

CURRENT AFFAIRS

11TH Nov. To 20TH Nov. 2016

X-RAY PULSAR NAVIGATION SATELLITE XPNAV-1: CHINA

IN NEWS: China successfully launched a navigation satellite which will conduct in-orbit experiments using pulsar detectors to demonstrate new technologies.

The X-ray pulsar navigation satellite XPNAV-1 weighing more than 200 kilograms was sent skyward atop a Long March 11 solid-fuelled rocket from the Jiuquan Satellite Launch Center in China's northwest.

- The satellite operates in a Sun-synchronous orbit and will conduct in-orbit experiments using pulsar detectors to demonstrate new technologies.
- It was carried by a Long March-11 rocket, the 239th flight mission by a Long March carrier rocket series.
- While in orbit, the satellite will undergo tests on its detector functions and space environment adaptability.
- It weighs more than 200 kilogrammes and carries two detectors.
- X-ray pulsar navigation is an innovative navigation technology in which periodic X-ray signals emitted from pulsars are used to determine the location of a spacecraft in deep space.
- The satellite and the rocket were designed by academies affiliated with the China Aerospace Science and Technology Corporation.
- X-ray pulsar navigation will help reduce the spacecraft's reliance on ground-based navigation methods and is expected to lead to autonomous spacecraft navigation in the future.

INDIA TO HOST INTERNATIONAL COMPETITION NETWORK 2018

IN NEWS: Recognizing the growing stature of Competition Commission of India (CCI) in the world, International Competition Network (ICN) has accepted the proposal and decided that Competition Commission of India would host the 2018 ICN Annual Conference. This will be held at Delhi in March – April 2018.

COMPETITION COMMISSION OF INDIA

- CCI has also been inducted as an ex-officio member of the steering group member of the ICN for a period of 3 years.
- CCI provide a rare opportunity to attract domestic and international competition enforcement experts to deliberate on international best practices and host of competition issues being faced by the Competition agencies the world over.
- CCI has been set-up to prevent practices having adverse effects on competition and to promote and protect interest of consumers and to ensure freedom of trade carried on by other participants in markets in India.
- The Act also mandates an extra territorial jurisdiction to the Commission.

- CCI has been engaged with competition authorities of other jurisdictions and also multilateral agencies like the Organisation for Economic Cooperation & Development (OECD) and the International Competition Network (ICN).

INTERNATIONAL COMPETITION NETWORK

- ICN is an international body comprising 132 members from 120 competition jurisdictions exclusively devoted to international competition enforcement.
- ICN provides competition authorities with a specialised yet informal platform for addressing practical competition concerns, sharing experiences and adopting international best practices.
- Its members are national competition authorities and NGA (Non-governmental Advisers) which include reputed law firms, eminent persons, and think tanks of international repute.
- The ICN holds an Annual Conference which is hosted by a member competition agency. The last such Conference was hosted by Competition Commission of Singapore in April 2016 and Portuguese Competition Authority is hosting the next conference in May 2017.
- CCI is a member of the ICN since 2003.

“KALIDAS SAMMAN”

IN NEWS: Renowned theatre personality and Padma Shri, Prof Raj Bisaria selected for prestigious 'Kalidas Samman' national award for 2015-16 for achievement in theatre.

- He was born on November 10, 1935. He is director, producer, actor and educationalist.
- He had founded Theatre Arts Workshop in 1966 and Bhartendu Academy of Dramatic Arts in 1975. He also owns repertory company of Bhartendu Academy of Dramatic Arts founded in 1980.
- Some of the previous recipients are Pandit Ravi Shankar, MF Husain, Pandit Jasraj, Shambhu Mitra, Habib Tanvir, Ebrahim Alkazi etc.

KALIDAS SAMMAN

- The Kalidas Samman is a prestigious arts award presented annually by the government of Madhya Pradesh in India.
- The award is named after Kālidāsa, a renowned Classical Sanskrit writer of ancient India.
- The Kalidas Samman was first awarded in 1980. It was initially conferred in alternate years in the fields of Classical Music, Classical Dance, Theatre and Plastic Arts.
- From 1986-87 onwards, the awards were presented in all four fields every year.
- The award is presented for outstanding achievement in one of the four categories. At present, the award carries a cash prize of 200,000 (200,000) rupees.
- The winners are selected by a five-member committee appointed by the Government of Madhya Pradesh, which consists of eminent artists, art critics and officials from the Sangeet Natak Akademi (India's National Academy for Music, Dance and Drama).

HIGH LEVEL MEETING OF INTERIOR MINISTERS OF INDIAN OCEAN REGION

IN NEWS: The High Level Meeting of Interior Ministers of the Indian Ocean Region to counter Drug Trafficking held in Colombo, Sri Lanka. The illicit funds being generated from the sale of drugs are being utilized for funding terrorist activities and illegal arms trade. The problem of Narco-terrorism is assuming gigantic proportions.

Government of India has entered into Bilateral Agreements and Memorandums of Understanding with more than 30 countries for checking drug trafficking and that India has also taken multilateral initiatives to tackle transnational organized crime

HIGHLIGHTS

- The Colombo declaration adopted during the high-level meeting states that narcotic drug trafficking in the Indian Ocean poses a threat to peace and security in the region and its possible link to organized crime and funding of terrorism.
- It stresses upon the need for coastal states to cooperate more closely on enforcing maritime law, sharing information, and providing mutual legal assistance, including the expansion and development of communication through the United Nations Office on Drugs and Crime (UNODC's) Indian Ocean Prosecutors Network.
- The declaration called on the littoral states of the Indian Ocean to meet on an annual basis within the framework of the Southern Route Partnership (SRP) of IOFMC to assess and report on the drug trafficking threat in the Indian Ocean and develop a coordinated approach to counter such threats.
- The delegates also resolved to work towards making the Indian Ocean a "Drug Free Zone".
- The high-level meeting in Colombo was attended by 18 littoral states of the Indian Ocean Region which included seven Ministers and Deputy Ministers of Interior/Home Affairs.
- The meeting was also attended by seven international organizations/partner agencies and UN agencies engaged in counter-narcotics initiatives in the region.

ROBOT "LAKSHMI"

IN NEWS: City Union Bank (CUB) plans to deploy robots in its branches, becoming the first bank in the country to do so. Japan's Soft Bank was the first to use a robot in banking operations.

◀ CUB-Lakshmi' humanoid is a pilot project to be deployed in the bank's T Nagar branch in Chennai.

- Initially, the robot will answer generic banking related questions posed by customers. However, later it will be integrated with banking systems enabling transactions.
- The robot that has cost the bank around Rs 7-8 lakhs can save work for 3-4 persons and will be integrated with the bank's automation process as well.
- In case the pilot project succeeds, CUB plans to deploy around 25 robots in its branches by end of this year. The robots are customised versions of models developed by a French firm.
- Robots are programmed to answer a maximum of 120 customer questions.

MULTIDRUG RESISTANT PATHOGEN: HELICOBACTER PULLORUM

IN NEWS: The first evidence of multidrug resistance in poultry sold in Indian markets, researchers in Hyderabad have isolated a bacterium in chicken that may well be the source of transmission of the drug-resistant pathogen to humans.

The pathogen, called Helicobacter pullorum, was found in broiler and free-range chickens from markets in the city, which besides being untreatable could also be cancer-causing.

FACTS

- H. pullorum is commonly found in the liver and gut of poultry birds and is believed to co-evolve with its natural host.
- Infected chicken, when consumed, are known to cause gastrointestinal infections in humans.
- It is known to produce a cancer-causing agent called cytolethal distending toxin, which is the main concern.
- This toxin damages the DNA and interferes with the cell cycle. Since this bacterium also infects the liver, it increases the risk of cancer in the organ
- H. pullorum in humans attribute the bacterium's rather low-key presence to the difficulty in distinguishing it from Campylobacter jejuni, a related bacterium that is more commonly seen and is better understood.

BACKGROUND

Though chicken consumption is rising exponentially in Asia, Dr. Ahmed and his team do not consider H. pullorum capable of acute illness or outbreaks but have cautiously termed it an “emerging threat” capable of chronic health issues including malignancy.

Cooking the Indian way at temperatures higher than 60° Celsius kills H. pullorum however eating uncooked or undercooked dishes like pickled chicken carries risk of infection.

GEOGRAPHICAL INDICATION

IN NEWS: As many as 272 products have been registered as geographical indications since September 2003.

11 products have been registered as GI recently. In 2015-16, 26 items got GI status.

- Sangli Raisins (Maharashtra)
- Parmigiano Reggiano (Italy)
- Banaras Metal Repouse Craft (Uttar Pradesh)
- Beed Custard Apple (Maharashtra)
- Jalna Sweet Orange (Maharashtra)
- Uttarakhand Tejpat (Uttarakhand)
- Waigaon Turmeric (Maharashtra)

- Purandar Fig (Maharashtra)
- Jalgaon Brinjal (Maharashtra)
- Solapur Pomegranate (Maharashtra) and
- Kashmiri Hand Knotted Carpet (Jammu & Kashmir)

GEOGRAPHICAL INDICATION

Under Geographical Indication (GI) law, a product is identified as a good or an item manufactured or produced in a particular region. It enjoys the specific reputation which is attributable to that geographical region.

It is a legal right under which the GI holder can prohibit others from using the same name.

Under the Paris Convention for the Protection of Industrial Property, geographical indications are covered as an element of intellectual property rights (IPRs).

They are also covered under the WTO's Trade Related Aspects of Intellectual Property Rights (TRIPS) agreement.

India's Geographical Indications of Goods (Registration & Protection) Act 1999, has come into force with effect from September 15, 2003.

INDIA – ASIAN DEVELOPMENT BANK

IN NEWS: The Asian Development Bank (ADB) and the Government of India signed a \$500 million loan to build a 9.8 km long road bridge across the Ganges River to improve transport connectivity between North and South Bihar and for better link between the State Capital, Patna, and the surrounding areas.

- This will be India's longest river bridge.
- The new Ganga Bridge, to be located near Patna, will span both channels of the Ganges River and serve as an alternate route to the existing Ganga Bridge.
- The project will also build viaducts, embankments, and toll and service facilities, and will link to national highway networks.
- The bridge will be a boon for the inhabitants of Raghapur Diara river island who will gain year-round road access.
- Currently, the 250,000 inhabitants of the island rely on boats and a seasonal pontoon bridge as their only links to Patna.
- The bridge, using state-of-the-art engineering techniques, will be the first of its kind in India.
- The height and length have been designed to minimize impacts on the river itself and to ensure the bridge will be able to withstand climate-related stresses such as a rise in the water level.
- Along with ADB's loan and \$900,000 in technical assistance to improve bridge operation and management, the state government of Bihar will provide support equivalent to \$215 million.
- The project is expected to be completed by the end of December 2020.

INDO CHINA JOINT MILITARY EXERCISE HAND –IN- HAND 2016

IN NEWS: the sixth India China Joint Training Exercise “Hand – in – Hand 2016” was held at the parade ground in Aundh Military Camp, Pune.

The aim of the joint exercise is to acquaint both the Armies with each other’s operating procedures in the backdrop of counter terrorism environment.

The Opening Ceremony was followed by both the contingents displaying their weapons which included assault rifles, grenade launchers and other sophisticated equipment.

13 day schedule is focused upon training on crossing of obstacles, special heliborne operations, firing of various weapons, handling & neutralization of improvised explosive devices and conduct of cordon & search operations in insurgency and terrorism environment.

The basic objective of the training is enhancing confidence and trust between the two armies which may be called upon to grapple with anti terrorism operations under the UN mandate. The conduct of Joint Military Exercises is also an important step to uphold the values of Peace, Prosperity and Stability in the region.

FLY ASH UTILIZATION POLICY

IN NEWS: Maharashtra became the first state in the country to adopt the Fly Ash Utilization Policy. The policy paves way for prosperity by generating wealth from waste and environment protection.

HIGHLIGHTS

- A fly ash utilisation policy to use the product as a resource by mandating its use in government infrastructure works, aiming to dispose of the entire quantity of fly ash produced in the state without causing environment and health hazards.
- The state government has also made it mandatory for all companies and developers located in a radius of 300 kilometres from a power plant to use fly ash in construction, effectively covering the whole state.
- Earlier, use of fly ash in construction was compulsory in a radius of 100 kilometres.
- The state produces three million tonne of fly ash every year, of which only about 60 percent is used, while the rest is dumped, increasing pollution.
- It has been made mandatory for the use of fly ash in government projects such as construction of roads, dams, housing schemes, industrial townships, special economic zones. This will also control sand mining from rivers. Wherever it is compulsory to use fly ash, the contractor will have to produce a certificate stating that a power generation company has supplied fly ash before his dues are settled.

FLY ASH

Fly ash or coal dust is the ash produced in small dark flecks due to the burning of powdered coal during electricity generation and is harmful to health and environment. It can, however, be used by the construction industry in making concrete and bricks.

FLY ASH MISSION

- Fly Ash Mission, a Technology Project in Mission Mode of Government of India commissioned during 1994 as a joint activity of Department of Science & Technology (DST), Ministry of Power (MOP) and Ministry of Environment & Forests (MOEF), with Department of Science & Technology as the nodal agency, after its approved period i.e. 31st March 2002 was named as "Fly Ash Utilization Programme" (FAUP).
- In India, large quantities of fly ash are being generated, as most of the energy demand is met through coal based thermal power stations. The fly ash generation is expected to grow further as coal would continue to remain as major source of energy at least for next 25 years.
- The fly ash, which is a resource material, if not managed well, may pose environmental challenges. Large number of projects/ activities has been undertaken for technology development/demonstration, dissemination of information, awareness creation, facilitation of multiplier effects, providing inputs for policy interventions etc. in the area of safe management & gainful utilization of fly ash.
- Through development & application of technologies the image of fly ash has been turned around from a "WASTE MATERIAL" to a "RESOURCE MATERIAL", inter alia, increased its utilization in the country from 1 million tonne (1994) to 100 million tonne (2010-11), reduced annual CO₂ generation by 55 million tonne, reduced consumption of a number of mineral resources, generated employment for more than 1 Million and added annual economic returns worth more than US\$3 Billion.
- Protocol has been signed between India and Russia for export of Indian expertise and know-how, including technologies to Russia and to set up "Fly Ash Mission" on the lines of "Fly Ash Mission – India".

INTERNATIONAL SOLAR ALLIANCE

IN NEWS: Over 20 countries, including Brazil and France, have become signatories to the framework agreement of the International Solar Alliance

The framework agreement of International Solar Alliance (ISA) was opened for signatures, on the sidelines of CoP22.

The Framework Agreement of ISA was opened for signature in Marrakech on the sidelines of the CoP22 to the United Nations Framework Convention on Climate Change. This will make ISA an innovative, action oriented and sui generis international and inter-governmental treaty-based organization that will be registered under Article 102 of the UN charter.

India has already offered a contribution of Rs 175 crore (around USD 27 million) for creating ISA corpus fund and for meeting the cost of ISA secretariat which is coming up in New Delhi for the initial five years.

FACTS

- ISA was jointly launched by India and France at the CoP21 in Paris last year where representatives from around 70 countries including more than 30 Heads of the States and government participated.
- ISA is an initiative by India where an alliance of 121 solar resource-rich countries lying fully or partially between the tropic of Cancer and tropic of Capricorn, have come together.
- With legal framework in place ISA will be a major international body headquartered in India.

- The Framework provides for membership open to the countries between tropics (fully or partially) who are also UN members and the ISA structure will consist of two tiers in the form of an Assembly and Secretariat.
- Partner country status will be granted to other countries (not within tropics) by the decision of ISA Assembly and the Framework will enter into force with ratification by 15 countries.
- An important aspect is striving to keep about the operating costs minimal and therefore not necessitate mandatory contributions.
- ISA will contribute towards the common goal of increasing utilization and promotion of solar energy and solar applications in its member countries.
- The Paris declaration on ISA states that the countries share the collective ambition to undertake innovative and concerted efforts for reducing the cost of finance and cost of technology for immediate deployment of competitive solar generation.

HUNAR HAAT

IN NEWS: Hunar Haat which was organized for the first time at India International Trade Fair (2016) at Pragati Maidan in New Delhi by the Ministry of Minority Affairs.

HIGHLIGHTS

- About 184 master artisans from all corners of the country are showcasing their traditional art and skills at about 100 stalls in “Hunar Haat” at India International Trade Fair.
- Hunar Haat (Skill Haat) exhibition is aimed at promoting and supporting artisans from Minority communities and providing them domestic as well as international market for display and sell their products.
- The exhibition was organized by National Minorities Development & Finance Corporation (NMDFC) under scheme “USTTAD” (Upgrading the Skills & Training in Traditional Arts/Crafts for Development) of Ministry of Minority Affairs.
- The artefacts at display include cane and bamboo work from North eastern states; cloth work and embroidery (chikan) work, brass artefacts, Jardoji clothes work of Uttar Pradesh; collection of pottery work of Southern states; sandalwood and other wooden artefacts; handicrafts from Bihar-Jharkhand; indigenous goods for domestic use from Bengal-Odisha and herbal products made from aloe vera, neem, tulsi etc.
- The shortlisted artisans include several State/National Awardees from 5 Minority communities representing as many as 26 states and Union Territories. These are Uttar Pradesh, Gujarat, Delhi, Jammu and Kashmir, Rajasthan, West Bengal and Bihar.
- Besides these states, artisans from Leh-Laddakh to Manipur, Nagaland to Kerala are also participating in “Hunar Haat”.

USTTAD (Upgrading the Skills & Training in Traditional Arts/Crafts for Development) SCHEME

- This is a 100% Central Sector Scheme and implemented by the Ministry directly through selected PIAs. This scheme will be implemented from 2014-15 onwards during 12th Five Year Plan.
- The scheme implemented for preservation and promotion of traditional arts/crafts being practiced by minority communities notified under National Commission for Minorities Act 1992 (viz. Muslims, Christians, Sikhs, Buddhists, Parsis and Jains) and its promotion with market linkages.
- The scheme can be taken up anywhere in the country.

- It also envisages at boosting the skill of craftsmen, weavers and artisans who are already engaged in the traditional ancestral work.

RUSTOM II COMBAT CAPABLE DRONE

IN NEWS: Rustom-II, India's indigenously developed long-endurance combat-capable drone successfully completed its maiden-flight, giving a boost to India's development programme for Unmanned Aerial Vehicles (UAV). The test flight took place from Aeronautical Test Range(ATR), Chitradurga, 250 km from Bangalore, which is a newly developed flight test range for the testing of UAVs and manned aircraft.

FACTS

- The DRDO successfully carried out the maiden-flight of TAPAS 201 (RUSTOM-II), a Medium Altitude Long Endurance (MALE) UAV.
- It has an endurance of 24 hours and can conduct surveillance and reconnaissance missions for the country's armed forces.
- The UAV can also be used as an unmanned armed combat vehicle on the lines of the US's Predator drone.
- The flight accomplished the main objectives of proving the flying platform, such as take-off, bank, level flight and landing.
- TAPAS 201 has been designed and developed by Aeronautical Development Establishment (ADE), the Bangalore-based lab of DRDO with HAL-BEL as the production partners.
- The UAV weighing two tonnes was put into air by a dedicated team of young scientists of DRDO. It was piloted (external and internal) by the pilots from the armed forces. It is also the first R&D prototype UAV which has undergone certification and qualification for the first flight from the Center for Military Airworthiness & Certification (CEMILAC) and Directorate General of Aeronautical Quality Assurance (DGAQA).
- TAPAS 201, a multi-mission UAV is being developed to carry out Intelligence, Surveillance and Reconnaissance (ISR) roles for the three armed forces with an endurance of 24 hours.
- It is capable to carry different combinations of payloads like Medium Range Electro Optic (MREO), Long Range Electro Optic (LREO), Synthetic Aperture Radar (SAR), Electronic Intelligence (ELINT), Communication Intelligence (COMINT) and Situational Awareness Payloads (SAP) to perform missions during day and night.
- Many critical systems such as airframe, landing gear, flight control and avionics sub-systems are being developed in India with the collaboration of private industries.

RUSSIA WITHDRAWS FROM INTERNATIONAL COURT OF CRIMINAL

IN NEWS: Russia is neither a member of the ICC nor a donor country. This was a symbolic announcement, designed to undermine the legitimacy of the court at a time of unprecedented uncertainty following the withdrawal of three African nations - Kenya, Namibia and Uganda have indicated they are considering joining the exodus.

BACKGROUND

Russia signed the Rome statute, which governs the ICC, in 2000 but never ratified the agreement to become a member. The decision came after an ICC ruling that Russia's activity in Crimea amounted to an "ongoing occupation".

Russia thus joins the US and other nations which have rejected the court.

The court ruled Russia's 2014 takeover of the Crimea peninsula had been an armed conflict between it and Ukraine. This would mean the annexation fell under the court's jurisdiction.

Russia has found itself the subject of the court's focus on more than one occasion. Earlier this year, **the ICC authorised an investigation** into the 2008 Russia-Georgia conflict in South Ossetia.

The ICC was established to pass judgement on four international crimes: genocide, crimes against humanity, war crimes and crimes of aggression.

WITHDRAWALS

The US initially signed the Rome statute under the Clinton administration but later withdrew, under the leadership of George W Bush.

Sudan and Israel have also withdrawn their signatures in the past, while other nations - including China and India - have rejected membership outright.

Earlier this year, South Africa, Burundi and The Gambia all decided to withdraw completely. Several other African nations have also expressed doubt over the court's future, amid allegations that it is too focused on countries within the continent.

In the court's 14-year history it has only brought charges against Africans.

- The task force further proposed that SAIL, Tata Steel, JSW Steel, JSPL, Essar Steel, RINL, NMDC & MECON will be the initial participating companies who will sign MOU besides Ministry of Steel.

NATIONAL STUDENT STARTUP POLICY

IN NEWS: The President launched the National Student Startup Policy on the opening day of the second Visitor's Conference at Rashtrapati Bhavan.

HIGHLIGHTS

- The National Student Startup Policy, formulated by AICTE, aims to create 100,000 technology based student start-ups and a million employment opportunities within the next 10 years.

- The policy plans on achieving this by developing an ideal entrepreneurial ecosystem and promoting strong inter-institutional partnerships among technical institutions.
- It emphasizes the much-desired need for an appropriate startup policy to propel the youth of India through and beyond the 21st century.
- Some of the new institutions have been set up in remote areas of the country. They hold great promise to spur the development of their regions. They can be the bridge to build local capacity for teaching and learning.
- Necessary assistance, both financial and administrative, must be at their disposal to see that these institutions start functioning at full capacity.

SUPREME COURT REFUSED TO LIFT BAN ON JALLIKATTU

IN NEWS: Supreme Court refused to lift a ban on Jallikattu (taming the bull) and dismissed the Tamil Nadu government's petition seeking review of the judgment that put an end to the annual event held in the state as part of Pongal celebrations.

The very act of taming a bull to perform in an event runs counter to the concept of welfare of the animal. It was inconceivable that a bull which is a domestic animal should be tamed for the purpose of entertainment during the harvest festival.

JALLIKATTU

- Jallikattu has been practised for thousands of years.
- In Tamil Nadu we used to have six native breeds. One breed called Alambadi has been officially declared extinct.
- The Kangayam breed is native to western Tamil Nadu and used extensively in Jallikattu.
- **Jallikattu** or **Manju virattu** is an event held in Tamil Nadu as a part of Pongal celebrations on Mattu Pongal day.
- After the event, tamed weak bulls are used for domestic activities and agriculture while the untamable strong bulls are used for breeding the cows. It is said to be ingenious where both sport and preservation of Ecosystem works well together.

Jammu and Kashmir Chief Minister Mehbooba Mufti on Monday formally launched the World Bank funded mega US \$250 million Jhelum-Tawi Flood Recovery project which would give a massive push to the reconstruction and rehabilitation of infrastructure post 2014 floods in the State.

JHELUM – TAWI FLOOD RECOVERY PROJECT

IN NEWS: Mehbooba Mufti, Chief Minister of Jammu & Kashmir formally launched the World Bank-funded Jhelum-Tawi flood recovery project in Srinagar.

The project seeks reconstruction and rehabilitation of infrastructure post-2014 floods in the state.

Jhelum-Tawi Flood Recovery Project

- In January 2016, the Government of Indian and the World Bank had signed a 250 million US dollar credit agreement under the Jhelum and Tawi Flood Recovery Project.

- The project is funded by credit from the International Development Association, the World Bank's concessional lending arm, with a maturity of 25 years, including a 5 year grace period.
- The project aims at reconstructing and recovering support in flood-affected areas in which public infrastructure and livelihoods were impacted severely.
- The project also focuses on restoring critical infrastructure disrupted by the floods using international best practice.
- The infrastructure will be designed to improve resilience to future flooding and landslide, as well as seismic risk.
- It will focus on the 20 flood-affected districts in the state. They are Anantnag, Baramulla, Budgam, Bandipora, Ganderbal, Kupwara, Kulgam, Pulwama, Shopian, Srinagar, Jammu, Samba, Kathua, Reasi, Doda, Kishtwar, Ramban, Poonch, Rajauri and Udhampur.
- Apart from reconstruction, the project will focus on disaster risk mitigation.

CHINESE SUPERCOMPUTER SUNWAY - TAIHULIGHT

IN NEWS: The supercomputer called Sunway-TaihuLight developed by the National Research Centre of Parallel Computer Engineering and Technology (NRCPC) is built entirely using processors designed and made in China.

A new Chinese computer system that can make 93 quadrillions calculations per second was named the world's most powerful supercomputer

Sunway TaihuLight, with a new system built entirely using processors designed and made in China topped the list of the Top 500 supercomputers.

The computing power of the supercomputer is provided by a China-developed many-core CPU chip, which is just 25 square cm.

The system will be used for various research and engineering work, in areas such as climate, weather & earth systems modeling, life science research, advanced manufacturing, and data analytics.

Titan, a Cray X40 system installed at the US Department of Energy's (DOE) Oak Ridge National Laboratory, is now at the third position, with 17.59 quadrillions of calculations per second.

FASTER GROWING CROP BY IMPROVING PHOTOSYNTHESIS

IN NEWS: Scientists have improved the photosynthesis process in the plants to produce faster-growing crops. They had used genetic modification technology to improve photosynthesis in the plants. This modification increased amount of sunlight energy crop plants can channel into food production.

FACTS

- Crop plants protect themselves from excess sunlight by dissipating some light energy as heat, readjusting their systems when shadier conditions prevail. But the photosynthetic systems do not adapt

to fluctuating light conditions as rapidly as a cloud passes overhead, resulting in suboptimal photosynthetic efficiency.

- Tobacco plants tested with this system showed about 15% greater plant biomass production in natural field conditions.
- Increasing photosynthesis by exposing plants to high carbon dioxide results in more seeds in wheat, soy and rice.
- The United Nations predicts that by 2050 world needs to produce about 70 percent more food on the land as currently in use.
- The Bill and Melinda Gates Foundation funded this research, with the stipulation that any new agricultural products that result from the work be licensed in such a way that the technology is freely available to farmers in poor countries of Africa and South Asia.

IRAN – TOP OIL SUPPLIER TO INDIA

IN NEWS: Iran at the No.1 spot is due partly to less available crude from Saudi Arabia, which has increased its capacity to refine oil instead of just exporting more crude.

BACKGROUND

Iran used to be India's second-biggest oil supplier, a position it ceded to Iraq after tough Western sanctions over its nuclear development programme limited Tehran's exports and access to finance.

India's oil imports from Iran have shot up this year after those sanctions were lifted.

Saudi Arabia's refining capacity has increased over time and so it is not in a position to increase its exports further, whereas Iran is better placed to raise its output and sales to India.

Iranian price discounts attracted purchases from India's programme to build up its strategic petroleum reserves (SPR).

The Organization of the Petroleum Exporting Countries (OPEC) is due to meet on November 30 to finalise a planned production cut aimed at propping up prices, which continue to languish below \$50 per barrel due to oversupply.

Exemptions to the planned cuts were given to Libya and Nigeria, where output has suffered from conflict, and sanctions-hit Iran.

INTERNATIONAL CONFERENCE ON BRUCELLOSIS 2016

IN NEWS: The International Conference on Brucellosis was organized by the Department of Biotechnology in collaboration with Indian Council for Agriculture Research. The conference is result of DBT's network programme on Brucellosis launched in 2012 to address this epidemiology and for development of new generation of vaccines and diagnostic kits.

The International Brucellosis Conference 2016 shall provide a technical platform for scientist and experts from all over the world. Participants from 26 countries include USA, Belgium, Germany, Nigeria,

Argentina, Spain, Turkey, Costa Rica, Norway, Nepal, Korea, Bangladesh, Armenia, Jordan, France, Iran, Mexico, Georgia, United Kingdom, Kenya, Thailand, Sudan, Azerbaijan, Cameroon, Sri Lanka.

HIGHLIGHTS

- The Ministry of Science & Technology and Earth Sciences has called for villagers to be trained to handle animal diseases like Brucellosis on a cooperative basis.
- Various vaccines and three new diagnostic kits had been released during the conference.
- They also launched programme of “Brucella Free Villages” for implementation on pilot scale in 50 villages covering 10 states.
- This programme will be supported by guidelines and standard operating practices along with an IT enabled application.

FACTS

- Brucellosis is endemic in India and it could spread to humans.
- Brucellosis is a dreadful disease caused by the genus of the bacteria known as Brucella infecting various species of Brucella cows, buffalos, sheep, goats, deer, pigs, dogs and other animals as well as humans.
- The disease caused economic loss of about Rs. 28000.00 Crores.
- Human become infected by coming in contact with animals or animal product like meat and milk contaminated with these bacteria.
- Dairy man, veterinarians, butchers and other animal handlers are exposed to high risk of brucellosis infection.
- In humans brucellosis can cause range of symptoms that are similar to the flu and may include fever, sweats, headache, back pain and physical weakness.
- Severe infections of the central nervous system or lining of the heart may also occur. Quite often brucellosis is diagnosed after ruling out all other fevers such as those caused by malaria, typhoid, dengue etc. Therefore, the disease is under reported and many medical professionals are not even aware of the problem.

INDIGENOUSLY DEVELOPED SONARS

IN NEWS: Navy formally inducted four types of indigenously developed sonars that will boost its underwater surveillance capability.

The systems included Abhay – compact hull mounted sonar for shallow water crafts, Humsa UG – upgrade for the Humsa sonar system, NACS – Near-field Acoustic Characterisation System, and AIDSS – Advanced Indigenous Distress sonar system for submarines.

The systems have been designed and developed by NPOL, a Kochi based laboratory of DRDO.

ABHAY is an advanced active-cum-passive integrated sonar system designed and developed for the smaller platforms such as shallow water crafts and coastal surveillance/patrol vessels.

It is capable of detecting, localizing, classifying and tracking sub-surface and surface targets in both its active and passive modes of operation.

The prototype of this compact sonar installed on board a nominated naval platform has successfully completed all user evaluation trials to demonstrate the features as per the Naval Staff Qualification Requirements. Indian Navy has proposed to induct this SONAR on three of the Abhay class ships.

Intensifying the command over the high seas is the Humsa -UG that is designed for upgrading the existing Humsa sonar system. This system is proposed to be installed on seven ships of three different classes of ships.

AIDSS is distress sonar is an Emergency Sound Signaling Device which is used to indicate that a submarine is in distress and enable quick rescue and salvage.

It is a life-saving alarm system designed to transmit sonar signals of a pre-designated frequency and pulse shape in an emergency situation from a submarine for long period, so as to attract the attention of passive sonars of ships or submarines in the vicinity and all types of standard rescue vessels in operation. It is also provided with a transponder capability.

NATIONAL LEGAL SERVICES AUTHORITY

IN NEWS: The Union government has appointed Jagdish Singh Khehar, a judge of the Supreme Court, as the new Executive Chairman of the National Legal Services Authority (NALSA).

NLSA

- National Legal Services Authority was constituted on 5th December, 1995.
- The National Legal Services Authority (NALSA) has been constituted under the Legal Services Authorities Act, 1987 to provide free Legal Services to the weaker sections of the society and to organize Lok Adalats for amicable settlement of disputes.
- In every State, State Legal Services Authority has been constituted to give effect to the policies and directions of the NALSA and to give free legal services to the people and conduct Lok Adalats in the State. The State Legal Services Authority is headed by the Chief Justice of the respective High Court who is the Patron-in-Chief of the State Legal Services Authority.
- In every District, District Legal Services Authority has been constituted to implement Legal Services Programmes in the District.
- The District Legal Services Authority is situated in the District Courts Complex in every District and chaired by the District Judge of the respective district.
- Its aim is to ensure that opportunities for securing justice are not denied to any citizen by reasons of economic or other disabilities.
- NALSA also identifies specific categories of marginalised and excluded groups and formulates various schemes for implementation of legal service programmes.
- It provides services of free legal aid in civil and criminal matters for the poor and marginalised people who cannot afford the services of a lawyer in any court or tribunal.

INDIA – UNITED KINGDOMS

IN NEWS: The Central Board of Direct Taxes (CBDT) signed three Bilateral Advance Pricing Agreements (APAs) taking the total number of APAs signed [both- bilateral and unilateral] so far to 111.

Competent Authorities of India and UK had earlier exchanged mutual agreements amongst them under the Mutual Agreement Procedure (MAP) Article of the India-UK Double Taxation Avoidance Convention (DTAC).

These three Agreements cover international transactions in the nature of payment of intra-group service charges and pertain to the telecom industry. They also have a roll-back provision.

With this, India and UK have concluded 5 bilateral APAs and some more would be concluded in the near future. The total number of bilateral APAs concluded so far by the CBDT is 7.

ADVANCE PRICING AGREEMENT (APA)

- The Advance Pricing Agreement (APA) Programme was introduced by the Finance Act, 2012 with a view to provide a predictable and non-adversarial tax regime and to reduce the litigation in the Indian transfer pricing arena.
- An APA can be entered into for a maximum of 5 years at a time.
- Since the notification of the APA scheme- a total of about 700 APA applications have been received during the first 4 years of the Programme which indicates the wide acceptance of the APA programme by the taxpayers.
- Rollback of APAs was announced in the Budget in July 2014 to provide certainty on the pricing of international transactions for 4 prior years (rollback years) preceding the first year from which APA is to be applicable.
- The Indian APA programme has been appreciated nationally and internationally for being able to address complex transfer pricing issues in a fair and transparent manner.

WORLD'S FIRST GENETIC GARDEN OF HALOPHYTES

IN NEWS: The world's first Genetic Garden of Halophytes (naturally occurring salt-tolerant plants) was inaugurated at the coastal town of Vedaranyam in Tamil Nadu. Mauritius President Ameenah Gurib Fakim through video-conferencing inaugurated the first of its kind garden in the world.

HIGHLIGHTS

- The garden has been set up by M S Swaminathan Research Foundation (MSSRF) founded by eminent agriculture scientist Prof M S Swaminathan, father of Indian Green Revolution.
- It will have over 1,600 species belonging to 550 genera and 117 families of Halophytes plants.
- Initially it will comprise halophytes occurring along the coasts of India including the Andaman and Nicobar Islands.
- Halophytes are salt-tolerant or salt-resistant plants.
- They can thrive and complete their life cycles in soils or waters containing high salt concentrations.
- They constitute two per cent of terrestrial plant species.

- Halophytes plants are important in the context of increasing salinisation of land especially due sea level rise because of climate change and global warming.

NATIONS ADOPTED THE MARRAKECH ACTION PROCLAMATION

IN NEWS: The nearly 200 nations attending the UN climate summit adopted the Marrakech Action Proclamation, sending out a strong signal to the world on climate action.

HIGHLIGHTS

- This proclamation is a key document emerged from the negotiations at COP22, to signal a shift towards a new era of implementation and action on climate and sustainable development.
- The Proclamation stressed on nations having to rapidly build on the post-Paris momentum, and move forward purposefully to reduce greenhouse gas emissions and to foster adaptation efforts, thereby benefiting and supporting the 2030 Agenda for Sustainable Development that was adopted at the UN headquarters in New York last year.
- The Proclamation, therefore, called for the highest political commitment to combat climate change, as a matter of urgent priority.
- Countries demanded solidarity with those countries most vulnerable to the impacts of climate change, highlighting the need to support efforts aimed to enhance their adaptive capacity, strengthen resilience and reduce vulnerability.
- The countries also called for an increase in the volume, flow and access to finance for climate projects, alongside improved capacity and technology, including from the developed to the developing countries.
- The nations, who are Parties to the Kyoto Protocol (which does not include the United States) also encouraged the speedy ratification of the Doha Amendment with its focus on pre-2020 action.
- Given the gaps in emissions reduction to stay on course for keeping global warming levels under 2C, nations also called for urgently raising ambition and strengthening cooperation amongst countries to close the gap between current emissions trajectories and the pathway needed to meet the long-term temperature goals of the Paris Agreement.
- The “2050 pathways platform”, a multi-stakeholder initiative, was adopted by the High-Level Climate Champions here, aimed at supporting those seeking to devise long-term, net zero-greenhouse gas, climate-resilient and sustainable development pathways.
- The 2050 pathways platform will support countries seeking to develop long-term deep de-carbonization strategies, including through the sharing of resources, knowledge and experiences.
- It will also build a broader constellation of cities, states, and companies engaged in long-term low-emissions planning of their own, and in support of the national strategies.
- Already, 22 countries have started or are about to start the process of preparing a 2050 pathway. Many others are expected to join.

PROJECT INSIGHT

IN NEWS: The Income Tax department will implement 'Project Insight' from next year which will monitor high value transactions, with a view to curbing the circulation of black money.

HIGHLIGHTS

- 'Project Insight' has been initiated by the Department for data mining, collection, collation and processing of such information for effective risk management with a view to widening and deepening tax base.
- This will enhance the department's ability to monitor the flow of funds and will provide an audit trail of high value transactions and curb circulation of black money.
- 'Project Insight' will be implemented in phased manner during the period 2016-2018.
- Permanent Account Number (PAN) being the unique identifier is used by the Income Tax department to link and analyze various transactions relating to the tax payers.
- The income tax law mandates quoting of PAN for specified transactions above a threshold including purchase of immovable and movable property, bank deposits, financial assets.
- This integrated platform would play a key role in widening of tax base and data mining to track tax evaders.
- The new technical infrastructure will also be leveraged for implementation of Foreign Account Tax Compliance Act Inter Governmental Agreement (FATCA IGA) and Common Reporting Standard (CRS).
- Project Insight, through implementation of reporting compliance management system, will ensure that third party reporting by entities like banks and other financial institutions is timely and accurate.
- It will also set up a streamlined data exchange mechanism for other government departments.

ATAL MISSION FOR REJUVENATION AND URBAN TRANSFORMATION

IN NEWS: Timely implementation of basic urban infrastructure projects and to achieve mission targets by 2019-20, the Ministry of Urban Development, in a paradigm shift has begun approving investments in water supply, sewerage networks etc., for the next three financial years under Atal Mission for Rejuvenation and Urban Transformation (AMRUT).

An Inter-Ministerial Apex Committee of AMRUT approved investments of Rs.5,815 cr during 2017-20 in the States of Gujrat, Rajasthan, Punjab, Bihar and Tripura.

Release of central assistance will be linked to launch of all projects as approved for 2015-17.

Total central assistance approved for these five States was Rs.2,461 cr, as per Mission Guidelines.

Before approving these investments, the Committee reviewed progress of launch of projects under State Action Plans approved for the last and current financial years.

AMRUT

Providing water taps to all urban households is given top priority followed by improving sewerage networks and septage management, storm water drains, public transport while developing at least one park/green open space in each city every year is mandatory.

BBIN ROAD CONNECTIVITY AGREEMENT

IN NEWS: Road connectivity plan involving Bangladesh, Bhutan, India and Nepal (BBIN) an initiative to boost trade has hit a roadblock with the upper house of Bhutan parliament deciding against ratifying the motor vehicle pact.

- The BBIN agreement signed in Bhutan's capital Thimpu in July will become operational only when all the four countries ratify it.
- Bypassing Pakistan, India moved to have an agreement with Bangladesh, Nepal and Bhutan to remove restrictions on vehicular movement in the subcontinent.
- India, Bangladesh and Nepal have already ratified the pact.
- The pact will allow seamless movement of passenger and cargo vehicles among the four countries.
- Under the agreement, the "contracting parties" will allow cargo vehicles for inter-country cargo, including third country cargo and passenger vehicles or personal vehicles, to ply in the territory of another country "subject to the terms of the agreement".
- All vehicles, however, will require a permit for plying through the other country.
- India is in a bilateral motor vehicle agreement with Nepal and Bangladesh, but a multilateral pact would go a long way in boosting trade in the region.

ISSUE

Bhutan has been pushing for a cap on vehicles entering its territory for some time. Such discussions came up during the transport officials' meeting in Dhaka in March.

A release issued by the National Council of Bhutan that the Upper House voted on the agreement following thorough deliberations after its legislative committee pointed out its general as well as specific reservations on the pact. Of the 20 members present and voting, two members voted for the ratification of the agreement, while 13 voted against it and five abstained.

NATIONAL GAS HUB

IN NEWS: A national gas hub would be a trading platform for gas at market-determined price. A final form of this Indian benchmark will be ready within a year.

India will also have a gas-trading place similar to international hubs such as the US' Henry Hub and the UK's National Balancing Point. While Henry Hub is a physical point where several gas pipelines come together, National Balancing Point is a virtual trading point.

BACKGROUND

At present, the Indian domestic natural gas price is calculated on a half-yearly basis, based on a weighted average of Henry Hub, National Balancing Point, Russian gas and Canada's Alberta Gas.

The idea is floating around in its initial stages but as a country a minimal amount of gas is available. Moreover, the country has only three major producers. To set up a hub there is a need of both active producers and consumers in the market.

Currently, gas is bought based on hub pricing in most European countries. The virtual model of gas hub was followed by various countries, including Belgium (Zeebrugge), Netherlands (TTF), France (PEGs), Germany (NCG and GPL) and Italy (PSV).

This is a huge positive for upstream companies in India as prices will be market-driven. Moreover, the domestic natural gas pricing will be uniform with the move. India is set to see \$10-15 billion of investment on pipelines, which may cover about 15,000 km.

India has only 0.8 per cent of the global gas reserves and 0.5 per cent of the global oil reserves.

CHINA ACCESS TO THE PERSIAN GULF REGION AND WEST ASIA

IN NEWS: Pakistan to open a new international trade route by seeing off a Chinese ship that's exporting goods to West Asia and Africa from the newly-built Gwadar port.

The first convoy of Chinese trucks carrying goods for sale abroad has arrived in Pakistan amid tight security using a road linking Gwadar to China's northwestern Xinjiang region.

Pakistan will provide best possible security to foreign investors to enable them to use the Chinese-funded port for international trade.

The Pakistani army has created a special force to guard the new trade routes and the port, which is located in insurgency-hit Balochistan province.

Projects under CPEC

China is building a network of roads and power plants under a project known as China-Pakistan Economic Corridor that is expected to absorb \$46 billion in Chinese investment in the coming decades.

China and Pakistan have long maintained close political and military relations.

Gwadar port is located on the Arabian Sea and it occupies a strategic location between South Asia, Central Asia and West Asia. The port is also located at the mouth of the Persian Gulf, just outside the Straits of Hormuz.

China is seeking convenient and reliable access to the Arabian Sea and the Indian Ocean. Chinese ships now use the Strait of Malacca, a narrow passage between the Malay Peninsula and Indonesia. The proposed new route would give China access to the Persian Gulf region and West Asia.

GLOBAL WARMING REPORT 2016: WMO

IN NEWS: World Meteorological Organisation shows record temperature rise in Status of the Global Climate in 2016 report.

HIGHLIGHTS

- The world is likely to cross 1.2° C of global warming above pre-industrial levels in 2016, coming dangerously close to breaching the 1.5° C warming levels advised as an ambitious target to stay safe from the worst impacts of climate change.
- The global UN weather agency warned that 2016 will be the hottest year on record, with global temperatures even higher than what 2015 experienced.
- The Paris Agreement last year had adopted 2°C as the absolute threshold for staying within safe global warming levels. However, 1.5°C was advised as an ambitious target, especially bearing in mind the fate of small island countries such as Haiti or Maldives that are threatened with submergence due to sea-level rise and extreme weather events.
- In parts of Arctic Russia, temperatures were 6°C to 7°C above the long-term average.
- Because of climate change, the occurrence and impact of extreme events has risen. ‘Once in a generation’ heat-waves and flooding are becoming more regular.
- Sea level rise has increased exposure to storm surges associated with tropical cyclones.
- There were a number of major heat waves and droughts experienced during 2015-2016.
- The year started with an extreme heat wave in southern Africa, exacerbated by the ongoing drought.
- Over 400 million people were affected by the strongest ever “El Niño” weather event, causing droughts around the world.

KEN – BETWA RIVER – INTERLINKING PROJECT

IN NEWS: The Rs. 9,000-crore Ken-Betwa river-interlinking project, which will partly submerge the Panna tiger reserve, may be delayed after a key Environment Ministry body tasked with giving it forest clearance has deferred it at least until January.

- The project will submerge 6,221 hectares of land— 4,141 hectares of it is core forest inside the reserve. The Forest Advisory Committee’s clearance is required for this diversion of forest land.
- Depending on whether a project takes over land in wildlife sanctuaries or notified forest land, it requires separate wildlife, forest and environment clearances.

KEN-BATWA PROJECT

- The main feature of the project is a 230-km canal and a series of barrages and dams connecting the Ken and the Betwa to irrigate 3.5 lakh hectares in Madhya Pradesh and 14,000 hectares in the Bundelkhand region of Uttar Pradesh.
- The key components are the Makodia and the Dhaudhan dams, the latter expected to be 77 metres high, which will submerge 5,803 hectares of tiger habitat in the tiger reserve.

- Chhatarpur, Panna, Tikamgarh, Raisen, and Vidisha districts of Madhya Pradesh and Mahoba, Jhansi and Banda districts of Uttar Pradesh will benefit from irrigation, domestic and industrial water supply and power generation.
- Seventeen lakh residents of nearby towns and villages in both States will benefit from improved drinking water supply and irrigation.
- On the other hand, 6,388 people will be affected as water from the Daudhan reservoir will submerge 10 villages and 13,499 in 28 villages will be affected by submergence caused by the Makodia reservoir. They will have to be resettled.

PNEUMONIA AND DIARRHOEA REPORT 2016: IVAC

IN NEWS: India stands right on top of the charts with a total of 2,96,279 deaths from pneumonia and diarrhoea, the tally being just short of last year's figure of 2,97,114 deaths, and the nation desperately needs to reduce those numbers.

The Pneumonia and Diarrhoea Progress Report published annually by the International Vaccine Access Center (IVAC) at the Johns Hopkins Bloomberg School of Public Health, puts India at the top of the list of 15 nations, as it did last year, and the years before.

FACTS

- India is among the 12 nations that have improved their Global Action Plan for the Prevention and Control of Pneumonia and Diarrhoea (GAPPD) score this year.
- The rate of all-cause mortality in this age group has been cut by more than half worldwide since 1990, from 91 deaths per 1,000 live births to 43 in 2015.
- Although this is an enormous achievement, pneumonia and diarrhoea's contribution to under-5 deaths remains stubbornly high.
- In 2015, these two diseases together were responsible for nearly one of every four deaths that occurred in children under five.
- Nearly 15 years after the introduction of the pneumococcal conjugate vaccines in 2000, five countries among those with the highest pneumonia burden — India, Indonesia, Chad, China and Somalia — are still not using the vaccine in their routine immunisation programmes.

RECENT UPDATES

India recently announced a partial introduction of the vaccine in five states (Bihar, Uttar Pradesh, Rajasthan and Madhya Pradesh and Himachal Pradesh) from 2017.

Added life-saving vaccines such as PCV (pneumococcal conjugate) and rotavirus to immunisation programme.

India introduced rotavirus vaccines in four States in 2015. The country witnessed 2,97,114 deaths from the two diseases in 2015.

CHINA LAUNCHED PULSAR TEST SATELLITE

IN NEWS: China successfully launched a satellite into space to detect signs of pulsar, which are very high density stars formed exclusively by neutron.

The satellite, designed by academies affiliated to the state-owned China Aerospace Science and Technology Corp, took from Jiuquan launch base in the Gobi desert.

The satellite launch was conducted on a Long March-11 rocket which debuted last year.

Upon entering the orbit, the satellite will conduct tests on signal and adaptation to the space environment.

The pulsar, born of supernovae explosions, emits electromagnetic radiation on a regular basis.

Neutron stars also rotate at high speed and have a slightly greater mass than the sun but concentrated within a radius of 10 km approximately, which gives them a high density.

REGULATION OF GROUNDWATER: WATER MINISTRY

IN NEWS: The Water Ministry is planning amendments to a Bill on groundwater management that will impose restrictions on how companies, farmers and various groups can use groundwater.

HIGHLIGHTS

Industries can only use recycled water, and activities such as gardening would require the use of treated sewage water.

Extracting pristine water from aquifers the norm in much of the country would be sharply regulated.

Guaranteeing every individual a certain amount of water “for life” and protecting groundwater from undue exploitation and pollution as well as mandating the use of rainwater harvesting in residential projects.

However, this version of the Bill only demands that users “give priority” to recycling water and does not compel companies and other stakeholders to use recycled water.

Groundwater depletion is among the grave ecological threats that the country faces. Around 85 per cent of drinking water and 65 per cent of water for irrigation is sourced from groundwater.

OVERVIEW

Ministry has set up a committee under the chairmanship of Secretary of Water Resources to suggest ways to conserve fast-depleting groundwater levels through aquifer recharge.

The committee will also have Secretaries of Union Ministries of Rural Development, Environment and Agriculture as members.

However, previous plans to address the problems have been stalled as water is a State subject and, existing laws give the owners of a piece of land complete right over its groundwater.

DRONES NOW USED TO COLLECT LAND DETAILS

IN NEWS: Drones, generally associated with security agencies, are now being used to collect land details and add to data from remote sensing satellites.

HIGHLIGHTS

- The Shillong-based North-Eastern Space Applications Centre (NE-SAC) of the Indian Space Research Organisation has tested unmanned aerial vehicles (UAVs) to assess several regional problems, ranging from measuring diseased paddy fields to damage caused by frequent landslides, according to the space agency.
- Data from ISRO's remote sensing satellites are generally combined with ground-based details. Use of drones cuts much leg work that ground surveyors must take up.
- Drone-based studies are new and currently confined to the north-eastern States. Depending on demand from other States, they could be extended to other places.
- "NE-SAC has taken the initiative for design and assembling of UAVs for various applications. UAVs can perform efficient surveys for disaster-prone or physically inaccessible areas, quick damage assessment of landslides, floods and earthquakes" and enable timely relief measures.
- Among various services provided on request to the north-eastern States using the drones, NE-SAC mapped the area affected by landslides along Meghalaya's life line, NH40. It gave the extent of damage caused to pest-infested paddy fields in Naramari village of Assam.
- Based on the images given by the drones, NE-SAC has created a land use map of Meghalaya's Nongpoh town and a 3D terrain model.

Data quantity

However, the area studied by a drone will be smaller compared to the area assessed from space by satellites. The processing and storage of large amounts of data given by a drone are a problem.

The NE centre was started in the year 2000 to provide Space technology-based communication and technology support to the region.

North-Eastern Space Applications Centre (NE-SAC)

- NE-SAC is a joint initiative of Department of Space (DoS) and North Eastern Council. It was started in the year 2000.
- It is located at Umiam (near Shillong), Meghalaya.
- It aims to provide developmental support to the North Eastern region using Space technology-based communication and technology.
- Its mandate is to develop high technology infrastructure support to enable NE states to adopt space technology for their development.
- NE-SAC provides developmental support by undertaking specific application projects using remote sensing, satellite communication, GIS and conducts space science research.

IMPACT OF CLIMATE CHANGE ON CORALS

IN NEWS: Warm seas around Australia's Great Barrier Reef have killed two-thirds of a 700-km (435 miles) stretch of coral in the past nine months, the worst die-off ever recorded on the World Heritage site.

The die-off was "almost certainly" the largest ever recorded anywhere because of the size of the Barrier Reef, which at 348,000 sq km (134,400 sq miles) is the biggest coral reef in the world.

HIGHLIGHTS

- The reef suffered its most severe bleaching in recorded history, due to warming sea temperatures during March 2016 and April 2016.
- The underwater surveys and aerial studies revealed that a 700-kilometre stretch of reefs in the less-accessible north lost two-thirds of shallow-water corals in the past eight to nine months.
- Most of the losses in 2016 have occurred in the northern part of the Great Barrier Reef.
- There is a minimal damage in the central and southern regions, including major tourist areas around Cairns and the Whitsunday Islands, of the reef.

REASONS

- Bleaching of the 2300-kilometre long reef was one of the foremost reasons of the damage.
- Bleaching occurs when abnormal environmental conditions, such as warmer sea temperatures, cause corals to expel tiny photosynthetic algae, which in turn drain them of their colour.
- The coral uses the organic products of photosynthesis to help it grow. Therefore, algae are vital for them.
- The loss of algae makes the host vulnerable to disease, which will eventually make them die.
- However, coral can recover if the water temperature drops and the algae are able to recolonise them.

RECOVERY

- Scientists estimate that the northern region will take at least 10-15 years to regain lost corals. However, they are also concerned that a fourth major bleaching event may occur before that, which will impede the recovery.
- Earlier in 2016, the reef studies centre have also warned that if greenhouse gas levels keep rising, then similar events would be the new normal.
- The reefs, which take plenty of time to recover from severe bleaching, it is likely to lose large parts of the Great Barrier Reef in just 20 years.

GREAT BARRIER REEF

- The Great Barrier Reef is the world's largest coral reef system.
- It is composed of over 2900 individual reefs and 900 islands.
- The reef is located in the Coral Sea, off the coast of Queensland, Australia.
- The reef is so vast that it can be seen from outer space.
- It is also the world's biggest single structure made by living organisms.

- This reef structure is composed of and built by billions of tiny organisms, known as coral polyps.
- In 1981, it was selected as a World Heritage Site.
- A large part of the reef is protected by the Great Barrier Reef Marine Park, which helps to limit the impact of human use.

DECLINING SEX RATIO: CRS DATA

IN NEWS: Sex Ratio at Birth (SRB) continues to worsen in India, falling from 898 in 2013 to 887 in 2014, new data from Civil Registration System (CRS) released by the Office of the Registrar General of India. The ratio has been declining since 2011 when the figure was 909.

The SRB based on CRS figures indicate the gap between ‘registered’ male and female births, calculated as the number of females per thousand males.

HIGHLIGHTS

Manipur (684), Rajasthan (799) and Tamil Nadu (834) fare the worst. The highest SRB has been reported by Lakshadweep (1043), followed by Andaman and Nicobar Islands (1031) and Arunachal Pradesh (993).

In 2014, it is estimated that 88.8 per cent births were registered, up from 85.6 per cent in 2013. Plus, 16 states or UTs recorded all births. 14 out of 20 major States crossed the 90 per cent level of registration of births in 2014.

The majority of births in 2014 occurred in an institution — government or private hospital.

Institutional delivery accounted for 72 per cent of all births. Another 14.1 per cent births were attended by physicians/nurse/midwife. However, around 3.8 per cent of the cases were still attended by an untrained midwife.

38.7 per cent of the total registered deaths had occurred in institutions while 23.3 per cent did not receive any medical attention at the time of death.

Only about 8.0 per cent of the deceased received medical attention from qualified allopathic professional.

INDIA – EU MEDICINE DISPUTE

IN NEWS: The World Health Organisation (WHO) has dropped the term ‘counterfeit’ and retained ‘falsified’ to describe medicines of inferior quality.

The terms were being used interchangeably to confiscated Indian made generic drugs exported to other countries by showing that they were in violation of intellectual property.

The WHO settled a long standing dispute between India and the European Union (EU) by clarifying that ‘counterfeit’ will now be used by member States with respect to protection of Intellectual Property Rights (IPR).

The European Union Free Trade Agreement (EU FTA) had reached a deadlock after affordable, safe-to-use generic drugs made in India were confiscated as 'illegal' and 'counterfeit.' Nearly 20 shipments of generic drugs, including basic antibiotics and anti-retrovirals, were detained while in transit from India to several developing countries via Europe between 2008 and 2009, derailing the free trade agreement negotiations.

WHO'S DECISION

The decision by the WHO settles a long-standing battle about labelling of drugs. For far too long, genuine generic medicines have been labelled as counterfeit. The confusion had taken away the much needed attention from the substandard medicines which is a bigger public health problem for developing countries.

Additionally, big pharmaceutical companies were using the term 'counterfeit' to describe generic medicines and disrupting trade of generic medicines. South Asian humanitarian aid organisation Médecins Sans Frontières (MSF) relies on Indian medicines to treat a wide variety of diseases, including tuberculosis, malaria, HIV/AIDS and other infections that afflict the poorest and most vulnerable populations.

WHO decided that the adopted definition drops the word counterfeit and uses the term falsified — which is much more in line with public health concerns regarding medicines, which make false claims about what they contain or where they are from, that represent a genuine problem.

The term 'counterfeit' was being described substandard or falsified medicines even though, under international law, the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) the definition of counterfeit is clearly targeted at one particular area: wilful infringement of trademark on a commercial scale.

NOAA'S GEOSTATIONARY OPERATIONAL ENVIRONMENTAL SATELLITE-R (GOES-R)

IN NEWS: NASA successfully launched for the National Oceanic and Atmospheric Administration (NOAA) the first in a series of highly advanced geostationary weather satellites Saturday from Cape Canaveral Air Force Station in Florida.

HIGHLIGHTS

- NOAA's Geostationary Operational Environmental Satellite-R (GOES-R) lifted off to boost the nation's weather observation capabilities, leading to more accurate and timely forecasts, watches and warnings.
- After it reaches its final designated orbit in the next two weeks, GOES-R will be renamed GOES-16.
- The new satellite will become operational within a year, after undergoing a checkout and validation of its six new instruments, including the first operational lightning mapper in geostationary orbit.
- Forecasters will use the lightning mapper to hone in on storms that represent the greatest threats.
- The satellite's primary instrument, the Advanced Baseline Imager, will provide images of Earth's weather, oceans and environment with 16 different spectral bands, including two visible channels, four near-infrared channels, and 10 infrared channels.
- Improved space weather sensors on GOES-R will monitor the sun and relay crucial information to forecasters so they can issue space weather alerts and warnings. In all, data from GOES-R will result in 34 new or improved meteorological, solar and space weather products.

- Beyond weather forecasting, GOES-R also will be part of the Search and Rescue Satellite Aided Tracking (SARSAT) System, an international satellite-based search and rescue network operated by NOAA.
- The satellite is carrying a special transponder that can detect distress signals from emergency beacons.
- There are four satellites in the GOES-R series: -R, -S, -T and -U, which will extend NOAA's geostationary coverage through 2036.
- "NOAA and NASA have partnered for decades on successful environmental satellite missions," said Sandra Smalley, director of NASA's Joint Agency Satellite Division at the agency's Headquarters in Washington, which worked with NOAA to manage the development and launch of GOES-R.

PAHCHAN IDENTITY CARDS

IN NEWS: PAHCHAN identity cards were distributed to the artisans of Gujarat by Union Ministry of Textile.

HIGHLIGHTS

- The camp for "PAHCHAN" was launched on 7th October, 2016 nationwide, to ensure a unique identity to the handicraft artisans of the nation.
- The artisan cards being distributed to the artisans shall essentially provide the following benefits:
 - Easy loan, Insurance and Credit guarantee.
 - Easy to avail benefits of the schemes run by Government of India.
 - Easy to participate in any domestic/ international fair/event.
 - The artisan can get the benefit of life insurance and Rs. 1200 per year for the artisan's children studying between class IX and class XII
- Artisans will be imparted training under Guru Shishya Parampara, where nationally acclaimed designers will train the artisans.
- Artisans belonging to minority communities, Schedule Castes, Schedule Tribes and BPL families will be provided free tool kits as per their art.
- PAHCHAN card will give national identity to the artisans and that they will be covered under a national database.

CHINA LAUNCHED QUANTUM COMMUNICATION LINE

IN NEWS: China launched a 712-km quantum communication line, stated to be the world's longest secure telecommunications network, which boasts of ultra-high security making it impossible to wiretap, intercept or crack the information transmitted through them.

The new quantum communication line links Hefei, capital of Anhui province, to Shanghai, the country's financial hub.

It is part of a 2,000-km quantum communication line connecting Beijing and Shanghai.

A quantum communication line boasts ultra-high security and it is impossible to wiretap, intercept or crack the information transmitted through them.

The Beijing-Shanghai quantum communication line is expected to be completed at the end of this year.

China successfully launched the world's first quantum satellite. It was nicknamed "Micius" after a fifth century BC Chinese philosopher and scientist.

The Beijing-Shanghai quantum communication line will be connected to the satellite through the line's station in Beijing, enabling the space-to-Earth quantum communication network.

PRADHAN MANTRI GRAMIN AWAS YOJNA

IN NEWS: Prime Minister launched a Union flagship housing scheme 'Pradhan Mantri Gramin Awasi Yojna' in Agra. Designed entirely for the rural masses, the ambitious scheme aims to provide affordable houses to all those living below the poverty line by the year 2022. In addition, the prime minister distributed allotment letters to 50 beneficiaries of the scheme, which aims to provide about 3 crore new housing units countrywide.

HIGHLIGHTS

- **Pradhan Mantri Awas Yojana – Gramin** will be implemented in rural areas across the country except Delhi and Chandigarh.
- Government to construct 1 crore pucca (permanent) houses for the rural poor in the next three years.
- The scheme is expected to boost job creation in rural areas.
- The project will be implemented in a span of three years from 2016-17 to 2018-19 with a budget of Rs. 81,975 crore.
- Of the total estimated expenditure, Rs. 60,000 crore will come from budgetary allocations and the remaining through Nabard.
- The cost of unit (house) assistance is to be shared between central and state governments in the ratio 60:40 in plain areas and 90:10 for north-eastern and hilly states.
- Beneficiaries of the rural houses would be chosen according to data taken from the Socio-Economic Caste Census of 2011
- An allowance of Rs. 120,000 in plain areas and Rs. 130,000 in hilly areas will be provided for construction of homes.
- Provision of toilets at Rs. 12000/- and 90/95 days of unskilled wage labour under MGNREGA over and above the unit cost.

ISLAMIC WINDOW IN CONVENTIONAL BANKS

IN NEWS: The Reserve Bank of India (RBI) has proposed opening of "Islamic window" in conventional banks for "gradual" introduction of Sharia-compliant or interest-free banking in the country.

Both the Centre and RBI are exploring the possibility of introduction of Islamic banking for long to ensure financial inclusion of those sections of the society that remain excluded due to religious reasons.

Initially, a few simple products which are similar to conventional banking products may be considered for introduction through Islamic window of the conventional banks after necessary notification by the government.

Introduction of full-fledged Islamic banking with profit-loss sharing complex products may be considered at a later stage on the basis of experience gained in course of time.

Islamic or Sharia banking is a finance system based on the principles of not charging interest, which is prohibited under Islam.

Interest-free banking for financial inclusion will require a proper process of the product being certified as Sharia compliant will be required both on the asset and liability side and the funds received under the interest-free banking could not be mingled with other funds and therefore, this banking will have to be conducted under a separate window.

The central bank's proposal is based on examination of legal, technical and regulatory issues regarding feasibility of introducing Islamic banking in India on the basis of recommendation of the Inter Departmental Group (IDG).

The work areas include operationalisation of Sharia boards and committees, feasibility of extending deposit insurance to Islamic banking deposits, identifying the financial risk and suggesting appropriate accounting framework for these products.

According to RBI's annual report for 2015-16, some sections of Indian society have remained financially excluded for religious reasons that preclude them from using banking products with an element of interest. Towards mainstreaming these excluded sections, it is proposed to explore the modalities of introducing interest-free banking products in the country in consultation with the government.

PRITHVI II MISSILE

IN NEWS: India successfully test-fired its indigenously developed nuclear capable Prithvi-II missile twice in quick succession as part of a user trial by the army from a test range at Chandipur in Odisha.

FACTS

- The two surface-to-surface missiles.
- Have a strike range of 350 km.
- Capable of carrying 500 kg to 1,000 kg of warheads.
- Test-fired in quick succession from mobile launcher from launch complex-3 of the Integrated Test Range (ITR).
- The missile is thrust by liquid propulsion twin engines.
- It uses advanced inertial guidance system with manoeuvring trajectory to hit its target.

- The missiles were randomly chosen from the production stock and the entire launch activities were carried out by the specially formed strategic force command (SFC) and monitored by the scientists of Defence Research and Development Organisation (DRDO) as part of training exercise.
- The missile trajectory was tracked by the DRDO radars, electro-optical tracking systems and telemetry stations located along the coast of Odisha.
- The downrange teams on board the ship deployed near the designated impact point in the Bay of Bengal monitored the terminal events and splashdown.
- Inducted into Indian armed forces in 2003, the nine-metre-tall, single-stage liquid-fuelled Prithvi-II is the first missile to be developed by the DRDO under the Integrated Guided Missile Development Programme.

TAXATION LAWS (2ND AMENDMENT) BILL 2016

IN NEWS: The Taxation Laws (Second Amendment) Bill, 2016 was passed in Lok Sabha . It seeks to amend the Income Tax Act, 1961 and Finance Act, 2016.

The Bill proposed to introduce the Pradhan Mantri Garib Kalyan Yojana, 2016. Under the scheme, taxpayers may declare undisclosed income possessed in the form of cash or deposited in banks, post offices or Reserve Bank of India.

HIGHLIGHTS

- The cess will be known as the Pradhan Mantri Garib Kalyan Cess, and will be used for welfare of economically weaker sections.
- Further, the taxpayer has to deposit 25% of the undisclosed income into the Pradhan Mantri Garib Kalyan Deposit Scheme, 2016. The deposit will not earn any interest. This deposit can be withdrawn only after four years from the date of deposit.
- The declarations of undisclosed income made under the Yojana will not be used as evidence under provisions of any other law, except certain laws including: (i) the Prohibition of Benami Property Transactions Act, 1988, (ii) the Prevention of Money Laundering Act, 2002, (iii) the Unlawful Activities (Prevention) Act, 1967, (iv) the Black Money (Undisclosed Foreign Income and Assets) and Imposition of Tax Act, 2015, (v) the Special Court (Trial of Offences Relating to Transactions in Securities) Act, 1992.
- **Disclosure of unexplainable income:** Currently, a tax is levied when the taxpayer is not able to explain any of his income. The Bill proposes to: (i) increase the tax rate and surcharges levied on such income, and (ii) levy of a penalty.