

CURRENT AFFAIRS**20TH SEP. TO 30TH SEP. 2016****PSLV-C 35 LAUNCHED: ISRO**

Polar Satellite Launch Vehicle in its thirty-seventh flight (**PSLV-C35**) launched the **SCATSAT-1** for weather related studies and seven co-passenger satellites into polar Sun Synchronous Orbit (SSO). Co-passenger satellites are **ALSAT-1B**, **ALSAT-2B**, **ALSAT-1N** from Algeria, **NLS-19** from Canada and **Pathfinder-1** from USA as well as two satellites **PRATHAM** from IIT Bombay and **PISAT** from PES University, Bengaluru.

The **PSLV rocket** is a four stage/engine rocket powered by solid and liquid fuel alternatively.

The two Algerian satellites **Alsat-1B** and **Alsat-2B** are remote sensing satellites while **Alsat-1N** is a technology demonstration nano satellite.

The **US satellite Pathfinder-1** is a commercial high resolution imaging micro satellite while the **Canadian NLS-19** satellite is a technology demonstration nano satellite for experimentation in helping to reduce space debris and for tracking commercial aircraft.

The IIT-B's **satellite Pratham**'s mission objective is to estimate the total electron count with a resolution of 1km x 1km location grid while **Pisat** from PES University and its consortium is a nano satellite for remote sensing applications.

SCATSAT-1 was placed into a 720 km Polar SSO whereas; the two Universities / Academic Institute Satellites and the five foreign satellites will be placed into a 670 km polar orbit. This is the first mission of PSLV in which payloads were launched into two different orbits.

SCATSAT-1

- SCATSAT-1 is a continuity mission for Oceansat-2 Scatterometer to provide wind vector data products for weather forecasting, cyclone detection and tracking services to the users.
- The satellite carries Ku-band Scatterometer similar to the one flown onboard Oceansat-2.
- The spacecraft is built around standard IMS-2 Bus and the mass of the spacecraft is 371 kg.
- The spacecraft will be put in SSP orbit of 720 km altitude by PSLV-C35.
- The mission life of the satellite is 5 years.

SCRUB TYPHUS

IN NEWS: The rising number of cases and reported deaths due to of Scrub Typhus in Himachal Pradesh. The total number of scrub typhus deaths is 24 and 825 patients have tested positive.

Scrub Typhus is an acute illness caused by a bacterium *Orientia tsutsugamushi*, which is transmitted by the bite of an infected mite larva present in the soil having scrub vegetation. Himachal is an endemic region as it has large scrub vegetation.

- Also known as *tsutsugamushi disease*. The name tsutsugamushi is derived from two Japanese words: *tsutsuga*, meaning something small and dangerous, and *mushi*, meaning creature.
- The infection is called scrub typhus because it generally occurs after exposure to areas with secondary (scrub) vegetation.

- *Orientia tsutsugamushi* is **transmitted** by the ovaries of trombiculid mites. The offspring mites or larvae are then infected and these are known as "chiggers". These mites then pass the infection to humans by feeding on the fluid in skin cells.
- The **symptoms** of the disease include fever, headache, muscle pain, cough and gastroenteritis -- inflammation of the mucous membrane of the stomach and intestines.
- Scrub typhus is **endemic** in Eastern and Southern Asia, Northern Australia but is also found in other regions eg India, Thailand, Tibet, Japan, Russia and mountainous regions of Nepal.

MINORITY WELFARE SCHEMES

IN NEWS: MoU signed between Ministry of Minority Affairs and National Minorities Development & Finance Corporation (NMDFC) for the year 2016-17. NMDFC has been assigned the targets to disburse Rs. 467 crores during 2016-17 to its State Channelizing Agencies (SCAs) for onward lending at concessional rates to the eligible poor members of the Minority Community.

Effective implementation of welfare schemes aimed at development of minorities. Schemes such as **Seekho aur Kamao, Nai Manzil, Nai Roshni** are guarantee of empowerment of minorities. Besides this, minorities are also getting benefits from other Central Government's schemes such as **Make in India, Skill India, Pradhan mantri Jan Dhan Yojana, Mudra Yojana, Ujjwala Yojana**.

SEEKHO AUR KAMAO

- “Seekho aur Kamao (Learn & Earn)” is a scheme implemented since 2013-14 for skill development of minorities.
- The scheme aims at upgrading the skills of minority youth in various modern/traditional skills depending upon their qualification, present economic trends and market potential, which can earn them suitable employment or make them suitably skilled to go for self-employment.
- The scheme is implemented through selected expert Project Implementing Agencies (PIAs).
- The scheme ensures placements of minimum 75% trainees, out of which at least 50% placement is in organized sector.

NAI MANZIL

- The ‘Nai Manzil’ scheme has been launched, for the first time in Jammu and Kashmir.
- Under the scheme girls from minority communities will be imparted three month skill development training in seven identified sectors relevant to the region. These include training in saffron processing, food processing, embroidery, computers IT (both software and hardware), Tourism/hospitality, electronics and plumbing.
- Trainees will also be given stipend of Rs.4500/-for the course.
- Nai Manzil Scheme is an integrated Education and Livelihood Initiative for the Minority Communities.
- The scheme aims to benefit the minority youths who are school-dropouts or educated in the community education institutions like Madrasas, by providing them an integral input of formal education (up till Class VIII or X) and skill training along with certification.
- The scheme covers the entire country.

NAI ROSHNI

- This is a scheme for leadership development of minority women.
- The objective of the scheme is to empower and instill confidence among minority women, including their neighbours from other communities living in the same village/locality, by providing knowledge, tools and techniques for interacting with Government systems, banks and other institutions at all levels.

- Nai Roshni programme is run with the help of NGOs, Civil societies and Government Institutions all over the country.
- It includes various training modules like Leadership of women, Educational Programmes, Health and Hygiene, Swachch Bharat, Financial Literacy, Life Skills, Legal Rights of Women, Digital Literacy and Advocacy for Social and behavioral change.

SOUTH ASIA SUB-REGIONAL ECONOMIC COOPERATION (SASEC)

IN NEWS: The six (6) member countries of the South Asia Sub-regional Economic Cooperation (SASEC) program—Bangladesh, Bhutan, India, Maldives, Nepal, and Sri Lanka— released the SASEC Operational Plan (OP) 2016-2025. The SASEC OP is the program's first comprehensive long-term plan to promote greater economic cooperation among the member countries.

SASEC

- Established in 2001, the SASEC program is a project-based partnership to promote regional prosperity by improving cross-border connectivity, boosting trade among member countries, and strengthening regional economic cooperation.
- The Asian Development Bank (ADB) is the secretariat and lead financier of the SASEC program. To date, ADB has approved 40 SASEC projects worth almost \$7.7 billion in transport, energy, trade facilitation, and information and communications technology.
- The SASEC OP brings regional cooperation to a higher level. The plan in the next ten years is to extend physical linkages within SASEC and also with East and Southeast Asia.
- The SASEC OP identifies regional road and rail links aligned closely with trade routes toward the east.
- Planned measures to streamline and harmonize trade procedures will cover both land-based and sea-based routes. This will open opportunities for the SASEC countries to participate more actively in regional value chains that are more advanced in Southeast Asia.
- The SASEC OP also promotes the development of economic corridors within and between the member countries.
- The energy strategy under the SASEC OP aims to diversify the energy mix in the SASEC countries to cope with the projected increase in demand. The immediate priority is to improve energy infrastructure that will allow countries to access commercial sources of energy and diversify their fuel mix.
- The SASEC OP identified over 200 potential transport, trade facilitation and energy projects, which will require over \$120 billion in investments for the next five years, out of which 74 projects have been identified in India with an estimated project cost of over \$60 billion. Majority of these projects are located in North East or Eastern part of the country.

MICA MISSILE

IN NEWS: 'Tigers' the first squadron of Indian Air Force, successfully fired the recently acquired MICA missile on a maneuvering target from Mirage-2000 Upgrade aircraft.

MICA is the multi-mission air-to-air missile system for the Rafale and the latest versions of Mirage 2000-5 combat aircraft.

- It has a high level of tactical flexibility in order to meet the operational requirements.
- Beyond Visual Range (BVR) multi-target / multi-shoot.
- Enhanced Short Range (SR) performance.
- Maximum flexibility for multi-role / swing-role aircraft.

- MICA has a totally dual role. It is able to cope with both BVR and SR combat situations and exhibits very high performance in both situations.
- The weapon covers Beyond Visual Range situations and in addition offers 2 guidance systems with its 2 interoperable seekers.
- RF MICA with radar seeker providing all weather shoot-up / shoot down capability.
- IR MICA with dual waveband imaging infrared seeker surpassing latest generation AAM missiles.
- MICA outperforms other BVR missiles with its unique stealthy interception capability provided by its silent seeker

INDIA-RUSSIA JOINT MILITARY EXERCISE INDRA-2016

The eighth edition of India-Russia Joint Military Exercise ‘INDRA-2016’ has begun in Russia.

Main focus of this edition of the joint exercise is on ‘Counter-Terrorism Operations in semi mountainous and jungle terrain under United Nations Mandate’. A comprehensive training programme spanning eleven days has been drawn up for the purpose.

250 soldiers of the KUMAON Regiment are representing the Indian Contingent and the Russian army is being represented by 250 soldiers from the 59th Motorized Infantry Brigade.

Indra series of bilateral exercises is one of the major bilateral defence cooperation initiatives between India and Russia since 2003.

AGREEMENT BETWEEN INDIA AND SAMOA

Government has given its approval of signing and ratification of Agreement between India and Samoa for the exchange of information with respect to Taxes.

The Agreement will stimulate the flow of exchange of information between India and Samoa for tax purposes which will help curb tax evasion and tax avoidance. There is no financial implication. Only in the event of extraordinary costs exceeding USD 500, the same will be borne by India. India has similar provisions in other such tax information exchange agreement.

Background

The Central Government is authorized under section 90 of the Income Tax Act, 1961 to enter into an Agreement with a foreign country or specified territory for exchange of information for the prevention of evasion or avoidance of income-tax chargeable under the Income-tax Act, 1961. Negotiations for entering into an Agreement for the exchange of information with respect to Taxes were finalized between India and Samoa in June, 2016 and both countries have agreed on the text of the Agreement.

Samoa

Samoa is a country comprising the westernmost group of the Samoan Islands, in Polynesia. Many of its islands have reef-bordered beaches and rugged, rain forests. The islands include Upolu, home to most of Samoa's population, and Savai'i, one of the largest islands in the South Pacific. Smaller islands may have small villages or be uninhabited, some with wildlife sanctuaries.

Also called "Navigator Islands" by European explorers before the 20th century because of the Samoans' seafaring skills. Samoa is a member of UN.

JAPANESE ENCEPHALITIS (JE)

IN NEWS: Notification issued to all the States and UTs and especially to the government of Assam, Bihar, Tamil Nadu, Uttar Pradesh and West Bengal where the number of JE cases has been reported to be high in the past by health ministry to ensure necessary monitoring, prevention and control of the disease.

- Japanese encephalitis virus (JEV) is a flavivirus related to dengue, yellow fever and West Nile viruses, and is spread by mosquitoes.
- JEV is the main cause of viral encephalitis in many countries of Asia with an estimated 68 000 clinical cases every year.
- Although symptomatic Japanese encephalitis (JE) is rare, the case-fatality rate among those with encephalitis can be as high as 30%. Permanent neurologic or psychiatric sequelae can occur in 30%–50% of those with encephalitis.
- 24 countries in the WHO South-East Asia and Western Pacific regions have endemic JEV transmission, exposing more than 3 billion people to risks of infection.
- There is no cure for the disease. Treatment is focused on relieving severe clinical signs and supporting the patient to overcome the infection.
- Safe and effective vaccines are available to prevent JE. WHO recommends that JE vaccination be integrated into national immunization schedules in all areas where JE disease is recognized as a public health issue.

INDIA - SINGAPORE

IN NEWS: The MoU signed by both the nations to enhance bilateral cooperation activities in the arena of Industrial Property Rights of Patents, Trademarks and Industrial Designs. It is intended to give a boost to innovation, creativity and technological advancement in both regions.

The Priority initiatives under the MoU would be:

- Exchange of best practices, experiences and knowledge on Intellectual Property awareness among the public, businesses and educational institutions of both countries.
- Exchange of experts specialized in the field of intellectual property.
- Exchange and dissemination of best practices, experiences and knowledge on IP with the industry, universities, R & D organizations and Small and Medium Enterprises.
- Cooperation in the development of automation and implementation of modernization projects.
- Partnership in IP-related training for local IP and business communities.

BRICS LABOUR AND EMPLOYMENT MINISTERIAL MEET

The BRICS Labour and Employment Ministerial meeting took place in New Delhi. And the issues discussed were Employment Generation, Social Security and formalization of labor markets leading to inclusive and sustainable development, overall economic issues and topical global issues.

The First BRICS Labour & Employment Ministers' meeting held in Ufa, Russia recognized that Employment Pillar is essential and thus laid the foundation of BRICS Employment Working Group (BEWG).

- They agreed to pursue bi-lateral social security agreements amongst the BRICS member states.
- Acknowledged the need to develop a network of lead labour research and training institutions.

- India initiated the recent amendment to child labour act for putting complete ban on employment of children below 14 years of age, the enhanced paid maternity leave of 26 weeks, revision of minimum wages and employment generation.
- The BRICS Labour and Employment Ministerial Declaration also adopted at the end of the meeting.

BRICS comprising of Brazil, Russia, India, China and South Africa are five major emerging economies comprising 43% of the world population, 37% of the world GDP and 17% of the world trade.

FORMER ISRAEL PRESIDENT SHIMON PERES PASSES AWAY

Shimon Peres, a former Israeli President and Prime Minister died at 93.

- Peres was born on Aug. 2, 1923, in Vishneva, then part of Poland.
- Created its nuclear arsenal in the 1950s, to disentangling its troops from Lebanon and rescuing its economy from triple-digit inflation in the 1980s, to guiding a sceptical nation into peace talks with the Palestinians in the 1990s.
- He was first elected to Parliament in 1959 and later held every major Cabinet post, including defence, finance and foreign affairs and served three brief stints as Prime Minister.
- His key role in the first Israeli-Palestinian peace accord earned him the Nobel Peace Prize in 1994. He negotiated the first interim accord with the Palestinians in 1993 that set into motion a partition plan that gave them limited self-rule. That was followed by a peace accord with neighboring Jordan.
- He created his non-governmental Peres Centre for Peace that raised funds for cooperation and development projects involving Israel, the Palestinians and Arab nations.
- He returned to it at age 91 when he completed his term as President.
- Of his 10 books, several amplified his vision of a “new Middle East” where there was peaceful economic and cultural cooperation among all the nations of the region.

WORLD'S FIRST BABY BORN WITH NEW 'THREE-PARENT' TECHNIQUE

The world's first three-parent baby has been born in Mexico with the help of a new fertility technique that incorporates DNA from three people.

- The ‘three-parent’ technique also known as Mitochondrial donation (Mitochondrial Replacement Therapy).
- The ‘three-parent’ technique allows parents with rare genetic mutations to have healthy babies.
- Genes for the disease reside in DNA in the mitochondria, which provide energy for our cells and carry just 37 genes that are passed down to us from our mothers. This is separate from the majority of our DNA, which is housed in each cell’s nucleus.
- The approach called spindle nuclear transfer in which the nucleus from one of the mother’s eggs is inserted into a donor egg that had had its own nucleus removed. The resulting egg – with nuclear DNA from the mother and mitochondrial DNA from a donor – was then fertilised with the father’s sperm.

Mitochondrial replacement therapy (MRT) uses healthy mitochondria coming from a donor’s egg whose nucleus has been removed and into which the mother’s nucleus is transferred.

- In vitro fertilization (either before or after MRT) produces an embryo that contains nuclear DNA from the father and the mother with healthy mtDNA from the donor. This procedure gives women with mtDNA mutations an excellent chance of having their own children, who will be free of the mitochondrial disease.

- Mitochondria are cellular components that contain their own DNA (mtDNA) and are responsible for generating more than 90% of the body's energy.
- About one in 200 people is born with a pathogenic mtDNA mutation and one in 5,000-10,000 people develop a symptomatic mitochondrial disease.
- Most pathogenic mtDNA mutations affect children, who frequently suffer catastrophic organ failure. In adults, the symptoms worsen with age and often become debilitating.
- Mitochondrial dysfunction typically damages cells of the brain, heart, liver, skeletal muscles, kidney and the endocrine and respiratory systems.

PROJECT SAKSHAM

IN NEWS: The Cabinet Committee on Economic Affairs has approved 'Project SAKSHAM', a New Indirect Tax Network (Systems Integration) of the Central Board of Excise and Customs (CBEC).

The total project cost involved is Rs.2256 crore which will be incurred over a period of seven years. The implementation strategy for the project will be to ensure readiness of CBEC's IT systems by April, 1, 2017, when GST is to be introduced.

Project will help in

- Implementation of Goods and Services Tax (GST).
- Extension of the Indian Customs Single Window Interface for Facilitating Trade (SWIFT)
- Other taxpayer-friendly initiatives under Digital India and Ease of Doing Business of Central Board of Excise and Customs.

Background

- CBEC's current IT system was set up in 2008. It cannot cater to the increased load under GST without an immediate upgrade of its IT Infrastructure.
- Further, CBEC has implemented the Indian Customs Single Window Interface for Facilitating Trade (SWIFT) and is integrating other partner agencies involved in Customs clearance in order to make the process simple and fast.

What needs to be done

- The Customs EDI system which is currently operational at about 140 locations in India has to be extended to many more locations with improved response time and better service delivery.
- Taxpayers have to be given a facility for Upload of Digitally Signed Scanned Documents in order to reduce the physical interface with tax authorities and to increase the speed of clearance.
- CBEC also aims to introduce mobile services for taxpayers and departmental users to increase the outreach of its services.
- CBEC's IT systems need to integrate with the Goods & Services Tax Network (GSTN) for processing of registration, payment and returns data sent by GSTN systems to CBEC, as well as act as a front-end for other modules like Audit, Appeal, Investigation. There is no overlap in the GST-related systems of CBEC and GSTN.
- This IT infrastructure is also urgently required for continuation of CBEC's e-Services in Customs, Central Excise & Service Tax, implementation of tax-payer services such as scanned document upload facility, extension of Indian Customs Single Window Interface for Facilitating Trade (SWIFT) initiative and integration with Government initiatives such as E-Nivesh, E-Taal, e-Sign.

FINE PARTICULATES CAUSING PREMATURE MORTALITY

Air pollution is the world's biggest environmental risk to health and must be addressed on a priority basis as it continues to rise, causing long lasting disease and illness. The impact of fine particulate matter (PM2.5) highlighted by the World Health Organisation study is felt through a broad spectrum of acute and chronic illnesses that cause premature death.

The World Health Organisation (WHO) study highlighted some serious facts:

- Low and middle income countries disproportionately experience the burden of lung cancer other deadly disease like chronic obstructive pulmonary disease (COPD) and cardiovascular diseases.
- The impact of fine particulate matter (PM 2.5) causes chronic illness that cause premature death premature death.
- Worldwide, it is estimated to cause about 16 per cent of lung cancer deaths, 11 per cent COPD deaths, and more than 20 per cent of ischaemic heart disease and stroke.
- The study point out that India and China are among the nations that have extremely high level of particulate matter (PM2.5), more than seven times the WHO recommended air quality standard.
- Air pollution could have killed at least 600,000 Indians in 2012 as per the study.
- India comes just behind China, which witnessed an estimated 800,000 death
- In some countries in West Asia and Sahara Africa, air pollution is mainly a result a result of dust storms and not human activity.
- The study findings, based on data derived from satellite measurement, air transport model and ground station monitors for more than 3000 locations, both urban and rural.
- The study was conducted by WHO in collaboration with the University of Bath in UK.
- More than 80 per cent people residing in urban areas are exposed to air quality levels that exceed the WHO limits.
- The study gave the WHO air quality guidelines for PM2.5 as 10 micrograms per cubic metre annual average, and 25 micrograms per cubic metre 24-hour average.
- Overall, 98 per cent cities in low and middle income countries with more than 100,000 inhabitants do not meet WHO air quality guidelines. However, in higher income countries, that percentage decreases to 56 per cent.
- WHO had warned that nearly 1.4 million Indians may have succumbed to diseases caused by indoor air pollution.
- Out of all pollutants, fine particulate matter has the greatest impact on health. The source of fine particulate matter includes fuel combustion, both from mobile sources such as vehicles and from stationary sources such as power plants, industry, and biomass burning.

INDIA RANKED 39TH ON GLOBAL COMPETITIVENESS INDEX

India has secured the 39th rank, climbing 16 places from last year, on the annual Global Competitiveness Index prepared by the World Economic Forum (WEF).

Every year, WEF releases its Global Competitiveness Report based on their analysis of the world's 138 economies. India has a score of 4.52 on the Index, while that of Switzerland, ranked 1st, is 5.81.

AS PER REPORT

- India is also the second most competitive economy among the BRICS nations, following China, which is ranked at the 28th position.
- India's public institutions and increasing transparency in the financial system have been noted as the "stellar areas of improvement".
- India is the best-performing economy in South Asia, with reforms like opening the economy to international trade and foreign investors and efforts towards increasing transparency in the financial system.
- Due to improved monetary and fiscal policies as well as lower oil prices, the Indian economy has stabilised and now boasts of the highest growth among G20 countries.
- The lack of technological readiness and the issue of NPAs (Non-performing Assets) with the banks, which hasn't seen any solution, have been recognised as areas that need improvement.
- Switzerland has topped the list as the most competitive economy for the eighth time consecutively. Singapore and USA are at the 2nd and 3rd positions, respectively.
- Among India's other neighbouring countries, Sri Lanka is ranked at the 71st position, Bhutan at the 97th, Nepal at the 98th, Bangladesh at the 106th, and Pakistan at the 122nd position.

According to WEF the declining openness in the global economy is harming competitiveness and making it harder for leaders to drive sustainable, inclusive growth.

The Global Competitiveness Report

The Global Competitiveness Report 2016-2017 assesses the competitiveness landscape of 138 economies, providing insight into the drivers of their productivity and prosperity.

The WEF Report is based on the assessment of the world's economies in different areas – like the soundness of banks, the sophistication of businesses, and so on.

The ranking is done according to the "12 pillars of competitiveness", including macro-economic environment, infrastructure, health and primary education, and labour market efficiency, among others.

This year's edition highlights that declining openness is threatening growth and prosperity. It also highlights that monetary stimulus measures such as quantitative easing are not enough to sustain growth and must be accompanied by competitiveness reforms. Final key finding points to the fact that updated business practices and investment in innovation are now as important as infrastructure, skills and efficient markets.

The Report series remains the most comprehensive assessment of national competitiveness worldwide.

NEW SPECIES OF A GROUND-DWELLING LIZARD HAS BEEN DISCOVERED

IN NEWS: A new species of a ground-dwelling lizard has been discovered in Mumbai and Thane's Badlapur forested belts, 130 years after the last such gecko was discovered and has been named after a Bengaluru-based scientist Varad Giri.

The species, of the genus Cyrtodactylus known in Southeast Asia, India and Sri Lanka, is a member of the subgenus Geckoella, which are small ground-dwelling geckos largely found in leaf litter in forests.

This uncommon species is mostly seen moving among the leaf litter on the forest floor. They are active during night and take refuge under rocks and logs during the day. It grows the length of around 6 centimetres.

Most of the known species in this group are forest specialists but this new species is also known to live around human-dominated landscapes and is a widely distributed species in this genus in India.

This is the third time after a new snake species and a lizard species - both endemic and discovered from the biodiversity rich Western Ghats of Maharashtra-Karnataka region - that a species has been named after Mr Giri in the past five years.

COLOMBIA AND FARC REBELS TO SIGN PEACE DEAL

The Colombian government and the country's largest rebel group signed a peace agreement and brought an end to a 52-year-old war with the Revolutionary Armed Forces of Colombia, or FARC, whose Marxist insurgency marked the last major war in the Americas.

Accord brings an end to Latin America's longest-running conflict, which has killed hundreds of thousands of people.

The FARC will cease to be a rebel group and instead enter into politics as a left-wing party. The treaty grants the FARC 10 political seats.

Voters in Colombia have rejected a landmark peace deal with FARC with 50.2% voting against it. Colombia was divided regionally with most of the outlying provinces voting in favour of the agreement and those nearer the capital and inland voting against it. But talks between the Colombian government and FARC will remain open in order to bring and maintain peace and stability in the region.

Also **Nobel Peace Prize for 2016** was given to **Colombian President Juan Manuel Santos** for his resolute efforts to bring the country's more than 50-year-long civil war to an end, a war that has cost the lives of at least 220 000 Colombians and displaced close to six million people.

FARC

- The Farc is the oldest and largest group among Colombia's left-wing rebels and is one of the world's richest guerrilla armies.
- It was established in 1964 as a communist-inspired peasant army fighting to reduce the gulf dividing rich and poor and land reform for equality in the Andean country.
- FARC takes in between \$500 million and \$600 million annually from the illegal drug trade. The FARC also profits from kidnappings, extortion schemes, and an unofficial "tax" it levies in the countryside for "protection" and social services.

RUSSIA AND CUBA SIGN NUCLEAR ENERGY COOPERATION AGREEMENT

Russia and Cuba have signed an intergovernmental agreement on cooperation in the field of atomic energy for peaceful purposes.

The document signed by Russia's Rosatom State Corporation for Atomic Energy and Cuban ministry of science and technology.

The deal was made on sidelines of the 60th session of the General Conference of the International Atomic Energy Agency (IAEA) in Vienna

It lays a legal foundation for bilateral cooperation between the two countries in the areas of radioisotope production and their use in industry, medicine, agriculture, security and environmental research.

INDIA SUSPENDS TALKS ON INDUS WATER PACT WITH PAKISTAN

IN NEWS: The meeting decided to suspend further water talks and increase the utilisation of rivers flowing through Jammu and Kashmir to maximise India's share, there was no decision on either reviewing or abrogating the 1960 treaty.

The government decided to suspend talks on the Permanent Indus Commission, the dispute redressal mechanism that has met 112 times, until "terror comes to an end". According to Article VIII of the Indus Waters Treaty, the Commission must meet once a year, alternately in India and Pakistan. The last meeting was held in July 2016.

INDUS WATER TREATY

For 56 years, both India and Pakistan are peacefully sharing the water of Indus and its tributaries.

- The Indus Waters Treaty was signed on September 19, 1960 by the then Prime Minister Jawaharlal Nehru and Pakistan's President Ayub Khan.
- It was brokered by the World Bank.
- The treaty administers how river Indus and its tributaries that flow in both the countries will be utilized.
- According to the treaty, Beas, Ravi and Sutlej are to be governed by India, while, Indus, Chenab and Jhelum are to be taken care by Pakistan.
- However, since Indus flows from India, the country is allowed to use 20 per cent of its water for irrigation, power generation and transport purposes.
- A Permanent Indus Commission was set up as a bilateral commission to implement and manage the Treaty. The Commission solves disputes arising over water sharing.
- The Treaty also provides arbitration mechanism to solve disputes amicably.
- Though Indus originates from Tibet, China has been kept out of the Treaty. If China decides to stop or change the flow of the river, it will affect both India and Pakistan.

Climate change is causing melting of ice in Tibetan plateau, which scientists believe will affect the river in future.

FIVE-HUNDRED-METRE APERTURE SPHERICAL RADIO TELESCOPE (FAST)**LAUNCHED BY CHINA**

The world's largest radio telescope has begun operating in south-western China between hills in the mountainous region of Guizhou will help humanity search for alien life.

- The telescope dwarfs the Arecibo observatory in Puerto Rico to become the world's largest single-dish radio telescope, with twice the sensitivity and a reflector as large as 30 football pitches.
- FAST, will build on their findings about how gases behave in galaxies.
- Fast will use its vast dish, made up of 4,450 panels, to search for signs of intelligent life and to observe distant pulsars – tiny, rapidly spinning neutron stars believed to be the products of supernova explosions.
- Fast had detected electromagnetic waves emitted by a pulsar more than 1,300 light years away.
- China's best supercomputers the SkyEye-1 will be used to process the massive amounts of data supplied by FAST.

RUSSIA-PAKISTAN JOINT MILITARY EXERCISE

The first **Druzhba-2016** ("Friendship-2016") Russian-Pakistani joint military exercise held in Pakistan.

The Pakistani Army and the Russian Ground Forces had came together in military exercises for the first time, with around 70 personnel from Russia's Southern Military District (SMD) mechanized infantry brigade, stationed in the Karachaevo-Cherkessian Republic, and a total of 200 troops in total taking part on both sides.

The drills took place at the Army High Altitude School in northern Pakistan's Rattu and at a special forces training center in Cherat.

The drill involved experience sharing and aimed to develop coordination in carrying out practice combat tasks in a mountainous environment, including operations against illegal armed groups.

GANGETIC DOLPHINS THREATENS BY NATIONAL WATERWAYS PROJECT

IN NEWS: Wildlife conservationists have raised concern over the threats posed to Gangetic river dolphins by the National Waterways project.

The National Waterways project

India has huge untapped potential of inland waterways and the Centre plans to develop a waterway between Allahabad and Haldia for inland transportation, a World Bank-aided project as the National Waterway-1.

- National Waterway 1 (NW-1) or Ganga-Bhagirathi-Hooghly river system is runs from Haldia (Sagar) to Allahabad across the Ganges, Bhagirathi and Hooghly river systems.
- It is 1,620 km long, making it the longest waterway in India. The first phase of the project spanning 1300 km, now under implementation, is from Varanasi to Haldia.
- The prime importance of national waterways-1 is its geographical advantage which passes through Uttar Pradesh, Bihar, Jharkhand and West Bengal and serves major cities and their industrial hinterlands.
- NW1 is seen to have a potential to emerge as the logistics artery for northern India, while reducing the congestion on this high-traffic transport corridor. However, this stretch is also home to the endangered dolphin.

Reasons for the decline dolphin:

- Due to the construction of dams and barrages on the river.
- Pollution.
- Lack of awareness.
- Anthropogenic pressure.
- Absence of a coordinated conservation plan that are posing an incessant threat to the existing dolphin population.

Ganges river dolphin

- The Ganges river dolphin can only live in freshwater and is essentially blind.
- It is also known as Susu because of the sound it produces when breathing.
- They inhabit the Ganges-Brahmaputra-Meghna and Karnaphuli-Sangu river systems of Nepal, India and Bangladesh.
- They hunt by emitting ultrasonic sounds, which bounces off of fish and other prey, enabling them to “see” an image in their mind.
- It is a reliable indicator of the health of the entire river ecosystem.
- The distribution range of the Ganges River Dolphins in India covers seven states namely, Assam, Uttar Pradesh, Madhya Pradesh, Rajasthan, Bihar, Jharkhand and West Bengal.

Government Measures

- The government of India declared it the National Aquatic Animal in 2009.
- IUCN as ‘endangered’ and placed in Schedule-I of the Wildlife (Protection) Act, 1972, the Ganges River Dolphin enjoys high levels of legal protection both nationally and internationally. Yet its numbers continue to decline.
- The West Bengal government decided to establish India’s first Dolphin Community Reserve in the state at Hooghly River between Malda and Sundarbans.
- The Union Ministry of Environment, Forest and Climate Change has launched in 2016 the Endangered Species Recovery Plans for four species of global importance, this includes dolphin.

World Bank suggested that barrages may not be the main reason behind the decline in dolphin population, as they were nearly extinct in Nepal and Bangladesh rivers where there are no barrages.

Although, World Bank suggested safeguard measures like,

- Minimising dredging.
- Restricting cargo vessels movement through protected habitat areas through monitoring systems.
- Installation of sound mufflers to reduce underwater noise.
- Nesting, breeding and spawning grounds of dolphins would be identified and project activity should be minimised in those areas.

SUN PHARMA DEALS WITH ICGEB TO DEVELOP A DENGUE VACCINE

IN NEWS: India’s largest pharmaceutical company, Sun Pharma, has signed a deal with the Delhi unit of the International Centre for Genetic Engineering and Biotechnology (ICGEB) to develop a dengue vaccine.

This would be the first time a vaccine developed entirely in India for a vector-borne disease has been advanced for clinical development in India. Rotavac — a vaccine to protect children against infections by the rotavirus — is the only other vaccine developed, tested and commercialised in India.

This year it was integrated into India’s Universal Immunisation Programme.

According to the **World Health Organization**, 390 million dengue infections are globally recorded annually, of which 96 million manifest clinically. India has recorded one of the worst outbreaks this year with the Union Health Ministry noting 99,913 dengue cases and 220 deaths in 2015 and 33,310 cases and 20 deaths this year as of September 11.

- Dengue is transmitted by the Aedes Aegypti mosquito and can be caused by any of four closely-related viruses.
- Immunity to one doesn't confer resistance to the others and while most dengue infections aren't lethal, a minority of infections can induce bleeding and death.
- There is no recommended treatment for dengue so far other than rest, fluids and paracetamol.

Because of the dengue's provenance in at least 128 countries, several companies and international organisations have developed candidate vaccines. The most advanced is Dengvaxia, developed by French drug maker Sanofi and recommended for use since December last in Brazil, Mexico, Philippines and El Salvador for those 9-45 years old.

The terms of this agreement permits

- Sun Pharma's access to all the intellectual properties of this drug cross 17 countries.
- ICGEB will establish assay systems for development of Cipa for treatment of dengue infection for a pre-defined period of time.
- ICGEB will work exclusively with Sun Pharma for the development of this drug and clinical treatment strategies based on botanical and phyto-pharmaceuticals.
- A botanical drug is a plant-derived medicinal product that is intended for use in the diagnosis, cure, mitigation, treatment or prevention of disease in humans

India represents nearly 50% of the global population estimated to be at risk of dengue. Severe dengue, which is potentially fatal, correlates with very high virus load, reduction in platelet counts and haemorrhage.

Antiviral therapy to reduce high virus load may be beneficial in attenuating disease severity. ICGEB and Sun Pharma through this collaboration are developing innovative botanical opportunities to identify herbal options that could be source of dengue inhibitory activity. The developmental efforts of this collaboration will aim to explore how the extract prepared from Cipa Linn can inhibit the replication of virus in living cells against dengue infection

International Centre for Genetic Engineering and Biotechnology

- The ICGEB is an international, non-profit research organization.
- Established as a special project of UNIDO, it became fully autonomous in 1994 and now counts over 60 Member States.
- The International Centre for Genetic Engineering and Biotechnology provides a scientific and educational environment of the highest standard and conducts innovative research in life sciences for the benefit of developing countries.
- It strengthens the research capability of its Members through training and funding programmes and advisory services and represents a comprehensive approach to promoting biotechnology internationally.
- The Centre is dedicated to advanced research and training in molecular biology and biotechnology and holds out the prospect of advancing knowledge and applying the latest techniques in the fields of biomedicine, crop improvement, environmental protection/remediation, biopharmaceuticals and biopesticide production.
- With Components in Trieste-Italy, New Delhi-India and Cape Town-South Africa, the Centre forms an interactive network with Affiliated Centres in ICGEB Member States.
- ICGEB is part of the United Nations System.

Sun Pharma is world's fifth largest specialty generic pharmaceutical company and India's top pharmaceutical company. It provides high-quality, affordable medicines trusted by customers and patients in over 150 countries across the world.

INDIA –FRANCE RAFALE DEAL

India concluded an Inter-Governmental Agreement (IGA) with France for the purchase of 36 Rafale fighter jets at a cost of €7.87 billion.

It is the first fighter aircraft deal since the purchase of Sukhois from Russia in the late 90's.

- The Rafale is a twin-engine, multi-role fighter aircraft.
- It is capable of carrying out all combat missions: air defence, interception, ground support, in-depth strikes, reconnaissance, anti-ship strikes and nuclear deterrence.
- The weapons package includes Meteor radar guided Beyond Visual Range (BVR) missile considered the best in the class with range of over 150 km.
- Scalp long range air to ground missiles.
- The deal includes the aircraft in fly-away condition, weapons, simulators, spares, maintenance, and Performance Based Logistics support for five years.
- The aircraft will be customised as per the requirements of the IAF which include Helmet Mounted Displays, radar warning receiver, infrared search and track among others.
- These aircraft are likely to succeed Mirage fighters for nuclear warhead delivery as part of India's nuclear doctrine. The IGA does not put any restrictions on its use.

Dassault will begin aircraft deliveries after 36 months and complete in 67 months. France will also provide logistics and ground support and ensure that there is 75 percent i.e. 27 aircraft are operationally available at any time.

MISSION PARIVAR VIKAS

The Ministry of Health and Family Welfare will soon launch "Mission Parivar Vikas" in 145 high focus districts having the highest total fertility rates in the country. The vulnerable districts in the country will be targeted for intensive and improved family planning services.

The main **objective** of 'Mission Parivas Vikas' will be to accelerate access to high quality family planning choices based on information, reliable services and supplies within a rights-based framework.

These 145 districts are in the seven high focus, high TFR states of **Uttar Pradesh, Bihar, Rajasthan, Madhya Pradesh, Chhattisgarh, Jharkhand and Assam** that constitute 44% of the country's population.

These 145 districts have been identified based on total fertility rate and service delivery (PPIUCD and Sterilization performance) for immediate, special and accelerated efforts to reach the replacement level fertility goals of 2.1 by 2025.

Recent data suggests that these 145 districts have TFR of more than/equal to 3.0 (56% of the 261 districts in the 7 HFS) and are home to 28% of India's population (about 33 Crores).

However, **only 22% of India's protected couples and 40% of India's couples with unmet need reside in these districts. These districts also have a substantial impact on maternal and child health indicators as about 25-30% of maternal deaths and 50% of infant deaths occur in these districts. Moreover, 115 of these districts (79%) have high percentage of adolescent mothers.**

Key strategic focus

- Improving access to contraceptives through delivering assured services.
- Dovetailing with new promotional schemes.
- Ensuring commodity security.
- Building capacity (service providers).
- Creating an enabling environment along with close monitoring and implementation.

The Mission will be implemented in all the 145 districts at one go.

GOVERNMENT ENHANCED SUPPORT UNDER MERCHANDISE EXPORTS FROM INDIA SCHEME (MEIS)

The continued challenging global environment being faced by Indian exporters, Department of Commerce has extended support to certain new products and enhanced the rate of incentives for certain other specified products under the Merchandise Exports from India Scheme (MEIS). This has been implemented through DGFT.

Addition of new products: 2901 additional products falling under different product categories have been added. With this the total number of items covered under the scheme has been increased from 5012 to 7103. These include items in the following areas:

- Many items of traditional medicines like Ashwagandha herbs and its extracts, other herbs, extracts of different items.
- Certain marine products, sea food items.
- Onion dried, processed cereal products and other value added items of plastics, lather articles, suitcases etc
- Industrial products under different categories, including engineering goods, fabrics, garments, chemicals, ceramics, glass products, leather goods, newspapers, periodicals, silk items, made ups, wool products, tubes, pipes etc.

Increase in MEIS rates

- Rates of 575 product items falling under 11 products categories have been increased. These products include products of iron and steel, handicrafts, moulded and extruded goods, rubber, ceramic, glass, auto tyres and tubes, industrial machinery engineering items, IC Engines, machine tools / parts, items of wood, paper, stationary, footwear, auto seats, steel furniture, prefabs, items under the category of butter, ghee and cheese, dried egg albumin and rubber products
- The total support extended by Government of India under the scheme has been enhanced from the present Rs 22,000 crore to Rs 23,500 crore per annum.

Merchandise Exports from India Scheme (MEIS)

- Merchandise Exports from India Scheme (MEIS) under Foreign Trade Policy of India (FTP 2015-20) is one of the two schemes introduced in Foreign Trade Policy of India 2015-20, as a part of Exports from India Scheme. (The other scheme is SEIS, Service Exports from India Scheme).
- The Government of India has brought in the Merchandise Exports Incentive Scheme (MEIS), replacing five other similar incentive schemes present in the earlier Foreign Trade Policy 2009-14. The schemes that have been replaced by the MEIS scheme include:

- Focus Product Scheme (FPS)
- Focus Market Scheme (FMS)
- Market Linked Focus Product Scheme (MLFPS)
- Agri. Infrastructure incentive scheme
- Vishesh Krishi Gramin Upaj Yojna (VKGUY)

As per the present FTP, the MEIS scheme does not aim to merely replace these five schemes but also aims to rationalize the incentives and enlarges their scopes by removing various restrictions.

- **The Objective of the MEIS Scheme:** To offset infrastructural inefficiencies and the associated costs of exporting products produced in India giving special emphasis on those which are of India's export interest and have the capability to generate employment and enhance India's competitiveness in the world market.

RIVER GANGA (REJUVENATION, PROTECTION AND MANAGEMENT) AUTHORITIES ORDER, 2016

The Order lays down a new institutional structure for policy and implementation in fast track manner and empowers National Mission for Clean Ganga to discharge its functions in an independent and accountable manner.

It has been decided to grant a Mission status to the Authority with corresponding powers under Environment (Protection) Act, 1986 to take cognizance of the provision of the said Act and follow up thereon. Similarly, there is adequate delegation of financial and administrative powers which will distinctly establish NMCG as both responsibility and accountability centre and effectively accelerate the process of project implementation for Ganga Rejuvenation.

Salient Features:

- Creation of the National Council for River Ganga (Rejuvenation, Protection and Management) as an Authority in the place of the existing NGRBA for overall responsibility for superintendence of pollution prevention and rejuvenation of river Ganga Basin.
- Setting up of an Empowered Task Force to ensure that the Ministries, Departments and State Governments concerned have an action plan with specific activities, milestones, and timeliness for achievement of the objective of rejuvenation and protection of River Ganga and a mechanism for monitoring implementation of its action plans.
- Declaration of National Mission for Clean Ganga (NMCG) as an Authority with powers to issue directions and also to exercise the powers under the Environment (Protection) Act, 1986 to enable it to carry out efficiently its mandate.
- It will also ensure proper co-ordination with the local bodies and compliance with the directions of NMCG for pollution abatement of the river Ganga.
- NMCG will, however, take action only in the event when required action is not taken by CPCB. CPCB shall also take action jointly with NMCG under the provisions of said Act.
- A special focus of the revamped structure would be to maintain required ecological flows in the river Ganga with the aim of ensuring water quality and environmentally sustainable development.

- For taking up fast track creation of sewerage treatment infrastructure in Ganga basin, an innovative model based on Hybrid Annuity has also been approved. This will ensure that the infrastructure created under the project is operational on a sustainable basis.
- In order to ensure transparency and cost effectiveness, a provision for concurrent audit, safety audits, research institutions and financial framework has been made.

Background

The Ganga Action Plan (GAP) Phase-I was launched in 1985 and later GAP Phase-II was initiated in 1993 with the objective of improving the water quality of river Ganga and was later expanded to include some of its tributaries also. In May, 2015, the Government approved the Namami Gange programme as a comprehensive mechanism to take up initiatives for rejuvenation of river Ganga and its tributaries as a Central Sector Scheme with hundred per cent funding by the Union Government. The programme, despite making moderate gains in arresting the declines in water quality, had certain limitations in implementation.

Although, the NMCG has been functional as a registered Society since 2012 its role has been largely limited to fund the projects to implementing organisations. It neither had the mandate to take cognizance of various threats to river Ganga nor the powers to issue directions to the concerned authorities/polluters.

It is expected that the move will ensure effective abatement of pollution and rejuvenation of the River Ganga; maintain ecological flows in the River; impose restrictions on polluting industries; and carry out inspections to ensure compliance. In addition, it is proposed to maintain and disseminate data and carry out research on the condition of the river.

IWAI SIGNS CONTRACT WITH DST, GERMANY

IN NEWS: With its objective of providing safe, environment friendly and economical mode of transportation through National Waterway-1 (NW-1), The Inland Waterways Authority of India (IWAI), Ministry of Shipping signed a contract with DST, Germany to design vessels, especially suited to navigate the 1620 km stretch of NW-1.

The objective of IWAI is to go along with nature and disturb the river minimally. The specially designed vessels will navigate on low drafts and will be of high carrying capacity and will be environment friendly.

DST, Germany is expected to develop a combination of standardised vessels to meet the requirement of various types of cargo. One of the most important navigational challenges for NW-1 is the kind of vessels that will play on the Ganga-Bhagirathi-Hooghly stretch.

Keeping in view the difficult hydro-morphological characteristics of the river in the upper reaches between Patna and Varanasi, it is important to have vessels which can ply on low draft, with high carrying capacity, and are economically viable and environment friendly.

Government is developing NW-1 under the **Jal Marg Vikas Project**, with assistance from the **World Bank** at an estimated cost of Rs. 4,200 crore. The project would enable commercial navigation of vessels with capacity of 1500-2,000 tons. Phase-I of the project covers the **Haldia-Varanasi stretch**. The project includes development of **fairway**, **Multi-Modal Terminals at Varanasi, Haldia, and Sahibganj**, **strengthening of river navigation system**, **conservancy works**, **modern River Information System (RIS)**, **Digital Global Positioning System (DGPS)**, **night navigation facilities**, **modern methods of channel marking**, **construction of a new state of the art navigational lock at Farakka etc.**

ADMIRALTY (JURISDICTION AND SETTLEMENT OF MARITIME CLAIMS) BILL 2016

The Union Cabinet has given its approval to the proposal of Ministry of Shipping to enact Admiralty (Jurisdiction and Settlement of Maritime Claims) Bill 2016 and to repeal five archaic admiralty statutes.

Salient Features of Admirability Bill, 2016

This legislative proposal will fulfill a long-standing demand of the maritime legal fraternity. The salient features are as follows:-

- The Bill confers admiralty jurisdiction on High Courts located in coastal states of India and this jurisdiction extends upto territorial waters.
- The jurisdiction is extendable, by a Central Government notification, upto exclusive economic zone or any other maritime zone of India or islands constituting part of the territory of India.
- It applies to every vessel irrespective of place of residence or domicile of owner.
- Inland vessels and vessels under construction are excluded from its application but the Central Government is empowered to make it applicable to these vessels also by a notification if necessary.
- It does not apply to warships and naval auxiliary and vessels used for non-commercial purposes.
- The jurisdiction is for adjudicating on a set of maritime claims listed in the Bill.
- In order to ensure security against a maritime claim a vessel can be arrested in certain circumstances.
- The liability in respect of selected maritime claims on a vessel passes on to its new owners by way of *maritime liens* subject to a stipulated time limit.
- In respect of aspects on which provisions are not laid down in the Bill, the Civil Procedure Code, 1908 is applicable.

India is a leading maritime nation and maritime transportation caters to about ninety-five percent of its merchandise trade volume. However, under the present statutory framework, the admiralty jurisdiction of Indian courts flow from laws enacted in the British era. Admiralty jurisdiction relates to powers of the High Courts in respect of claims associated with transport by sea and navigable waterways. The repealing of five admiralty statutes is in line with the Government's commitment to do away with archaic laws which are hindering efficient governance.

CAPITAL GRANT TO GAIL FOR DEVELOPMENT OF GAS INFRASTRUCTURE

The Cabinet Committee on Economic Affairs approved viability gap funding / partial capital grant at 40 percent (Rs. 5,176 crore) of the estimated capital cost of Rs. 12,940 crore to GAIL for development of 2539 km long **Jagdishpur-Haidia and Bokaro-Dhamra Gas Pipeline (JHBDPL) project**.

Government of India has taken this decision to provide Capital Support for developing this gas pipeline. **JHBDPL project will connect Eastern part of the country with National Gas Grid.**

Key facts of the project

- It will ensure the availability of clean and eco-friendly fuel i.e. Natural Gas to the industrial, commercial, domestic and transport sectors in the States of Uttar Pradesh, Bihar, Jharkhand, Odisha and West Bengal.
- This Capital Grant will encourage the supply of eco-friendly fuel at affordable tariffs to industries and will encourage industrial development in these states.

City Gas Distribution (CGD)

- CCEA has approved the simultaneous development of City Gas Distribution (CGD) networks in cities namely Varanasi, Patna, Ranchi, Jamshedpur, Bhubaneswar, Kolkata, Cuttack etc. en-route of JHBDPL project.
- These distribution networks will be developed by GAIL in collaboration with the concerned State Governments.
- It will bring clean cooking fuel at the door step of Domestic households as well as provide clean fuel to transport sector in the eastern region.
- About 1.25 crore population living in these cities will be directly benefitted by the establishment of these CGD networks.
- All these projects will generate direct as well as indirect employment for about 21,000 people and will boost socio-economic development in the eastern part of the country.

SUBMARINE OPTICAL FIBRE CABLE CONNECTIVITY BETWEEN CHENNAI AND ANDAMAN & NICOBAR ISLAND

A direct communication link through a submarine Optical Fibre Cable (OFC) between Mainland (Chennai) and Port Blair & five other islands viz. Little Andaman, Car Nicobar, Havelock, Kamorta and Great Nicobar is approved by the government.

The estimated cost of the project is Rs. 1102.38 crore including operational expenses for 5 years. The project is likely to be completed by December 2018.

Benefits to Andaman & Nicobar Islands

- Appropriate bandwidth and telecom connectivity for implementation of e-Governance initiatives.
- Establishment of enterprises.
- E-commerce facilities.
- It will also enable the provision of adequate support to educational institutes for knowledge sharing, availability of job opportunities and fulfill the vision of Digital India.

The Andaman and Nicobar Islands are of immense strategic significance for India

- The geographical configuration and the location of the Andaman & Nicobar Islands chain in the Bay of Bengal safeguard India's eastern seaboard.
- Provision of secure, reliable, robust, and affordable telecom facilities in these islands is of importance from a strategic point of view to the country and also an important requirement for the socio-economic development of the islands.

CURRENT ISSUES

- The only medium of providing telecom connectivity between Mainland and Andaman & Nicobar Islands is though satellites.
- The bandwidth available is limited to 1 Gbps.
- Satellite bandwidth is very costly and its availability is limited due to which future bandwidth requirement cannot be met solely through it.
- There is an issue of redundancy that is, no alternate media is available in case of any emergency.
- Lack of bandwidth and telecom connectivity is also hampering socio-economic development of the islands.

Hence it is essential to have submarine OFC connectivity between the Mainland India and Andaman & Nicobar Islands, being the only option for catering to projected future bandwidth requirements.

KEN-BETWA PROJECT

IN NEWS: India's first inter-State river interlinking project approved by the National Board for Wildlife (NBWL).

- This would be the first time that a river project will be located within a tiger reserve.
- The Rs. 10,000-crore Ken-Betwa project will irrigate the drought-prone Bundelkhand region but in the process will also submerge about 10 per cent of the Panna Tiger Reserve in Madhya Pradesh, feted as a model tiger-conservation reserve.
- The project will bring water to one of India's worst drought-affected regions and also insisted on an integrated wildlife management plan.
- It is a 230-km long canal and a series of barrages and dams connecting the Ken and Betwa rivers that will irrigate 3.5 lakh hectares in Madhya Pradesh and 14,000 hectares of Uttar Pradesh, in Bundelkhand.
- The key projects are the Makodia and Daudhan dams, the latter expected to be 77 m high and responsible for submerging 5,803 hectares of tiger habitat in the Panna tiger reserve.
- Chhatarpur, Panna, Tikamgarh, Raisen, and Vidisha districts of Madhya Pradesh and Mahoba, Jhansi and Banda districts of Uttar Pradesh will benefit from assured irrigation supply, domestic and industrial water supply and power.
- Both the States will benefit from improved drinking water and irrigation facilities.

Concerns

- About 6,388 people in 10 villages will be affected due to the submergence by Daudhan reservoir and 13499 persons living in the 28 villages will be affected due to the submergence by Makodia reservoir and will have to be resettled.
- According to the NBWL, 6,221 hectares 4,141 of which is core forest and located inside the reserve will be inundated.
- The height of the Daudhan dam could be reduced to limit the water overflow and contain its subsequent impact.
- Vulture and Ghariyal habitat in the region would be affected.

Interlinking of rivers

The interlinking of rivers has two components: the Himalayan component and a Peninsular one. All interlinking schemes are aimed at transferring of water from one river system to another or by lifting across natural basins.

The project will build 30 links and some 3000 storages to connect 37 Himalayan and Peninsular rivers to form a gigantic South Asian water grid. The canals, planned to be 50 to 100 meters wide and more than 6 meters deep, would facilitate navigation.

Major advantages of ILR

- India receives most of its rain during monsoon season from June to September, most of it falls in northern and eastern part of India, the amount of rainfall in southern and western part are comparatively low. It will be these places which will have shortage of water. Interlinking of rivers will help these areas to have water throughout the year.
- The main occupation of rural India is agriculture and if monsoon fails in a year, then agricultural activities come to a standstill and this will aggravate rural poverty. Interlinking of rivers will be a practical solution for this problem, because the water can be stored or water can be transferred from water surplus area to deficit.

- The Ganga Basin, Brahmaputra basin sees floods almost every year. In order to avoid this, the water from these areas has to be diverted to other areas where there is scarcity of water. This can be achieved by linking the rivers. There is a two way advantage with this – floods will be controlled and scarcity of water will be reduced.
- Interlinking of rivers will also have commercial importance on a longer run. This can be used as inland waterways and which helps in faster movement of goods from one place to other.
- Interlinking creates a new occupation for people living in and around these canals and it can be the main areas of fishing in India.

Disadvantages of ILR

- Interlinking of rivers can cause huge amount of distortion in the existing environment. In order to create canals and reservoirs, there is a mass deforestation which has impact on rains and in turn, affects the whole cycle of life.
- Usually rivers change their course and direction in about 100 years and if this happens after interlinking, then the project will not be feasible for a longer run.
- Due to interlinking of rivers, there will be decrease in the amount of fresh water entering seas and this will cause a serious threat to the marine life system and will be a major ecological disaster.
- Due to the creation of Canals and Reservoirs, huge amount of area which is occupied by the people will be submerged leading to displacement of people and government will have to spend more to rehabilitate these people.

FIRST INDUSTRIAL CORRIDOR DEVELOPED ALONG INDIA'S COAST

IN NEWS: Multilateral funding agency Asian Development Bank approved \$631 million for building India's first coastal Vizag Chennai industrial corridor.

The fund will help develop the first key 800-km section of the planned 2,500-km East Coast Economic Corridor expected to spur development on India's eastern coast and enable seamless trade links with other parts of South and Southeast Asia.

- The total cost of the project is \$846 million and work on it is expected to be over by 2031. The remaining \$215 million would be funded by the Andhra Pradesh government.
- ADB's loans and grants comprise a \$500 million two-tranche facility to build key infrastructure and a \$125 million two-tranche loan to help in industrial policies and business promotion.
- By 2025, annual industrial output along the corridor will increase four-fold to \$64 billion from about \$16 billion in 2015 if investment opportunities are maximized over the coming 10 years.
- The government is keen to encourage manufacturing via its 'Make in India initiative', to maintain strong economic growth over the longer term and create productive, well-paying jobs for a labour force that is growing by around 12 million people each year.
- Currently, manufacturing contributes around 15 per cent of India's gross domestic product (GDP) and around 12 per cent in Andhra Pradesh where the new corridor will be developed.
- India's National Manufacturing Policy is targeting the sector's contribution to go up to at least 25 per cent of GDP by 2022, much the same as in the People's Republic of China and Malaysia.
- Vizag Chennai Industrial Corridor section of the East Coast Economic Corridor, connecting the four economic hubs and nine industrial clusters, will mark the first industrial corridor developed along India's coast.
- The East Coast Economic Corridor will ultimately extend from Kolkata in West Bengal to Tuticorin in Tamil Nadu near the southern-most point of the country. There will also be a \$5 million grant from the multi-donor Urban Climate Change Resilience Trust Fund that is managed by ADB, to

build climate change resilient infrastructure and a \$1 million technical assistance to help the Andhra Pradesh government manage the corridor.

Four Nodes in Vizag-Chennai Industrial Corridor

- The new infrastructure will be built in the four main centres along the corridor – Visakhapatnam, Kakinada, Amaravati, and Yerpedu-Srikalahasti as well as in nearby industrial areas.
- It will include 138-km of state highways and roads, effluent and water treatment plants, 488-km of drinking water pipes, 47-km storm drains, 10 power substations, and 281-km of power transmission and distribution lines.
- The programme will also focus on increasing women's participation in the industrial workforce, skills training for 25,000 male and female workers, entrepreneurs, and students along with an investor promotion plan is expected to help develop businesses along the corridor.

ADB based in Manila, works for reducing poverty in Asia. Established in 1966, ADB in December 2016 will mark 50 years of development partnership in the region. It is owned by 67 members — 48 from the region. In 2015, ADB assistance total of \$27.2 billion, including co-financing of \$10.7 billion.

UN SUMMIT FOR REFUGEES AND MIGRANTS

IN NEWS: At the UN Summit for Refugees and Migrants, the Member States adopted the **New York Declaration for Refugees and Migrants**. The New York Declaration expresses the political will of world leaders to save lives, protect rights and share responsibility on a global scale.

Commitments includes to

- Protect the human rights of all refugees and migrants, regardless of status. This includes the rights of women and girls and promoting their full, equal and meaningful participation in finding solutions.
- Ensure that all refugee and migrant children are receiving education within a few months of arrival.
- Prevent and respond to sexual and gender-based violence.
- Support those countries rescuing, receiving and hosting large numbers of refugees and migrants.
- Work towards ending the practice of detaining children for the purposes of determining their migration status.
- Strongly condemn xenophobia against refugees and migrants and support a global campaign to counter it.
- Strengthen the positive contributions made by migrants to economic and social development in their host countries.
- Improve the delivery of humanitarian and development assistance to those countries most affected, including through innovative multilateral financial solutions, with the goal of closing all funding gaps.
- Implement a comprehensive refugee response, based on a new framework that sets out the responsibility of Member States, civil society partners and the UN system, whenever there is a large movement of refugees or a protracted refugee situation.
- Find new homes for all refugees identified by UNHCR as needing resettlement and expand the opportunities for refugees to relocate to other countries through, for example, labour mobility or education schemes.
- Strengthen the global governance of migration by bringing the International Organization for Migration into the UN system.

GLOBAL PLEDGE TO RID THE WORLD OF DRUG-RESISTANT INFECTIONS

IN NEWS: The 193 countries of the United Nations have agreed a landmark declaration to rid the world of drug-resistant infections or "superbugs".

Antimicrobial resistance poses a fundamental threat to human health, development, and security.

It is the fourth time a UN declaration has been reached on a health issue - following HIV in 2001, non-communicable diseases in 2011 and Ebola in 2013.

The signatories now have two years to report back with an action plan

Major Concerns

- Treatment-resistant infections pose one of the biggest known threats to humans.
- Without urgent action, it is conceivable that simple infections could soon become entirely untreatable with existing drugs.
- The problem has been caused by over-use of antimicrobial medicines for humans, animals and agriculture.
- Repeated exposure allows bacteria and other infections, including HIV and malaria, to learn how to dodge these treatments by mutating and evolving.
- Unless new effective treatments are found, routine medical procedures such as hip operations and Caesarean sections could become too dangerous to perform.

The nations have committed to

- Develop surveillance and regulatory systems on the use and sales of antimicrobial medicines for humans and animals.
- Encourage innovative ways to develop new antibiotics, and improve rapid diagnostics.
- Educate health professionals and the public on how to prevent drug resistant infections.

What is antimicrobial resistance

Antimicrobial resistance happens when microorganisms (such as bacteria, fungi, viruses, and parasites) change when they are exposed to antimicrobial drugs (such as antibiotics, antifungals, antivirals, antimalarials, and anthelmintics). Microorganisms that develop antimicrobial resistance are sometimes referred to as "superbugs".

As a result, the medicines become ineffective and infections persist in the body, increasing the risk of spread to others.

Key facts

- Antimicrobial resistance (AMR) threatens the effective prevention and treatment of an ever-increasing range of infections caused by bacteria, parasites, viruses and fungi.
- AMR is an increasingly serious threat to global public health that requires action across all government sectors and society.
- Without effective antibiotics, the success of major surgery and cancer chemotherapy would be compromised.

- The cost of health care for patients with resistant infections is higher than care for patients with non-resistant infections due to longer duration of illness, additional tests and use of more expensive drugs.
- Globally, 480 000 people develop multi-drug resistant TB each year, and drug resistance is starting to complicate the fight against HIV and malaria, as well.

FINAL VOYAGE OF NASA CASSINI

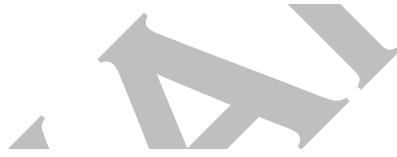
IN NEWS: After studying Saturn, its rings and moons for more than 12 years, NASA's Cassini spacecraft has entered the final year of its voyage during which it will make the **closest-ever observations of the planet.**

Cassini will be mapping the Saturn's magnetic and gravity fields with exquisite precision. It will be returning ultra-close views of the Saturn's atmosphere. Its orbit will be just past the outer edge of the main rings of Saturn. These orbits will be in a series of 20 which are called the F-ring orbits.

Cassini will approach to within 7,800 kilometres of the centre of the narrow F- ring, with its peculiar braided structure. During the F-ring orbits it is expected to see the rings, along with the small moons and other structures embedded in them as never before.

Cassini's final phase, called the Grand Finale, begins in earnest in April next year. A close flyby of Saturn's giant moon Titan will reshape the spacecraft's orbit so that it passes through the gap between Saturn and the rings, an unexplored space only about 2,400 kilometres wide.

Cassini-Huygens Mission



The Cassini-Huygens mission to Saturn is a joint endeavour of ESA, NASA and the Italian space agency, Agenzia Spaziale Italiana (ASI). Cassini-Huygens is a sophisticated spacecraft being sent to the ringed planet to study the Saturnian system in detail over a four-year period.

A scientific probe called Huygens was released from the main spacecraft to parachute through the atmosphere to the surface of Saturn's largest and most interesting moon, Titan.

Cassini-Huygens was launched on a Titan IV-B/Centaur launch vehicle on 15 October 1997. It is a massive spacecraft - no existing launch vehicle could have sent the 5600 kilogram craft directly to Saturn, so a technique called 'gravity assist' (or 'fly-bys') was used.

Gravity assist manoeuvres work because of the mutual gravitational pull between a moving planet and a spacecraft. The planet pulls on the spacecraft as it is flying past, but the spacecraft's own mass also pulls on the planet. This permits an exchange of energy.

Cassini-Huygens looped around the Sun twice. On the first loop it flew close behind Venus in its solar orbit, where it 'stole' some of the planet's orbital momentum on 26 April 1998.

DELHI AIRPORT FIRST CARBON NEUTRAL AIRPORT IN ASIA-PACIFIC

The GMR consortium-AAI run Delhi Airport has become the first carbon neutral airport in Asia-Pacific following a series of measures taken by it to reduce carbon footprint, including setting up of a 7.84 MW solar power plant.

The announcement was made by the international body of aerodrome operators across the world, ACI during the Airport Carbon Accreditation certificate presentation ceremony in Montreal, Canada.

The Airport Carbon Accreditation has upgraded Delhi Airport to highest level of certification -a level 3+ neutrality which is the highest level of environmental achievement available to airports under the programme and it is recognition of the airport's great effort in reducing and offsetting emissions available to airports across the world.

Carbon neutrality occurs when the net carbon emissions over an entire year are zero or when the airport absorbs or offsets the same amount of emission that was generated.

Terminal 3 of Delhi Airport is a LEED Gold certified green building. The energy efficiency measures implemented in IGIA has been registered in UNFCCC (United Nations Framework Convention on Climate Change) as clean development mechanism project.

DIAL has also set up a 7.84 MW solar power plants to reduce GHG emission, other energy efficient and environment friendly infrastructures at the airport include state-of-the-art sewage and water treatment plants, energy efficient bridge mounted equipment (BMEs), energy-efficient lighting systems, advanced fuel hydrant systems.

The various emission saving measures implemented in DIAL have resulted in 51 per cent reduction in specific GHG emission (kgCO₂/Pax) during the last five years.

WORLD'S LARGEST SOLAR POWER PLANT

IN NEWS: Adani Green Energy (Tamil Nadu) Ltd created the world's largest solar power plant. The plant has been set up with an investment of around 4550 crore rupees at Kamuthi in Ramanathapuram district of Tamil Nadu.

Kamuthi Solar Power Project

- Kamuthi Solar Power Project is a solar photovoltaic power generating station at Kamuthi.
- It has a generating capacity of 648 MW at a single location.
- It is considered the world's largest single location solar project.
- The solar plant comprises of 380000 foundations, 2500000 solar modules, 27000 metric tonnes of structures, 154 transformers and 6000 km of cables.
- It consists of 576 inverters and 154 transformer and almost 7500 km of cables.
- The panels occupy 1270 acres of land. 30000 tonnes of galvanised steel were used.
- The entire 648 MW is now connected to the Kamuthi 400 KV substation of Tantransco.

MARRAKESH TREATY AND ACCESSIBLE BOOKS CONSORTIUM

Marrakesh Treaty to Facilitate Access to Published Works for Persons Who Are Blind, Visually Impaired or Otherwise Print Disabled

IN NEWS: Marrakesh Treaty came into force.

The Marrakesh Treaty was adopted on June 27, 2013 in Marrakesh and it forms part of the body of international copyright treaties administered by WIPO. It has a clear humanitarian and social development dimension and its main goal is to create a set of mandatory limitations and exceptions for the benefit of the blind, visually impaired, and otherwise print disabled (VIPs).

The Marrakesh Treaty represents a significant step towards making books available to everyone, by easing the creation and transfer across national boundaries of texts in accessible formats such as Braille, audio, or large print. With access to information and educational materials, blindness need no longer be a barrier to learning, employment and full participation in society.

According to the World Health Organization, some 285 million people worldwide live with visual impairments. Meanwhile, the World Blind Union estimates that children who are blind have a less than 10 per cent chance of going to school — a situation that could be improved if schools had ready access to texts adapted for use by visually impaired children.

Accessible Books Consortium (ABC)

- The World Intellectual Property Organisation (WIPO), a United Nations organisation based in Geneva, administers the Marrakesh Treaty and leads an alliance of private and public partners known as the Accessible Books Consortium (ABC), which was established in June 2014 to support the goals of the treaty.
- The ABC has established a centralised electronic multilingual catalogue of accessible books produced by libraries for the blind around the world.
- Through the ABC Book Service, which is free, organisations serving the print-disabled can supplement their collections of accessible books from their counterparts in other countries.
- The ABC Book Service can assist in preventing the same book from being produced in accessible formats by more than one library, thereby avoiding duplication.
- Nineteen libraries for the blind from 16 countries are already participating in this service.
- In addition to implementing projects in India, ABC has also established training and technical assistance projects in Bangladesh, Nepal and Sri Lanka, and it is estimated that 88,500 students with visual impairments in these four countries will benefit from ABC projects in the upcoming year.
- ABC plans to extend its capacity-building programmes to Africa and Latin America, helping ensure that these transformative uses of technology can boost access to books for people who are blind or print-disabled around the world.

India's effort

India has been a leader, having in June 2014 become the first country to ratify the Marrakesh Treaty. So far, 22 countries have joined the Marrakesh Treaty.

India has not delayed in readying itself to ensure the Marrakesh Treaty benefits its people. For example, the 'Accessible India Campaign' has provided a nationwide flagship campaign for universal access for people with disabilities. And India has begun implementation of the Marrakesh Treaty through a multi-stakeholder

approach, which includes collaboration among key players such as government ministries, local champions like the DAISY Forum of India, and the private sector. This led to the launch of India's largest collection of online accessible books called "Sugamya Pustakalaya which counts 200000 volumes.

It is hoped that Sugamya Pustakalaya will soon become a member of the ABC Book Service, there by joining an international library-to-library service managed by WIPO in Geneva.

ABC is continuing to establish projects in India, including by training publishers, libraries and NGOs in the production of accessible books, as well as providing funding to produce educational materials in accessible formats. Without these materials, students either cannot access their curriculum or are dependent on books being read aloud to them.

SUGGESTION

The books need to be adapted into accessible formats either by libraries for the blind, organizations serving the print-disabled, or at the source by publishers (including Departments of Education) so that the texts can be "read" using assistive technology on computers, phones or electronic Braille devices. Once produced, these accessible books need to be distributed to the people that need them, including to populations that may live far from major urban areas.

HANDHELD MELAMINE DETECTOR

In 2008, at least four babies in China died and around 100,000 became sick after consuming powdered milk baby food laced with melamine. Due to the presence of nitrogen, the addition of melamine to milk makes it look protein-rich.

A handheld melamine detector developed by researchers at the Indian Institute of Science (IISc), Bangalore.

METHOD FOR DETECTION OF MELAMINE

- Leaf extract of a commonly seen weed parthenium along with silver nitrate is used for detecting the presence of melamine in milk.
- Prior to melamine detection, the milk is processed to remove fat and proteins as they tend to interfere with detection.
- The presence of melamine in milk can be detected at room temperature within a few seconds through a change in colour.
- If melamine is present then it interferes with the synthesis and there is abrupt formation of nanoparticles leading to colour change.
- The change in colour depends on the amount of melamine present and, therefore, the extent of its interference with the synthesis of silver nanoparticles. The colour change can be directly observed by the naked eye.
- The silver nanoparticles are reddish yellow in the absence of melamine, while it becomes nearly colourless when melamine is present.

Melamine content of more than 1 ppm in infant formula and more than 2.5 ppm in other foods should be viewed with suspicion of adulteration.

A handheld melamine detector has a very high sensitivity as it can detect melamine even at a low concentration of 0.5 ppm in raw milk.

MELAMINE

- Melamine is an organic base chemical most commonly found in the form of white crystals rich in nitrogen.
- Melamine is widely used in plastics, adhesives, countertops, dishware, whiteboards.
- Melamine alone causes bladder stones in animal tests. When combined with cyanuric acid, which may also be present in melamine powder, melamine can form crystals that can give rise to kidney stones.

These small crystals can also block the small tubes in the kidney potentially stopping the production of urine, causing kidney failure and, in some cases, death

UNEMPLOYMENT SURVEY

The survey was conducted during April-December 2015 comprising of a total sample of 1,56,563 households, with 88,783 rural households and 67,780 urban households.

- India's unemployment rate rose to 5 per cent in 2015-16.
- Females having the highest unemployment rate and lowest labour force participation rate (LFPR), both in rural and urban areas.
 - Unemployment rate of females was at 8.7 per cent at all-India level, as against 4 per cent for males and 4.3 per cent of transgenders.
 - In urban areas, the female unemployment rate was estimated at 12.1 per cent as against 3.3 per cent for males and 10.3 per cent for transgenders.
 - For rural areas, the female unemployment rate stood at 7.8 per cent in 2015-16 as against 4.2 per cent for males and 2.1 per cent for transgenders.
 - The Labour Force Participation Rate for females was significantly lower as compared to males at 23.7 per cent in 2015-16
- Male LFPR for the same period stood at 75 per cent while for transgenders it was 48 per cent.

(Fifth annual employment-unemployment survey of households released by Labour Bureau)

MAJOR REASON IS THE CONTRACTUAL WORK

- About 77 per cent of the households having no regular wage/salaried person.
- About 64.9 per cent of the regular wage/ salaried workers, 67.8 per cent of the contract workers and 95.3 per cent of the casual workers did not have a written job contract in the country in 2015-16.
- Around 67.5 per cent of the self employed workers had average monthly earnings of up to Rs 7,500.
- Only 0.1 per cent of the self employed were estimated to have earnings above Rs 1 lakh.
- More than half of the regular wage/salaried workers at around 57.2 per cent had monthly average earnings of up to Rs 10,000.

Among states, **Madhya Pradesh with 35.8 per cent households had the highest proportion with average monthly earnings not exceeding Rs 5,000, followed by West Bengal at 34.5 per cent, Uttar Pradesh at 30.1 per cent and Odisha at 29.8 per cent.**

The data showed that about 24 per cent households benefitted from government's employment generating schemes like MGNREGA, Prime Minister's Employment Generation Programme, Swarnajayanti Gram Swarojgar Yojana and Swarnajayanti Gram Swarojgar Yojana among other. Only three Northeastern states, Tripura, Manipur and Mizoram, had more than 70 per cent of households that benefited from MGNREGA.

INDIA & MERCOSUR

IN NEWS: India to expand its commercial and multilateral deals in south America and need to raise its tariff lines to 4000 with MERCOSUR (Southern common market of south America).

India at present has over 450 tariff lines with MERCOSUR (Southern Common Market). Both sides have already begun to take several steps to firm up India's involvement in MERCOSUR that covers apart from Brazil, Paraguay, Uruguay, Argentina and Venezuela.

Taking steps for Indian investment in Latin America, EMBRAPA (Brazilian Agriculture Research Corporation) signed an agreement with Indian Council for Agricultural Research (ICAR) for exporting Brazilian lentils to India.

MERCOSUR

MERCOSUR is South America's leading trading bloc. Known as the Common Market of the South, it aims to bring about the free movement of goods, capital, services and people among its member states. It has been likened to the European Union but, with an area of 12m sq km (4.6m sq miles), it is four times as big. The bloc's combined market encompasses more than 250m people and accounts for more than three-quarters of the economic activity on the continent.

MERCOSUR was set up in March 1991 by Argentina, Brazil, Paraguay and Uruguay under the Treaty of Asuncion. The 1994 Treaty of Ouro Preto gave the body a wider international status and formalised a customs union.

MERCOSUR tariff policies regulate imports and exports and the bloc can arbitrate in trade disputes among its members.

MERGER OF RAILWAY BUDGET WITH THE GENERAL BUDGET

IN NEWS: The arrangements for merger of Railway budget with the General budget have been approved by the Cabinet with the following administrative and financial arrangements-

- The Railways will continue to maintain its distinct entity as a departmentally run commercial undertaking as at present.
- Railways will retain their functional autonomy and delegation of financial powers etc. as per the existing guidelines.
- The existing financial arrangements will continue wherein Railways will meet all their revenue expenditure, including ordinary working expenses, pay and allowances and pensions etc. from their revenue receipts.
- The Capital at charge of the Railways estimated at Rs.2.27 lakh crore on which annual dividend is paid by the Railways will be wiped off. Consequently, there will be no dividend liability for Railways from 2017-18 and Ministry of Railways will get Gross Budgetary support. This will also save Railways from the liability of payment of approximately Rs.9,700 crore annual dividend to the Government of India.

The presentation of separate Railway budget started in the year 1924, and has continued after independence as a convention rather than under Constitutional provisions. The merger would help in the following ways:

- The presentation of a unified budget will bring the affairs of the Railways to centre stage and present a holistic picture of the financial position of the Government.
- The merger is also expected to reduce the procedural requirements and instead bring into focus, the aspects of delivery and good governance.
- Consequent to the merger, the appropriations for Railways will form part of the main Appropriation Bill.

MERGER OF PLAN AND NON PLAN CLASSIFICATION IN BUDGET AND ACCOUNTS

The merger of Plan and Non Plan classification in Budget and Accounts from 2017-18 with continuance of earmarking of funds for Scheduled Castes Sub-Plan/Tribal Sub-Plan. Similarly, the allocations for North Eastern States will also continue.

This would help in resolving the following issues:

- The Plan/Non-Plan bifurcation of expenditure has led to a fragmented view of resource allocation to various schemes, making it difficult not only to ascertain cost of delivering a service but also to link outlays to outcomes.
- The Plan expenditure by Centre as well as the State Governments has led to a neglect of essential expenditures on maintenance of assets and other establishment related expenditures for providing essential social services.
- The merger of plan and non-plan in the budget is expected to provide appropriate budgetary framework having focus on the revenue, and capital expenditure.

INDIA-US PARTNERSHIP ON CLIMATE CHANGE

IN NEWS: The US Agency for International Development (USAID) has announced five new partnerships, four of which are with the Government of India, to expand Indo-US cooperation on clean energy, environment and climate change.

- During the US-India Joint Working Group on Combating Climate Change, USAID also announced its collaboration with the Forest Survey of India (FSI) **to strengthen the latter's capacity to better predict forest fires**. This will also include using of high-resolution satellite imagery for forest resource assessment, and develop protocols for strengthening forest inventory.
- Greening the Grid, a joint initiative between USAID and Ministry of Power initiative to strengthen India's power grid to manage large-scale integration of renewable energy. The project will be undertaken between Bangalore power utility BESCOM and US-based company, Innovari.
- The MNRE and USAID also agreed to expand their solar rooftop programme to an additional eight states and 15 utilities.
- Transforming India's markets for super-efficient air conditioners. Currently, fewer than 5 per cent of households have ACs in India, but with rising demand for cooling and better comfort, the growth rate of AC sales is expected to accelerate to 30 per cent per annum over the next five years.
- USAID is also partnering with the University of Chicago to work with the Centre and Gujarat State Pollution Control Board to pilot a market instrument designed to reduce costs for industrial plants to comply with regulatory limits on emissions. The first pilot under this partnership will be tested in Gujarat.

EAST ASIA SUMMIT

IN NEWS: 11th East Asia Summit recently held in Vientiane, Lao PDR.

Key areas of discussion

- Matters of regional and international interest.
- Maritime security.
- Terrorism.
- Non-proliferation.
- Irregular migrations.

Adopted statements/declarations

- The Vientiane Declaration on Promoting Infrastructure Development Cooperation in East Asia.
- An EAS Declaration on Strengthening Responses to Migrants in Crisis and Trafficking in Persons.
- An EAS Statement on Non-Proliferation.
- A Joint Statement on the Regional Comprehensive Economic Partnership (RCEP) Negotiation.

EAST ASIA SUMMIT

It is the premier leaders-led forum in the Asia-Pacific. Since its inception in 2005, it has played a significant role in the strategic, geopolitical and economic evolution of East Asia.

- Apart from the 10 ASEAN Member states, East Asia Summit includes India, China, Japan, Republic of Korea, Australia, New Zealand, United States and Russia.
- India, being a founding member of the East Asia Summit, is committed to strengthening the East Asia Summit and making it more effective for dealing with contemporary challenges.

HEALTHCARE CONFERENCE: FICCI

IN NEWS: FICCI has been organising its annual flagship event FICCI HEAL since 2007 and it has evolved as a landmark and coveted Healthcare Conference in the country for health industry stakeholders to share knowledge and best practices.

The central theme for FICCI HEAL 2016 is “**Re-engineering Indian Healthcare**”.

Concern: The forces of consumerism in healthcare have paved the way for unconventional market entrants to rise to the challenge of delivering healthcare on the back of rapid digitization. This is posing significant challenges to incumbent players, but also disrupting the healthcare ecosystem as a whole.

- India has 16% of world's population and 21% of world's disease burden equaling loss of ~6% of India's GDP due to premature deaths and preventable illnesses.
- It is estimated that the increasing NCD burden will cost India USD 4.58 trillion due to loss of productivity.
- India's total health spend is only ~4.7% of GDP and out of pocket expenditure (OOP) is 62% of the total health spend which is very high when compared to other countries such as Brazil 25%, China 32%, South Africa 6%, USA 11%, UK 9%.
- Unprecedented demand due to demographic changes and shifting disease patterns, coupled with rising costs and the proliferation of technology, has led to demand for efficiency, transparency in care delivery.

- Providing access to quality healthcare for 1.2 billion plus population is a huge challenge that the country has to deal with.

The Healthcare sector is estimated to reach \$160 bn by 2017 and \$280bn by 2020. It is currently the 5th largest employer amongst all sectors in the country.

NATIONAL TRAINING WORKSHOP ON AUTISM

IN NEWS: ‘National Training Workshop on Autism using International Clinical Epidemiology Network (INCLEN) and Indian Scale of Assessment of Autism (ISAA) Tools’ organized by The National Trust, a statutory body under Department for the welfare of Persons with Disabilities (Divyangjan), Ministry of Social Justice & Empowerment held recently.

The **aim** of the workshop is to train and empower health care professionals like pediatricians, psychologists, psychiatrists to be trained as Master Trainers. These Master Trainer will further train required number of professionals in their respective States.

In order to maintain uniformity and standard in assessment of autism, two types of assessment tools are being recommended:

- One is INCLEN Tool developed under INCLEN study – “Neuro Developmental Disorder in Children in India”.
- The other tool is ISAA – Indian Scale of Assessment of Autism”, developed by the Ministry of SJ&E through NIMH, as a research project.

The Department of Empowerment of Persons with Disabilities, under MSJE has notified guidelines to pave the way for constitution of boards and issuing of disability certificates for Autism.

Autism

- Autism spectrum disorder (ASD) and autism are both general terms for a group of complex disorders of brain development.
- These disorders are characterized, in varying degrees, by difficulties in social interaction, verbal and nonverbal communication and repetitive behaviors.
- ASD can be associated with intellectual disability, difficulties in motor coordination and attention and physical health issues such as sleep and gastrointestinal disturbances.
- Signs of autism and symptoms of autism tend to emerge between 2 and 3 years of age.
- There is no definitive cure. The affect of autism can be minimized by early diagnosis and with the right interventions.
- Recent international studies show that about 1 in 68 people have autism and the overall incidence of autism is believed to be consistent around the globe. This means that there are over 18 million people with autism in India.

INDIA APPROVED THE RATIFICATION OF PARIS AGREEMENT

The Union Cabinet approved the ratification of the Paris Agreement on Climate Change on 2 October 2016. Paris Agreement gives thrust to the global actions to address climate change and pertains to post-2020 climate actions.

Significance of India's Ratification of the Paris Agreement

- India's decision to ratify the agreement will take the number of cumulative level of emission of countries to 51.89 percent.
- With its decision to ratify the Agreement, India will be one of the key countries that will be instrumental in bringing the Paris Agreement into force.
- It will underline India's responsive leadership in the community of nations committed to global cause of environmental protection and climate justice.

Paris Agreement

- The Paris Agreement was adopted by 185 nations on 12 December 2015 and India signed the Paris Agreement in New York on 22 April 2016.
- A total of 191 countries have signed to the Paris Agreement so far.
- As per the provisions of the Paris Agreement, the treaty will come into force as soon as 55 countries contributing to 55 percent of total global emission ratify the agreement.
- So far, 61 countries have deposited their instruments of ratification, acceptance or approval accounting in total for 47.79 percent of the total global greenhouse gas emissions.

IOCL, GAIL SIGNS MoU WITH ADANI GROUP

IN NEWS: Indian Oil Corporation Limited (IOCL) and GAIL (India) Limited signed a Memorandum of Understanding (MoU) with Dhamra LNG Terminal Private Limited (DLTPL) for taking equity in the 5 MMTPA capacity LNG Receiving, Storage and Regasification Terminal.

The Dhamra LNG terminal is being built by Adani Enterprises Ltd at Dhamra Port, Odisha.

KEY POINTS

- It will be an equal joint venture between IOCL, GAIL and Adani group.
- Indian Oil and GAIL intended to book regasification capacity of 3.0 and 1.5 MMTPA respectively in the terminal.
- Presently, the states in eastern India viz. Odisha, Bihar, Jharkhand and West Bengal are not able to get the benefits of natural gas in sectors like Domestic, Transport, Industries etc., as the region does not have gas infrastructure by way of LNG Terminals and cross-country gas pipeline grid.
- The LNG Terminal at Dhamra Port will provide the potential customers in these states a clean and economically viable alternative which will also help in reducing the carbon footprint.
- This will also provide momentum to the economic growth of this region by attracting new industrial projects.
- The LNG Terminal will also meet the gas requirements of three oil refineries of Indian Oil situated in Barauni, Haldia and Paradip.
- The three fertilizers plants at Barauni, Sindri and Gorakhpur which are being revived by Govt. of India will also benefit from this terminal.

UIDAI BANS SHARING OF AADHAAR DETAILS

- The core biometric information, collected by the Authority, cannot be shared with anyone for any reason.
- Any violation of the Aadhaar Act will constitute an offence and is punishable under the Act.
- The agencies that collect the Aadhaar number will also have to specify whether submission of the number or proof of Aadhaar is mandatory or voluntary.
- The regulations also provide for obtaining consent of the Aadhaar number holder for collection, storage and use of the same for specified purposes.

PERMANENT RESIDENCY STATUS TO FOREIGN INVESTORS

- The PRS will be granted for a period of 10 years with multiple entries.
- This can be reviewed for another 10 years if the PRS holder has not come to adverse notice.
- The scheme will be applicable only to foreign investors fulfilling the prescribed eligibility conditions, his/her spouse and dependents.
- In order to avail this scheme, the foreign investor will have to invest a minimum of 10 crores rupees to be brought within 18 months or 25 crores rupees to be brought within 36 months.
- Further, the foreign investment should result in generating employment to at least 20 resident Indians every financial year.

Apart from this, the Permanent Residency Status (PRS) will be granted for a period of 10 years initially with multiple entry facility, which can be renewed for another 10 years. PRS will serve as a multiple entry visa without any stay stipulation and PRS holders will be exempted from the registration requirements.

PRS holders will be allowed to purchase one residential property for dwelling purpose. The spouse/dependents of the PRS holder will be allowed to take up employment in private sector (in relaxation to salary stipulations for Employment Visa) and undertake studies in India.

KUDANKULAM PLANT UNIT-2 SYNCHRONISED WITH SOUTHERN POWER GRID

IN NEWS: The second reactor of the Kudankulam Nuclear Power Project (KKNPP) was successfully synchronised to the Southern Power Grid situated at Abhishekappatti, Chennai. This marks the generation of electricity and its supply to the grid by the second reactor.

- The Russian-designed VVER-1000 reactor of Kudankulam is now generating 245 MWe power to the southern grid from the second unit. Output from Kudankulam 2 is being divided between four states: Tamil Nadu, Karnataka, Kerala and Puducherry.

- Generation of power will be raised to 250 MWe, 500 MWe, 750 MWe, 900 MWe and then 1000 MWe in stages. At every stage, tests will verify the technical parameters mandated by the Atomic Energy Regulatory Board (AERB).

BACKGROUND

The Kudankulam units are India's first pressurized water reactors to enter operation and are the largest reactors in the country. The two Kudankulam units have been built by NPCIL and also commissioned and operated by NPCIL under IAEA safeguards, with supervision from Russian specialists. Construction of the Kudankulam units began in 2002.

The grid connection of Kudankulam 2 brings India's installed nuclear generating capacity to 6780 MWe. Kudankulam 2 is the second of two AES-92 VVER-1000 reactors supplied by Russia's Atomstroyexport under a Russian-financed contract. Enriched uranium fuel for the entire life of the plant will be supplied by Russia.

UN SECURITY COUNCIL ADOPTS RESOLUTION ON NUCLEAR NON-PROLIFERATION AND NUCLEAR DISARMAMENT

IN NEWS: The UN Security Council approved a resolution urging quick global implementation of Comprehensive Nuclear-Test-Ban treaty that would ban tests of nuclear weapons.

- With 14 votes in favour and one abstention (Egypt), the resolution progressed towards universalization of the Treaty, noting that 183 States have signed the Treaty and 166 States have deposited their instruments of ratification.
- North Korea's latest nuclear explosion urged the ratification of the treaty for a safer, more secure, and more peaceful planet. But the US has not yet done so.
- The UN's Comprehensive Test Ban Organization already has a network of monitoring stations. But it still cannot go on site to inspect for tests until the treaty enters into force. For that, the holdouts among the 44 countries that are designated nuclear capable, the United States, China, Egypt, India, Iran, Israel, North Korea and Pakistan must ratify.
- The Comprehensive Nuclear-Test-Ban Treaty bans all nuclear explosions for both civilian and military purposes. Adopted by the UN General Assembly under resolution 50 (1996), the Treaty will enter into force 180 days after the date of deposit of the instruments of ratification by all.

INDIA DECLARES ITSELF FREE FROM BIRD FLU

IN NEWS: India declared itself free from the highly contagious avian influenza (H5N1) or bird flu. The declaration was made by the Department of Animal Husbandry under the Agriculture Ministry.

The outbreak of the avian influenza was notified on 9 May 2016 at Humnabad, Bidar district, Karnataka. In areas on the one-kilometre radius of the outbreak location, the government took measures, including culling, disinfection and clean-up, to contain the spread of avian influenza.

Bird flu affects mainly the domestic poultry. The disease spreads from infected birds to other winged creatures through contact with nasal and respiratory secretions and also due to contamination of feed and water.

Avian influenza

Avian influenza (AI) is an infectious viral disease of birds. AI viruses are divided into 2 groups based on their ability to cause disease in poultry: high pathogenicity or low pathogenicity. Highly pathogenic viruses result in high death rates (up to 100% mortality within 48 hours) in some poultry species. Low pathogenicity viruses also cause outbreaks in poultry but are not generally associated with severe disease.

- Most avian influenza viruses do not infect humans; however some, such as A(H5N1) and A(H7N9), have caused serious infections in people.
- Outbreaks of AI in poultry may raise global public health concerns due to their effect on poultry populations, their potential to cause serious disease in people, and their pandemic potential.
- Reports of highly pathogenic AI epidemics in poultry, such as A(H5N1), can seriously impact local and global economies and international trade.
- The majority of human cases of A(H5N1) and A(H7N9) infection have been associated with direct or indirect contact with infected live or dead poultry. There is no evidence that the disease can be spread to people through properly cooked food.
- Controlling the disease in animals is the first step in decreasing risks to humans.