It called on governments to put a price on carbon of at least \$40-80 by 2020, and to move towards mandatory climate risk disclosure for major investors and companies.

## General Studies-02

### India, U.S. sign landmark military communications, security agreement COMCASA

**News:** India and the United States **began a new generation of military and security cooperation by signing Communications Compatibility and Security Agreement (COMCASA).**

#### **Beyond News**

- An announcement on the significant agreement came at the end of the inaugural 2+2 ministerial dialogue between the two countries that also focused on ensuring maritime freedom and international law in the India-Pacific region.
- They welcomed the signing of a Communications Compatibility and Security Agreement (COMCASA) that will facilitate access to advanced defence systems and enable India to optimally utilise its existing US-origin platforms, a joint statement issued at the end of the bilateral dialogue declared.
- India and the U.S. would also hold a first-ever tri-service exercise on the east coast of India in 2019.
- An important element of discussion was starting the process of closer private defence industry collaboration that would allow Indian defence manufacturers to join the U.S. military supply chain.
- The two defence ministers also announced their readiness to begin negotiations on an Industrial Security Annex (ISA) that would support closer defence industry cooperation and collaboration.
- India and the U.S. signed the General Security Of Military Information Agreement (GSOMIA) years ago and it allows the sharing of classified information from the U.S. government and American companies with the Government of India and Defence Public Sector Undertakings (DPSU) but not with Indian private companies.
- An ISA is required to enable private Indian participation in defence production and is particularly important as India opens up defence manufacturing to the private sector in a big way.
- To further defence innovation, a Memorandum of Intent was signed between the U.S. Defense Innovation Unit (DIU) and the Indian Defence Innovation Organization Innovation for Defence Excellence (DIO-iDEX), which will look into joint projects for co-production and co-development projects through the Defense Technology and Trade Initiative (DTTI).
- Both sides maintained that the Indo-Pacific region has emerged as an important part of bilateral cooperation and emphasised need to keep it open for maritime trade and free of disputes.



## SC decriminalises homosexuality

**News:** In a landmark judgment, a five-judge Constitution Bench of the Supreme Court decriminalised homosexuality, with a prayer to the LGBTQ community (Lesbian, Gay, Bisexual, Transgender, Queer) to forgive history for subjecting them to “brutal” suppression.

### Beyond News

- The Bench, unanimously held that **criminalisation of private consensual sexual conduct between adults of the same sex under Section 377 of the Indian Penal Code was clearly unconstitutional**. The court, however, held that the Section would apply to “unnatural” sexual acts like bestiality. Sexual act without consent continues to be a crime under Section 377.
- In four concurring opinions, the Constitution Bench declared the 156-year-old “tyranny” of Section 377 “irrational, indefensible and manifestly arbitrary.” Section 377 thus far punished homosexuality with 10 years of imprisonment.
- Section 377 discriminated against a minority based solely on their sexual orientation. It violated the right of the LGBTQ community to “equal citizenship and equal protection of laws.”
- The court held that bodily autonomy was individualistic. Choice of a partner was part of the fundamental right to privacy.
- Legal experts said this was a much-needed self-correction of a past judicial wrong committed against the community. Experts said the Constitution Bench verdict would become the foundation for members of the community to seek individual rights.



## No flood relief for encroachers of waterbodies, says HC

**News:** In a significant judgement, the Madras High Court held that those who **encroach upon waterbodies and other water sources shall not be entitled to flood relief fund from taxpayers’ money** and directed the Chennai Collector to instruct officials to evict encroachers from waterbodies.

### Beyond News

- The court directed the Revenue Secretary to issue necessary instructions in this regard to his subordinates across the State.
- Justice passed the order while disposing of a batch of writ petitions filed by 10 individuals who had sought for grant of patta (land ownership document) for the properties that were under their occupation for long at Ayanavaram in Chennai though those lands had been classified as a pond in the revenue records.



- Every waterbody should be restored to its original position and maintained well in the interest of the public at large.
- The judge made it clear that the encroachments should be removed by resorting to the **Tamil Nadu Land Encroachments Act of 1905 or the Tamil Nadu Protection of Tanks and Eviction of Encroachment Act of 2007.**

### General Studies-03

#### India, France to collaborate on human space flight

**News:** India and France announced a working group for Gaganyaan, ISRO's first manned mission announced by Prime Minister on Independence Day.

#### **Beyond News**

- The announcement was made at the sixth edition of Bengaluru Space Expo by French space agency President Jean-Yves Le Gall.
- India plans to send three humans to space before 2022. ISRO's mission is significant as **it would make India one of the four countries in the world** after Russia, U.S. and China to launch a manned space flight.
- ISRO and CNES, the French space agency, will be combining their expertise in fields of space medicine, astronaut health monitoring, life support, radiation protection, space debris protection and personal hygiene systems, Gall said.
- Discussions have already begun and it is envisioned that infrastructure such as CADMOS centre for development of microgravity applications and space operations or the MEDES space clinic will be used for training of future Indian astronauts, as well as exchange of specialist personnel.
- French-Indian space cooperation spans in areas of climate monitoring, with a fleet of joint satellites devoted to research and operational applications, innovation, through a joint technical group tasked with inventing the launch vehicles of the future. The two also have plans to work on Mars, Venus and asteroids.

#### Palani hills being destroyed by migrant land encroachers, HC told

**News:** The Principal Chief Conservator of **Forests** (PCCF) has provided a graphic description to the Madras High Court as to how the **ecologically pristine and biologically rich Palani hills, housing the hill station Kodaikanal, had been destroyed by migrant land encroachers, causing damage to wildlife and forest dwellers.**

#### **Beyond News**

- In a shocking revelation, the officer told the court that it had become difficult to address the issue of man-animal conflict in some localities because residents do not allow the forest department to erect solar powered fences fearing that they might end up losing lands encroached by them with the active support of local politicians.



- Paliyan were the original inhabitants of Palani Hills and even they had begun to settle there only after 1840s. The population of Kodaikanal was reported to be just 615 residents in 1883 but it began developing as a pleasant hill resort after 1960 and consequently, its population had grown to 70,018 as per the 2011 census.
- The entire Palani landscape underwent huge transformation due to the change in land use pattern in the recent past.
- Stating that Asian elephants require a large space of approximately 700-750 square kilometres per year as home range apart from 150 to 200 kg of fodder and 150 litres of water, the officer said, the forest was no more contiguous so as to enable free migratory movement of almost all wild animals including the elephants.
- Accusing coffee, banana and vegetable cultivators of using “dangerous” pesticides, the officer said that the use of such chemicals had led to reduction of population of honeybees and loss of livelihood of the tribals.
- The PCCF said the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act of 2006 defines ‘other traditional forest dwellers’ to mean those residing in the forests for at least three generations with the term ‘generation’ having been defined under the legislation to mean a period of 25 years.

### **PWD to build weather-resistant roads**

**News:** Fed up with being at the receiving end of public ire during every monsoon due to shabby condition of roads and faced with the arduous task of reconstructing 8,000 km of roads that were washed away or suffered major damage in the recent floods and landslips, the Kerala State Public Works Department has decided to **adopt weather-resistant technologies to build durable roads.**

### **Beyond News**

- The enormity of the works that have to be undertaken post-deluge is evident from the fact that the cost to reconstruct 8,000 km roads, a few dozen bridges and culverts has escalated to ₹9,000 crore, from the initial estimate of ₹5,000 crore. There were 1,800 landslides in Idukki alone, causing damage to PWD roads.
- The PWD roads cater to 75% of the States one crore vehicles, though they are only 10% of the State’s total road network spread over 3.31 lakh km. The coming years will see emphasis being laid on adopting modern technology to build durable roads, than on the length of roads resurfaced.
- The main problem with roads in the State is that they are not well designed and give away during adverse weather or due to heavy vehicle density. The government has decided to make a decisive shift to construct designed roads, for which detailed project reports will be prepared. The State cannot afford to invest in roads that get damaged within a year or two of construction. Hence, the PWD has zeroed in on four modern technologies to build roads that have a guarantee of between 10 to 15 years.

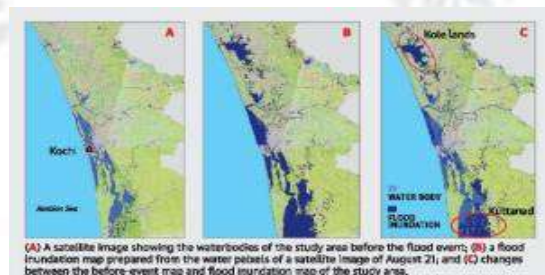
- In this, the PWD has decided to adopt relaying of roads using soil-stabilisation method, natural rubber modified bitumen (NRMB) technology, geotextiles and shredded plastic waste. In soil stabilisation, locally available materials are mixed with cement and used for road construction. This almost totally does away with the need for aggregate (crushed granite). Apart from durability, this is faster than conventional methods that we hitherto adopted.
- Plastic waste is available in plenty in Kerala, what with over 30 lakh bottles of purified water being distributed to people affected by the recent deluge. Local bodies are engaged in shredding this and other plastic waste. The PWD will procure this and other shredded plastic refuse as raw material for laying roads, to increase their durability.

### Researchers use satellite data for flood mapping

**News:** A joint team of researchers from the University of Kerala and the Michigan Technological University, USA, have come out with an **inundation map using satellite images to assess the extent of flooding** that caused widespread devastation in Kerala last month.

#### **Beyond News**

- The team used the data from the European Space Agency's radar satellite Sentinel to map the inundated areas in Kerala during and following the floods.
- The map shows that the wetlands consisting of low-lying Kuttanad in the south, the kole lands of Thrissur in the north, and the backwater system experienced significant increase in water level owing to the floods triggered by torrential rains. While the floodwater in most of the inundated land had already begun receding by August 21, the water level in Kuttanad and the kole lands were slow to decrease.
- The team followed up the mapping with a field visit to Kuttanad to validate the data. The results showed a 95% accuracy. The analysis also showed a peak rise of 5 m in the water level in the Kuttanad region, going up to 10 m in the kole lands.
- Radar satellites, with their cloud-penetrating capability, offer a significant advantage for flood inundation research. Unlike other natural hazards, data on the extent of flooding need to be captured before the water recedes. Hence only radar images come in handy as other optical satellite images will be marred by cloud cover.
- The team is also in touch with the Canadian Space Agency to enlarge the database on the flood situation in Kerala.
- The researchers point out that changes in land use, conversion of wetland to dryland, unbridled mining of river sand and brick clay, and construction activities in the floodplains had played havoc with Kuttanad and the kole lands and affected the natural drainage system.
- The research team is currently in Idukki to collect field data on the damage caused by the landslips and flash floods in the district.



## General Studies-02

### Nepal to skip BIMSTEC military drill in India

**News:** The Nepal Army has withdrawn from the first BIMSTEC military exercise to be held in India following a political row in the country over the participation in the event, a media report said.

#### Beyond News

- Prime Minister K.P. Oli asked the national defence force not to participate in the drill, compelling the Nepal Army leadership to rollback its earlier decision to take part in the first-ever military exercise of the regional grouping initiated by India.
- The decision was taken just a day before the Army squad was set to travel to Pune, where the drill will commence, the Kathmandu Post
- The move came after strong criticism from different quarters, including influential leaders of the ruling Nepal Communist Party.
- The Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) comprises Bangladesh, India, Myanmar, Sri Lanka, Thailand, Bhutan and Nepal.



### LEMOA already fully operational

**News:** The India-U.S. foundational agreement for mutual logistics support, the Logistics Exchange Memorandum of Agreement (LEMOA), has been fully operationalised over the past few months, official sources said.

#### Beyond News

- Earlier this week, India concluded the third foundational agreement, **Communications Compatibility and Security Agreement (COMCASA)**, which is meant for secure encrypted communications.
- The SOP document was shared with the U.S. two months ago.
- India had concluded the LEMOA in August 2016 in a culmination of a decade of negotiations between the two countries.
- The pact gives both countries access to designated military facilities on either side for the purpose of refuelling and replenishment in primarily four areas — port calls, joint exercises, training and humanitarian assistance and disaster relief.

#### The lowdown on LEMOA

India is now in a select company after the signing of the LEMOA with the U.S.

- LEMOA stands for Logistics Exchange Memorandum of Agreement (LEMOA), a tweaked India specific version of the Logistics Support Agreement (LSA) which the U.S. has with several countries it has close military ties
- One of four foundational agreements with the U.S.
- The pact gives access, to both countries, to designated military facilities on either side for the purpose of refuelling and replenishment



- It covers four areas — port calls, joint exercises, training and humanitarian assistance and disaster relief
- U.S. has similar agreements with NATO partners, treaty allies like Japan and other nations like Philippines, Pakistan, Jordan

- The SOPs include designating the points of contact for the U.S. military to work with, and set up, a common account for payments.
- So far, the three services had individual accounts from which payments were being made during military exercises.
- The biggest beneficiary of the LEMOA is the Indian Navy, which interacts and exercises the most with foreign Navies.
- The Navy has a fuel exchange agreement with the U.S. for fuel transfer on the high seas, which is set to expire in November.
- Now fuel exchange gets subsumed into the LEMOA and does away with the need for a separate agreement, an officer said.
- With COMCASA, India has signed three of the four foundational or enabling agreements with the U.S. meant to improve interoperability between the militaries and allow transfer of high-end military platforms.
- The first one, the General Security Of Military Information Agreement (GSOMIA), which is for information safety, was signed in 2002.
- COMCASA, which was signed at the 2+2 dialogue, is an India-specific version of the Communication and Information on Security Memorandum of Agreement (CISMOA).
- The last one remaining is the Basic Exchange and Cooperation Agreement for Geo-spatial Cooperation (BECA).

## [Allow NRIs to manage foreign funds, says SEBI panel](#)

**News:** Facing widespread opposition from various sections of the market, the **Securities and Exchange Board of India (SEBI)** has proposed amending most of the clauses of the contentious circular issued in April that barred Non-Resident Indians (NRIs) from managing overseas funds that invest in India.

### **Beyond News**

- A SEBI panel has suggested that NRIs, along with Overseas Citizens of India (OCI) and Resident Indians (RIs), be allowed to manage foreign funds that invest in India subject to certain holding limits.
- The panel report, which was made public, states that a single NRI, OCI or RI cannot hold more than 25% of the assets under management (AUM) of the foreign portfolio investor and the aggregate holding of such entities has to be below 50% in the foreign portfolio investment (FPI).
- Further, while an NRI, OCI or an RI cannot be in control of the FPI, there would be no restriction on such entities to act as investment managers provided such managers are properly regulated in their home jurisdiction.
- Interestingly, as per the panel report, the Department of Revenue has communicated to SEBI that the principle laid down in Rule (9)3 of **the Prevention of Money Laundering (Maintenance of Records) Rules 2005** is for the purpose of customer due diligence and it need not be applied to determine the eligibility of foreign portfolio investors.

**Foreign investors can breathe easy**

- SEBI panel recommends changes to April circular
- NRIs, OCIs & RIs can manage overseas funds investing in India
- Single NRI, OCI or RI cannot hold more than 25% of the AUM of an FPI
- Aggregate holding of such entities capped at 50% in the FPI
- Suitable definition of NRI and OCI to be included in FPI Regulations
- SEBI need not use beneficial owner definition as laid down under PMLA, says Govt.
- SEBI to release revised circular based on public comments on the panel proposals

• FPIs to get six months' time to comply with the new framework, when issued

- It also added that there is no legal compulsion for SEBI to adopt the definition of beneficial owner (BO) as laid down by PMLA Rules for eligibility criteria.
- This is broadly in line with the thinking of the group that the BO criteria under PMLA may be made applicable only for the purpose of KYC and not as eligibility criteria for FPIs, including those having NRIs/OCIs/Resident Indians (RIs) as their constituents, stated the panel in its report.
- In April, SEBI announced that NRIs/PIOs and RIs cannot manage FPIs. While the regulator gave six months time to foreign portfolio investors to comply with the new framework, the deadline was later extended till December 31.
- The recent past had seen industry bodies peg the potential outflows at \$75 billion due to the SEBI diktat though the regulator had brushed aside such concerns.
- Meanwhile, SEBI has given time till September 17 for public comments on the panel recommendations.

## General Studies-03

### On the brink of extinction

**News:** The koala population in Australia's of New South Wales (NSW) state may **face extinction by 2050** if the current rate of tree felling is maintained, the World Wide Fund for Nature (WWF) warned.

#### **Findings**

- The WWF said in a new report that since the repeal of the **NSW Native Vegetation Act** in August 2017, the **forest clearing rate has tripled** to a total of 20,258 acres in the north of the state, reports Efe news.
- According to the WWF, this may have led to the destruction of the habitat of 247 native species, including the koala, an iconic native Australian marsupial that has been designated as vulnerable to extinction under commonwealth and state law.
- Last year, the WWF warned that the felling of trees reduced by 53 and 26 per cent respectively the koala population in the eastern states of Queensland and NSW.
- **The koala, which in Aboriginal language means “no water”** – referring to the fact that 90 per cent of its hydration comes from the eucalyptus leaves it eats, is considered a vulnerable species in Queensland, NSW and in the Australian Capital Territory.
- Since European colonization, koalas, which have been living in Australia for 25 million years, have **lost their habitats as a result of urban, agricultural and mining development, climate change, and the commercialization of their skins until the 1930s.**
- In some areas, koalas have also died due to chlamydia, a bacterium that causes injuries to the genitals and eyes, causing infertility and blindness, slowly consuming them to death.
- The koala, which is particularly sensitive to any change in the environment, spends about 20 hours a day sleeping or resting, and uses the remaining hours to feed on leaves of several species of eucalyptus.



## In Bengal, another train stops for elephants

**News:** Stopping a train to let elephants take their time to cross a track appears to have become a habit for locomotive pilots of the Northeast Frontier Railway (NFR).

### **Beyond News**

- Loco pilot eased the 55468 Down Bamanhat-Siliguri Jn passenger train afternoon after spotting a large herd of elephants approach the track between Nagrakata and Chalsa stations in northern **West Bengal**.
- Fellow locomotive operators Amar Nath Bhagat and Pawan Kumar had done the same thing with the same train between Gumla and Sivok stations in the same section a fortnight ago.
- **NFR's tracks cut through 29 notified elephant corridors, many of them in the Dooars region of northern West Bengal**, where train hits killed at least 30 elephants in five years till December 2017.
- According to a 2017 study by Wildlife Trust of India, Project Elephant and UK-based NGO Elephant Family, the jumbos regularly use 86% of the corridors of northern West Bengal and 66% of those in the Northeast.
- The study said the elephant habitat is about 2,200 sq. km. of the forest area of 3,051 sq. km. in northern West Bengal, straddling Terai, western and eastern Dooars.

## Researchers look overseas for radar images of floods

**News:** Researchers in **Kerala** are turning to foreign space agencies to source satellite radar imagery for **post-flood analysis and damage assessment as the decommissioning of ISRO's RISAT-1 last year has left India without an indigenous radar imaging satellite for civilian applications.**

### **Beyond News**

- While the University of Kerala has tied up with the Michigan Technological University to map the areas that were flooded last month following torrential rains in the State, the Kerala Agricultural University has partnered with the Tamil Nadu Agricultural University to assess the crop damage.
- The research teams are sourcing radar images from the European Space Agency (ESA) and the Canadian Space Agency to prepare inundation maps.
- Radar imaging satellites like ESA's Sentinel and ISRO's RISAT are particularly useful for monitoring floods and assessing damage because they are capable of penetrating cloud cover and operating day and night and in all weather conditions.
- In 2016, U.S. space agency NASA had reported a 'debris generating' event near RISAT-1. In 2017, the satellite was decommissioned and declared non-operational in the annual report of the Department of Space. RISAT- 2, another satellite in the series that was built by Israel Aerospace Industries and launched in 2009, remains in orbit but is reserved for strategic applications.

- Researchers stress the need for ISRO to focus on the development of a successor to RISAT-1. The increasing frequency of climate-change induced events in the country warrants a dedicated indigenous satellite resource, they contend.

## **Trump wants to stop subsidies to growing economies like India, China**

**News:** President Donald Trump said he wants to **stop the subsidies that growing economies like India and China have been receiving** as he wants the U.S., which he considers as a “developing nation,” to grow faster than anybody.

### **Beyond News**

- President also accused the World Trade Organization (WTO) of allowing China to become a “great economic power”.
- Trump also warned he was ready to slap tariffs on virtually all Chinese imports into the United States, threatening duties on another \$267 billion of goods on top of \$200 billion in imports primed for levies in coming days.
- The moves would sharply escalate Mr. Trump’s trade war with Beijing over his demands for major changes in economic, trade and technology policy. China has threatened retaliation, which could include action against U.S. companies operating there.
- Stock prices slipped after his comments, with the S&P 500 off 0.2%, while China’s off-shore trade yuan currency fell against the dollar.

Mr. Trump has already imposed 25% tariffs on \$50 billion worth of Chinese goods, mostly industrial machinery and intermediate electronics parts, including semiconductors.

**SEPTEMBER 9 & 10**

## **General Studies-01**

### **Wind, solar farms could bring rains to Sahara Desert.**

**News:** A massive wind and solar installation in the Sahara Desert would increase precipitation and vegetation in the world’s largest hot desert.

### **Findings**

- The study is among the first to model the climate effects of wind and solar installations while taking into account how vegetation responds to changes in heat and precipitation.
- The wind and solar farms simulated in the study would cover more than nine million square kilometers and generate, on average, about three terawatts and 79 terawatts of electrical power, respectively.



- In 2017, the global energy demand was only 18 terawatts, so this is obviously much more energy than is currently needed worldwide.
- The model revealed that wind farms caused regional warming of near-surface air temperature, with greater changes in minimum temperatures than maximum temperatures.
- The greater nighttime warming takes place because wind turbines can enhance the vertical mixing and bring down warmer air from above.
- Precipitation also increased as much as 0.25 millimetres per day on average in regions with wind farm installations.
- Solar farms had a positive effect on temperature and precipitation, the team found. Unlike the wind farms, the solar arrays had very little effect on wind speed.
- They found that the large-scale installation of solar and wind farms can bring more rainfall and promote vegetation growth in these regions.
- The rainfall increase is a consequence of complex land-atmosphere interactions that occur because solar panels and wind turbines create rougher and darker land surfaces.
- The increase in rainfall and vegetation, combined with clean electricity as a result of solar and wind energy, could help agriculture, economic development and social well-being in the Sahara, Sahel, Middle East and other nearby regions.

### **General Studies-02**

#### **India is asking for a trade deal due to our tough policies: Trump**

**News:** India has asked for a trade deal with the U.S. due to his tough policies, President Donald Trump told his supporters.

#### **Beyond News**

- India and the U.S. are negotiating several trade issues, and the talks are in a stalemate as U.S Trade Representative (USTR) has demanded a commitment from India to make additional purchases worth \$10 billion annually for the next three years.
- Just as U.S Secretaries of State and Defense, Mike Pompeo and James Mattis respectively, left New Delhi after the first 2+2 dialogue that sought to reiterate the strategic convergence between the two countries after in the face of assertive China, the President put China and India in the same bracket, yet again.
- Principal Deputy Assistant Secretary for South and Central Asia told reporters on the conference call that the U.S was working with India, Japan and Australia to keep Asia safe and secure.



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## General Studies-03

### China launches new marine satellite

**News:** China launched a **marine satellite to help improve understanding of maritime waters and climate change.**

#### **Beyond News**

- The HY—1C satellite will help monitor ocean colour and water temperatures, providing basic data for research on the global oceanic environment.
- Its data will also be used in the survey of the resources and environment of China's offshore waters, islands and coastal zones, marine disaster relief and the sustainable utilisation of ocean resources, said the administration.
- HY-1C is expected to improve China's ocean remote sensing capability, along with HY—1D, which is planned to be launched in 2019.
- HY—1C can detect chlorophyll and suspended sediment concentrations and dissolved organic matter, which can affect ocean colour, as well as temperatures on the sea surface.

### Alien, Invasive and thriving: Native plants choked in Western Ghats

**News:** Last week, the Madurai Bench of the Madras High Court, hearing a public interest litigation petition **seeking the removal of invasive trees from over 22,000 hectares in the Western Ghats**, directed the National Board for Wildlife to look into the issue and pass appropriate orders.

#### **Beyond News**

- While invasive species of flora like eucalyptus, wattle, pine and cypress trees, as well as *Lantana camara* plants, are proliferating across the Nilgiris upper slopes, *Prosopis juliflora*, parthenium and eupatorium have spread on the biosphere's lower slopes, forest officials said.
- Weeds like scotch broom (*Cytisus scoparius*) and gorse have also begun to spread profusely in habitats like Avalanche, Upper Bhavani and the Mukurthi National Park, home to the endangered Nilgiri tahr, the State animal.
- The Forest Department has taken measures to deal with the spread of the invasive flora over the last few years, with mixed results.
- **Mudumalai Tiger Reserve** too has been impacted by the spread of invasive plants, especially *Lantana camara* and parthenium. Deputy Director of the Mudumalai Tiger Reserve (MTR) , said that around 70% of the tiger reserve has been taken over by lantana, leading to a diminishing fodder base for herbivores within the reserve.



- While **invasive species of flora have had an impact on biodiversity in the Nilgiris**, restoration ecologists and experts who have worked in the region for many years have urged caution in dealing with their removal.
- The Forest Department has been working to eradicate invasive species in the Nilgiris and elsewhere in the State for many years now. The department needs funds, manpower and persistence.
- Wildlife continues to thrive in the Western Ghats, including the Nilgiris biosphere, despite the invasive species, said a forest official. But he admitted that the benefits to the native system from the alien species was low.
- Invasive species in the forest ecosystems of Tamil Nadu have resulted in a loss of biodiversity, with an adverse impact on the ecology and economy.

#### **A lowdown on the threat posed by them:**

- Invasive species do not allow any shrub or local species of grass to grow around them.
- They grow in dense fashion, leaving little space for wildlife to pass through.
- A resin oozes from some species during the monsoon, which turns the soil acidic.
- Invasive species like Lantana spread all over an area and create a mat-like structure. They lead to retrogression and a change in the original vegetation in the longer run, degrading and destroying biodiversity. In the process, herbivores such as the Indian gaur, spotted deer and sambar do not get the required grass, shrubs and plants they feed on. If the herbivores are affected, carnivores like tigers and panthers also suffer.
- Apart from other factors, monoculture plantation of eucalyptus and wattle could endanger the Nilgiri tahr as it could affect the heart of its habitat, the grasslands.
- They can lead to the movement of wildlife. The Indian gaur population from the wild has started migrating to Kodaikanal town in search of fodder. It is a major problem in areas such as Thadiyankudisai, Thandikudi, Pannaikkadu and Kmbarayur as well.

#### **Google wants more time to meet data storage norms**

**News:** Technology giant Google has sought two more months from the Indian government **to comply with RBI guidelines mandating storing of data by digital payment services providers locally.**

#### **Beyond News**

- The **Reserve Bank of India (RBI), in April this year, had directed payment system operators to store all data, including full end-to-end transaction details and information collected, within India.** The service providers were given six months till October 15 to comply.
- Soaring data flows generate more economic value and hence the socio-economic impact of restricting data flows must be thoroughly considered while framing any policy. There is a need to find practical and contemporary solutions to policy issues in line with global best practices.
- Google CEO, in a letter to the Minister after his visit, had also pitched for free flow of data across borders.

- Free flow of data across borders with a focus on user privacy and security will encourage start ups to innovate and expand globally and encourage global companies to contribute to India's digital economy, Google CEO said.

### Plans to generate 10,000 MW solar power in State by 2022

**News:** The Andhra Pradesh State government has chalked out **plans to add 10,000 MW solar power in the State by 2022**, to help bring down tariff as well as make Andhra Pradesh a power-surplus State.

#### **Beyond News**

- The government has already taken up 4,000 MW ultra solar power projects at Kurnool, Anantapur and Kadapa.
- The government has been **promoting renewable energy, including solar, in a big way since 2014**.
- The price per unit has come down to ₹2.75 due to solar power generation. The solar power tariff has come down after taking up the 750 MW solar power project in the Kadapa ultra mega solar park.
- The solar power capacities have been consistently added and generation is poised to reach 5,000 MW by 2019-20.
- The solar policy was announced in 2015 to attract investments in the renewable energy sector.

### NCESS study finds natural, man-made causes for floods in south Kerala

**News:** A study by an expert team of the National Centre for Earth Science Studies (NCESS) has found that the **recent floods in south Kerala were the combined effects of natural and man-made processes**.

#### **Findings**

- Heavy precipitation, release of 'hungry water' from dams or water that is generated in the sediment-starved river channels in high gradient terrains, riverbeds in the midlands and lowlands with deep pits, caused by indiscriminate sand-mining, had played their role in the deluge.
- The cumulative density of the hungry water released from dams, loaded with silt and clay (mud), would be double that of clear water.
- Scenario at Pampa was quite different. Huge accumulation of heterogenous-type bed materials containing a wide spectrum of particles such as sand, gravel, cobbles and boulders were seen, along with huge uprooted trees, at Pampa-Triveni in the foothills of Sabarimala.
- More than 75 % of this was construction grade sand and gravel. Accumulations of alluvial placer minerals, rich in ilmenite, were noticed in the present flow channel of the Kakki river.

- Hungry water, which was sediment-starved, had transported huge volumes of bed materials to the downstream, depositing them in front of various constructions in the river channel. Evidence showed that the water level had risen to over 12 m at this station, submerging many buildings.

**SEPTEMBER 11**

## **General Studies-01**

### **Climate actions can create millions of jobs**

**News:** As cities around the world accelerate efforts to meet their commitments to the **Paris climate agreement**, a new research has shown that **ambitious urban climate policies can vastly reduce carbon emissions globally while also generating new jobs.**

#### **Findings**

- The research has been conducted by C40 Cities, The Global Covenant of Mayors for Climate and Energy and the NewClimate Institute.
- The research estimates that by 2030 a boost in urban climate action can prevent approximately 1.3 million premature deaths per year, generate 13.7 million jobs in cities and save 40 billion hours of commuters' time plus billions of dollars in reduced household expenses each year.
- Funded by Bloomberg Philanthropies, the report examines a number of effective urban solutions to climate change, including energy efficiency retrofits in buildings, enhanced bus networks and district-scale renewable energy.
- It shows that these climate actions are strong drivers of positive public health and economic outcomes across countries and regions. Its findings show investments in residential energy efficiency retrofits will result in a net creation of 5.4 million jobs in cities worldwide.
- Improved bus services and more extensive networks can prevent the pre-mature deaths of nearly one million people per year from air pollution and traffic fatalities worldwide.



Overall, climate action policies can have proportionally greater outcomes for lower income groups in developing cities, where populations have the most to gain from the introduction of new technologies.

## Florence strengthens to Category 4, takes aim at Carolinas

**News:** Florence exploded into a potentially catastrophic **Category 4 hurricane** as it closed in on North and South Carolina, carrying winds up to 140 mph (220 kph) and water that could wreak havoc over a wide stretch of the eastern United States later this week.

### **Beyond News**

- Communities along a stretch of coastline that's vulnerable to **rising sea levels due to climate change** prepared to evacuate the storm, which forecasters expect to be close to Category 5 strength. The South Carolina governor ordered the state's entire coastline to be evacuated and predicted that 1 million people would flee. And Virginia's governor ordered a mandatory evacuation for some residents of low-lying coastal areas.
- The storm's first effects were already apparent on barrier islands as dangerous rip currents hit beaches and seawater flowed over a state highway.
- The storm's potential path also includes half a dozen nuclear power plants, pits holding coal-ash and other industrial waste, and numerous hog farms that store animal waste in massive open-air lagoons.
- National Hurricane Center Director Ken Graham warned that Florence was forecast to linger over the Carolinas once it reaches shore. People living well inland should prepare to lose power and endure flooding and other hazards.
- Two other storms were spinning in the Atlantic. Hurricane Isaac was expected to lose strength as it reaches the Caribbean, and Helene, much farther out to sea, may veer northward into the open ocean as the 2018 hurricane season reaches its peak.
- In the Pacific, Hurricane Olivia triggered warnings for multiple Hawaiian islands as it blew west toward an arrival over the state.
- Preparations for Florence were intensifying up and down the densely populated coast.

## General Studies-02

### Army plans to reduce force strength

**News:** The **force restructuring that the Army is aiming to undertake**, thereby reducing its strength by 1.5 lakh men, is expected to save ₹5,000 crore to ₹7,000 crore a year in revenue expenditure, defence sources say.

### **Beyond News:**

- The progress of four independent studies under way will be reviewed by the Chief of the Army Staff, at a conference with the seven Army commanders.
- The studies being carried out by separate groups with seven or eight officers each are tasked with looking into restructuring of the Army headquarters. The **restructuring includes cutting down the strength, cadre review of officers and review of terms and conditions of junior commissioned officers and other ranks.**
- The reduction in strength, which will be carried out in a phased manner, is expected to save at least ₹5000-7000 crore annually and will add at least 20% to the existing capital expenditure of the budget, the source added.
- The 1.3 million strong Army is facing an increasing burden of revenue expenditure and pensions, leaving very little funds for modernization.

- Apart from reducing the strength to make the force leaner and better equipped, the Army is also mulling doing away with the rank of Brigadier and brigade headquarters as part of the officer cadre review. This is expected to free up significant number of officers who will be available for field duties. Army headquarters too is likely to see a major churn with several departments doing overlapping functions merged or off-loaded away from the headquarters.

Several attempts have been made in the past to restructure the force, but this time it is at a much broader level to undertake a radical reform, one official observed.

### **Africa should not become theatre of rivalry: Sushma Swaraj**

**News:** Africa should not become a playground for rival world powers, the External Affairs Minister said . Welcoming an agreement between the Ministry of External Affairs and Telecommunications Consultants India Ltd (TCIL) to **launch an e-network project**, the minister reiterated that **India will intensify diplomatic presence in Africa and work to safeguard the oceans.**

#### **Beyond News**

- Agreement signed will facilitate two schemes **eVidyaBharati and eArogyaBharati** that will benefit African citizens seeking education and health facilities. External Affairs Minister said that the programmes will provide telemedicine and tele-education benefits to African nationals.
- The minister described the tele-medicine and tele-education network as the second phase of India-Africa digital partnership. As part of this, the e-VidyaBharati and eArogyaBharati projects will increase ease of access for students, doctors and other beneficiary groups aimed by the projects.
- External Affairs Minister pointed out that the Government has decided to open 18 new diplomatic missions in Africa that will intensify coordination on crucial issues of common interest like security and counter terror.
- India has been pushing for deeper diplomatic engagement with Africa and during his recent visit to Uganda, Prime Minister Narendra Modi laid down the renewed vision. External Affairs Minister emphasised the “Bridge of Brotherhood” that exists between the two sides since the era of anti-colonial struggle and pledged continuation of similar ties.

### **WHO calls for better preparedness in emergencies**

**News:** The **World Health Organisation (WHO)** has called upon countries in the Southeast Asia region **to strengthen their emergency medical teams in order to be better prepared to respond to public health emergencies.**

#### **Beyond News**

- The advisory comes at a time when a large number of emergency medical teams (EMTs) or emergency response teams have been arriving in affected countries to provide emergency care to affected people.
- The Southeast Asia region is **vulnerable to various disasters and emergencies such as earthquakes, floods, tsunamis, landslides and volcanic eruptions.**

- According to the 2016 World Disaster Report, over the past decade, the region disproportionately accounted for 26.8% of deaths in emergencies.
- Prone to natural disaster, the region has been focusing on scaling-up emergency risk management as a flagship priority.
- EMTs can be national, international, government, non-governmental, civilian or military. They have have varied capacities, and their deployment is often not based on assessed needs.
- WHO is helping mentor EMTs to improve their capacities in line with international standards. The WHO EMT-Initiative aims at supporting countries, NGOs and international organisations by identifying minimum standards, best practices, logistics and standard operating procedures for operating field coordination, for saving lives, preserving health, and protecting dignity.
- WHO urged member countries to develop and implement a national plan for strengthening systems for EMTs in collaboration with all key partners, and establish and strengthen national mechanisms, which supports effective and high-performing national EMTs in line with the WHO's classification and standards.

## General Studies-03

### For a safe Mars landing

**News:** NASA has launched a sounding rocket from the agency's Wallops Flight Facility in Virginia **to test a supersonic parachute for landing its next rover on Mars.**

### **Beyond News**

- The rocket launched **carried the Advanced Supersonic Parachute Inflation Research Experiment (ASPIRE)** from NASA's Jet Propulsion Laboratory (JPL) in Pasadena, California.
- The payload descended by parachute and splashed down in the Atlantic Ocean 28 miles from Wallops Island, NASA said. The parachute was successfully recovered and returned to Wallops for data retrieval and inspection.
- The suborbital launch was designed to mimic conditions that the parachute might experience during a Mars landing.
- The payload is a bullet-nosed, cylindrical structure holding a supersonic parachute, the parachute's deployment mechanism, and the test's high-definition instrumentation – including cameras – to record data.

### India's first 205 tonne dump truck by BEML launched in Mysuru

**News:** The country's first 205T Electric Drive Rear Dump Truck (BH205-E) designed and developed at the Mysuru plant of Bharat Earth Movers Limited (BEML) was flagged off.



## Beyond News

- A premier manufacturer of **mining** and construction equipment's, BEML, a PSU under the Ministry of Defense, developed the gargantuan dump truck **to reinforce the 'Make in India' initiative by addressing the growing demand for higher capacity equipments in the mining industry.**
- The dump truck has been developed for use in the project of Northern Coalfields Limited (NCL), Singrauli.
- BH205-E has been developed for large-scale mining operations. It is powered by Tier-II emission complaint modular common rail electronic engine with 2300HP. The AC drive system has been engineered to provide exceptional haul road performance with reduced maintenance, according to the BEML.
- The truck weighs 335 tonnes when fully loaded but it is easily manoeuvrable with power-steering and short turning radius. It has an ergonomically designed dash board and a tiltable telescopic steering wheel. Other features include good visibility in addition to safety with provisions for emergency steering, breaking and proximity warning.

**SEPTEMBER 12**

## **General Studies-01**

### **Greenhouse gas emissions from Indian paddy fields very high: study**

**News:** Rice farming across the world could be responsible for up to twice the level of **climate impact** relative to what was previously estimated, according to a study conducted in India.

#### **Findings**

- The study, found that intermittently flooded rice farms can emit 45 times more nitrous oxide as compared to the maximum from continuously flooded farms that predominantly emit methane.
- According to a global analysis by Environmental Defense Fund (EDF) in the US, methane and nitrous oxide emissions from rice farms could have the same long-term warming impact as about 600 coal plants.
- The researchers investigated greenhouse gas emissions from rice farms across southern India. They found that nitrous oxide emissions from rice can contribute up to 99 % of the total climate impact of rice cultivation at a variety of intermittently flooded farms.
- These emissions contributed substantially to global warming pollution far more than the estimate of 10% previously suggested by multiple global rice research organizations.



- The researchers found an inverse correlation between methane and nitrous oxide emissions from rice farming. Water and organic matter management techniques that reduce methane emissions can increase nitrous oxide emissions, they said.
- This, the team said, is crucial because nitrous oxide is a long-lived greenhouse gas that traps several times more heat in the atmosphere than methane over both 20 and 100-year time frames.
- Rice is a critical source of nutrition for the world's rapidly growing population, providing more calories to humans than any other food, researchers said. However, growing rice is also resource-intensive: rice cultivation covers 11 % of the Earth's arable land, consumes one-third of irrigation water.
- The researchers found that **carefully chosen farming techniques at individual farms reduced net greenhouse gas emissions** from rice cultivation by as much as 90% by integrating shallow (mild-intermittent) flooding with co-management of nitrogen and organic matter.
- If all irrigated rice farmers only used the proposed shallow flooding instead of continuous or intense forms of intermittent flooding, estimates in the accompanying analysis shows that the rice farms with irrigation have the potential to reduce their global climate impact by 60%, researchers said.

## Antarctica in new light

**News:** Researchers recently announced the release of a **new high-resolution terrain map of the southernmost continent, called the Reference Elevation Model of Antarctica, or REMA**, which they say makes Antarctica the best-mapped continent on Earth.

### Beyond News

- Antarctica is the most desolate and inhospitable place on Earth, and its remoteness makes monitoring changes in ice and water levels difficult. Because of the **warming climate**, seasonal changes at Antarctica are becoming more severe, making the need to understand the loss of ice even more important.
- Previous maps of the continent had a resolution similar to seeing the whole of Central Park from a satellite. With this new data, it is possible to see down to the size of a car, and even smaller in some areas. The data is so complete that scientists now know the height of every feature on the continent down to a few feet.
- The team used 187,585 images collected over six years to create the map. The pictures are so detailed that researchers had to use one of the most powerful supercomputers on Earth to ingest the data.
- Observing snowfall, ice growth and the rate of melt and fissures will allow scientists to monitor sea-level rise and glacial melt with more accuracy. Ice shelves bear the brunt of



pressure from flowing rivers pushing against them. The faster the ice melts on the land, the more weight the ice shelf has to contain, resulting in breaks of glaciers into the sea.

- Explorers and scientists stationed at Antarctica will also find the map useful. By having such a detailed topographical map, new routes to science stations can be planned around the continent's dangerous terrain.
- The 150-terabyte data set is the first that will allow researchers to watch the fracturing of ice shells within a three-week time span, nearly tracking changes on the ice in real time.

## General Studies-02

### Centre hikes ethanol prices

**News:** The Centre has hiked ethanol prices, with a special incentive for ethanol directly produced from 100% sugarcane juice, in a **dual bid to reduce both surplus sugar production and the fuel import bill**. The ethanol produced from sugar is blended with petrol.

#### **Beyond News**

- The decision was taken by the Cabinet Committee on Economic Affairs at its meeting.
- Record production of more than 31 million tonnes this year is far higher than domestic consumption rates of 25 million tonnes. As a result, sugar mills have struggled to pay their dues to cane farmers, and despite various government measures to improve liquidity, the arrears to farmers stand at more than Rs. 13,000 crore.
- The price of ethanol derived from 100% sugarcane juice is raised from ₹47.13 to ₹59.13. The rate for ethanol produced from B-heavy or intermediary molasses has been raised to ₹52.43. The rate of ethanol produced from C-heavy molasses (which has no sugar left), however, has been marginally reduced to ₹43.46.
- By increasing the price difference between ethanol with no sugar left and that of fully made up of sugar to almost 35%, the Centre has given sugar mills a clear incentive to increase ethanol production from sugar.

### Health Ministry issues notification to bring HIV/AIDS Act, 2017, into force

**News:** Safeguarding the rights of people living with and affected by HIV, the Union Health Ministry has issued a notification to bring in force from Monday the **Human Immunodeficiency Virus and Acquired Immune Deficiency Syndrome (Prevention and Control) Act, 2017**.

#### **Beyond News**

- Provisions of the Act address HIV-related discrimination, strengthen existing programme by bringing in legal accountability, and establish formal mechanisms for inquiring into complaints and redressing grievances, noted a release issued by the Ministry.

- The Ministry said the Act seeks to prevent and control the spread of HIV and AIDS, and prohibits discrimination against affected persons. The Act lists various grounds on which discrimination against HIV positive persons and those living with the condition is prohibited.
- These include the denial, termination, discontinuation or unfair treatment with regard to: employment, educational establishments, health care services, residing or renting property, standing for public or private office, and provision of insurance (unless based on actuarial studies).
- The requirement for HIV testing as a prerequisite for obtaining employment or accessing health care or education is also prohibited.
- Provisions of the Act state that a person between the age of 12 and 18 years who has sufficient maturity in understanding and managing the affairs of his/her HIV or AIDS-affected family shall be competent to act as guardian of another sibling below 18 years of age to be applicable in matters relating to admission to educational establishments, operating bank accounts, managing property, and care and treatment, among others.
- Provisions of the Act state that every person in the care and custody of the State shall have the right to HIV prevention, testing, treatment and counselling services.

## General Studies-03

### All railway tracks to be electrified

**News:** The Cabinet Committee on Economic Affairs **approved the proposal for electrification of the remaining 13,675 route km of railway tracks** at an estimated cost of over ₹12,134 crore, converting the entire railway network into electric.

#### **Beyond News**

- The last leg of unelectrified broad-gauge routes comprises 108 sections covering 13,675 route km, or 16,540 track km, an official statement said, adding that the electrification is likely to be completed by 2021-22.
- The government expects the approved electrification to generate direct employment of about 20.4 crore man-days during the period of construction.
- The major trunk routes on the Indian Railways network have already been electrified and are operational, the proposed electrification mainly for missing links and last mile connectivity, will **increase the operational efficiency, enhance the line capacity and improve the average speed of trains.**
- The approved electrification **will reduce the use of imported fossil fuels, thereby improving energy security to the nation.** After the planned electrification, there would be reduction in the consumption of high speed diesel oil by about 2.83 billion litres per annum and a reduction in GHG emissions.
- Currently, two-thirds of freight and more than half of passenger traffic move on electric traction.



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## India's first missile tracking ship is readying for sea trials

**News:** Hindustan Shipyard Limited (HSL) is gearing up to **undertake sea trials of India's first missile tracking ship** by the first week of October.



### **Beyond News**

- The keel of the ship, which was laid on June 30, 2014, is being built for the National Technical Research Organisation, the technical intelligence agency working directly under the supervision of the Prime Minister's Office and the National Security Adviser.
- Considered a "topmost secret project", a lot of confidentiality is being maintained in executing the project costing about ₹750 crore. It will be named after its induction into the Indian Navy. For now, it is simply referred as VC 11184.
- This will be the **first of its kind ocean surveillance ship being built** as part of the efforts under the government to strengthen the country's strategic weapons programme.
- The ship was built inside the covered dry dock. It has the capacity to carry 300-strong crew with hi-tech gadgets and communication equipment, powered by two diesel engines, and a large deck capable of helicopter landing.

**SEPTEMBER 13**

## **General Studies-01**

### **Global hunger on rise, warming to blame: UN**

**News:** The **number of hungry people in the world is growing again, in large part due to climate change** that is wreaking havoc on crop production in much of the developing world, the United Nations said.

### **Findings**

- Major UN agencies said in an annual report that the number of hungry people facing chronic food deprivation increased to 821 million in 2017 from 804 million in 2016, reversing recent downward trends.
- South America and Africa face acute food insecurity and malnutrition.
- Analysis in the report found that climate variability, extreme drought and floods are already undermining production of wheat, rice and maize in tropical and temperate regions, and that the trend is expected to worsen as temperatures increase and become more extreme.

- With hunger on the rise for the past three years, the report called for policies to target groups **most vulnerable to malnutrition, including infants, children, adolescent girls and women**. It called for greater efforts to promote policies that help communities build resilience.

## **General Studies-02**

### **A novel step to spot flood-hit heritage sites**

**News:** Kerala Heritage Rescue Initiative, a collective of heritage experts from the State, in association with the national scientific committee of the International Council on Monuments and Sites (ICOMOS) and the International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM) has launched a web-based platform (crowd map) to collect firsthand information on damage to tangible, intangible, movable, and immovable cultural and natural heritage.

#### **Beyond News**

- The recent floods in the State had caused extensive damage to some culturally rich sites.
- Historical buildings, archaeological sites, vernacular housing, cultural landscapes, museum collections, cultural and religious artefacts, and crafts and practices constitute the cultural and natural heritage of a place.
- Conservation experts have done their bit for creating the Crowdmap where firsthand information is available.
- Initial reporting in the Crowdmap had specified more sites in southern Kerala that require intervention and salvaging, the official said. A few sites in the northern part of the State have also been reported.
- The data collected will be analysed, and priority intervention will be made at the damaged sites. A team of conservationists will help salvage and stabilise the sites.
- Information collected from the crowdmap helps experts identify locations, assess the extent of damage, and prioritise interventions.
- The Kerala Heritage Rescue Initiative has been created for undertaking rapid damage assessment of cultural heritage sites. Experts from two international conservation agencies will be arriving in Kerala in October to give their valuable inputs to the rescue heritage initiative.

## **General Studies-03**

### **Cabinet clears new procurement policy**

**News:** The Centre has announced a Rs. 15,053 crore **scheme to ensure that farmers growing oilseeds, pulses and copra actually get the minimum support prices (MSP)** they are promised for their crops every year.

## Beyond News

- The umbrella policy **Pradhan Mantri Annadata Aay Sanrakshan Abhiyan (PM-AASHA)** was approved by the Cabinet Committee on Economic Affairs on Wednesday.
- According to an official statement, it clubs together an existing procurement scheme with newly introduced options meant for oilseeds only of additional procurement by private traders or a cash payment scheme.
- Apart from the Rs. 15,053 crore to be spent over a two-year period to implement the scheme, the Cabinet approved an additional government credit guarantee of Rs. 16,550 crore for agencies undertaking procurement.
- The government announces minimum support prices for 23 crops every year. This year, these rates were set at 50% higher than the farmers' production costs, including labour cost. The rates are meant to give remunerative prices to the farmers.
- About one-third of the harvest of the two major foodgrains, rice and wheat, are procured by the Centre at the MSP for sale in ration shops. However, most of the 21 other crops are sold at market prices, often below the MSP, as the government's procurement operations are temporary.
- Over the last two years, the government has increased the procurement of pulses and oilseeds at MSP under the Price Support Scheme.
- In 2017-18, the National Agricultural Cooperative Marketing Federation of India said it bought 31.9 lakh tonnes of pulses and oilseeds at the MSP, benefiting 20 lakh farmers. But the total production of pulses was estimated at 240 lakh tonnes, while oilseed production was 300 lakh tonnes.

## Experts seek campaign for river protection

**News:** Experts have called for a **proper river management system and a campaign to protect rivers** in the wake of the recent floods that devastated the Kerala State.

## Beyond News

- Protecting rivers is part of a **comprehensive disaster management strategy** being developed for the district. But more mitigative and preventive measures need to be taken in the light of the floods witnessed.
- Kuttiyadi, Korappuzha, Kallayi, Chaliyar, Beypore, and Kadalundi are the prominent rivers in the district that have been literally abused for quite some time. At the same time, the authorities have not worked out a network of water system to provide cheap transport facility.
- There is a continuous inland water route connecting Vadakara with Ponnani which is part of the west-coast canal system connecting Thiruvananthapuram and Hosdurg. But the government has not been able to tap the potential of the backwaters of Kuttiyadipuzha in Vadakara.

### Time to tap potential of rivers

#### • Kuttiyadi (Moorad) River

- » Length - 74 km
- » Tributaries - Kadiyangad puzha and Olipuzha

#### • Korappuzha River

- » Length - 40 km
- » Formed by confluence of Agalapuzha and Poonurpuzha

#### • Agalapuzha

- » Navigable length - 25 km
- » An important part of the West Coast canal system

#### • Kallayi River

- » Length - 22 km
- » Navigable length - 10 km
- » Connects with Chaliyar and Korappuzha with artificial canals

#### • Chaliyar (Beypore) River

- » Length - 169 km



- » Connected with Kallai by artificial canals
- » Navigable Length - 70 km
- » Motorboats can ply up to a distance of 22 km between Beypore and Vazhakkad

#### • Kadalundi River

- » Length - 130 km
- » Formed by the confluence of Olipuzha and Velliyar
- » Part of West Coast navigation system

- Two of the biggest issues in river management are **encroachment of banks and illegal mining**. Besides, there is rampant **pollution** of waterbodies. People have no respect for water unlike in foreign countries where rivers are considered precious.

## The high cost of man-animal conflict

**News:** Scientists analysed cases of compensation for crop raiding, livestock loss and human injury and death reported to the government between 2010 to 2015, find that **wildlife that caused losses in 29 States included elephants that raid crop fields, tigers and leopards that preyed on cows and goats, and other species ranging from crocodiles to monkeys that cause injury and property damage**. Twenty-two States compensated people for crop loss.

### Findings

- While a majority of the States awarded compensation for loss of livestock, human injury and death, only 18 (62%) did so for property damage. The complete data for 18 States in 2012-2013 alone reveals that people reported a total of 78,656 cases, for which payments totalled to about ₹ 38 crore.
- Yet, even these numbers are an underestimate of the extent of conflict: many people do not report their losses, some States lack compensation policies, and the team did not have access to the five-year compensation details of 11 other States.
- When the team compared the compensation patterns in detail, they found that despite a significant mandate to address **human-wildlife conflict**, there exist numerous inconsistencies in eligibility, application, assessment, implementation and payment procedures across States.
- For instance, although the majority of claims countrywide were related to crop loss, seven States including Gujarat and Rajasthan still do not provide crop compensation.

## New drain design to cut flooding in Chennai

**News:** An area spread over 127 sq. km. in the northern parts of the city along the banks of the Kosasthalaiyar river will get **new drains running to a length of 865 km., interlinking 71 lakes, and reducing water logging on 3,660 roads**.

### Beyond News

- According to the revised detailed project report (DPR) for the Kosasthalaiyar basin presented, the Chennai Corporation will increase the length of the proposed stormwater drains in the northern parts of the city by 13%.
- The new design of drains and canals in the revised DPR **will also prevent flooding** in many neighbourhoods of Tiruvottiyur, Manali, Madhavaram and seven wards of Ambattur zone.

### Getting flood-ready

The Greater Chennai Corporation has revised the detailed project report (DPR) for the Integrated Stormwater Drain Project in north Chennai neighbourhoods along the Kosasthalaiyar river.



- The length of the proposed stormwater drains in the neighbourhoods of Tiruvottiyur, Manali, Madhavaram, Sarapet and Korattur will increase from 765 km. to 865 km.
- A total of 71 lakes and ponds will be linked by drains and canals to prevent wastage of stormwater
- The cost of the project will increase from ₹1,881 crore to ₹2,100 crore

- The revised design of the project will increase the capacity of waterbodies in the area by 63%
- The old design of the stormwater drains and canals was made to withstand rainfall of 68 mm. an hour
- The new design will enable them to cope with 70 mm. of rainfall an hour
- The project area covers 127 sq. km. of the city
- Storm water from 3,660 roads and streets will be drained by the new project
- Funding from the World Bank for the project has been delayed as another project along the Cooum and Arjyar rivers has already taken off
- The Asian Development Bank is expected to fund the project
- The maximum rainfall recorded in the city was 352 mm. in a single day in December 2015; the new design has incorporated features to withstand heavy rainfall

- The original length of the project was proposed to cover 765 km. of drains in the area. The revised design of the project will also increase the capacity of 71 waterbodies by 63%.
- The original design of the stormwater drains was made to withstand rainfall intensity of 68 mm. per hour.

The new design will ensure the drains handle 70 mm of rainfall an hour. The civic body has reduced the maximum width of the drains in the project from 3 metres to 2 metres.

**SEPTEMBER 14**

## **General Studies-02**

### **Reality different in 'leprosy-free' India, says Supreme Court**

**News:** India “underestimated” leprosy and diverted funds meant to eliminate the curable disease for 18 long years, the **Supreme Court**

#### **Beyond News**

- In its 22-page judgment, a Bench pointed out that though the country was declared leprosy-free on December 31, 2005, the reality is “entirely different”.
- The Supreme Court referred to progress reports of the **National Leprosy Eradication Programme** (NLEP) to show that only 543 districts of the total 642 districts in the country had achieved the World Health Organisation-required prevalence rate of less than one case of leprosy for 10,000 persons.
- Meanwhile, patients and their families continue to suffer from leprosy and its stigma. They are even denied their fundamental right to food. They are not issued BPL (Below Poverty Line) cards to claim the benefit of various welfare schemes such as the **Antyodaya Anna Yojana** (AAY). They are deprived of housing, basic civic amenities, adequate sanitary facilities and rehabilitation programmes.
- Issuing a slew of guidelines, the court directed the government to be transparent about leprosy and conduct periodic national surveys to gauge its detection rate. It should publish reports of the National Sample Survey on Leprosy conducted in 2010-2011.
- Both the Centre and States should embark on “regular and sustainable massive awareness campaigns” to educate the public about the Multi Drug Therapy (MDT) freely available at health centres to completely cure leprosy and dispel fear associated with the **disease**. The activities of the National Leprosy Eradication Programme (NLEP) must be given wide publicity.
- The **court banned the use of “frightening” images of leprosy patients**; instead it called for the use of “positive” photographs of those cured of leprosy in the campaigns.
- The Centre and States should ensure that leprosy patients, especially women, do not face any discrimination or isolation at both government and private hospitals. The government should also ensure that private and public schools do not discriminate against children hailing from leprosy-affected families. They should be given free education.



- Leprosy-affected persons should be given BPL cards. which would enable them to secure their right to food and be brought under the aegis of the Rights of Persons with Disabilities Act, 2016, the Supreme Court ordered.

## NACO releases HIV Estimations 2017 report

**News:** India's long battle against **AIDS** is not likely to end any time soon, if the latest figures released by the **National AIDS Control Organization** (NACO) is any indication.

- The data revealed that, as of 2017, there were still around 21.40 lakh people living with HIV in India, with the prevalence among adults stood at 0.22 per cent.

### **Findings:**

- There were around 87,000 new HIV infections and over 69,000 AIDS-related deaths (ARDs) in 2017. Around 22,675 mothers needed Antiretroviral Therapy (ART) for prevention of mother-to-child transmission of HIV.
- India's 2017 figures also do not show a significant positive shift from 2015, the previous year for which when such a survey had been carried out. In 2015, India had reported 86,000 new HIV infections. Of these, children (<15 years) accounted for 12 per cent (10,400) while the remaining (75,000) were adults (15+ years). In 2015, the total number of people living with HIV in India was estimated at 21.17 lakh, while the same figure was 22.26 lakh in 2007.
- The 2017 estimation report also indicates that there is no place for complacency as the **country aims to achieve the ambitious goal of ending AIDS in India by 2030**. It adds, however, that the impact of the HIV/AIDS control programme has been significant, with more than an 80 per cent decline in estimated new infections from the epidemic's peak in 1995.
- The objective of HIV estimations is to provide updated information on the status of the HIV epidemic in India at the national and State/Union Territory level.
- Estimations of adult HIV prevalence, annual new infections (HIV incidence), AIDS-related mortality, and prevention of mother-to-child transmission (PMTCT) needs are produced as outcomes of HIV estimations. The modelled estimates are needed because there is no direct reliable way of measuring these core indicators, which are used to track the epidemic and monitor and evaluate the response in countries around the world, noted the release.
- The HIV Estimations 2017 is the 14th round in the series of HIV-estimations under the National AIDS Control Programme (NACP). NACO undertakes HIV estimations biennially in collaboration with the Indian Council of Medical Research (ICMR) National Institute of Medical Statistics (NIMS).
- The first round of HIV estimation in India was done in 1998.



## General Studies-03

### NASA to measure melting ice

**News:** NASA is set to launch a satellite equipped with the **most advanced laser instrument of its kind, to provide critical observations of how the Earth's ice sheets, glaciers and sea ice are changing.**

#### **Beyond News**

- Set to be launch on September 15, the **Ice, Cloud and land Elevation Satellite-2 (ICESat-2)** will measure the average annual elevation change of land ice covering Greenland and Antarctica, capturing 60,000 measurements every second.
- ICESat-2 represents a major technological leap in the ability to measure changes in ice height.
- Its **Advanced Topographic Laser Altimeter System (ATLAS)** measures height by timing how long it takes individual light photons to travel from the spacecraft to Earth and back.
- ATLAS will fire 10,000 times each second, sending hundreds of trillions of photons to the ground in six beams of green light.
- ICESat-2 will measure ice heights along the same path in the polar regions four times a year, providing seasonal ice elevation changes.

### Pollution cools monsoon days, says study

#### **News**

- Increased emissions of aerosols into the atmosphere due to pollution are beginning to have a **definite cooling effect of 1 degree C during the Indian summer monsoon period**, a study has found.

#### **Findings**

- The increased cooling is seen during the day, while the night time temperature is increasing, thus shrinking the diurnal temperature difference. The diurnal temperature difference is what drives the convection process (where water evaporates and reaches the atmosphere as water vapour), and development of clouds.
- As diurnal temperature difference decreases, the lower layer of the atmosphere will reduce in height and come closer to the earth's surface. This will cause more aerosols to get into the atmosphere, thus impacting the lower atmospheric turbulence, which may eventually affect the distribution of moisture and rainfall.
- The increased concentration of aerosols in the atmosphere also tends to change the shape and characteristics of rain-bearing clouds, leading to extreme rainfall events but weakened monsoon rainfall.



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- The study found striking similarity between satellite data (2002-2016) and a global reanalysis modelled data that showed cloud structure being modified with increased aerosol emission.
- Rain-bearing clouds were found to increase in number and height when aerosol emission is higher. The clouds also tend to have a far higher number of ice particles that are smaller in size when aerosol loading is higher, thus reducing the efficiency of water droplet growth.

**SEPTEMBER 15**

### **General Studies-01**

#### **Rain triggers landslides in Sikkim, Darjeeling**

**News:** Incessant rain for the past few days has triggered multiple **landslides** in Sikkim and Darjeeling, snapping road connectivity at several places, officials said.

#### **Beyond News**

- The landslides have occurred at Dzongu, Mangan, Lachen and Mangshilla in North District and at two places near Sevoke, around 22 kms from Siliguri city.
- The Border Roads Organisation has arranged for small cars to pass through the two areas but large vehicles have been barred.
- Mangan, which houses the headquarters of North Sikkim district, has been cut off from Gangtok due to a landslide at Ambithang.
- The road link between Mangan and Chungthang has also been snapped after a bridge was washed off at Rafong Khola.
- The rain and widespread landslides have affected about 50 houses in the district.

### **General Studies-02**

#### **China's provinces seek cover as exports fall in U.S trade storm**

**News:** China's export-dependent cities and provinces are scrambling to provide relief to exporters, stabilise employment and avert the possibility of social unrest as an intensifying trade dispute with the United States threatens to further erode business.

#### **Beyond News**

- Guangdong, China's biggest province by gross domestic product, this week offered to **cut corporate taxes, slash electricity prices and reduce transport and land costs as additional U.S. tariffs** since July exposed Chinese manufacturers to the prospect of empty order books.
- The tariffs have come at a particularly bad time for the southern province, which is in the midst of an economic restructuring as it tries to move away from low-end, labour-intensive manufacturing.

- Fujian, another big-exporting province on the coast, unveiled a similar package of measures in August to soften the blows of the trade war.
- The plight of the provinces is just a taste of what could come if the United States carries out its threat to impose additional tariffs on all of its Chinese imports.
- All-out U.S. retaliation would scuttle China's plan to pivot away from basic industries to higher-value manufacturing, and could result in job losses in the hundreds of thousands, according to one private estimate.
- Guangdong's exports fell 2% in the first seven months from a year earlier, with shipments of machinery accounting for more than half of its exports up only 2.2%.
- Three Guangdong cities Zhongshan, Foshan and Shenzhen are racing to meet criteria for a programme under which exporters, both domestic and foreign-owned, are exempted from a value-added tax of 16%.
- Small firms with no export licences can also bundle their products with trading firms that have permits.
- The Trump administration is readying more duties on \$200 billion worth of Chinese imports that will include most lighting products.
- The Finance Ministry said last week it would raise tax rebates on more than 300 products including LEDs, semiconductors and machinery.
- China could lose 700,000 jobs if the United States imposes 25% tariffs on \$200 billion worth of Chinese exports, and if China were to retaliate by devaluing its currency by 5% and adding to levies on U.S. goods.

### [Shapoorji Pallonji bags major project to clean Ganga](#)

**News:** To address **pollution in the Ganga** in Kanpur, the Uttar Pradesh government has awarded a Rs. 893-crore tender to the Shapoorji Pallonji conglomerate.

#### **Beyond News**

- The funds, to be made available from the Rs. 20,000 crore **National Mission for Clean Ganga**, will be largely spent on constructing new sewage treatment plants (STPs), repairing old ones and ensuring that these plants operate at their rated capacity for a minimum of 15 years.
- In Uttar Pradesh, Kanpur is the **biggest contributor to pollution in the Ganga**. In 2016, 450 MLD (million litres per day) of sewage was generated in Kanpur of which only 140 was treated. This, despite there already being STPs with a capacity of 425 MLD.
- A poor sewerage network has contributed to this capacity being underutilised and ensuring a cleaner Ganga requires better sewage treatment in the city, according to experts.
- Unlike previous efforts to clean the Ganga, the NMCG has opted to farm out building of STPs to private contractors instead of the traditional approach of having State bodies run them.
- The Kanpur zone tender involves building a 30 MLD STP in Pankha, 15 MLD plant in Unnao and 5 MLD plant in Shuklaganj.
- The SP group would also be required to build a network of drain interceptors, sewage pumping stations (systems that ensure sewage which doesn't make it to sewer lines is mechanically shunted to STPs) and maintain them for 15 years.

## General Studies-03

### PSLV to launch two U.K. satellites

**News:** A PSLV (polar satellite launch vehicle) will be launched on September 16 night from the Satish Dhawan Space Centre in Sriharikota to **put two earth observation satellites from the United Kingdom to space.**

#### **Beyond News**

- There is no Indian satellite on this flight. PSLV-C42 will be **the first fully commercial trip of the year**, breaking a five-month-long lull, for the Indian Space Research Organisation (ISRO).
- The PSLV is being flown in its core-alone format, minus the external boosters. The two satellites together weigh nearly 889 kg; this is the optimum payload that a core-alone PSLV can launch.
- It will lift NovaSAR and S1-4 to a sun-synchronous ('pole-to-pole') orbit 583 km from the Earth.
- NovaSAR is an S-Band synthetic aperture radar satellite, which **will map forest, land use and monitor ice cover, flood and disaster.**
- S1-4 is a high resolution optical Earth observation satellite that will be used for surveying resources, urban management and monitoring of the environment and disasters.
- Antrix has so far contracted over 280 foreign customer satellites for a fee; most of them are small experimental or earth observation spacecraft.
- This will be the 44th PSLV and the 12th time it will fly as core-alone.



### Researchers dive in to restore coral ecosystems

**News:** Coral reefs are among the most diverse ecosystems on earth, and their role in maintaining marine biodiversity is of no small measure.

#### **Beyond News**

- However, it is well documented that coral systems around the world are bleaching and dying **due to climate and chemical changes in the sea water.** A team from National Centre for Coastal Research, Chennai, plans to work on coral monitoring and restoration in the Gulf of Mannar region.
- The team will also set up an acquatech park which will help local persons rear marine ornamental fish towards a sustainable livelihood.
- The group has prior experience in studying corals across the country. They have successfully transplanted and nurtured corals in the Lakshadweep region. Now they are set to work in the Gulf of Mannar.
- Corals have a symbiotic relationship with the unicellular algae dinoflagellates. An **increase in sea surface temperatures** leads to coral bleaching and the breaking of this relationship. This ecosystem is so sensitive that an increase of sea surface temperature by one degree can cause the corals to bleach and die.



- Apart from sea surface temperatures, **increase in carbon dioxide levels in the sea water** and a **change in its chemical composition** can also trigger bleaching.
- **Coral reefs in India** are only seen in some localities around the Gulf of Mannar, Gulf of Kutch, Lakshadweep islands and Andaman and Nicobar islands. In many of these places, bleaching of corals and related cnideria species such as giant clam and tentacle sea anemone have been observed by the team.
- The methods include reducing harvest of herbivorous fish and minimising anthropogenic causes of bleaching.
- The National Centre for Coastal Research, which comes under the Ministry of Earth Sciences, conducted a mapping of corals for Gulf of Kutch, Gulf of Mannar, Lakshadweep and Andaman and Nicobar islands over a period of five years, from 2000 to 2005.
- Their results were startling, as they found **less than 40% of the coral reefs in India were still alive**.
- From 2005 to present, the team, with support from Department of Science and Technology, has surveyed the area around Agatti and Kavaratti islands in the Lakshadweep, and in an area approximately one acre, transplanted branching corals, massive corals and foliac corals.
- Over the last decade, this region has seen restoration of live corals in these areas. The team found that the branching coral *Acropora* could grow 25 cm in 3 years. Another genera, *Pocillopora*, grew 15 cm in 3 years.
- The researchers plan to replicate the model in the Gulf of Mannar region, and towards this end, they have set up a centre in a 25-acre piece of land near the Rameshwaram coast. Partnering with Gulf of Mannar Marine National Park Authority, they will first monitor the 21 islands in this region and identify degraded areas.
- After the monsoons, they plan to start transplantation work with branching coral species.

### [A single piece of plastic can kill sea turtles](#)

**News:** A sea turtle has a 22 per cent chance of dying if it eats just one piece of plastic, an Australian scientific institution revealed on Friday, quantifying for the first time the risk that plastic pollution poses to sea turtle populations.

#### **Findings**

- Scientists found that there was a 50 per cent likelihood that a sea turtle would die if it had 14 plastic items in its gut, according to a statement from the Commonwealth Scientific and Industrial Research Organization (CSIRO).
- However, “even a single piece of plastic can kill a turtle”, said Kathy Townsend of the University of the Sunshine Coast, who participated in the analysis of nearly 1,000 turtles found dead and washed up on beaches around Australia, reports Efe news.



- “Some of the turtles we studied had eaten only one piece of plastic, which was enough to kill it. In one case, the gut was punctured, and in the other, the soft plastic clogged the gut,” Townsend said.
- Prior to this study, it was unclear if the plastics in the oceans killed sea turtles or if they simply ingested them without major harm.
- Sea turtles are among the first animals recorded to consume plastic debris, a phenomenon that occurs worldwide in all seven species of marine turtles.
- Globally, it is estimated that 52 per cent of sea turtles have eaten plastic.
- According to the UN, eight million tonnes of plastic waste ended up in the oceans each year.
- The UN suggested that if this trend continues, there will likely be more plastics than fish in the oceans by 2050, as seabed pollution is already present in every region worldwide.

**SEPTEMBER 16 & 17**

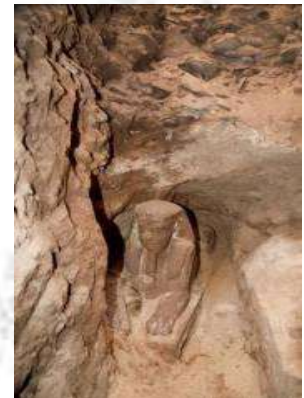
### **General Studies-01**

#### **Archaeologists discover ancient sphinx in Egypt**

**News:** Egypt says archaeologists have discovered a statue of a lion’s body and a human head in the southern city of Aswan.

#### **Beyond News**

- The Antiquities Ministry says the sphinx made of sandstone was found in the Temple of Kom Ombo during work to protect the site from groundwater.
- Secretary-general of the Supreme Council of Antiquities says the statue probably dates back to the **Ptolemaic time**.
- The **Ptolemaic Dynasty ruled Egypt for some 300 years from around 320 B.C. to about 30 B.C.**



#### **NASA puts laser satellite in space to track ice loss**

**News:** NASA’s most advanced space laser satellite blasted off on a mission **to track ice loss around the world and improve forecasts of sea level rise as the climate warms.**

#### **Beyond News**

- The launch marks the first time in nearly a decade that NASA has had a tool in orbit to measure ice sheet surface elevation across the globe.
- The preceding mission, ICESat, launched in 2003 and ended in 2009.

- The first ICESat revealed that sea ice was thinning, and ice cover was disappearing from coastal areas in Greenland and Antarctica.
- The new laser will fire 10,000 times in one second, compared to the original ICESat which fired 40 times a second.
- Importantly, the laser will measure the slope and height of the ice, not just the area it covers.

## General Studies-02

### No odd-even rule for two-wheelers

**News:** In a relief for the nearly 70 lakh two-wheeler riders in Delhi, the **Supreme Court** stayed a **National Green Tribunal order** making the **odd-even vehicle rotation scheme** applicable to all, including scooters and motor bikes.

#### **Beyond News**

- A Bench also exempted women driving four-wheelers from the odd-even scheme.
- During the hearing, the Delhi government submitted that the public transport system would not be able to accommodate the extra load. The Bench's decision to exempt women came after the Delhi government raised the issue of their safety.
- The odd-even scheme was introduced by the AAP government as a novel measure to combat vehicular pollution, especially during the winter season. Odd and even numbered vehicles were to ply on alternate days under the scheme. It comes into effect as soon as the particulate matter PM10 and PM 2.5 rises to 500 microgram per cubic metre and 300 microgram per cubic metre, respectively, for 48 hours.

## General Studies-03

### Germany rolls out world's first hydrogen train

**News:** Germany rolled out the **world's first hydrogen-powered train**, signalling the start of a push to challenge the might of polluting diesel trains with costlier but eco-friendly technology.

#### **Beyond News:**

- Two bright blue Coradia iLint trains, built by French TGV-maker Alstom, began running a 100-kilometre (62-mile) route between the towns and cities of Cuxhaven, Bremerhaven, Bremervoerde and Buxtehude in northern Germany a stretch normally plied by diesel trains.
- It plans to deliver another 14 of the zero-emissions trains to Lower Saxony state by 2021, with other German states also expressing an interest.
- **Hydrogen trains are equipped with fuel cells** that produce electricity through a combination of hydrogen and oxygen, a process that leaves steam and water as the only emissions.





- Excess energy is stored in ion lithium batteries on board the train.
- The Coradia iLint trains can run for around 1,000 km on a single tank of hydrogen, similar to the range of diesel trains. Alstom is betting on the technology as a greener, quieter alternative to diesel on non-electrified railway lines an attractive prospect to many German cities scrambling to combat air pollution.

## Hubble starts new mission to study early galaxies: NASA

**News:** The Hubble Space Telescope has started a new mission to study six massive galaxy clusters that may help shed light on how the earliest galaxies evolved in the universe.

### Beyond News

- Learning about the formation and evolution of the very first galaxies in the universe is crucial for our understanding of the cosmos. While the Hubble Space Telescope has already detected some of the most distant galaxies known, their numbers are small, making it hard for astronomers to determine if they represent the universe at large.
- Initial observations from the **Beyond Ultra-deep Frontier Fields And Legacy Observations** (BUFFALO) survey show the galaxy cluster Abell 370 and a host of magnified, gravitationally lensed galaxies around it. Massive galaxy clusters like Abell 370 can help astronomers find more of these distant objects.
- The immense masses of galaxy clusters make them act as cosmic magnifying glasses. A cluster's mass bends and magnifies light from more distant objects behind it, uncovering objects otherwise too faint for even Hubble's sensitive vision. Using this cosmological trick known as strong gravitational lensing Hubble is able to explore some of the earliest and most distant galaxies in the universe.
- BUFFALO's main mission is to investigate how and when the most massive and luminous galaxies in the universe formed and how early galaxy formation is linked to dark matter assembly. This will allow astronomers to determine how rapidly galaxies formed in the first 800 million years after the Big Bang paving the way for observations with the upcoming James Webb Space Telescope.
- BUFFALO will be able to detect the most distant galaxies approximately ten times more efficiently than its progenitor. It will also take advantage of other space telescopes which have already observed the regions around the clusters. These datasets will be included in the search for the first galaxies. The extended fields of view will also allow better 3D mapping of the mass distribution of both ordinary and dark matter within each galaxy cluster. These maps help astronomers learn more about the evolution of the lensing galaxy clusters and about the nature of dark matter.



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## ISRO's PSLV-C-42 launches two U.K. satellites

**News:** PSLV-C-42, the lightest version of the PSLV (Polar Satellite Launch Vehicle) flying in its core-alone version without six strap-on motors, rose into the skies.

- Two satellites were placed in the desired orbit by ISRO (Indian Space Research Organisation). This was the 12th launch of a core-alone version of the PSLV.

### **Beyond News**

- The two satellites, owned by Surrey Satellite Technology Ltd (SSTL) were placed in a circular orbit around the poles, 583 km from the Earth. The commercial arm of ISRO, Antrix Corporation, earned more than ₹220 crore on this launch.
- The NovaSAR is a technology demonstration mission designed to test the capabilities of a new low cost S-band SAR platform. It will be used for ship detection and maritime monitoring and also flood monitoring, besides agricultural and forestry applications.
- The S1-4 will be used for environment monitoring, urban management, and tackling disasters.
- Among the launches scheduled over the next few months, the much-awaited and delayed, India's second lunar mission, Chandrayaan-2, finally has a launch window.
- The other launches include the GSAT series that would provide bandwidth speeds of up to 100 Gbps per second, as part of the government's Digital India efforts.



## Data-theft: CBI writes to Facebook, Cambridge Analytica and GSR

**News:** The Central Bureau of Investigation has written to UK-based Cambridge Analytica and Global Science Research (GSR) and Facebook, seeking information as part of the probe into **alleged data theft of Indian Facebook users**.

### **Beyond News:**

- About a month ago, on a reference from the IT Ministry, the agency had instituted a preliminary enquiry to determine whether GSR and Cambridge Analytica had illegally harvested and misused the data of Indian Facebook users.
- In April, admitting data pilferage by other agencies, Facebook had said that about 5.62 lakh Indians might have been potentially affected in the Cambridge Analytica case.

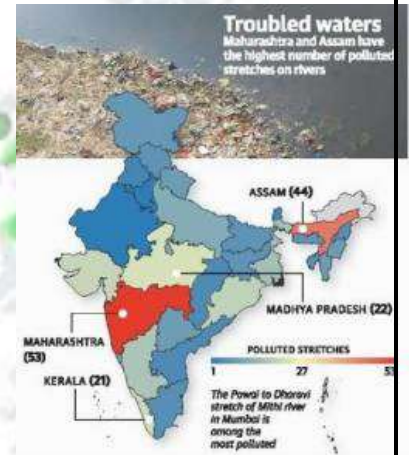
- Cambridge Analytica had earlier said it did not have any Facebook data on Indian citizens. To a second notice, Facebook informed the government that Cambridge Analytica had violated its policy.

## More river stretches are critically polluted: Central Pollution Control Board

**News:** The number of polluted stretches of the country's rivers has increased to 351 from 302 two years ago, and the number of critically polluted stretches where water quality indicators are the poorest has gone up to 45 from 34, according to an assessment by the Central Pollution Control Board (CPCB).

### Beyond News

- While the ₹20,000 crore clean-up of the Ganga may be the most visible of the government's efforts to tackle pollution, the CPCB says several of the river's stretches in Bihar and Uttar Pradesh are actually far less polluted than many rivers in Maharashtra, Assam and Gujarat.
- These three States account for 117 of the 351 polluted river stretches.
- Based on the recommendations of the National Green Tribunal, the CPCB last month apprised the States of the extent of pollution in their rivers.
- In its compilation of polluted stretches in Uttar Pradesh, the Ganga, with a BOD range of 3.5-8.8 mg/l is indicated as a 'priority 4' river.
- The CPCB, since the 1990s, has a programme to monitor the quality of rivers primarily by measuring BOD, which is a proxy for organic pollution the higher it is, the worse the river.
- The health of a river and the efficacy of water treatment measures by the States and municipal bodies are classified depending on BOD, with a BOD greater than or equal to 30 mg/l termed 'priority 1,' while that between 3.1-6 mg/l is 'priority 5.'
- The CPCB considers a BOD less than 3 mg/l an indicator of a healthy river.
- In its 2015 report, the CPCB identified 302 polluted stretches on 275 rivers, spanning 28 States and six Union Territories.
- Based on its 2008-2012 evaluation, the CPCB published a report in 2015 and asked the States to prepare plans for improving these polluted stretches. Though the information from the 2016-2017 assessment doesn't indicate improvements, the bulk of the increase in polluted stretches were in priority 4 (6-10 mg/l) and priority 5 river stretches
- Currently, the CPCB has 1822 monitoring stations on rivers and 473 on lakes/ponds/tanks.



## Indigenous anti-tank missile test-fired

**News:** An indigenously developed **Man Portable Anti-Tank Guided Missile** (MPATGM) was successfully flight tested for the second time from Ahmednagar test range.

### **Beyond News**

- It has been developed by the Defence Research and Development Organisation (DRDO).
- This low-weight MPATGM will complement the Spike Anti-Tank Guided Missile to be procured from Israel.
- Defence Minister congratulated the DRDO team, the Army and associated industries on their success.

**SEPTEMBER 18**

## General Studies-01

### Why do some species go extinct?

**News:** 99 % of all species that existed on Earth are extinct. Many of them were wiped out in the five known major **mass extinction** events.

### **Findings:**

- Scientists believe we are currently in the throes of the sixth mass extinction, called the **Holocene extinction**. (The Holocene is the current geological epoch, which began 11,500 years ago at the close of the last Ice Age).
- While earlier extinction events were driven by **natural causes, such as climate change, volcanic eruption, and asteroid strike, the Holocene is the first extinction event to be triggered by the activities of a species – the humans.**
- Scientists have identified some tipping points that may lead to extinction of species.
- **Habitat loss poses the greatest threat to wildlife** and is widely listed as the predominant cause of extinction. The world's forests, swamps, plains, lakes, and other habitats continue to disappear as they are cleared to make way for agriculture, housing, roads and other developments.
- Changes in one part of the food web can have a big impact on other parts. When a food source disappears, a predator will have to find another food source in order to survive.
- The loss of a species due to the extinction of another is called co-extinction.
- Overfishing depletes some species and drives others to extinction. Animals are also killed for their skin, tusks and other body parts. Poaching has put species such as rhinoceros, tiger and pangolin in the endangered list. Hunting for sport is also a factor in wildlife extinction.
- Humans have inadvertently introduced species in new environments, which have led to the decline of local species.



- People have often brought domestic cats with them to islands, where some of the animals have escaped to form feral populations. Feral cats have caused the extinction of some 30 island bird species worldwide, according to a study.
- Disease outbreaks can kill thousands of animals very quickly. Over the last few decades many new animal diseases have emerged, and older diseases have spread to new areas.
- **Climate change has triggered mass extinction of species** in the past and it could happen again. Earth is warming faster than at any time in the past 10,000 years. With these changes, species have to adapt to new climate patterns (changes in rainfall, colder winter, hotter summer and drought, heatwave and floods).
- Animals from all regions are affected by changing climate. It has depleted their food source and changed their migration and breeding pattern. American pika, snow leopard, musk ox, narwhal, coral and monarch butterfly are some of the species that are hit by climate change.

## **General Studies-02**

### **PM Modi, Sheikh Hasina jointly inaugurate Indo-Bangla friendship pipeline**

**News:** Prime Minister Narendra Modi described the **cooperation between India and Bangladesh** as an example for the world as he and his Bangladeshi counterpart Sheikh Hasina jointly **inaugurated the construction of a friendship pipeline project** through video conferencing.



#### **Beyond News**

- The 130-kilometre **India-Bangladesh Friendship Pipeline Project** will connect Siliguri in West Bengal in India and Parbatipur in Dinaipur district of Bangladesh.
- The ₹346 crore-project will be completed in 30 months and the capacity of the pipeline will be one million metric tons per annum.
- Speaking on the occasion, the Prime Minister described the cooperation between the two countries as an example for the world, according to an official statement.
- He said the project will boost the friendship between India and Bangladesh and the pipeline will help fulfil energy needs of Bangladesh at cheaper rates.
- Besides the pipeline, the two leaders also inaugurated the construction of the third and fourth dual-gauge rail lines in Dhaka-Tongi section and the dual-gauge rail line in Tongi-Joydebpur section of Bangladesh Railway.
- Prime Minister said Dhaka-Tongi-Joydebpur Railway project will improve connectivity between the two countries and generate more revenue.

### **A child under 15 dies every 5 seconds around the world: UN**

**News:** An estimated 6.3 million children under 15 years of age died in 2017, or 1 every 5 seconds, mostly of preventable causes, according to the new mortality estimates released by UNICEF, the World Health Organization (WHO), the United Nations Population Division and the World Bank Group.

## Findings

- The report notes that for children everywhere, the most risky period of life is the first month.
- In 2017, 2.5 million newborns died in their first month while 5.4 million deaths occur in the first five years of life, with newborns accounting for around half of the deaths.
- Also, a baby born in sub-Saharan Africa or in South Asia was nine times more likely to die in the first month than a baby born in a high-income country. And progress towards saving newborns has been slower than for children under five years of age since 1990.
- Most children under 5 die due to preventable or treatable causes such as complications during birth, pneumonia, diarrhea, neonatal sepsis and malaria. By comparison, among children between 5 and 14 years of age, injuries become a more prominent cause of death, especially from drowning and road traffic.
- The report adds that even within countries, disparities persist. Under-five mortality rates among children in rural areas are, on average, 50% higher than among children in urban areas.
- Despite these challenges, fewer children are dying each year worldwide. The number of children dying under five has fallen dramatically from 12.6 million in 1990 to 5.4 million in 2017. The number of deaths in older children aged between 5 to 14 years dropped from 1.7 million to under a million in the same period.

## General Studies-03

### DAC accords procedural approval for upgraded Akash SAMs for Army

**News:** The Defence Acquisition Council (DAC) accorded a procedural approval for the procurement of an **improved variant of the indigenously developed Akash Surface to Air Missile (SAM) systems for the Army.**

#### Beyond News

- The Army has already inducted two regiments of Akash and last year two more regiments which are in the process of being delivered. The Akash system has since been upgraded and the DAC has given approval for the third and fourth regiments to be of the upgraded variant.
- “The missile to be procured is an upgraded version of the previously inducted Akash missiles and will include seeker technology, possess 360 degree coverage and will be of compact configuration with reduced signature.
- The upgraded Akash Weapon System is operationally critical equipment which will provide protection to vital assets, Defence Ministry said in a statement.



- Akash was **developed by the Defence Research and Development Organisation (DRDO)** as part of the Integrated Guided Missile Development Programme initiated in 1984 and is manufactured by Bharat Dynamics Limited (BDL).
- Akash has a range of 25 kms and can simultaneously engage multiple targets in all weather conditions and has a large operational envelope from a low altitude of 30 metres to a maximum of up to 20 km. Each regiment consists of six launchers with each launcher having three missiles.
- The DAC also accorded approval for progressing design and development of **Individual Under Water Breathing Apparatus (IUWBA)** for T-90 Tanks.
- Developed by Defence Bioengineering and Electromedical Laboratory (DEBEL) of DRDO, the IUWBA is used by the tank crew as a safety gear and is required for emergency escape when negotiating water obstacles.
- The DAC also accorded approval for design and development of test equipment for guided weapons system of T-90 tank which have so far been imported. The equipment is being developed by DRDO and will give an indigenous solution to the test equipment used for checking the guided weapon systems of T-90 tanks, the statement added.

### **China raises tariffs on \$60bn of US goods in technology fight**

**News:** China announced a tariff hike on \$60 billion of S. products in response to President Donald Trump's latest duty increase in a dispute over Beijing's technology policy.

#### **Beyond News**

- The Finance Ministry said it was going ahead with plans announced for the increases of 10 per cent and 5 per cent on 5,207 types of U.S. goods. A list released last month included coffee, honey and industrial chemicals.
- The increase is **aimed at curbing "trade friction" and the "unilateralism and protectionism of the United States,"** the ministry said on its website. It appealed for "pragmatic dialogue" to jointly safeguard the principle of free trade and the multilateral trading system.
- The Trump administration announced the tariffs on some 5,000 Chinese-made goods will start at 10 percent. They are to rise to 25 per cent on January 1.
- A Commerce Ministry statement earlier said Trump's increase "brings new uncertainty to the consultations" but there was no word on whether Beijing would back out of talks proposed last week by Washington.
- American companies and trading partners including the European Union and Japan have long standing complaints about Chinese market barriers and industrial policy. But they object to Trump's tactics and warn the dispute could chill global economic growth and undermine international trade regulation.
- Trump has strained relations with potential allies including the European Union, Canada and Mexico by raising tariffs on imported steel and aluminum. He demanded Canada and Mexico renegotiate the North American Free Trade Agreement to make it more favorable to the United States.

### **HC orders total freeze on destruction of mangroves**

**News:** The Bombay High Court said that the State cannot permit **destruction of mangroves** for private, commercial or any other use unless the court finds it necessary for the public good or in public interest.

## Beyond News

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- The Bench has directed the State to constitute a committee headed by a divisional commissioner within one month. The committee shall be responsible for conservation of mangroves, and for restoration of reclaimed mangrove area.
- It shall hold regular meetings, the minutes of which shall be made available in the public domain. The Principal Secretaries of Environment, Revenue and Forest departments shall be in charge of ensuring total compliance with the court order.
- The court said the destruction of mangroves offends citizens' **fundamental rights under Article 21 (Right to Life) of the Constitution**. As per Article 21, 47 (duty of the State to raise the level of nutrition and the standard of living and to improve public health), 48A (protection and improvement of environment and safeguarding of forests and wild life) and 51 A g (to protect and improve the natural environment including forests, lakes, rivers and wild life, and to have compassion for living creatures), it is a mandatory duty of the State and its agencies and instrumentalities to protect and preserve mangroves, it said.
- The court said that no development permission shall be granted by any authority of the government in an area under mangroves. It said all mangrove land will fall in the Coastal Region Zone (CRZ) I as per the notifications of 1991 and 2001. Any violation will attract penal provision.
- It directed the State to carry out satellite mapping of mangrove cover, and install CCTV cameras and barricades to keep a check on it. The government shall also create a grievance redressal mechanism for citizens to report destruction/removal of mangroves, it said.

## Rajnath arrives in Jammu, to inaugurate smart border fence (Second Lead)

**News:** Union Home Minister arrived to inaugurate two "smart" border fencing pilot projects under the **Comprehensive Integrated Border Management System (CIBMS)** programme.

- Based on integrated border management system, this virtual fence would be a **first-of-its-kind initiative in India**, said a Home Ministry official.

**SEPTEMBER 19**

## General Studies-01

### India steps up climate action plans

**News:** At the Global Climate Action Summit, mayors and government functionaries of Indian cities have **announced to scale up their actions to combat climate change and to protect people from hazardous climate impacts.**



## Beyond News

- High-level forum on India Climate Actions, convened by U.S.-based Natural Resources Defense Council (NRDC), officials, mayors and organisation leaders detailed their plans ranging from heat action to cool roofs and building codes.
- Soon all 17 states prone to extreme heat will have plans in place to protect communities from deadly temperatures, said the U.S.-based Natural Resources Defense Council (NRDC) quoting the Indian official.
- Currently, 30 cities and 11 states in India have such plans, which enable vulnerable groups to take life-saving precautions.
- On cool roofs, Telangana Principal Secretary said Hyderabad intends to convert 1,000 buildings to cool roofs as part of the city's Heat Action Plan.
- Cool roofs will be used on all low income government housing, as well as on schools and hospitals, to lower indoor temperatures without using electricity.
- Buildings currently account for 30 per cent of India's electricity consumption.
- Combustion of fossil fuels is a major contributor to air pollution in India.
- Similarly, Telangana will increase its number of electric buses from 40 now to 2,000 by 2019.
- As part of the state's soon-to-be-released Electric Vehicle Policy, all new three-wheel rickshaws must be electric, as no new diesel three-wheelers will be allowed.
- The NRDC and SEWA also launched a new residential energy project to facilitate access to solar-powered lights, cleaner cookstoves and more efficient appliances. Starting in two pilot villages, the program plans to scale quickly to 10 locations.

## General Studies-02

### Cabinet clears ordinance to make instant triple talaq a criminal offence

**News:** The Union Cabinet cleared an ordinance to make instant triple talaq a criminal offence.

#### Beyond News

- However, the amended triple talaq bill provides for additional safeguards, including a provision for bail to an accused before the start of the trial.
- While the proposed law will remain "non-bailable" – the police cannot grant bail at the police station – the accused can approach a magistrate for bail even before trial.



- The **Muslim Women Protection of Rights on Marriage Bill** makes instant triple talaq illegal and imposes a jail term of up to three years.
- The government adopted the ordinance route after the Opposition failed to come to an agreement with the government in the last two of the monsoon session of Parliament that concluded.

## **Nepal's decision on BIMSTEC drill does not signal pro-China stance: official source**

**News:** Nepal's decision not to participate in the India-proposed military exercise of the Bay of Bengal group of countries, instead of a snub to New Delhi, signals that a new set of rules need to be evolved that will meld the collective interests of India, Nepal and China, official sources say.

### **Beyond News**

- A diplomatic source from Nepal, told that there are certain decisions, such as conduct of bilateral military exercises, which are less complex, are easier to take.
- But the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) military drill could have been construed as having an anti-China slant.
- Nepalese officials acknowledge that the Chinese side proposed the “two-plus one” mechanism during their Prime Minister K.P. Sharma Oli's visit to Beijing in June.
- Analysts say that under this mechanism China and India can achieve consensus on specific thorny issues and through consultations with the third country involved, arrive at a mutually acceptable trilateral decision.
- The Nepalese official pointed out that there were other compulsions which forced Kathmandu's hand on the BIMSTEC military-exercise decision.
- Besides, the timing was also not conducive for a military exercise, as Nepal has been engaged in delicate negotiations with China, such as arriving at an important free trade deal.
- Nepalese officials say that Kathmandu's deep reliance on New Delhi is inevitable and irreversible. For instance, Kathmandu avidly needs New Delhi's support for energy exports in the region, including
  - A Memorandum of Understanding (MoU) for this export has already been signed.
  - Separately, the daily reported that Bangladesh cabinet has already approved a MoU, signed last year during the Bangladeshi Prime Minister's visit to India. Following the approval, Bangladesh will be allowed to import power from the Upper Karnali hydropower project, which is being developed in Nepal by an Indian company, through an Indian transit corridor.

## India, U.S. closing in on package deal to remove trade irritants

**News:** Indian farmers and U.S. manufacturers of medical devices could be among the main winners in a trade package under negotiation, as Washington and New Delhi look to remove long-standing irritants to ties, sources familiar with the talks said.

### Beyond News

- Having skirmished for months over **tit-for-tat** tariffs on steel and some agricultural products, the two sides began talks in June that also cover India's concerns over U.S. steel tariffs and U.S. problems with Indian tariffs on imported IT equipment.
- S. President Donald Trump, who dislikes multilateral **trade agreements**, said earlier this month that India had approached the United States to "start doing a trade deal," without giving any details.
- Having already waded into bigger fights with China and the European Union, Mr. Trump has previously called out India for unfair trade practices. At an estimated \$126 billion, U.S. goods and services trade with India last year was less than a fifth of its trade with China.
- One of the most prominent trade issues to erupt during Mr. Trump's presidency has involved India's treatment of medical devices imported from the United States. Last year, U.S. exports of medical devices and equipment to India totalled \$863 million.
- One of the main areas where **India is likely to benefit will be agricultural trade**, with Washington expected to grant concessions making it easier for exporters of products like rice, mangoes, table grapes and lychees the sources said.
- Currently, the United States imports just a small fraction of the \$5.5 billion of rice shipped annually from India, the world's top rice exporter. New Delhi wants to sell basmati rice but U.S. agencies have in the past flagged concerns over the presence of chemical residues in the rice.
- New Delhi is also discussing how to meet stringent U.S. standards to sell bovine meat. India is the world's biggest buffalo meat exporter but has failed to make much headway in the U.S. market because of Washington's insistence that a country be free from foot-and-mouth disease.
- For its part, the United States wants to sell more almonds to India, the world's top buyer, cherries and eventually dairy products.
- The United States has also been urging India to lower the input costs of components for IT that would allow U.S. companies to manufacture in India as part of Mr. Modi's Make-in-India campaign. These affect firms such as Apple Inc and Qualcomm Inc who have plans to set up operations in the country.
- The United States has complained that India's tariffs are among the highest in the world, and cover a range of IT equipment, including circuit boards, screens and memory chips.

## Doctors call for vigil against

### H1N1

**News:** With **sporadic cases of H1N1 (Influenza)** being reported from across Kerala, doctors have sought for greater caution against the acute respiratory infection.



**Watch out for**

- Nasal congestion, sore throat, high grade fever, cough, breathlessness, body ache, vomiting and diarrhoea
- Experts say children, pregnant women, senior citizens and those with underlying ailments need to be cautious.
- Medical experts also advise immediate home quarantine to curb the spread of the disease

**Treatment**

Oseltamivir works against H1N1. It is available under various brand names like Tamiflu and Artiflu. One should see a doctor soon after symptoms arise and avoid self-medication

## Beyond News

- The Indian Medical Association (IMA) has asked its members to be wary of the presence of the influenza, saying around a dozen cases had been reported from Kerala in the past few days. The patients are undergoing treatment at various hospitals, including the Government Medical College Hospital.
- According to the data available with the Health Department, 53 confirmed cases of H1N1 (Influenza) have been reported so far in September, around 30 of them in the past 10 days alone. A senior doctor attached to the community medicine department of the Government Medical College, told that the incidence had been expected after the floods.
- The World Health Organization (WHO) says travellers visiting countries in the opposite hemisphere during the influenza season are at special risk, particular if they do not have some degree of immunity through recent infection or regular vaccination. The elderly, people with pre-existing chronic diseases and young children are most susceptible to complications.
- Secretary, IMA Kerala chapter, however, said there was no alarming situation as of now though there was need to be alert against any possible outbreak. Avoiding crowded enclosed spaces and close contact with people suffering from acute respiratory infections is the best precaution, says WHO.
- Frequent hand-washing, especially after direct contact with ill persons or their environment, may reduce the risk of acquiring illness, it adds.

## General Studies-03

### NASA planet hunting probe shares first image

**News:** NASA's latest planet hunting probe has beamed back its first science image, which captures a wealth of stars and other cosmic objects in the southern sky.

## Beyond News

- The Transiting Exoplanet Survey Satellite (TESS) sent back part of the data from its initial science orbit.
- The images were captured using all four of the spacecraft's wide-field cameras during a 30-minute period on August 7.
- In a sea of stars brimming with new worlds, TESS is casting a wide net and will haul in a bounty of promising planets for further study.
- This first light science image shows the capabilities of TESS' cameras, and shows that the mission will realise its incredible potential in **search for another Earth.**

## U.S., China step up trade war, slap tit-for-tat tariffs

**News:** The **trade rivalry between the U.S. and China** escalated to an unprecedented level, with both countries announcing new tariffs on imports from each other.

### **Beyond News**

- The U.S. has announced 10% tariff on \$200 billion of imports from China, whose retaliatory tariffs between 5% and 10% will apply on \$60 billion of imports from the U.S. The new tariffs on both sides will go into effect on September 24.
- With the new announcements, U.S. tariffs will apply to \$250 billion of Chinese goods and Chinese tariffs will apply to \$110 billion of U.S. goods.
- The rate of the new tariffs will be raised to 25% by the end of 2018, the U.S. administration has said.
- Around 5,000 American items are expected to face the new measures, including aircraft, soya bean oil, smoked beef, coffee and flour, according to a provisional list released last month.
- With President Donald Trump threatening to impose tariffs on all Chinese imports and Beijing appearing ready to retaliate, the two largest economies might be hurtling towards a prolonged trade war that **could impact the world economy**.

### **Trading blows**

The U.S. has imposed 10% tariff on goods worth \$200 bn made in China, starting September 24. A brief timeline of the tussle

**Jan. 22:** U.S. imposes tariffs of 30% and 20% on solar cell & washing machine imports

**Mar. 9:** U.S. President Donald Trump imposes tariffs of 25% and 10% on steel and aluminium imports from all nations, including China

**Apr. 2:** China slaps duties on \$3 bn of U.S. imports including fruits, nuts and wine

**May 28:** U.S. accuses China of theft of technology

**Jul. 6:** Tariffs begin on \$34 bn of Chinese imports

**Jun. 21:** Chinese President Xi Jinping vows to hit back

**Aug. 23:** Tariffs begin on \$16 bn of Chinese imports. Beijing responds with \$16 bn levy on U.S. imports



## See-through, scale-free fish discovered

**News:** Scientists have discovered **three new species of “hardcore” fish** living in one of the deepest parts of the ocean, the see-through, scale-free creatures perfectly adapted to conditions that would instantly kill most life on Earth.

### **Beyond News**

- An international team of researchers used state-of the art underwater cameras to find the new fish at the bottom of the Atacama Trench in the eastern Pacific Ocean at a depth of 24,600 feet and were surprised at their abundance in such an inhospitable environment.
- Temporarily named the pink, blue and purple Atacama snailfish, the previously unknown creatures are 20-25 centimetres (8-10 inches) long, translucent and have no scales.
- They appear to be uniquely adapted to conditions four-and-a-half miles beneath the ocean surface, where the days are permanently pitch black and water temperatures barely top two degrees Celsius.
- At such depths, the pressure is so great that larger animals would be crushed under their own mass.



- Researchers believe the fish may have evolved to live on the sea floor to avoid larger prey.
- In fact, being made almost entirely of a gel-like substance, the fish would die without the crushing pressure holding them together.
- The Atacama Trench runs almost 6,000 kilometres along the west coast of South America and bottoms out at 8,000 metres.

## **SEPTEMBER 20**

### **General Studies-02**

#### **Cabinet clears ₹3,466 crore dam improvement project**

**News:** The government has approved a 65% hike, and extended by two years, a project to improve the stability and working of dams in 11 States.



#### **Beyond News**

- The Cabinet Committee on Economic Affairs (CCEA), chaired by Prime Minister, approved the **Dam Rehabilitation Improvement Project (DRIP)** project. Out of the ₹3,466 crore cleared, ₹2,628 crore would be funded by the World Bank and ₹747 crore by the States and Implementing Agencies (IAs), and the balance ₹91 crore by the Central Water Commission (CWC).
- Originally, the total cost of DRIP was ₹2,100 crore with the States expected to fund ₹1,968 crore and the Centre ₹132 crore. Initially, the six-year project commenced on April 18, 2012, with a scheduled closing on June 30, 2018.
- This has now been extended to June 2020. A dam safety Bill that sets directives on how the States and the Centre ought to have an institutional mechanism to better manage dams is still to be discussed in Parliament.
- The (DRIP) project will improve the safety and operational performance of selected existing dams and mitigate risks to ensure safety of downstream population and property. The primary beneficiaries are both urban and rural communities dependent on reservoir and downstream communities, who are prone to risk associated with dam failure or operational failure.
- There are 198 existing dams in Kerala, Madhya Pradesh, Odisha, Tamil Nadu, Karnataka, Jharkhand (Damodar Valley Corporation) and Uttarakhand (Uttarakhand Jal Vidyut Nigam Limited) that would benefit from the project.
- In lieu of the funds, dam managers would have to adhere to recommendations by the CWC as well as subject themselves to six monthly reviews by the World Bank and an audit by an independent French agency.
- Kerala, which saw devastating floods and questions raised on the management of its dams, will see 16 of the reservoirs managed by its Water Resources Department and 12 by that State's Electricity Department, get funded under the DRIP programme to the tune of ₹ 514 crore.

## With PM Modi, Afghan President Ghani raises issues of IS, Pakistan terrorists

**News:** Afghanistan President Ashraf Ghani discussed with Prime Minister Narendra Modi the growing presence of the IS (Da'esh) in Afghanistan, and the continuing influx of terrorists from Pakistan, during his day-long visit to Delhi, government sources said.



### **Beyond News**

- Meanwhile, the National Investigation Agency (NIA) has announced that Kabul has deported an Indian national who had travelled to Afghanistan in an attempt to join the Islamic State.
- At a reception hosted by think tank India Forum later, Afghanistan President said it was necessary to separate such external elements from the Taliban, which, must be engaged in a peace process.
- An official said New Delhi would back the Afghan government on its decision to engage the Taliban in talks that are “Afghan-owned, Afghan-led.”  
Afghanistan President said the talks had the support of the Afghan people, which was seen during the Id ceasefire in June this year, which the Taliban joined, a week after attacks had seen 1,000 people die.
- Peace with the Taliban was important so that security forces could concentrate on fighting other terrorist groups like the Islamic State, Afghanistan President said.
- During his meeting with Mr. Modi, Afghanistan President made a special mention of the siege of Ghazni city in August where a sizeable number of foreign fighters had fought alongside the Taliban. Afghanistan President at least 100 attackers of Ghazni came from Pakistan and they were identified as Pakistani nationals.

## General Studies-03

### CFLOWS to forecast floods in city

**News:** Tamil Nadu State Disaster Management Authority plans to use ‘CFLOWS,’ a web-based application, that will help in forecasting flooding in a particular location anywhere in the State during the forthcoming northeast monsoon.

### **Beyond News**

- CFLOWS, which would forecast level of waterlogging and vulnerable locations five days ahead, was developed by IIT Madras, Institute of Remote Sensing, Anna University and National Coastal Research Centre along with TNSDMA.
- The web-based GIS application would work as a hydrodynamic model and collate data such as water level in rivers and waterbodies and rainfall to forecast floods.

- A MoU was signed by TNSDMA and NCCR in the presence of Revenue Minister.
- The forecast would be based on Meteorological Department's weather forecast.
- This would **help in reducing flood risk and plan relief activities**. CFLOWS would be integrated with TNSMART, a web-based application that would also have a mobile application.

### Gang of cyber fraudsters targeted City Union Bank

**News:** The **cyber fraudsters**, who siphoned off close to Rs. 90 crore from Cosmos Bank in Pune recently, had also looted from City Union Bank in Chennai last year.

#### **Beyond News**

- Two days ago, four of the seven arrested by the Pune police reportedly confessed that they were involved in siphoning off crores of rupees from the Chennai bank too.
- The **fraudsters had used a malware and used cloned debit cards** to swindle money.
- The Central Crime Branch in Chennai has begun an investigation by registering a case. The CCB officials visited ATMs from which the money was withdrawn and collected CCTV footage.
- They suspect that a weak link in the server of the bank led to the malware attack. The attack was on the software that permitted banks to settle cash dispensation requests raised at ATMs.

### A first-of-its-kind deportation

**News:** The **deportation by Afghanistan** of a 26-year-old Kerala resident who had illegally entered the country to join the Islamic State (IS) is a first.

- The accused, Nashidul Hamzafar, was arrested by the National Investigation Agency (NIA) at the Delhi airport after he was deported by the Afghan authorities.

#### **Beyond News**

- Hamzafar, who had been working in the United Arab Emirates, had come to India in 2017. On October 3, he and his friend left for Muscat on a tourist visa.
- They then travelled to Iran, from where Hamzafar alone entered Afghanistan, through one of the unguarded border checkpoints. His friend returned from Iran after his family got to know of his plans and pressurised him to come back, the official said.
- In 2016, as a well thought-out conspiracy, 21 men, women and children from Kerala had left for Afghanistan via Iran to live in the IS-controlled territory.
- The NIA had registered two cases. Mainly comprising defectors from Tehrik-i-Taliban (TTP), the Wilayat Khorasan of the Islamic State in Afghanistan came into existence in 2015.
- The official said that Hamzafar was in touch with some of the accused living in Afghanistan and was radicalised by them. He was detained by Afghan security agencies last year for illegally entering the country to join proscribed terrorist organisation IS.
- The NIA said that Hamzafar participated in the conspiracy through encrypted social media platforms.



- The accused was produced before an NIA court and he will now be taken to Kochi on transit remand to be produced in the court that had issued non-bailable warrant against him.

### 'Take back forest lands in occupation of individuals'

**News:** The Madras High Court suggested that the State government could take stock of forest lands in occupation of private individuals as well as establishments for long and retrieve all of them in **an effort to increase the much-needed green cover in the region.**

#### **Beyond News**

- Justices told Advocate General that the Revenue Secretary could be asked to prepare a list of such forest lands and reclaim the properties in accordance with law. Such a measure would **help in protecting the available forests for posterity**, they said.
- The judge had upheld the decision of the government to retrieve 29.33 out of 40 acres given to the trust in January 1975.
- According to senior counsel, representing the appellant trust founded in 1974, the government had placed at the disposal of the trust about 40 acres of land in **Nanmangalam Reserve Forest** near here on payment of Rs. 100 per acre in 1975. The land was allotted only for educational purposes.
- Hence, the trust had constructed buildings on the site within two years and started a college in 1977. Since then, it had also been making repeated requests to de-reserve the area.
- However, on September 25, 2012, the Environment and Forest Secretary passed an order to resume 29.33 acres on the ground that it remained unused.
- Immediately, the trust filed a writ petition challenging the move to resume the lands and claimed that it had developed the lands over the years after obtaining necessary approvals, and hence, it could not be taken back. However, Justice dismissed the petition on August 3 this year and hence the present writ appeal.
- After hearing both the sides, the Division Bench ordered for a detailed survey of the lands by the District Forest Officer, a surveyor to be nominated by the Deputy Director of Survey and the Revenue Divisional Officer in the presence of representatives of the appellant trust as well as the counsel from both sides.

**SEPTEMBER 21**

### **General Studies-01**

#### **Cyclonic storm 'Daye' crosses Odisha coast, rains to continue till Saturday**

**News:** Cyclonic storm 'Daye' crossed the coast near Gopalpur in Odisha, triggering heavy downpour accompanied by high velocity wind in several parts of the state.

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## Beyond News

- The cyclonic storm “Daye” over northwest Bay of Bengal moved west-northwestward with a speed of about 23 kmph and crossed south Odisha and adjoining Andhra Pradesh coast close to Gopalpur, Director, Meteorological Centre, said.
- The cyclonic system then lay centred over south Odisha, about 40 km west-northwest of Gopalpur and about 150 km east-southeast of Bhawanipatna.
- Under its impact, heavy to very heavy rainfall is likely to lash several places.
- The MeT centre also warned of gale wind with speed reaching 60-70 kmph and gusting up to 80 kmph along and off south Odisha for a few hours.
- The State government has instructed officials in coastal districts and various departments to be alert to tackle any emergency situation.
- Danger signs with signal number 3, which warns of surface winds clocking 40-50 kmph, have been hoisted at all ports of Odisha.
- The **cyclone warning division’s** (CWD) advisory said the sea will be very rough over central and north Bay of Bengal and off Odisha, West Bengal and north Andhra Pradesh coasts.

## In the tribal hearland of Adilabad, Muharram is a part of Adivasi ethos

**News:** The influence of the non-tribal culture has apparently come to the tribal heartland of Adilabad during the rule of the Nizam of Hyderabad.

- Muharram was a State festival then and it is generally believed that it has evolved into a tribal event over the years incorporating some of the religious methods of the ethnic people.

## Beyond News

- The assimilation of **culture of the aboriginal Raj Gond, Pardhan or Andh tribes** is what makes Adivasi Muharram different from the Shia event but makes it somewhat similar to the one which is observed by Hindus in North Telangana.
- Thousands of tribal devotees flock the makeshift or permanent ‘dargahs’ scattered all over the tribal belt making wishes which forms the core activity of the event.
- A good number of aboriginal habitations, especially in Adilabad and Kumram Bheem Asifabad districts, boast of ‘dargahs’ which happen to be the resting places of ‘sawaris’ that symbolise the sacrifice of Hasan and Hussain, the grandsons of Prophet Mohammed. The dargahs are looked after under the guidance of a ‘mujawar’ or custodian who is invariably a Muslim.
- The sawaris have a central long wooden piece with a rounded off distal end, sometimes carrying a ‘panja’ or palm or ‘naal’ or a crescent moon shaped object, from where the plethora of cloth pieces offered by devotees are suspended.



## General Studies-02

### Sex offenders' registry launched with 4.4 lakh entries

**News:** The first-of-its-kind national sex offenders' registry launched has names and details of some 4.4 lakh people convicted for various sexual offences across the country.

#### Beyond News

- The database is for those convicted for sexual offences 2005 onwards. It includes name, address, photograph and fingerprint details of the convict. A Home Ministry statement said the database would not compromise any individual's privacy.
- **India became the ninth country in the world to have a National Database on Sexual Offenders (NDSO),** accessible only to law enforcement agencies for the purpose of "investigation and monitoring".
- The proposal to set up a registry was mooted by the UPA government after the 2012 Nirbhaya gangrape case in New Delhi.
- The database will be maintained by the National Crime Records Bureau, that will also track whether the State police were updating the records on time.
- The database will include offenders convicted under charges of rape, gang rape, Protection of Children from Sexual Offenders Act (POCSO) and eve teasing.



### U.S. blacklists Chinese agency for buying Russia military equipment

**News:** The Trump administration imposed sanctions on the Chinese military on Thursday for buying fighter jets and missile systems from Russia, in breach of a sweeping U.S. sanctions law punishing Moscow for meddling in the 2016 U.S. election.

#### Beyond News

- The U.S. State Department said it would immediately impose sanctions on China's Equipment Development Department (EDD), the branch of the Chinese military responsible for weapons and equipment, and its director, Li Shangfu, for engaging in "significant transactions" with Rosoboronexport, Russia's main arms exporter.
- The sanctions are related to China's purchase of 10 SU-35 combat aircraft in 2017 and S-400 surface-to-air missile system-related equipment in 2018, the State Department said.
- They block the Chinese agency, and Li, from applying for export licenses and participating the U.S. financial system.
- It also adds them to the Treasury Department's list of specially designated individuals with whom Americans are barred from doing business.
- The administration also blacklisted an additional 33 people and entities associated with Russian military and intelligence, adding them to a list under the 2017 law, known Countering America's Adversaries Through Sanctions Act, or CAATSA.

- CAATSA also seeks to punish Russia for its aggression in Ukraine and involvement in Syria's civil war.
- Doing significant business with anyone on that list can trigger sanctions like those imposed on China.
- Some of those added to the list, which now contains 72 names, were indicted in connection with Russian interference in the U.S. election, the official said.
- The measures come as the Trump administration pursues a variety of strategies to clamp down on China and faces growing pressure to respond strongly to U.S. intelligence agency reports that Russia is continuing to meddle in U.S. politics.

## **Protecting persons with HIV/ AIDS**

**News:** The **Human Immunodeficiency Virus and Acquired Immune Deficiency Syndrome (Prevention and Control) Act of 2017** safeguards the human rights of people living with HIV and AIDS.

- The Ministry of Health and Family Welfare issued a notification to bring the Act into force from September 10.

## **Beyond News**

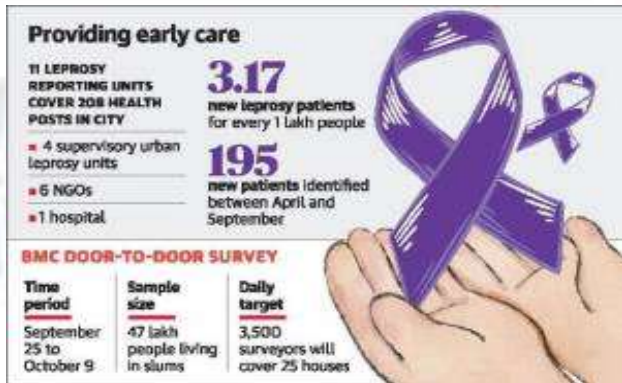
- The Act was born out of an urgent need to prevent and control the virus and syndrome. It has highlighted the necessity for effective care, support and treatment for HIV and AIDS.
- The Act spawns from the commitment to the global community under the Declaration of Commitment on Human Immunodeficiency Virus and Acquired Immune Deficiency Syndrome (2001) for enhanced coordination and intensification of national, regional and international efforts to combat the virus and syndrome in a comprehensive manner.
- The **statute aims to provide equal rights to persons with HIV and bring them into the mainstream.** The Act gains importance as it makes it a legal obligation to protect the privacy of persons with HIV and AIDS.
- The law addresses discrimination meted out to persons with HIV and AIDS.
- It fortifies the health and medical health-care system for them and introduces legal accountability along with formal mechanisms to inquire into complaints and redress grievances.
- The Act lists various grounds on which discrimination against persons with HIV is prohibited. These include the denial, termination, discontinuation or unfair treatment with regard to employment, educational establishments, health-care services, standing for public or private office, and insurance.
- The Act provides that every HIV infected or affected person below the age of 18 years has the right to reside in a shared household. The Act prohibits any individual from publishing information or advocating feelings of hatred against HIV positive persons and those living with them.
- Section 37 makes such propagation of hatred punishable with a term of imprisonment which shall not be less than three months but which may extend to two years, with fine which may extend to ₹1 lakh.
- As per the provisions of the Act, every person in the care and custody of the state shall have the right to HIV prevention, testing, treatment and counselling services.

## Mumbai Corporation to kickstart leprosy detection drive

**News:** The Brihanmumbai Municipal Corporation (BMC) will be undertaking a survey to identify new leprosy patients as part of the National Leprosy Eradication Programme (NLEP).

### Beyond News

- Around 3.17 new leprosy patients are detected for every 1 lakh people in the city every year. This year, between April and September, 195 new leprosy patients were identified in the city.
- The Central government's NLEP consists of a Leprosy Case Detection Campaign, which identifies leprosy patients through door-to-door surveys. Hundreds of volunteers and Accredited Social Health Activists are involved in carrying out the surveys.
- Around 3,500 surveyors have been trained to carry out the survey. The teams will also consist of leprosy patients who are part of the Association of Persons Affected with Leprosy, a partner in the survey.
- The teams will cover 25 houses every day. The BMC will be creating publicity about the survey through posters, pamphlets, radio and TV advertisements.
- The BMC officers also gave information on the government's programme to treat and rehabilitate leprosy patients detected through the survey. They will be given financial aid and offered rehabilitation, physiotherapy and reconstructive surgery. Surgeries will be conducted for free and patients will be given an allowance.
- Mumbai has 11 leprosy reporting units, including four supervisory urban leprosy units, six non-governmental organisations and one hospital (Acworth). These reporting units cover 208 health posts in the city.



## General Studies-03

### NASA's Parker Solar Probe sends back first images

**News:** Just over a month into its seven-year mission to touch the Sun, NASA's Parker Solar Probe has beamed back the first-light data from each of its four instrument suites, the U.S. space agency said.

### Beyond News

- Wide-field Imager for Solar Probe's (WISPR) the only imager on the probe door was opened, allowing the instrument to take the first images during its journey to the Sun.

- WISPR with both its inner and outer telescope snapped a blue-toned, two-panel image of space with stars visible throughout. While the Sun is not visible in the image, it showed Jupiter.
- The probe also sent data back from its three other instruments on board: ISoIS, FIELDS and SWEAP which are all dedicated to unravelling the mysteries of the Sun.
- The Parker Solar Probe's first close approach to the Sun will be in November.

## **SEPTEMBER 22**

### **General Studies-01**

#### **A rare confluence of events led to flooding in Kerala, says study**

**News:** A combination of four factors led to extreme flooding across Kerala in 2018, a study says.

#### **Four Factors:**

- The **four factors are:** above normal seasonal (May-August) rainfall, extreme rainfall events occurring almost across the State during the season, over 90% reservoir storage even before the onset of extreme rainfall events, and finally, the unprecedented extreme rainfall in the catchment area of major reservoirs in the State.

#### **Findings**

- The summer monsoon rainfall in Kerala from May to August this year was 2,290 mm, which was 53% above normal. The average rainfall during the summer monsoon period (June-September) is about 1,619 mm. This makes 2018 Kerala's third wettest year in the last 118 years (1901-2018); 1924 and 1961 were the wettest years with about 3,600 mm of annual rainfall.
- Second, till August 21, Kerala witnessed a few extreme rainfall events covering almost the entire State. These extreme rainfall events have very low probability of recurrence in any given year.
- Third, Kerala received 1634.5 mm rainfall during the period May 1 to August 7, which is more than the average rainfall (1619.37 mm) during the summer monsoon period (June-September). As a result, six of the seven major reservoirs in the State had over 90% storage before August 8, well before Kerala received the unprecedented extreme rainfall events.
- Finally, the catchment areas of major reservoirs in the State received extreme rainfall never before witnessed in the State. The role of other factors such changes in how infrastructure has grown at the expense of vegetation and drainage remains to be studied.

- Currently, forecast of cyclone and depression is available a few days in advance thus providing sufficient time for evacuation of people from low lying areas. Since extreme rainfall events have been a recent phenomenon, forecasts with such long lead time are currently not available.
- The extreme rainfall events on August 15-17 were unprecedented and therefore had very low probability of recurring in any given year. For instance, on August 15, the State received 120.2 mm of rain, making it an extreme rainfall event lasting for a single day.
- With over 90% storage, six of the seven major reservoirs had more than the normal storage before the extreme events could occur.

During the period May 1-August 21, the catchments upstream of the Idukki, Kakki, and Periyar reservoirs received unprecedented rainfall of 279%, 700%, and 420% respectively from their long-term means.

### Less rain, humid weather cause dengue cases to rise

**News:** Nearly 2,400 dengue-like cases and over 200 confirmed dengue cases have been recorded by the Brihan **mumbai** Municipal Corporation (BMC) this month so far.

#### **Beyond News**

- Doctors have noticed a rise, as the drop in rainfall and the humid weather make it favourable for the breeding of aedes aegypti, the dengue-spreading mosquito.
- The dengue virus plays a major role in haemoglobin rise leaving patients at the risk of developing a haemorrhage.
- The amount of fluid is advised depending on the patient's condition and underlying diseases.
- **Dengue is spread by an infected female aedes aegypti mosquito that mostly bites during the day and breeds in clean water.**

The BMC's insecticide department has also undertaken a survey on the mosquito.



## General Studies-02

### French govt says its companies had full freedom to select Indian partners under Rafale deal

**News:** The French government said it was in no manner involved in the choice of Indian industrial partners for the Rafale fighter jet deal, asserting that French companies have the full freedom to select Indian firms for the contract.

## Beyond News

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- The statement by the French government came following a French media report which quoted former President Francois Hollande as saying that **the Indian government proposed the Anil Ambani-run Reliance Defence** as the partner for Dassault Aviation in the ₹ 58,000 crore Rafale deal and France did not have a choice.
- **Dassault Aviation, the makers of Rafale, had chosen Reliance Defence as its partner to fulfill offset obligations of the deal.** The government has been maintaining it did not have any role in selection of the offset partner by Dassault.
- In a statement, Dassault Aviation said it has decided to make a partnership with the Reliance Defence in accordance **with the policy of 'Make in India'**.
- The French government said the inter-governmental agreement it signed with India for supplying 36 Rafale aircraft concerns its obligations solely with regard to ensuring the delivery and quality of the aircraft.
- Under India's offset policy, foreign defence entities are mandated to spend at least 30 per cent of the total contract value in India through procurement of components or setting up of research and development facilities.
- Ten days after India sealed the government-to-government agreement on the Rafale deal, Reliance Defence and Dassault had announced a joint venture (JV) in the aerospace sector and a year later, the foundation stone of a manufacturing facility was laid in Mihan, Nagpur.

## India calls off New York meeting with Pakistan

**News:** India blamed 'Pakistan-based entities' for killing of three special police officers in Kashmir and called off the planned meeting of foreign ministers in New York.

## Beyond News

- The Ministry of External Affairs (MEA) said talks in the current circumstances would be futile and also cited stamps issued by **Pakistan** in July in memory of Kashmiri militant Burhan Wani as a reasons for the cancellation.
- Apart from the killing of policemen and reported intimidation of serving police personnel by militants in Kashmir, India also took note of the postage stamps in memory of the slain militant Burhan Wani, that were issued by Pakistan. Sources said the MEA took note of the stamps.
- The sudden cancellation came a day after Delhi agreed to Pakistan Prime Minister Imran Khan's proposal for the talks, and announced that a meeting between External Affairs Minister Sushma Swaraj and her Pakistani counterpart Shah Mahmood Qureshi would take place on the sidelines of the annual session of the UN General Assembly in the next few days.
- Announcement came even as India confirmed the murder of a BSF soldier by Pakistani elements.
- India's decision drew swift response from Pakistan, with Information Minister Fawad Chaudhry telling reporter, "The entire world is watching that Pakistan stands for peace and dialogue and India is being led by extremist mindset."
- President of Pakistan Arif Alvi described Delhi's decision as "sad".



- The MEA stated that the decision to go ahead with the meeting in New York was taken because the proposal from Prime Minister Imran Khan had indicated a desire to discuss 'terrorism' with India.
- Officials said the decision to cancel the meeting between the two ministers was taken after "wider consultation" in the MEA and with all stakeholders in the government.

The decision to cancel the talks was taken as India sensed the contradictions in Pakistan's stated position and its unstated agenda.

## General Studies-03

### ISRO setting up launch pad for Gaganyaan mission

**News:** The Indian Space Research Organisation (ISRO) is setting up a **third launch pad at Sriharikota to undertake the Gaganyaan manned space flight programme**, an ISRO official said.

#### **Beyond News**

- In addition, ISRO is scouting for a location on the western sea coast near Gujarat to set up another launch pad for Small Satellite Launch Vehicles (SSLV).
- In the Independence Day address this year from the Red Fort, Prime Minister had announced that an Indian will go to space by 2022.
- Following this, ISRO has announced an ambitious roadmap to put a three-man Indian crew in a low earth orbit for 5-7 days by the 75th Independence Day.
- ISRO will use its **GSLV Mk-III launch vehicle**, which can carry the heavier payload of the Gaganyaan, and this will take off from the new launch pad.
- In addition to the third launch pad at Sriharikota, ISRO is also scouting for a new location near Gujarat for the SSLV.
- ISRO is developing the SSLV to offer affordable launch options for smaller satellites through Antrix, the space agency's commercial arm. ISRO currently piggybacks smaller satellites on the PSLV and GSLV along with bigger satellites.
- ISRO is ready to transfer the entire SSLV "as a whole" to the private industry while the agency would provide the initial hand-holding. The SSLV is expected to be cleared by next year.



### Now, outsourced eco-impact checks

**News:** The Union Environment Ministry proposes to allow **research organisations and accredited agencies to monitor if companies are complying with environmental conditions**.



## Beyond News

- India's environmental laws require project developers to submit themselves to the Environment Impact Assessment (EIA), under which an independent agency, commissioned by the project developer, ascertains the likely environmental impact of a proposed project.
- The preparation of an environment impact assessment report and an environment management plan ensures that the adverse environmental impact of projects and activities are assessed and studied and mitigation measures are taken in the implementation of the project to avoid or minimise the adverse environmental impact.
- Currently, depending on the size of projects, they are cleared or rejected with accompanying caveats that must be adhered to by the expert appraisal committees of the Central government and the States and the district environment impact assessment authorities.
- The process obligates the project proponent to file a six-monthly compliance report, and regional offices of the Ministry are supposed to check whether industries are complying with these norms.
- Independent observers describe the proposal as a "big shift" in how projects are appraised.

## Japan releases rovers towards asteroid

**News:** A Japanese space probe released a pair of exploring rovers towards an egg-shaped asteroid to collect mineral samples that may shed light on the origin of the solar system.

## Beyond News

- The "Hayabusa2" probe jettisoned the round, cookie tin-shaped robots toward the Ryugu asteroid, according to the Japan Aerospace Exploration Agency (JAXA).
- If the mission is successful, the rovers will **conduct the world's first moving, robotic observation of an asteroid surface.**
- Taking advantage of the asteroid's low gravity, they will jump around on the surface soaring as high as 15 metres and staying in the air for as long as 15 minutes to survey the asteroid's physical features with cameras and sensors.
- So far so good, but JAXA must wait for the Hayabusa2 probe to send data from the rovers to the earth in a day or two to assess whether the release has been a success, officials said.
- The cautious announcement came after a similar JAXA probe in 2005 released a rover which failed to reach its target asteroid.
- Next month, Hayabusa2 will deploy an "impactor" that will explode above the asteroid, shooting a two-kilo copper object into the surface to blast a crater a few metres in diameter.



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- From this crater, the probe will collect “fresh” materials unexposed to millennia of wind and radiation, hoping for answers to some fundamental questions about life and the universe, including whether elements from space helped give rise to life on the earth.
- The probe will also release a French-German landing vehicle named Mobile Asteroid Surface Scout (MASCOT) for surface observation.
- Hayabusa2, about the size of a large fridge and equipped with solar panels, is the successor to JAXA’s first asteroid explorer, Hayabusa Japanese for falcon.
- The Hayabusa2 mission was launched in December 2014 and will return to Earth with its samples in 2020.

**SEPTEMBER 23 & 24**

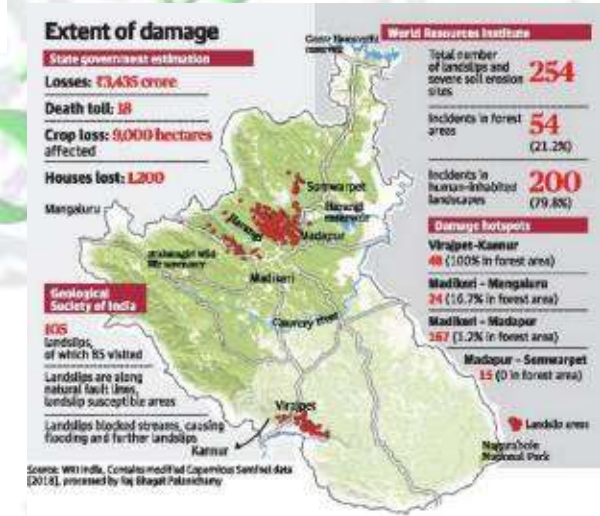
**General Studies-01**

**Kodagu devastation aggravated by human interference: Reports**

**News:** Two reports paint a clearer picture of the human interferences that aggravated the devastation in Kodagu district in August.

**Findings**

- While the Geological Survey of India (GSI) has tabulated 105 landslips in human-habited areas, a team from the World Resources Institute (WRI) used satellite imagery to enumerate at least 254 various landslip instances affecting 1,060 hectares (nearly 10.6 sq km) of land.
- Using imagery from the Copernicus Sentinel satellites (deployed by the European Commission), a Senior Project Associate at WRI India, and Director (Hydrology), WRI, counted the changes in landscapes and the crowns (the area from where soil has slipped) to determine the number and pattern in landslips.
- Not surprising, nearly four in five landslips are in areas with human habitation.
- These are concentrated around the twists and turns of the Harangi river as well as major roads that criss-cross the district (as seen in the cluster of land slips close to Madikeri and particularly on the Mandalpatti road).
- While heavy rainfall was the trigger, lack of proper drainage, unscientific slope cutting for agriculture or road works, construction of houses close to slopes or natural streams, as well as geological causes, have been identified as having aggravated the situation.



- These landslips were also found to be entirely within areas that were marked in GSI's landslide susceptibility maps in 2014-15.
- The maps and reports had a list of recommendations involving slope stabilisation along roads and construction measures to ensure high slopes are protected. Most of these had not been followed.
- Their investigation has found that in many human-inhabited areas, the landslips had led to a cascading effect.
- In the rains of August 14, smaller landslips had blocked streams creating a temporary dam. As the rains continued and water accumulated, the dam breached, letting out a torrent of water that flooded houses downstream as well as triggered further landslips.

## General Studies-02

### Sikkim gets its first airport and the country its 100th at Pakyong

**News:** Sikkim is now part of India's aviation map as Prime Minister inaugurated the State's first airport at Pakyong. This is also the **100th airport in the country**.

#### Beyond News

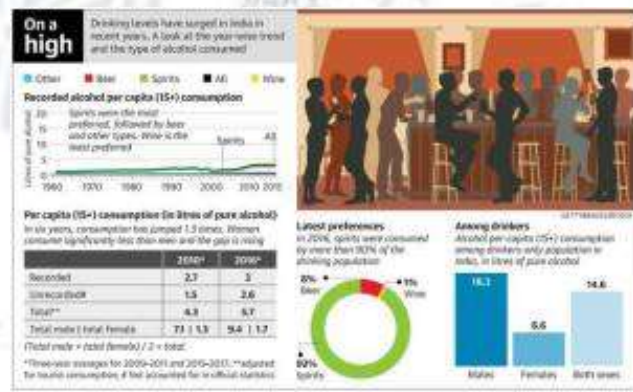
- The greenfield airport, located 30 km from capital Gangtok, will start its commercial operations from the first week of October, according to the State Chief Secretary. Spicejet's Bombardier Q-400 aircraft will ferry passengers to and from Sikkim, Guwahati, and Kolkata.
- Under the Union government's **UDAN** (Ude Desh Ka Aam Nagrik) regional connectivity scheme, the private carrier will operate daily direct flights between Pakyong and Kolkata and between Pakyong and Guwahati from. Pakyong is SpiceJet's ninth destination under the scheme.
- The reinforcement wall of the project is 80-metre-high, one of the tallest in the world.
- The Pakyong airport is located around 60 km from the India-China border.



### Alcohol intake in India doubles in 11 years

**News:** Per capita alcohol consumption in India has more than doubled from 2005 to 2016, according to a report by the World Health Organisation (WHO).

- The consumption of alcohol has increased from 2.4 litres in 2005 to 5.7 litres in 2016 with 4.2 litres being consumed by men and 1.5 litre by women, the report said.



- However, diverging trends were noticed in different regions of the world.

### Harmful impact of alcohol

- The harmful impact of alcohol is one of the leading risk factors for populations worldwide and has a direct impact on many health-related targets of the Sustainable Development Goals (SDGs), including those for maternal and child health, infectious diseases (HIV, viral hepatitis, tuberculosis), non-communicable diseases and mental health, injuries and poisonings.
- In 2016, the harmful use of alcohol resulted in some three million deaths (5.3% of all deaths) worldwide and 132.6 million disability-adjusted life years (DALYs).
- Mortality resulting from alcohol consumption is higher than that caused by diseases such as tuberculosis, HIV/AIDS and diabetes.
- Among men in 2016, an estimated 2.3 million deaths and 106.5 million DALYs were attributable to the consumption of alcohol. Among women 0.7 million died and they experienced 26.1 million DALYs attributable to alcohol consumption.
- The harmful use of alcohol is a causal factor in more than 200 diseases and injury conditions, the report stated. Some 2.3 billion people are current drinkers. Globally more than a quarter (26.5% ) of all 15-19 year-olds are current drinkers, amounting to 155 million adolescents.

### Commander Abhilash Tomy of Indian Navy rescued by French vessel

**News:** After three days of a **global search and rescue effort**, Commander Abhilash Tomy of the Indian Navy was rescued by a French shipping vessel.

#### **Beyond News:**

- Cdr Tomy was stranded in the south Indian Ocean, approximately 1,900 nautical miles (nm) from Perth and 2,700 nm from Cape Comorin near Kanyakumari.
- An Indian Navy P-8I maritime patrol aircraft reached the location in the morning to coordinate the rescue efforts.
- The **Australian Rescue Coordination Centre** (ARRC) in Canberra is coordinating the rescue mission in conjunction with many agencies, including the Australian **Defence** Department and the Indian Navy. The Indian Naval Defence Attaché in Australia is camping in the regional Maritime Rescue Coordination Centre (MRCC).
- Cdr Tomy is using a portable texting unit for messaging.
- Indian Navy's stealth frigate INS *Satpura* with a Chetak Helicopter and tanker INS *Jyoti*, operating in the Indian Ocean, are also enroute.
- GGR 2018 is conducted by Sir Robin Knox Johnston of the U.K. to commemorate 50 years since the world's first solo non-stop circumnavigation was undertaken by him in 1968 on board the Indian built boat, *Suhaili*.

- **Cdr Tomy is the only Indian to complete solo**, non-stop circumnavigation of the globe in 2012-13 on board the Indian Naval Sailing Vessel (INSV) *Mhadei*, and has covered 53,000 nautical miles under sail.

### 500 homeless in Bengal as Ganga swallows land

**News:** Nearly 500 people have become homeless in the Hossainpur area of Murshidabad district due to **severe river bank erosion by the Ganga.**

#### **Beyond News**

- The Ganga has swallowed large swaths of land in the area, making locals to flee to the neighbouring Malda district.
- While a section of the affected people have fled to Malda district, nearly half of them are living in makeshift camps.
- Denying the allegation, an official of the **Anti Erosion Division** of the Farakka Barrage Project said that “adequate preventive measures” have been taken to check the erosion and the situation was now under control.
- District administration officials said the “preliminary measures” taken by the project authorities were not very effective.
- Confirming that about 500 people have lost their homes due to river bank erosion, a senior district administration official said they have distributed 250 trampolines among the villagers and also set up a medical camp in the area.



## General Studies-03

### Hyderabad Metro Rail is now second largest metro network in country

**News:** With the opening of this 16 km stretch, the entire Corridor One of Hyderabad Metro Rail (HMR) project of 29 km from Miyapur to L.B.Nagar has been completed.

#### **Beyond News**

- **It will be the first corridor to be completed in all respects** and has been opened to general public.
- More than a lakh passengers have been riding on the trains and it is expected to double now.
- With opening of another metro stretch, the Hyderabad Metro Rail will be covering 46 km and has become the **second largest metro rail network in the country after New Delhi**, announced Minister for Municipal Administration.



- It is also the **world's largest public-private partnership project**.
- The Minister said HMR was also taking care of improving ground level infrastructure all along the metro corridors like designer footpaths, drains and signages while barricading is being taken up underneath stations to prevent spillover of passengers onto the main road. Skywalks are in the offing and all metro stations could be used as road crossovers.
- First and last mile connectivity is being provided through bicycles, bikes and taxis. Soon electric charging points will be provided for bringing in electric vehicles into its fold.

## As incessant rain lash the North, Punjab puts state machinery on high alert

**News:** As incessant rains continue to lash several parts of the Punjab, Haryana and the joint capital Chandigarh during the past 48 hours, the Punjab government put the state machinery on **high alert**.

### **Beyond News**

- The **Punjab** government has asked all district authorities to remain on constant vigil and the **disaster control rooms are being activated**.
- The Chief Minister's Office has ordered that the Army and other officials have been requested to be on standby.



## Citizen science initiative helps save hornbills

**News:** A citizen science initiative of documenting **Indian hornbills** is providing valuable inputs for the conservation of the unique bird.

### **Beyond News**

- The data on hornbill presence outside protected areas would be crucial in **identifying and protecting their habitats from possible threats and development projects**, scientists said.
- The Hornbill Watch initiative is an interactive web interface that allows a person to report on hornbills anywhere in India. People can record the observation of a live hornbill, note its call or report a dead, hunted or captive bird.
- There are nine hornbill species in India, but experts say that information on hornbill distribution in the country is not very clear.
- Between June 2014 and February 2017, the website, Hornbill Watch, had received 938 records from 430 contributors across 26 States including the national capital and two Union Territories.
- Contributors to Hornbill Watch described 57 sites where the birds were reported to nest and 36 sites where the birds were reported to roost. The reports included notes on the endangered Narcondam hornbill, restricted to an area of 6 sq.km. of the Narcondam Island in the Andamans.



- **Vulnerable or near threatened species such as the rufous-necked hornbill, the Austen's brown hornbill and the great hornbill** were observed in several States in northeastern India.

### **India conducts successful interceptor missile test at night**

**News:** India successfully conducted an interceptor missile test from Abdul Kalam Island in Odisha, achieving a major milestone in developing a **two-layer Ballistic Missile Defence system**.

- The Prithvi Defence Vehicle mission is for engaging targets at an altitude of above 50 km of the earth's atmosphere.

### **NASA balloon mission may help improve weather forecasting**

**News:** The images of a thin group of seasonal electric blue clouds on the cusp of our atmosphere captured by a new **NASA balloon mission** may lead to improved weather forecasting, the U.S. space agency has said.

#### **Beyond News**

- Data from these clouds, known as noctilucent clouds or polar mesospheric clouds (PMCs), may **help scientists better understand turbulence in the atmosphere, as well as in oceans, lakes and other planetary atmospheres**, NASA said in a statement.

The NASA long-duration balloon mission observed these clouds over the course of five days at their home in the mesosphere.

**SEPTEMBER 25**

### **General Studies-02**

### **Supreme Court asks Parliament to frame laws to bar those accused of crimes from fighting elections**

**News:** Political parties have to display the criminal record of candidates who contest on their ticket on their official websites, a five-judge Constitution Bench of the Supreme Court directed on September 25, 2018.

#### **Beyond News**

- Parties should also issue a declaration on the criminal antecedents of their candidates in a widely circulated publication, said a Bench.
- To **facilitate this transparency by parties**, candidates should first give complete information about their criminal past or pending cases to the parties on whose ticket they intend to contest elections, stated the judgment.



- This is to ensure that the ordinary voter can have an “informed choice” about who he has to vote for in a country “tired of money and muscle power,” said the court.
- The direction to compel political parties to go public about their “criminal” candidates is a step to “foster and nurture an informed citizenry” and to protect the “culture and purity in politics.”
- The court said criminal politicians are nothing but a liability to this country. Their presence in power strikes at the roots of democracy. Criminalisation of politics and corruption, especially at the entry level of elections, has become a national and economic terror. It is a disease which is self-destructive and becoming immune to antibiotics, opined the court.
- The candidate should fill up in block letters the complete details of their criminal antecedents, if any.
- Instead, it urged Parliament to consider such a disqualification, saying the nation eagerly awaits its decision. It noted that the Election Commission of India has its hands tied, watching on as criminalisation of politics at the entry level is on the rise.

### India ranks 158th in ‘human capital’ score, behind Sudan

**News:** India ranks 158th in the world for its investments in education and health care, according to the first-ever scientific study ranking countries for their levels of human capital.

#### **Findings**

- The nation is placed behind Sudan (ranked 157th) and ahead of Namibia (ranked 159th) in the list. The U.S. is ranked 27th, while China is at 44th and Pakistan at 164th.
- The study, says that India is ranked at 158 out of 195 countries in 2016, an improvement from its position of 162 in 1990. It showed that India is falling behind in terms of health and education of its workforce, which could potentially have long-term negative effects on the Indian economy.
- The study is based on analysis of data from sources, including government agencies, schools, and health care systems.
- The study, conducted by the **Institute for Health Metrics and Evaluation (IHME)** at the request of the World Bank, is the first of its kind to measure and compare the strength of countries’ “human capital”. The study underscores that when a country’s human capital score increases, its economy grows.
- The study places Finland at the top. Turkey showed the most dramatic increase in human capital between 1990 and 2016; Asian countries with notable improvement include China, Thailand, Singapore, and Vietnam. Within Latin America, Brazil stands out for improvement. All these countries have had faster economic growth over this period than peer countries with lower levels of human capital improvement.
- In addition, the greatest increase among sub-Saharan African countries was in Equatorial Guinea.

### Sushma Swaraj to focus on climate change, South-South cooperation at U.N.

**News:** External Affairs Minister kicked off her week-long diplomatic engagements at the United Nations General Assembly (UNGA), attending a special meeting on drugs convened at the instance of U.S. President Donald Trump.

## Beyond News

- External Affairs Minister will also attend a **special meeting on climate change** being convened by Secretary General António Guterres during her stay in New York.
- The 73rd UNGA is taking place against the backdrop of increased American hostility towards the world body in particular and multilateralism in general. Mr. Trump believes that multilateral global bodies and treaties function to the detriment and at the cost of the U.S.
- The U.S has reduced its funding for the U.N. and either withdrawn or threatened to withdraw from several U.N. bodies under the Trump presidency.
- As Mr. Trump pushes ahead with his America First agenda at the UNGA and on the sidelines, India will be trying to secure its interests and preserve its standing through several diplomatic initiatives this week, according to a senior official overseeing the Minister's engagements.
- With America rolling back its interest in global security and development, under the Trump administration, the Security Council's prominence has diminished, an Indian official pointed out. While America is on retreat, no other country is stepping up to fill the leadership vacuum in the U.N., and Ms. Swaraj's engagements will account for this situation.
- External Affairs Minister met Federica Maria Mogherini, High Representative of the EU for Foreign Affairs and Security Policy, and Morocco Foreign Minister, Nasser Bourita. External Affairs Minister "discussed strengthening **cooperation in areas of commerce, pharma, cyber security, defence and culture,**" with Mr. Bourita, MEA spokesperson said.

## Indo-Portugal cultural fete set to begin in Goa

**News:** The **Semana da Cultura Indo Portuguesa**, an annual event that **features cultural exchanges between Portugal and Goa**, will complete a decade with the 10th edition of the event set to begin in Panaji later this week.

## Beyond News

- The event will celebrate and appreciate the rich cultural flavours of the two nations India and Portugal.
- Like previous editions, this year's edition too will have a film festival, a concert by a Fadista, Fado singing competition, music workshops, a photography exhibition and Indo-Portuguese cuisine workshops.
- A Photography Exhibition will be hosted at the Institute Menezes Braganza.

## India only SAARC country to have a quit-line number for tobacco users

**News:** India has become the first and only SAARC country to have a quit-line number on tobacco products.



## Beyond News

- The Union Health Ministry has already made 85% pictorial health warning mandatory on both sides of packets containing cigarettes, bidis, and chewing tobacco.
- The quit-line number will be printed on all tobacco products manufactured after September 1, 2018.
- India is the fourth country in Asia after Thailand, Malaysia and Singapore to have this government helpline for those looking at quitting tobacco. At least 46 countries have quit-line numbers as part of health warning labels on tobacco product packaging.
- India's current international ranking for package warnings is number three in the world, as outlined in the October 2016 Canadian Cancer Society's 'Cigarette Package Health Warning International Status Report', that ranked 205 countries worldwide.
- The Global Adult Tobacco Survey (GATS) 2016-17 by the Union Ministry of Health and Family Welfare had put to rest all apprehensions about the effectiveness of warnings, since 62% of cigarette smokers and 54% of bidi smokers shared that they thought of quitting because of the 85% pictorial warnings on the packets. And 46% of smokeless tobacco users thought of quitting because of the warnings on smokeless tobacco products.
- The findings revealed a growing demand for cessation centres as 55% of smokers and 50% of smokeless tobacco users were planning or thinking of quitting tobacco use.

## General Studies-03

### Mosquito population made extinct with genetic tweak

**News:** Scientists said, they had **succeeded for the first time in wiping out an entire population of malaria-carrying mosquitos in the lab using a gene editing tool to programme their extinction.**

- So-called gene drive technology works by forcing evolution's hand, ensuring that an engineered trait is passed down to a higher proportion of offspring across many generations than would have occurred naturally.

### Findings

- In experiments with the species *Anopheles gambiae*, scientists at Imperial College London tweaked a gene known as doublesex so that more females in each generation could no longer bite or reproduce. After only eight generations, there were no females left and the population collapsed due to lack of offspring.
- Malaria sickened more than 200 million people worldwide in 2016 and killed nearly 450,000. It remains one of the most deadly of infectious diseases.
- Previous attempts by the same team and others to induce the genetically programmed extinction of mosquitos in the laboratory ran into "resistance" in the form of mutations that fought back against the high-tech engineering.
- The next step will be to test the technology in a confined laboratory setting that mimics a tropical environment.



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- The doublesex gene targeted in the experiments is deeply “conserved”, meaning that is formed tens or even hundreds of millions of years ago and is today shared by many insects with only minor variations.
- Some scientists and technology watchdog groups have called for a moratorium on gene drive research.
- There are ecological risks from manipulating and removing natural populations, such as destroying food webs and shifting the behaviour of diseases, as well as social risks of disrupting agriculture and enabling new weapons.

### Panel approves nutrition norms

**News:** India’s top nutrition panel has recommended that severely malnourished children must be fed freshly cooked food prepared from locally available cereals, pulses and vegetables, and distributed by anganwadi centres, as part of the **country’s first-ever guidelines for nutritional management of children suffering from severe acute malnutrition (SAM)**.

### **Beyond News**

- The measures are part of the community-based health management of children suffering from SAM.
- The norms were okayed by a scientific sub-committee under the NTBN, according to the minutes of the meeting issued last week.
- The guidelines outline the role of anganwadi workers and auxillary nurse midwives (ANMs) in identifying severely wasted children, segregating those with oedema or medical complications and sending them to the nearest health facility or nutrition rehabilitation centres.
- The remaining children are enrolled into “community based management”, which includes provision of nutrition, continuous monitoring of growth, administration of antibiotics and micro-nutrients as well as counselling sessions and imparting of nutrition and health education.
- Locally available cereals, pulses, green leafy vegetables and tubers, vitamin C rich fruits, as well as fresh milk and 3-4 eggs every week” have also been prescribed.
- Importantly, the government has also revised the method to be used to measure wasting and advised calculating weight based on the height of children instead of the mid-upper arm circumference.

***SEPTEMBER 26***

### **General Studies-01**

### Propping up glaciers to avoid cataclysmic sea level rise

**News:** As **global warming** outpaces efforts to tame it, scientists have proposed building massive underwater structures to prevent an Antarctic glacier the size of Britain from sliding into the sea and lifting the world’s oceans by several metres.

## Beyond News

- The more modest of two engineering schemes which is still on the scale of a Panama or Suez Canal to shore up Thwaites Glacier would require the construction of Eiffel Tower-sized columns resting on the seabed to support the glacier's ocean-facing edge, or ice shelf.
- Option Two is a 100-metre tall underwater wall, or berm, running 80-100 kilometers (55-60 miles) beneath the ice shelf to block bottom-flowing warm water that erodes the glacier's underbelly, rendering it unstable.
- The ambitious projects, detailed in the European Geophysical Union journal *The Cryosphere*, reflect a gathering awareness that slashing planet-warming greenhouse gas emissions while essential may not happen quickly enough to avoid catastrophic climate change impacts.
- Geoengineering schemes once dismissed as impractical, unnecessary or outright dangerous injecting particles into space to deflect the sun, storing CO<sub>2</sub> in the ground, planting millions of square kilometres in biofuels have rapidly moved from the margins toward the centre of scientific and policy discussion.
- Until recently, sea level rise was caused mainly by ocean water expanding under the influence of global warming. Today, the biggest driver is run off from ice sheets sitting atop the island of Greenland and the continent of Antarctica.
- Taken together, Greenland and West Antarctica more vulnerable to global warming than East Antarctica contain enough frozen water to lift the ocean watermark by about 12 metres.
- Wolovick and Moore ran computer models to test their geoengineering schemes, taking into account the known variables influencing glacier-ocean dynamics.
- The underwater towers which could be built with material dredged from the continental shelf or quarried from exposed rock stood a 30 percent change of significantly slowing the glacier's disintegration.

## General Studies-02

### SC for live streaming, video recording of court proceedings

**News:** The Supreme Court agreed to **live-streaming and video recording of court proceedings**.

## Beyond News

- The apex court said that necessary rules for balancing rights of public and protecting dignity of litigants will be placed soon.
- Live-streaming of court proceedings **will effectuate the “public right to know” and bring in more transparency in judicial proceedings**, the court said.

## Highlights of the Aadhaar verdict

**News:** Constitution Bench of the Supreme Court, led by Chief Justice of India Dipak Misra upheld the validity of Aadhaar but with riders.

### Highlights from the verdict.

- Justice A.K. Sikri said there is no possibility of duplicating Aadhaar due to the biometrics and added that it collects only minimum demographic and biometric details. He also said Aadhaar is “unique in an unparalleled way.”
- The Bench struck down section 57 of the Aadhaar Act, which allows private entities to use Aadhaar for verification purposes.
- Section 33(2) that allows UIDAI to share data with specially authorised officers in the interest of national security, was also struck down.
- Three of five judges were of the view that Aadhaar is valid.
- Aadhaar requirement by CBSE, NEET, and UGC has been struck down, but Aadhaar-PAN linkage has been upheld.
- Seeding Aadhaar with mobile phone numbers and bank accounts is not needed. Schools too, cannot insist on Aadhaar for admission of students.
- Justice D.Y. Chandrachud, in his judgment, said that passing the Aadhaar Act as a Money Bill was a fraud on the Constitution. In this, he dissented from the majority opinion. He also held section 7 of the Act, which makes Aadhaar mandatory for state subsidies, as unconstitutional.
- Justice Ashok Bhushan concurred with the majority but differed on a couple of points he held that beneficiaries cannot be denied services or subsidies in the name of Aadhaar, and that the passage of the Act as a Money Bill can be subjected to judicial review.

## State seeks ₹5,000-cr special Central aid

**News:** Kerala has sought a special assistance of ₹5,000 crore as grant from the Centre, apart from a 10% hike in the allocation under various Centrally-sponsored schemes and an additional assistance of ₹4,796 crore from the **National Disaster Response Fund (NDRF)** to help the State tide over the devastation caused by the floods last month.

### Beyond News

- Chief Minister raised the demand during a meeting with Prime Minister in New Delhi. Briefing the media after the meeting, he said the special assistance of ₹5,000 crore was **aimed at reviving the flood-battered economy and rebuilding damaged assets.**
- Pointing out that the World Bank-ADB team had assessed the flood damages at ₹25,000 crore, Chief Minister said Kerala needed a generous dose of Central aid for rehabilitation and reconstruction, sought the Prime Minister’s intervention for an additional loan of ₹16,000 crore over the next two years and ₹2,500 crore as assistance to take up housing projects for families displaced by the floods.

#### What Kerala seeks

- Special assistance of ₹5,000 cr as grant from Centre
- 10% hike in allocation under Centrally Sponsored Schemes

- Aid of ₹4,796 cr from National Disaster Response Fund

- Raise market borrowing limit from 3% of GSDP to 4.9% this fiscal

- Additional loan of ₹16,000 cr over the next two years

- ₹3,000 cr from Central road fund to repair damaged roads

- ₹2,500 cr to take up housing projects for displaced families

Fix it at 3.5% of GSDP next year



▲ Chief Minister Pinarayi Vijayan meets Prime Minister Narendra Modi in New Delhi on Tuesday.

- Chief Minister also flagged the need to raise another ₹3,000 crore from the Central road fund to repair flood-damaged roads.
- The State would submit a revised memorandum to the Ministry of Finance by October seeking funds for post-flood reconstruction.

## General Studies-03

### UN team assesses damage, reviews flood relief work

**News:** The United Nations team that visited Kerala took stock of the damage caused by the recent floods and the relief work carried out in some of the worst-hit areas.

#### Beyond News

- The team comprised officials of the United Nations Development Programme (UNDP), Food and Agricultural Organisation (FAO), UN Women, United Nations Children’s Fund (UNICEF), UN Resident Co-ordinator Office (UNRCO), and United Nations Educational, Scientific and Cultural Organisation (UNESCO).
- The post-flood drought-like situation because of the low water level in rivers was also reviewed by the team.



### Centre hikes import duty on select goods

**News:** The government released a list of 19 categories of items on which it would be hiking import duties, which include white goods such as air-conditioners, refrigerators and washing machines as well as non-essential items such as gems, travel bags and aviation turbine fuel (ATF).

- The new rates will be applicable from September 27.

#### Beyond News

- The Central Government has taken tariff measures, by way of increase in the basic customs duty to curb import of certain imported items, the government said in a statement. These changes aim at narrowing the current account deficit (CAD).
- These changes in rates of basic customs duty (BCD) will be effective from September 27, 2018. The total value of imports of these items in the year 2017-18 was about ₹86,000 crore.
- The significant increases in customs duties of selective items which the government perceives to be non-essential imports appears to be aimed at reducing the drain of currency reserves and boost domestic demand.
- Curbing imports through tariffs would help in shoring up the rupee to 68-70 levels against the U.S. dollar.

Balancing Act		Basic customs duty (%)	
The total value of imports of the items in 2017-18 was about ₹86,000 crore.			
Items	From	To	
Air conditioners	10	20	
Household refrigerators	10	20	
Washing machines less than 10 kg	10	20	
Compressor for air conditioners and refrigerators	7.5	10	
Speakers	10	15	
Footwear	20	25	
Radial car tyres	10	15	
Non-industrial diamond (other than rough diamonds), i.e., cut and polished diamonds	5	7.5	
Diamonds-semi processed, half cut or broken	5	7.5	
Lab-grown diamonds	5	7.5	
Cut and polished coloured gemstones	5	7.5	
Articles of jewellery and parts thereof, of precious metal or of metal clad with precious metal	15	20	
Articles of goldsmith or silversmith wares and parts thereof of precious metal or of metal clad with precious metal	15	20	
Bath, shower bath, sink, wash basin, etc. of plastic	10	15	
Articles of plastic for conveyance and packing such as boxes, case, containers, bottles, insulated ware etc.	10	15	
Tableware, kitchenware and other household items of plastic	10	15	
Miscellaneous items of plastic such as office stationery, fittings for furnitures, decorative sheets, statuettes, beads, bangles etc.	10	15	
Trunks, suitcases, executive cases, briefcases, travel bags and other bags etc.	10	15	
Aviation turbine fuel	0	5	

## TN forest Dept. formulates new strategies to prevent human-animal conflicts

**News:** Officials from the Nilgiris division of the Forest Department have formulated **strategies to minimise human-animal conflicts** in the Kil Kotagiri range, including plans to unify the extremely small forest range with another, and setting up anti-poaching watcher camps to keep tabs on elephant herds.

### **Beyond News**

- The Kil Kotagiri range had previously been part of a larger jurisdiction which had been under the control of the Nilgiris forest division.
- However, with the notification of the buffer zone of the Mudumalai Tiger Reserve (MTR), around two-thirds of the range, which had been referred to as the **Nilgiris** North Eastern Slope, had been transferred to the management of the tiger reserve, leaving only a small sliver of territory requiring constant monitoring from the forest department.
- As the majority of the range is now under the control of the field director of the MTR, the anti-poaching watchers too, who were involved in anti-depredation work at Kil Kotagiri, now report only to Mudumalai, leading to a lack of staff strength in the Kil Kotagiri range to help deal with human-animal
- In order to better manage the Kil Kotagiri **forests**, there are plans by the forest department to unify the range with the Kotagiri forest range, and also to set up permanent anti-poaching watcher camps.
- The mechanism would be similar to the one used by the forest department in Gudalur, where elephants are monitored continuously. People living nearby to where the animals are grazing are being warned not to stray outdoors after dark.

## India's Mars probe completes four years in orbit: ISRO

**News:** India's maiden interplanetary mission the **Mars Orbiter Mission (MOM)** has **completed four years orbiting the red planet**, according to ISRO.

### **Beyond News**

- The mission, launched on November 5, 2013, placed itself into the Martian orbit on September 24, 2014.
- Though the designed mission life of MOM was six months, it has been sending scientific data for four years.

## Cassini spots dust storms on Saturn's moon Titan

**News:** NASA's Cassini spacecraft have revealed **giant dust storms in the equatorial regions of Saturn's moon Titan**, making it the **third space body after Earth and Mars where dust storms** have been observed.

### **Beyond News**

- The observation, obtained with Cassini's **Visual and Infrared Mapping Spectrometer**, is helping scientists to better understand the fascinating and dynamic environment of Saturn's largest moon.



- The findings, showed an active dust cycle, in which organic dust can be raised from large dune fields around Titan's equator.

**SEPTEMBER 27**

## **General Studies-01**

### **Wetlands vanishing 3 times faster than forests: report.**

**News:** Wetlands, among the world's most valuable and biodiverse ecosystems, are disappearing at an alarming speed amid urbanisation and agriculture shifts, conservationists said, calling for urgent action to halt the erosion.

#### **Beyond News**

- The convention, adopted in the Iranian city of Ramsar nearly a half-century ago, issued its first-ever global report on the state of the world's wetlands.
- The 88-page report found that around 35% of wetlands which include lakes, rivers, marshes and peatlands, as well as coastal and marine areas like lagoons, mangroves and coral reefs were lost between 1970 and 2015.
- Today, wetlands cover more than 12 million square km , the report said, warning that the annual rates of loss had accelerated since 2000.
- While the world has been increasingly focused on global warming and its impact on oceans and forests, the Ramsar Convention said wetlands remain "dangerously undervalued".
- Directly or indirectly, they provide almost all of the world's consumption of freshwater and more than 40% of all species live and breed in wetlands.
- Animals and plants who call wetlands home are particularly vulnerable, with a quarter at risk of extinction, the report said.
- Wetlands also provide a livelihood for more than one billion people, while mitigating floods and protecting coastlines.
- They are also a vital source of food, raw materials and genetic resources for medicines.
- The Ramsar Convention has been ratified by most of the world's nations, including the U.S., China and India, and has designated more than 2,300 sites of international importance.



## CO<sub>2</sub> emissions cost India \$210 billion every year: study.

**News:** Carbon dioxide emissions are costing the Indian economy up to \$210 billion every year, according to a global study which found that India is likely to suffer **highest economic damage from climate change** after the US.

### Findings

- Previous research has focused on how rich countries benefit from the fossil fuel economy, while damages accrue primarily to the developing world. However, researchers from University of California San Diego in the US found that the top three countries with the most to lose from climate change are US, India and Saudi Arabia.
- Researchers estimated country-level contributions to the social cost of carbon (SCC) using recent climate model projections, empirical climate-driven economic damage estimations and socioeconomic forecasts.
- The country-level SCC for the India alone is estimated to be about \$86 per tonne of CO<sub>2</sub>. At current emission levels, the Indian economy loses \$210 billion annually.
- For US, the cost is about \$50 billion per tonne. This means that the nearly five billion metric tonnes of CO<sub>2</sub> the US emits each year is costing the US economy about \$250 billion. The model accounts for everything that happens in the economy today that is sensitive to environmental conditions.
- This includes agricultural yields, vector borne disease, reduced worker productivity due to heat, increased frequency of extreme precipitation resulting in infrastructure damages or any of the other many ways that human systems get impacted by climate conditions.
- For the first time, researchers have developed a data set quantifying what the social cost of carbon will be for the globe's nearly 200 countries.

## Archaeologists discover 'massive' ancient building in Egypt

**News:** Egypt says archaeologists have **discovered a "massive" ancient building in the town of Mit Rahina**, 20 kilometres, or 12 miles, south of Cairo.

### Beyond News

- The Antiquities Ministry said archaeologists also uncovered an attached building that **includes a large Roman bath and a chamber likely for religious rituals.**
- Secretary general of the Supreme Council of Antiquities, says the building is likely part of the residential block of the area, which was the **ancient Egyptian capital of Memphis.**
- Memphis, founded around 3,100 BC, was home to Menes, the king who united Upper and Lower Egypt.

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## General Studies-02

### Adultery no longer a criminal offence as SC scraps Section 497 of IPC

**News:** A five-judge Constitution Bench of the Supreme Court, **scrapped the pre-Independence provision of adultery in the Indian Penal Code (IPC), which treats a married woman as a commodity owned by her husband.**

#### **Beyond News**

- **Section 497** (adultery) gives a husband the exclusive right to prosecute his wife's lover. If found guilty, the adulterer faces five years behind bars.
- A similar right is not conferred on a wife to prosecute the woman with whom her husband has committed adultery. Secondly, the provision does not confer any right on the wife to prosecute her husband for adultery. Further, Section 497 does not take into account cases where the husband has sexual relations with an unmarried woman.
- A woman has sexual autonomy within marriage. Marriage does not mean ceding autonomy of one to the other. Ability to make sexual choices is essential to human liberty. Even within private zones, an individual should be allowed her choice.

### New telecom policy aims to provide broadband access to all citizens by 2022

**News:** The Union Cabinet approved the new telecom policy that aims to provide broadband access to every citizen at 50 Mbps speed by the year 2022.

#### **Beyond News**

- The National Digital Communications Policy 2018, which envisions attracting \$100 billion investments into the country's digital communications sector, aims at creating at least 40 lakh new jobs in the sector in the next four years.
- The policy aims at expanding the IoT ecosystem to five billion connected devices, create globally recognised IPRs in India and create a fund for R&D in new technologies.
- It also pitches for leveraging Artificial Intelligence and Big Data to enhance the quality of services offered, spectrum management and network security while also establishing India as a global hub for cloud computing.
- The policy has called for a review of levies and fees including licence fee, universal service obligation fund levy and spectrum usage charges, on the sector. This is expected to help the debt-laden telecom sector.

## General Studies-03

### Cyber threats on Android devices rise in India: report

**News:** More than 6,31,000 **cybersecurity threats** were detected on Android devices in Indians between April and June this year, according to a report by Quick Heal, a provider of security products and solutions.

## Beyond News

- On a daily basis, Quick Heal detected more than 2,000 malware, 3,000 potentially unwanted applications (PUA) and 1,000 adware, according to the report.
- The top ten Android malware of Q2 2018 include Android.Smsreg.DA, Android.Airpush.J, and Android.Guerrilla.M, amongst others, which were propagated through third-party app stores. The PUA family comprised 46.2% of the total detections in the year.
- The threats increased compared to the previous quarter.
- What makes the data all the more alarming is the low awareness about the need for adequate security amongst mobile users, according to the report.
- Most users install advance security software on their laptops and desktops but often neglect their mobile devices. This leaves a major gap in their overall security posture and presents a lucrative opportunity to cybercriminals.
- The increase in the number of mobile-based threats such as Banking Trojan and cryptomining attacks is indicative of a growing shift towards exploiting vulnerable mobile devices to compromise sensitive personal information of mobile users, the report stated.

## IAF successfully test fires air-to-air Astra missile

**News:** The Indian Air Force on Wednesday successfully test fired the indigenously developed Beyond Visual Range Air-to-Air Missile Astra from a Su-30 aircraft, the Defence Ministry said.

- The missile, tested at the Kalaikunda Air Force Station, “successfully engaged a manoeuvring target with high precision.”

## Karnataka is home to nearly 2,500 leopards

**News:** There are nearly 2,500 leopards in **Karnataka** as per the **first-ever estimates of the spotted cat conducted in the State and possibly the country.**

- The study included habitats outside reserved forests, rocky outcrops, private lands, etc., and is **reckoned to be the first such exercise in the country on leopard population estimation** carried out over such large areas.

## Findings

- A release stated that the team submitted pictures of 363 individually identified leopards from the camera trapping work to the Forest Department.
- Based on the figures derived using camera trapping, it has been estimated that there are a total of 2,500 leopards in the State.
- It said through a **sampling-based camera trap exercise**, individual leopards were identified using the rosette patterns on their bodies that are unique to each animal.



- Later, using statistical methodologies, researchers estimated both density (number of animals/unit area) and abundance (total number of animals in the study area) in what is called 'capture-recapture' method which was first used to estimate fish numbers in the United States, and was later adapted for estimating densities of several other wildlife species including tigers, giraffes, rhinoceroses, dolphins, jaguars, etc.
- The leopard study also had a spin-off in that it resulted in the first-ever documentation of the honey badger from the State, apart from the documentation of chinkara, an antelope, in southern Karnataka.
- This study, which combined science, **applied conservation and outreach**, threw light on the importance of lesser known areas for conservation in the State.

## **SEPTEMBER 28**

### **General Studies-01**

#### **Powerful earthquake rocks Indonesian island; tsunami warning lifted**

**News:** A **powerful earthquake** rocked central Sulawesi in **Indonesia** and authorities have **issued a tsunami warning**. The warning was later lifted.

##### **Beyond News**

- The US Geological Survey said the magnitude 7.5 quake was centered at a depth of 6 miles (10 kilometres) about 35 miles (56 kilometres) northeast of the town of Donggala.
- Indonesia's disaster agency spokesman said a tsunami warning for the island of Sulawesi has been lifted.
- The same area was hit by a magnitude 6.1 **earthquake** that killed one person, injured 10 and damaged dozens of houses.

### **General Studies-02**

#### **SC opens Sabarimala temple for women of all ages**

**News:** The Supreme Court, in a majority opinion of 4:1, lifted the centuries-old practice of prohibiting women from the age of menarche to menopause to enter the Lord Ayyappa temple at Sabarimala in Kerala.

##### **Beyond News**

- "Right to pray" in the temple for women between 10 and 50 years of age won over the 'right to wait' campaign as the Supreme Court condemned the prohibition as "hegemonic patriarchy". Patriarchy cannot trump over freedom to practice religion, it said.
- It said that exclusion on grounds of biological and physiological features like menstruation was unconstitutional. It amounted to discrimination based on a biological factor exclusive to gender. It was violative of the right to equality and dignity of women.

- The majority view declared Rule 3(b) of the Kerala Hindu Places of Public Worship (Authorisation of Entry) Act of 1965, which mandates the prohibition in Sabarimala temple, as ultra vires the Constitution.
- The CJI and Justice Khanwilkar held that the Rule violated the fundamental right of a Hindu woman to offer worship at a place of her choice. Right to worship is equally available to men and women.
- The majority on the Bench agreed that Ayyappa devotees do not form a separate religious denomination.
- Justice Indu Malhotra, the lone woman judge on the Constitution Bench, dissented with the majority opinion. She held that the determination of what constituted an essential practice in a religion should not be decided by judges on the basis of their personal viewpoints. She held that essentiality of a religious practice or custom had to be decided within the religion. It was a matter of personal faith. India was a land of diverse faiths. Constitutional morality in a pluralistic society gave freedom to practice even irrational or illogical customs and usages.
- However, the Kerala government reaffirmed its complete support for lifting the prohibition.
- With the verdict, the Supreme Court has set aside a 27-year-old Kerala High Court judgment that upheld the prohibition. The High Court had pointed out that the 'Naisthik Brahmachari' nature of the deity was "a vital reason for imposing this restriction on young women".

## **Solution to Korean Peninsula must address India's concerns: Swaraj to BRICS**

**News:** Any solution to the Korean Peninsula issue must address India's concerns about the nuclear proliferation linkages in its neighbourhood, External Affairs Minister has said, in a veiled reference to Pakistan.

### **Beyond News**

- In her address to the BRICS (Brazil, Russia, India, China and South Africa) Foreign Ministers' Meeting, External Affairs Minister **India has been consistently supporting the efforts to bring about peace and stability in the Korean Peninsula.**
- Since the 1970s, Pakistan and North Korea have cooperated extensively on the development of ballistic missile and nuclear weapons technologies, according to defence analysts and media reports.
- Conflicts in Syria, Libya, Iraq and Yemen pose security challenges for the region and for global peace, External Affairs Minister said while expressing deep concern with continuing tensions on the border between Gaza Strip and Israel.
- External Affairs Minister said India had recently considerably increased to \$5 million its contribution to the UN agency for Palestinian refugees, UN Relief and Works Agency for Palestine Refugees in the Near East (UNRWA).



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## Election Commission order places Telangana under model code of conduct

**News:** The **model code of conduct** came into force in poll-bound Telangana following an Election Commission directive that henceforth the guidelines would be implemented immediately after early dissolution of a Legislative Assembly.

### **Beyond News**

- Earlier, the restrictions came into force only after the announcement of the election schedule by the Commission. The code will continue in effect till the completion of election for a new Assembly.
- Following the Commission's order, as communicated to the Cabinet Secretariat and all Chief Secretaries, apart from the caretaker government, the government at the Centre and other States are also bound by the Code.
- The Commission has drawn on legal backing for the directive from the Supreme Court's observation in the landmark R. Bommai and Others Vs. Union of India and Others (1994) judgment that the caretaker government should merely carry on day-to-day work and desist from taking any major policy decision.
- The provisions of Part-VII of the model code of conduct, which is for the party in power, will "apply on the caretaker State government as well as on the Central government in so far as matters relating to that State are concerned", according to the order.
- EC sources said the electoral body had received congratulatory messages from several political parties after the order was issued.
- After early dissolution of the Legislative Assembly, neither the caretaker State government nor the Centre can announce any new schemes or projects in respect of the poll-bound State or undertake any of the activities prohibited under the Model Code of Conduct.

In view of the coming elections in Telangana and the other four States of Rajasthan, Chhattisgarh, Mizoram and Madhya Pradesh, the Commission held a meeting with the Union Home Secretary on availability and deployment of security forces.

## Peace security in S Asia essential for progress: Swaraj at SAARC meet; Pakistan says India obstructing.

**News:** External Affairs Minister emphasised to **SAARC** countries that an **environment of peace and security in South Asia is essential for cooperation and economic development**, but Pakistan accused India of obstructing the region's progress and prosperity.

### **Beyond News:**

- External Affairs Minister statement came at a meeting of South Asian Association for Regional Cooperation on the sidelines of the ongoing **United Nations** General Assembly session in New York.
- The SAARC grouping includes India, Pakistan and six other regional countries. It was established in December 1985 with an **aim to promote the welfare of the peoples of South Asia**.

- External Affairs Minister said the number of incidents endangering South Asia are on the rise and terrorism remains the single-largest threat to peace and stability in the geopolitical region, and the world.
- Shortly after her statement, Pakistan Foreign Minister Shah Mehmood Qureshi told reporters that Pakistan wants to see SAARC become result-oriented.
- India cited attacks by Islamabad-backed groups in Jammu and Kashmir and stamps released by Pakistan glorifying Kashmiri terrorists as reasons for cancellation of the proposed talks.
- SAARC member-states have previously said they view the strained relations between India and Pakistan as one of the reasons for the little progress achieved by the geopolitical grouping in recent years.
- Nepal And Sri Lanka have expressed interest in reviving the summit postponed in 2016 after New Delhi pulled out over Islamabad's unrelenting support to terrorist activities in India and after Pakistan-based terrorists attack an Indian Army base in Uri.
- Bhutan, Bangladesh and Afghanistan had also joined India in boycotting the summit.
- SAARC summits are usually held biennially. The member-state hosting the summit assumes the Chair of the association.

### General Studies-03

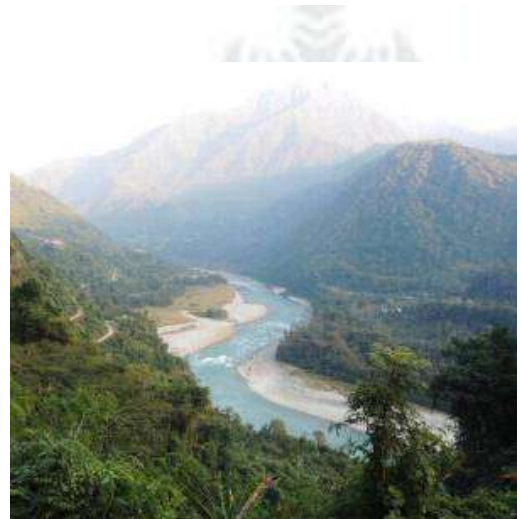
#### Arunachal mega dam near pilgrimage cleared, environmentalists see red.

**News:** Conservationists asked the Standing Committee of National Board for Wildlife (SC-NBWL) to reverse the clearance for the 1750MW Demwe Lower hydroelectric project in Arunachal Pradesh.

- The **project's 124-metre high dam is proposed to be constructed on river Lohit** jointly by Athena Energy Ventures and the Arunachal Pradesh government. The project site, greens and local activists say, is extremely close to cultural heritage site Parshuram Kund, a major Hindu pilgrimage.

#### **Beyond News**

- Lohit is one of three rivers that meet to form the Brahmaputra in Assam downstream.
- Environmentalists in adjoining Assam also said the project would **severely impact the grasslands of Dibru Saikhowa National Park** home of the only population of feral horses in India and riverine islands of Lohit river, which Birdlife International identified as Important Bird Area.
- The NGT had sought a peer review of the project, but the ministry commissioned a short study by a WII-led team, which acknowledged downstream concerns while saying upstream submergence would not be much of an ecological issue. The team admitted the site needed to be studied over three seasons.





- Based on the team's report, the project was cleared at the 50th meeting of SC-NBWL whose minutes were made public. The minutes said that that the wildlife board has accepted the Dehradun-based WII's report on the rapid ecological assessment of impacts of Lower Demwe project on wildlife.

## Railways to roll out smart coaches

**News:**The Indian Railways are set to launch their 'Make in India' smart coaches with new features like black box and artificial intelligence (AI)-powered CCTVs, matching international standards.

### Beyond News

- Named '**Smart Trains**', the coaches have been equipped with sensors that can detect defects on bearings, wheels, and the **railway** track, giving constant inputs to those in the control room to avoid accidents, carry out maintenance, and to improve efficiency of operations.
- The maiden smart coach was unveiled at the Modern Coach Factory in Rae Bareli on Tuesday as part of launching 100 such trains in a pilot project to improve the safety and security of commuters, and to boost efficiency.
- The **black box, being introduced for the first time by Indian Railways**, has a powerful multi-dimensional communication interface to provide information on passengers and coach condition on real-time basis.
- The black box will act as a coach control unit with communication interfaces for passenger announcements, GPS-based announcement triggers, emergency intercom for commuters, digital destination boards, train reservation display modules, and CCTVs with remote monitoring.
- The modern infotainment system has been installed to locate the train in real time.
- For wheel, coach and track monitoring, Railways have come up with Internet of things-based system. The vibrating-energy-based sensors will monitor the wheels, bearing and hard spots on the track, and will provide data through GPS/GPRS to the remote server for diagnosis and remedial measures.
- The **Passenger Information and Coach Computing Unit (PICCU)**, an industrial grade computer, will monitor the coach maintenance and passenger interface.
- An emergency talk-back system will enable communication between passengers and the guard during a crisis. A Wi-Fi hotspot information system is another innovative feature.
- Smart coaches are also laden with water-level indicator technology to know whether the water in the coach is sufficient and when it needs to be filled. An SMS will be sent to the next watering station when the water level falls below half the coach capacity.
- In the version 2.0 of these coaches, the Railways are planning to introduce a host of new features, such as video analytics with face detection feature; unusual occurrence feature; fire-and-smoke detection unit; and an energy-metering module to measure the energy consumption of the coach.



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## **General Studies-01**

### **Indonesia quake-tsunami death toll jumps to 384**

**News:** Nearly 400 people were killed in the **earthquake and the tsunami it caused** barreling into the Indonesian island of Sulawesi, officials said.

#### **Beyond News**

- Hospitals struggled to cope with hundreds of injured and rescuers scrambled to reach the stricken region.
- The **national disaster agency** put the official death toll so far at 384, all of them in the tsunami-struck city of Palu, but warned the figure was likely to rise.
- The tsunami was triggered by a strong quake that brought down buildings and sent locals fleeing for higher ground as a churning wall of water crashed into Palu, where there were widespread power blackouts.
- **Indonesia is one of the most disaster-prone nations on the Earth.** It lies on the Pacific “Ring of Fire”, where tectonic plates collide and many of the world’s volcanic eruptions and earthquakes occur.

## **General Studies-02**

### **‘Illegal Indian migration into U.S. on the rise’**

**News:** The number of Indians arrested for illegally entering the U.S. has nearly **tripled** so far in 2018, making them one of the **largest groups of illegal aliens apprehended**, U.S. Customs and Border Protection (CBP) said.

#### **Beyond News**

- Paying smuggling rings between \$25,000-\$50,000 per person, a growing number of Indians are illegally crossing the U.S.-Mexico border and claiming asylum for persecution, CBP spokesman said.
- Many present viable claims, but a large number are economic migrants with fraudulent petitions that swamp the system and can cause legitimate cases to be “washed out” in the high volume of fraud.
- Asylum seekers range from lower caste people facing death threats for marrying outside their class to Sikhs claiming political persecution, immigration lawyers said.
- After Mexicans, citizens of Guatemala, Honduras and El Salvador were most likely to enter the U.S. illegally in 2018, according to Border Patrol data.



## Pakistan continues to pursue terror as an instrument of official policy: Swaraj

**News:** In a strong attack against Pakistan, India told the United Nations General Assembly that its neighbour's commitment to terrorism as an instrument of official policy has not abated one bit.

### **Beyond News**

- In General Debate of the 73rd session of the UN General Assembly, External Affairs Minister described **terrorism as an “existential threat” to humanity.**
- Even as the perpetrators of the 9/11 terror attacks in New York met their fate, External Affairs Minister said the mastermind of the 2008 Mumbai terror attack Hafiz Saeed still roams the streets of Pakistan with impunity.
- External Affairs Minister said the demon of terrorism now stalks the world, at a faster pace somewhere, a slower pace elsewhere, but life-threatening everywhere.
- The Indian leader told the world leaders at the General Assembly that the most startling evidence of Pakistan's duplicity was the fact that Osama Bin Laden, the architect and ideologue of 9/11 terror attack was given safe haven in the country.
- Even after the world's most wanted terrorist was killed by American special forces, “Pakistan continued to behave as if nothing had happened,” External Affairs Minister said.

## Charminar declared Swachh Iconic Place

**News:** The Central government has **announced Charminar as ‘Swachh Iconic Place’**, in recognition of efforts towards its renovation and development and also historical monuments close by.

### **Beyond News**

- The award has been declared by the Drinking Water and Sanitation Ministry.
- Along with Charminar, Chudi Bazar, Murgi Chowk, Clock Tower, Zulfikan Kaman, and Moazzamjahi Market too were being renovated, by allotting special funds for the same.
- The letter acknowledged implementation of sanitation programmes and efforts to make the sites tourist-friendly. The award would be presented at the fourth annual celebration of Swachh Bharat Mission in New Delhi on October 2.

## India to gift Mig-21 fighter jets to Russia

**News:** A highlight on the sidelines of the upcoming India-Russia bilateral summit is likely to be the **gifting of three MiG-21 fighter jets to Russia.** Russian President Vladimir Putin will be in New Delhi on October 4 and 5 for the annual summit with Prime Minister Narendra Modi.



## Beyond News

- The aircraft to be gifted are in flight-worthy condition and the cost of crating and transportation will be borne by the Russians, another official said.
- This will be major **symbolic gesture to showcase the all-weather friendship and deep strategic partnership between India and Russia**, which has been put to test in recent times due to changing geopolitical conditions.
- The aircraft will get new registration numbers and may be adopted for vintage flight. However, it is not clear how the Russians intend to use them.
- The MiG-21 has more of emotional value for Russia, as it has the distinction of being the most produced supersonic fighter in history.
- The MiG-21, a product of the Soviet Union, was designed by the Mikoyan-Gurevich Design Bureau in the 1950s. It made first flight in 1956 and entered service in 1959. However, Russia stopped producing the aircraft in 1985, while India continued operating the upgraded variants.
- India inducted the MiG-21s in 1963 and got full technology transfer and rights to license-build the aircraft in the country. It is the first supersonic fighter aircraft of the Indian Air Force. The IAF still has about 120 MiG-21s in service which will all be phased out of service by 2021-22.

## General Studies-03

### Treated water at Fukushima nuclear plant still radioactive

**News:** The operator of Japan's wrecked Fukushima nuclear plant said that much of the radioactive water stored at the plant isn't clean enough and needs further treatment if it is to be released into the ocean.

- Tokyo Electric Power Co and the government had said that treatment of the water had removed all radioactive elements except tritium, which experts say is safe in small amounts.

## Beyond News

- TEPCO said that studies found the water still contains other elements, including radioactive iodine, cesium and strontium.
- It said more than **80% of the 900,000 tons of water stored in large, densely packed tanks contains radioactivity exceeding limits for release into the environment.**
- About 161,000 tons of the treated water has 10 to 100 times the limit for release into the environment, and another 65,200 tons has up to nearly 20,000 times the limit, TEPCO said.
- More than 7 ½ years since a massive March 2011 **earthquake** and tsunami destroyed three reactors at the plant, Japan has yet to reach a consensus on what to do with the radioactive water.



- Fishermen and residents **oppose its release into the ocean**. Nuclear experts have recommended the controlled release of the water into the Pacific as the only realistic option.

## 12 satellite-tagged vultures take wing from Nepal

**News:** In a first for Asia, Nepal released 12 satellite-tagged white-rumped vultures, eight of which are captive-bred chicks born to vultures in captivity.

### Beyond News

- This **signifies a huge step for the vulture breeding and recovery programme** in not just Nepal but the entire subcontinent, as India's captive-bred vultures too await their turn.
- This is Nepal's second vulture release; last year, it released six captive-reared (wild chicks reared in captivity) satellite-tagged white-rumped vultures.
- Eliminating the illegal use of diclofenac (its consumption through cattle carcasses is lethal to vultures) is crucial to complement conservation measures, including the breeding programme (where vultures are reared and bred in captivity, and released in the wild to prevent species extinction). Before release, the birds are fitted with satellite and wing tags; these are now providing interesting information about the movement of Nepal's vultures.
- Eleven wild birds tagged in Nepal have visited India's Uttar Pradesh (in 2017, the birds were released just 15 km from the India-Nepal border).
- Of these, one has been particularly adventurous: it flew twice to Shimla in Himachal Pradesh and back, and is currently in Jammu and Kashmir.
- The Indian government has granted permission to satellite-tag captive-bred white-rumped vultures in Haryana's Pinjore, one of the conservation breeding centres in India. Here, as the vultures await their satellite tags from the government, survey teams monitor availability of diclofenac in local pharmacies and test for its residue in cattle carcasses.
- Of India's nine vulture species, four (including the white-rumped) are categorised as "**critically endangered**" by the International Union for Conservation of Nature.



## Facebook says 50 million user accounts affected by major security breach

**News:** Facebook reported a major security breach in which 50 million user accounts were accessed by unknown attackers.

### Beyond News

- The stolen data allowed the attackers to "seize control" of those user accounts, Facebook said.
- Facebook has logged out the 50 million breached users plus another 40 million who were vulnerable to the attack. Users don't need to change their Facebook passwords.

- Facebook says it doesn't know who is behind the attacks or where they're based. In a call with reporters on Friday, CEO said that the company doesn't know yet if any of the accounts that were hacked were misused.
- The hack is the latest setback for Facebook during a tumultuous year of security problems and privacy issues . So far, though, none have significantly shaken the confidence of the company's 2 billion global users.
- This latest hack involved a bug in Facebook's "View As" feature, the company said in a blog post. That feature lets people see how their profiles appear to others. The attackers used that vulnerability to steal "access tokens," which are digital keys that Facebook uses to keep people logged in. Possession of those tokens would allow attackers to control those accounts.

## India sees highest seizure of black spotted turtles

### News

- **India accounts for 29% of black spotted turtles (*Geoclemys hamiltonii*) seized from across seven countries in South Asia**, states a recent report by TRAFFIC, an international network monitoring trade in wildlife.

### Findings

- **Classified as vulnerable** by the IUCN (International Union for Conservation of Nature) Red List of threatened species, the black spotted turtle or spotted pond turtle is native to South Asia, and a heavily trafficked chelonian. The medium-sized freshwater turtle has a black shell with yellow streaks. The species was once smuggled for its meat and is now sought after as an exotic pet.
- The highest number of seizures occurred in India, accounting for a total of 3,001 (29.33%) specimens. Of the 53 seizures across these seven countries, 38% (or 20) seizures were from India.
- In India, the species is distributed across the north, northeast and a few parts of central India in States such as West Bengal, Assam, Bihar, Haryana, Uttar Pradesh and Uttarakhand, and parts of Madhya Pradesh, Punjab, Rajasthan and Meghalaya. But an analysis of the trade route places Chennai as an important centre for the trade.
- The report describes the India-Bangladesh border, part of the species' natural range, as another hotspot for trade in the black soft-shelled turtle.
- The report also highlights that 47% of the seizures involved smuggling via commercial flights. Of the 55 suspects arrested for smuggling black spotted turtles, the number of known convictions were only 20, a phenomenon that experts described as lacunae in the preparation of cases, and in procedural lapses in prosecution.
- Apart from increasing public awareness, the report emphasises the need for better law enforcement and cooperation among international authorities.

