

CURRENT AFFAIRS**1ST SEP. TO 10TH SEP. 2016****ISRO LAUNCHED FIVE SATELLITES IN TWO DIFFERENT ORBITS**

- i. **INSAT-3DR:** INSAT-3DR similar to INSAT-3D, weighing 2211 kg, is an advanced meteorological satellite of India configured with an imaging System and an Atmospheric Sounder. The significant improvements incorporated in INSAT-3DR are:
 - Imaging in Middle Infrared band to provide night time pictures of low clouds and fog.
 - Imaging in two Thermal Infrared bands for estimation of Sea Surface Temperature (SST) with better accuracy.
 - Higher Spatial Resolution in the Visible and Thermal Infrared bands.
 - The weather satellite will have a six-channel imager and a 19-channel sounder.
 - Like its predecessor INSAT-3D, INSAT-3DR carries a Data Relay Transponder as well as a Search and Rescue Transponder.
 - INSAT-3DR will provide service continuity to earlier meteorological missions of ISRO and further augment the capability to provide various meteorological as well as search and rescue services.
- ii. **ScatSat:** 370 kg, a weather forecasting, cyclone prediction and tracking satellite, replaced the space agency Oceansat-2, which is dysfunctional after nearly five years of lifespan.
- iii. **Algerian satellite:** The 200-kg Algerian spacecraft (Alsat-2A), which the space agency's commercial arm Antrix Corporation contracted, is a remote-sensing satellite.
- iv. **Two mini-satellites:** It will monitor sea surface winds and predict cyclones and data from this will also be used by the US space agencies (NASA & NOAA) and a European space consortium (EUMETSAT).

The last four satellites will be launched on Polar Satellite Launch Vehicle (PSLV) and deployed in the earth's lower orbits.

GSLV-F05 is the tenth flight of India's Geosynchronous Satellite Launch Vehicle (GSLV). GSLV is designed to inject 2 - 2.5 tonne class of satellites into GTO. . The propellant carried by INSAT-3DR is mainly required to raise the satellite from the Geosynchronous Transfer Orbit (GTO) to its final Geostationary Orbit and to maintain the satellite in its orbital slot during its life. The satellite has a solar array generating 1700 Watts of power.

INDIA METEOROLOGICAL DEPARTMENT

India Meteorological Department was established in 1875. It is the National Meteorological Service of the country and the principal government agency for all matter relating to meteorology, seismology and allied subjects. Its Headquarter is in New Delhi. India was the first developing country in the world to have its own geostationary satellite, INSAT, for continuous weather monitoring, particularly for cyclones.

Key Functions:

- To take meteorology observations and to provide current and forecast meteorological information for optimum operation of weather-sensitive activities like agriculture, irrigation, shipping, aviation, offshore oil exploration, etc.
- To warn against severe weather phenomenon like tropical cyclones, norwesters, dust storms, heavy rains and snow, cold and heat waves, etc., which causes destruction.
- To provide meteorological statistics required for agriculture, water resource management, industries and other nation building activities.
- To detect and locate earthquakes and to evaluate seismicity in different parts of the country for development projects.

CHIKUNGUNYA

Key facts

- Chikungunya is a viral disease transmitted to humans by infected female mosquitoes i.e., *Aedes aegypti* and *Aedes albopictus*.
- It is an RNA virus that belongs to the alphavirus genus of the family Togaviridae.
- It causes fever and severe joint pain. Other symptoms include muscle pain, headache, nausea, fatigue and rash.
- The symptoms of chikungunya are similar to those of dengue and Zika, diseases spread by the same mosquitoes that transmit chikungunya.
- There is no cure and vaccine for the disease, treatment is focused on relieving the symptoms.
- Chikungunya has been identified in over 60 countries in Asia, Africa, Europe and the Americas.

ZIKA

- The Zika virus, first identified in Uganda in 1947, is transmitted by the same type of mosquitoes that carries dengue fever, yellow fever, and chikungunya virus.
- Zika is spread mostly by the bite of an infected *Aedes* species mosquito (*Ae. aegypti* and *Ae. albopictus*).
- Zika can be passed from a pregnant woman to her fetus. Infection during pregnancy can cause certain birth defects. It can also be transmitted sexually.
- There is no vaccine or medicine for Zika.
- Zika infection during pregnancy can cause a birth defect of the brain called **microcephaly** and other severe fatal brain defects. Other problems have been detected among fetuses and infants infected with Zika virus before birth, such as defects of the eye, hearing deficits, and impaired growth.
- There have also been increased reports of **Guillain-Barré syndrome**, an uncommon sickness of the nervous system, in areas affected by Zika.

BIODIVERSITY CRISIS: NGT

A plea filed with NGT which alleges that various States and union territories had 'failed' to pay attention to the unique biodiversity of the country and poor implementation of Biological Diversity Act, 2002.

India is facing massive biodiversity loss:

- On an average, 333 acres of forest are legally diverted under Forest (Conservation) Act, 1980, each day.
- The Himalayas have become world's mountain range with most number of dams.
- SC has called for '**species best interest standard**'– completely new standards for endangered species.
 - It includes the most threatened species like the Great Indian Bustard (GIB), the Bengal Florican, Manipur Brow-antlered deer, dugong and wild buffalo.

The Biological Diversity Act 2002

- The **Biological Diversity Act 2002** aims at preserving biological diversity in India.
- The Act provides mechanism for equitable sharing of benefits arising out of the use of traditional biological resources and knowledge.
- It seeks to set up **Biodiversity Management Committees (BMCs)** at the local level in every state under Act. BMCs promote conservation, sustainable use and documentation of biological diversity.
- There is also a **People's Biodiversity Register (PBR)** which records the diversity of flora and fauna.

THE PANCHAYATS (EXTENSION TO THE SCHEDULED AREAS) ACT, 1996 (PESA)

The salient feature of the Panchayats (Extension to the Scheduled Areas) Act, 1996 (PESA) and the modalities worked out to grant rights to tribals in the country are:

- (i) Legislation on Panchayats shall be in conformity with the customary law, social and religious practices and traditional management practices of community resources;
- (ii) Habitation or a group of habitations or a hamlet or a group of hamlets comprising a community and managing its affairs in accordance with traditions and customs; and shall have a separate Gram Sabha.
- (iii) Every Gram Sabha to safeguard and preserve the traditions and customs of people, their cultural identity, community resources and the customary mode of dispute resolution.
- (iv) The Gram Sabhas have roles and responsibilities in approving all development works in the village, identify beneficiaries, issue certificates of utilization of funds; powers to control institutions and functionaries in all social sectors and local plans.
- (v) Gram Sabhas or Panchayats at appropriate level shall also have powers to manage minor water bodies; power of mandatory consultation in matters of land acquisition; resettlement and

rehabilitation and prospecting licenses/mining leases for minor minerals; power to prevent alienation of land and restore alienated land; regulate and restrict sale/consumption of liquor; manage village markets, control money lending to STs; and ownership of minor forest produce.

MASALA BONDS

Canada's British Columbia province has become the first foreign government to issue of Masala bonds.

- Masala bond is a term used to refer to a financial instrument through which Indian entities can raise money from overseas markets in the rupee, not foreign currency.
- The International Finance Corporation (IFC), an arm of the World Bank, issued the first masala bonds in October 2013 as part of its \$2 billion dollar offshore rupee programme.
- These bonds can be traded on London stock exchange only.
- The rupee denominated bond is an attempt to shield issuers from currency risk and instead transfer the risk to investors buying these bonds.
- Masala bond is a step to help internationalize the Indian rupee.
- Though raised in Indian currency, these bonds will be considered as part of foreign borrowing by Indian corporate and hence would have to follow the RBI norms in this regard.
- Under the automatic route, companies can raise as much as \$750 million per annum through Masala bonds.
- The critical factors for the success of such bond are two: (a) coupon rate and (b) liquidity of Indian currency.

FIFTH TRANCHE OF SOVEREIGN GOLD BOND SCHEME OPENS

- Sovereign Gold Bonds will be issued on payment of rupees and denominated in grams of gold.
- Bonds will be issued on behalf of the Government of India by the RBI.
- The bond would be restricted for sale to resident Indian entities.
- Interest to be obtained under the Gold Bond scheme is at a fixed rate of 2.75 per cent payable every six months.
- Maximum investment under the Gold Bond scheme is 500 gm.
- The Gold Bond scheme has a tenure of eight years, with exit options in the 5th, 6th and 7th year.
- The bonds are tradable through stock exchanges – NSE and BSE.
- The bonds will be available both in demat and paper form.
- The bonds will be issued in denominations of 5, 10, 50, 100 grams of gold or other denominations.
- Banks/NBFCs/Post Offices/ National Saving Certificate (NSC) agents and others, as specified, may collect money / redeem bonds on behalf of the government.
- Bonds can be used as collateral for loans. The Loan to Value ratio is to be set equal to ordinary gold loan mandated by the RBI from time to time.
- KYC norms will be the same as that for gold.
- Capital gain tax will be exempted on redemption.

The Guinness World Records declared Assam's Majuli as the largest river island in the world

Majuli in the Brahmaputra River in north east India covers an area of around 880 km² (340 miles²). Due to the frequent flooding of the Brahmaputra Majuli suffers heavy erosion. In the last 30-40 years it is estimated that it has lost around one third of its area.

- The dwellers are mostly of the Mising tribes from Arunachal Pradesh who immigrated here centuries ago. Apart from them, the inhabitants are from the Deori and Sonowal Kacharis tribes.
- Languages spoken are Mising, Assamese, and Deori.
- The island has 144 villages with a population of over 160,000 and a density of 300 individuals per square km.
- The island has reportedly lost around 400 km² in the last 100 years.
- Majuli has a rich and diverse agricultural tradition, with as many as 100 varieties of rice grown, all without pesticides or artificial fertilizers.
- The island has been nominated to be a UNESCO World Heritage Site. The nomination has not been approved yet.
- Majuli becomes India's first island district.
- According to earlier records, Brazil's Marajo was the world's largest river island.

RECENT PROPOSALS FOR MAJULI:

- A cultural university will be set up.
- A centre of water resources will also come up in the new district island to suggest remedial steps for the recurring flood and erosion there.
- Construction of Bogibeel bridge is at its terminal stage, while Dhola-Sadiya Bridge will be commissioned in 2017.
- Construction of a 122 km road connecting Majuli.

2016 IUCN WORLD CONSERVATION CONGRESS, HAWAII

The 2016 International Union for Conservation of Nature (IUCN) World Congress's theme is "**Planet at the Crossroads**".

The IUCN World Congress meets every four.

Objective: to bring together leaders from government, the public sector, non-governmental organizations, business, UN agencies and indigenous and grass-roots organizations to discuss and decide on solutions to environment and development challenges worldwide.

ABOUT IUCN:

- IUCN is the world's oldest and largest global environmental organization, with almost 1,300 government and NGO Members and more than 15,000 volunteer experts in 185 countries.
- Established in 1948.

- IUCN experts are organized into six commissions dedicated to species survival, environmental law, protected areas, social and economic policy, ecosystem management, and education and communication.
- The organization is best known to the wider public for compiling and publishing the IUCN Red List, which assesses the conservation status of species worldwide.
- IUCN has observer and consultative status at the United Nations, and plays a role in the implementation of several international conventions on nature conservation and biodiversity.
- Its headquarters are in Gland, Switzerland.

IUCN in 1992 led the global efforts to understand the importance of ecosystem services and biodiversity and helped formulate the **Convention on Biological Diversity (CBD)** based on the Millennium Ecosystem Assessment (MEA). It also established **The Economics of Ecosystem Services and Biodiversity (TEEB)** project.

About THE ECONOMICS OF ECOSYSTEM SERVICES AND BIODIVERSITY (TEEB)

- In March 2007, environment ministers from the G8+5 countries meeting in Potsdam, Germany proposed to initiate the process of analyzing the **global economic benefit of biological diversity, the costs of the loss of biodiversity and the failure to take protective measures versus the costs of effective conservation.**
- Is a global initiative focused on “making nature’s values visible” and its principal objective is to mainstream the values of biodiversity and ecosystem services into decision-making at all levels.

Recent updates by IUCN:

- **The Eastern Gorilla (*Gorilla beringei*)** has moved from Endangered to Critically Endangered due to a devastating population decline of more than 70% in 20 years.
- Previously listed as Endangered, **The Giant Panda (*Ailuropoda melanoleuca*)** is now listed as Vulnerable, as its population has grown due to effective forest protection and reforestation.
- The **Tibetan Antelope (*Pantholops hodgsonii*)** has moved from Endangered to Near Threatened: The population underwent a severe decline due to commercial poaching for the valuable underfur shahtoosh which is used to make shawls. Due to rigorous protection, population of Tibetan antelope has grown.

Indian conservationist Bibhuti Lahkar wins Heritage Heroes Award of IUCN

Indian ecologist and conservation activist Bibhuti Lahkar became the first Asian to be awarded the prestigious Heritage Heroes Award by the International Union for Conservation of Nature (IUCN).

Lahkar received the award at the IUCN's World Conservation Congress in Honolulu, Hawaii.

The Indian ecologist was among five conservationists across the globe to be nominated for 2016 Heritage Heroes Award.

The Heritage Heroes Award is aimed at recognizing outstanding efforts around the globe in making a difference in the conservation of World Heritage sites in challenging situations.

About BIHUTI LAHKAR: Bibhuti Lahkar has researched grassland ecosystems in the Indian state of Assam.

- He did his PhD on the grasslands of Manas National Park with special reference to Pygmy hog.
- His research work has covered diverse areas of grassland ecosystems of Manas National Park and Kaziranga National Park in Assam.
- He has received the prestigious grants from Rufford's Foundation for his work on community conservation in Manas World Heritage site and conservation of Hoolock Gibbon at Gibbon Wildlife Sanctuary.
- He also conducted the first GIS survey of the Royal Manas National Park.
- His research findings and recommendations are a critical component in the Manas Tiger Conservation Plan.

OCEAN WARMING AFFECTING ECOSYSTEM

Ocean warming is already affecting ecosystems from polar to tropical regions, driving entire groups of species such as plankton, jellyfish, turtles and seabirds up to 10 degrees of latitude towards the poles, causing the loss of breeding grounds for turtles and seabirds, and affecting the breeding success of marine mammals.

By damaging fish habitats and causing fish species to move to cooler waters, warming oceans are affecting fish stocks in some areas and are expected to lead to reduced catches in tropical regions.

In East Africa and the Western Indian Ocean, for example, ocean warming has reduced the abundance of some fish species by killing parts of the coral reefs they depend on, adding to losses caused by overfishing and destructive fishing techniques.

In South-East Asia, harvests from marine fisheries are expected to fall by between 10% and 30% by 2050 relative to 1970-2000, as the distributions of fish species shift, under a high greenhouse gas emission scenario.

ocean warming is causing increased disease in plant and animal populations, and impacting human health as pathogens spread more easily in warmer waters, including cholera-bearing bacteria and harmful algal blooms that cause neurological diseases like ciguatera.

Warming oceans are also affecting the weather, with a range of effects on humans. The number of severe hurricanes has increased at a rate of around 25-30% per degree of global warming.

Ocean warming has led to increased rainfall in mid-latitudes and monsoon areas, and less rain in various sub-tropical regions. These changes will have impacts on crop yields in important food-producing regions such as North America and India.

The protection against climate change offered to us by oceans and their ecosystems – such as absorbing large amounts of CO₂ and sheltering us from storms and erosion – is also likely to reduce as the ocean warms.

SOLUNG FESTIVAL

- Solung festival celebrated in a first week of September.
- The 'SOLUNG' is the main socio-religious festival of 'Adis' community.
- Solung' is celebrated throughout the Siang district and by the Adis residing in the Lohit district, Arunachal Pradesh.
- There are various stories about its origin, but the most commonly accepted one is that the Adis were asked by Kine-nane, the Goddesses of wealth and prosperity to perform the Solung festival.
- Solung festival is celebrated for better and rich harvests.
- The 'Solung' is also called the 'festival of refreshment' where villagers exchange bamboo tubes of rice beer as a mark of greeting and good will.
- It is celebrated for seven days. On the first day, the famous 'Indian Bison' or 'Mithun' along with pigs are slaughtered.
- 'Ponung' is a dance which is always associated and organized with the Solung festival. It is also known as 'Solung-Ponung'.

FAST ATTACK CRAFT "TIHAYU"

- The Water Jet Fast Attack Craft (WJFAC), "TIHAYU" built by Garden Reach Shipbuilders and Engineers Limited (GRSE), Kolkata.
- This warship measuring 48 X 7.5 M with a displacement of around 315 Tons, has an endurance of around 2000 nautical miles at 12-14 knots speed.
- Named after an island in the Andaman, "Tihayu" is fitted with three water jet propulsion systems powered by marine diesel engines generating 2720 KW of power.
- It is also fitted with CRN-91 indigenous 30mm Gun, to provide Artillery fire support during attack missions.
- The first ship of the 'Follow-on' Series of WJFACs was INS Tarmugli.

INDIAN WARSHIP TRIKAND VISITED DAR ES SALAAM, TANZANIA

The visit aimed at enhancing bilateral ties, strengthening the existing bonds of friendship and reinforcing cooperation in maritime security between India and Tanzania.

Various activities including official calls, cultural events and professional interaction between the two navies are planned.

- INS Trikand, the last of the three "Follow On Talwar Class" frigates built in the Russian Federation, was commissioned into the Indian Navy on 29 Jun 2013 at Kaliningrad, Russia.
- The other ships of the class viz, INS Teg and INS Tarkash were commissioned last year and are now undertaking operations as part of the Western Fleet.

- INS Trikand carries a state-of-the-art combat suite which includes the supersonic BRAHMOS missile system, advanced Surface to Air missiles Shtil, upgraded A190 medium range gun, Electro-optical 30 mm Close-in Weapon System, Anti-Submarine weapons such as torpedoes and rockets and an advanced Electronic Warfare system.
- The ship also incorporates innovative features to reduce radar, magnetic and acoustic signatures.
- The ship can carry an integrated Kamov 31 helicopter which is best suited for airborne early warning roles.

NATIONAL INTELLECTUAL PROPERTY RIGHT POLICY

1. The Policy aims to push IPRs as a marketable financial asset, promote innovation and entrepreneurship, while protecting public interest.
2. The plan will be reviewed every five years in consultation with stakeholders.
3. In order to have strong and effective IPR laws, steps would be taken — including review of existing IP laws — to update and improve them or to remove anomalies and inconsistencies.
4. The policy is entirely compliant with the WTO's agreement on TRIPS.
5. Special thrust on awareness generation and effective enforcement of IPRs, besides encouragement of IP commercialization through various incentives.
6. India will engage constructively in the negotiation of international treaties and agreements in consultation with stakeholders. The government will examine accession to some multilateral treaties which are in India's interest, and become a signatory to those treaties which India has de facto implemented to enable it to participate in their decision making process.
7. It suggests making the department of industrial policy and promotion (DIPP) the nodal agency for all IPR issues. Copyrights related issues will also come under DIPP's ambit from that of the Human Resource Development (HRD) Ministry.
8. Trademark offices have been modernized, and the aim is to reduce the time taken for examination and registration to just 1 month by 2017. Examination time for trademarks has been reduced from 13 months to 8 months.
9. Films, music, industrial drawings will be all covered by copyright.
10. The Policy also seeks to facilitate domestic IPR filings, for the entire value chain from IPR generation to commercialization. It aims to promote research and development through tax benefits.
11. Proposal to create an effective loan guarantee scheme to encourage start-ups.
12. India will continue to utilize the legislative space and flexibilities available in international treaties and the TRIPS Agreement. These flexibilities include the sovereign right of countries to use provisions such as CLs for ensuring the availability of essential and life-saving drugs at affordable prices.

13. On compulsory licensing (CL), India has issued only CL for a cancer drug. Under the Indian Patents Act, a CL can be issued for a drug if the medicine is deemed unaffordable, among other conditions, and the government grants permission to qualified generic drug makers to manufacture it.

RAMON MAGSAYSAY AWARD FOR BEZWADA WILSON, T.M. KRISHNA

Bezwada Wilson

- Bezwada Wilson leading a grassroots movement to eradicate the degrading servitude of manual scavenging in India.
- Born into a Dalit family in Karnataka is the national convener of the Safai Karmachari Andolan (SKA).
- His work focused on “asserting the inalienable right to a life of human dignity”- A hereditary occupation, manual scavenging involves 180,000 Dalit households cleaning the 790,000 public and private dry latrines across India; 98 per cent of scavengers are meagerly paid women and girls.
- In 2009, Bezwada was elected an Ashoka Senior Fellow for human rights.

T.M. Krishna

- Born into a Brahmin family in Chennai.
- Has been conferred the award for ‘ensuring social inclusiveness in culture’.
- His forceful commitment as artist and advocate to art’s power to heal India’s deep social divisions, breaking barriers of caste and class.
- He has co-authored Voices Within: Carnatic Music – Passing on an Inheritance, a book dedicated to the greats of Karnatik music. His most recent book, A Southern Music, published by Harper Collins in December 2013, is a first-of-its-kind work on the Carnatic tradition.

About RAMON MAGSAYSAY AWARD:

- Awarded for Outstanding contributions in Government Service, Public Service, Community Leadership, Journalism, Literature and Creative Communication Arts, Peace and International Understanding and Emergent Leadership.
- The **Ramon Magsaysay Award** is an annual award established to perpetuate former Philippine President Ramon Magsaysay.
- Presented by Ramon Magsaysay Award Foundation.
- The RMAF recognizes and honors individuals and organizations in Asia regardless of race, creed, sex, or nationality, who have achieved distinction in their respective fields and have helped others generously without anticipating public recognition.
- So far as of 2016, twenty-two Asian countries have won the prize.

UNIQUE PAYMENT INTERFACE: A CASHLESS ECONOMY

Cashless Economy: A cashless economy is a system where flow of cash or physical currency is non-existent and all monetary transactions are done electronically via internet enabled banking or wallets,

and debit or credit cards, at most abolishing or at times reducing physical presence between two transacting parties.

- UPI is an online payment solution which will facilitate the transfer of funds instantly.
- It can be used to send and receive funds.
- Objective: migrate towards cashless economy in the medium and long term which will reduce the amount of cash in the system, create a trail of all transactions, lower tax evasion and boost revenues.
- The National Payment Corporation of India (NPCI), the umbrella organization for all retail payments system in India.
- NPCI was set up by RBI and Indian Bank's Association (IBA).
- Currently, the online payment services are National Electronic Funds Transfer (NEFT) and Immediate Payment Service (IMPS) or Real-time-Gross Settlement (RTGS).

BENEFITS of UPI:

- Bank account details are not shared in the transaction.
- 24x7 transactions.
- One can have multiple unique virtual addresses and can use multiple bank accounts.

URJIT R PATEL APPOINTED AS RBI GOVERNOR

- Urjit R Patel has been appointed as the **24th RBI governor** for three years succeeding Raghuram Rajan.
- Earlier served as its Deputy Governor from 2013 to 2016.
- Dr. Patel served as the Chief Policy Officer at IDFC Limited and served as a Consultant to the Ministry of Power, Department of Economic Affairs, 1998 to 2001.
- He also served at International Monetary Fund.
- He actively participated in steering the signing into force of the inter-governmental treaty and the Inter-Central Bank Agreement (ICBA) among the BRICS nations, which led to the establishment of the Contingent Reserve Arrangement (CRA), a swap line framework among the central banks of these countries.
- He had headed a committee to review the monetary policy framework and had proposed monetary policy committee to set interest rates.

Recommendations of the Urjit R Patel committee:

Main objective of the committee was to recommend what needs to be done to revise and strengthen the current monetary policy framework with a view to making it transparent and predictable.

- RBI should adopt the new Consumer Price Index (CPI) for anchoring the monetary policy.
- Set the inflation target at 4% with a band of +/- 2% around it.
- Monetary policy decision making should be vested in a Monetary Policy Committee (MPC) that should be headed by the Governor.
- The two schemes- Dependence on Market Stabilization Scheme (MSS) and Cash Management Bills (CMBs) may be discontinued and the government debt and cash management must be taken over by the government's Debt Management Office.
- All fixed income financial products should be treated on par with the bank deposits for the purposes of taxation and TDS.

- Detachment of Open Market Operations (OMOs) from the fiscal operations and instead linked solely to the liquidity management. OMOs should not be used for managing yields on government securities.

ATAL PENSION YOJANA

- Atal Pension Yojana (APY) will provide a defined pension, depending on the contribution, and its period.
- The APY will be focused on all citizens in the unorganized sector, who join the National Pension System (NPS) administered by the Pension Fund Regulatory and Development Authority (PFRDA).
- Under the APY, the subscribers would receive the fixed minimum pension of Rs. 1000 per month, Rs. 2000 per month, Rs. 3000 per month, Rs. 4000 per month, Rs. 5000 per month, at the age of 60 years, depending on their contributions.
- The minimum age of joining APY is **18 years** and maximum age is **40 years**. Therefore, minimum period of contribution by any subscriber under APY would be 20 years or more.
- The benefit of fixed minimum pension would be guaranteed by the Government.
- Atal Pension Yojana (APY) is open to all bank account holders.
- **The Central Government would also co-contribute 50% of the total contribution** or Rs. 1000 per annum, whichever is lower, to each eligible subscriber account, for a period of 5 years, i.e., from Financial Year 2015-16 to 2019-20, who join the NPS between the period 1st June, 2015 and 31st December, 2015 and who are not members of any statutory social security scheme and who are not income tax payers. However the scheme will continue after this date but Government Co-contribution will not be available.

MEGA FOOD PARK SCHEME

President inaugurated a Mega Food Park at Jangipur in Murshidabad, aimed at providing critical food processing infrastructure to the farmers of this backward belt in West Bengal. The new food park will minimize the wastage of food products.

- The Mega Food Parks Scheme aims to provide a mechanism to bring together farmers, processors and retailers and link agriculture production to the market so as to ensure maximization of value addition, minimization of wastages and improving farmers' income.
- The primary objective of the Scheme is to provide modern infrastructure facilities for the food processing along the value chain from the farm to the market.
- It is a cluster based approach based on a hub and spokes model.
- It includes creation of infrastructure for primary processing and storage near the farm in the form of Primary Processing Centers (PPCs) and Collection Centers (CCs) and common facilities and enabling infrastructure like roads, electricity, water, ETP facilities etc. at Central Processing Centre (CPC).
- These PPCs and CCs act as aggregation and storage points to feed raw material to the food processing units located in the CPC
- The scheme will be demand-driven and will facilitate food processing units to meet environmental and safety standards.
- The financial assistance under the scheme is provided in the form of grant-in-aid @ 50% of eligible project cost in general areas and @ 75% of eligible project cost in NE

Region and difficult areas (Hilly States and ITDP areas) subject to maximum of Rs. 50 crore per project.

- The Scheme is being implemented by the Ministry to develop Mega Food Parks in the country. CCEA has approved 42 Mega Food Parks during 11th & 12th Plan (5 projects in first phase, 10 projects in second phase, 15 projects in third phase and 12 projects in fourth phase).

GROUNDWATER UNFIT FOR USE

- The **Indo-Gangetic basin** accounts for about a quarter of the global extraction of groundwater – freshwater which is stored underground in crevices and spaces in soil or rock, fed by rivers and rainfall.
- Fifteen to twenty million wells extract water from the basin every year amid growing concerns about depletion.
- The new study – based on local records of groundwater levels and quality from 2000 to 2012 – found that the water table was in fact stable or rising across about 70% of the aquifer. But to be falling in the other 30%, mainly near highly populated areas.
- The biggest threat to groundwater in the Indo-Gangetic Basin, named after the Indus and Ganges rivers, is not depletion but **contamination**.
- Sixty per cent of the groundwater in a river basin supporting more than 750 million people in Pakistan, India, Nepal and Bangladesh is not drinkable or usable for irrigation.
- The two main concerns are **salinity and arsenic**.
- Up to a depth of 200m (650ft), some 23% of the groundwater stored in the basin is too salty and about 37% is affected by arsenic at toxic concentrations.
- Groundwater can become salty through natural and manmade causes, including inefficient farmland irrigation and poor drainage.
- Arsenic, too, is naturally present, but levels are exacerbated by use of fertilizers and mining.
- Arsenic poisoning of drinking water is a major problem in the region.

INDIA WON GOLD AND A BRONZE AT RIO PARALYMPICS, 2016

- **Mariyappan Thangavelu** won India's first gold medal in the Men's High Jump T-42 event with a leap of 1.89 metres at the Rio Paralympics. Thangavelu also became the first Indian high-jumper to win gold at the Paralympics. This was India's overall third gold at the Games and the first after 12 years.
 - Mariyappan hails from Periyavadagampatti village in Salem district of Tamil Nadu.
 - Mariyappan Thangavelu lost a leg when he was just five years old.
- **Varun Singh Bhati**, won bronze medal who jumped his personal best of 1.86 metres to finish third.
 - The 21-year-old, who trains at the Sports Authority of India (SAI) centre in Bengaluru, is suffering from a T-42 disability. This is a disability classification in the sport for differently-abled track-and-field athletes with single 'above the knee' amputations or a comparable disability.

- Javelin thrower Devendra Jhajharia had won the Gold, with Rajinder Singh claiming the Bronze in powerlifting from India at Athens in 2004.
- In the last edition of the Games in London, India had attained a Silver. India had won its first ever Paralympics Gold in the 1972 Heidelberg Games in Swimming by Murlikant Petkar.

ASEAN SUMMIT 2016

- The 28th and 29th Association of Southeast Asian Nations (ASEAN) summits begin in Vientiane, Laos.
- Leaders from the 10 ASEAN countries — Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam - gather for three days.
- They are joined by ASEAN dialogue partners, including China, Japan, South Korea, Australia, India, Russia, and the United States.
- This year's theme is "Turning vision into reality for a dynamic ASEAN community".
- Topics such as South China sea disputes, counter-terrorism, trade and human rights are likely to top the agenda.

14TH ASEAN-INDIA SUMMIT

- ASEAN-India Strategic Partnership and contribute towards the realization of the ASEAN Community Vision 2025.
- Announcement of an additional contribution by India of US \$ 50 million to the ASEAN-India Fund.
- India agreed to cooperate towards addressing traditional and non-traditional security challenges, including in areas of de radicalization, prevention of violent extremism and cybercrime.
- ASEAN and India support the early adoption of the Comprehensive Convention on International Terrorism, currently under negotiation at the United Nations.
- The total bilateral merchandise trade between ASEAN and India in 2015 amounted to US\$ 58.7 billion, or about 2.6 per cent of ASEAN's total trade. Investment flows were robust with FDI from India into ASEAN increasing by 98% to US\$ 1.2 billion in 2015.
- Review of the ASEAN-India Trade in Goods (AITIG) Agreement to ensure that the Agreement is trade-facilitative and remains relevant to the current global trading practices. In this regard final review will contribute to further growth in ASEAN-India trade to meet the USD 100 billion target set in 2012.
- Maritime cooperation between ASEAN and India- the enhancement of maritime connectivity would provide lower logistic costs, and motivate increased trade in goods and services.
- The progress of the Regional Comprehensive Economic Partnership (RCEP) negotiations.
- Implementation of the Plan of Action (POA) on ASEAN-India Cooperation in Food, Agriculture and Forestry (2011-2015) and looked forward to the finalization of the successor POA (2016-2020) to further enhance cooperation in food, agriculture and forestry in key areas of mutual interest, with the aim of enhancing productivity of agricultural products and meet the challenges of food security in the region.
- Increase in the ASEAN-India Science and Technology Development Fund (AISTDF) from US\$ 1 million to US\$ 5 million in 2016 to further encourage and sustain the implementation of collaborative R&D and technology development program.

- India committed to establishing an ASEAN-India Innovation Platform and to build digital connectivity through the use of Gigabit-capable Passive Optical Network (GPON) technology.
- Utilization of the ASEAN-India Green Fund for the implementation of various activities in enhancing ASEAN Member States capacity in climate change adaptation.
- India's initiative to host an Asian Ministerial Meeting on Disaster Risk Reduction in November 2016.
- ASEAN-India connectivity as a priority cooperation area where India committed to contribute USD 1 billion line of credit for digital and infrastructure connectivity projects.

GM MUSTARD SOON TO GET APPROVAL

- DMH-11, a genetically modified (GM) mustard hybrid.
- Hybrids are normally obtained by crossing two genetically diverse plants from the same species. The first-generation offspring resulting from it has higher yields than what either of the parents is individually capable of giving. But there is no natural hybridization system in mustard, unlike in, say, cotton, maize or tomato. This is because its flowers contain both the female (pistil) and male (stamen) reproductive organs, making the plant naturally self-pollinating. To the extent that the egg cells of one plant cannot be fertilized by the pollen discharged from the stamen of another, it restricts the scope for developing hybrids.
- The resulting GM mustard hybrid, it is claimed, gives 25-30 per cent more yield than the best varieties such as 'Varuna' currently grown in the country.
- In 2014-15, India imported 14.5 million tonnes of edible oils valued at \$10.5 billion. That included nearly 0.4 million tonnes of imported rapeseed oil, which many processors and traders are blending with indigenous mustard oil. With the country's own annual edible oil production stuck at below 7.5 million tonnes, of which mustard's share is roughly a quarter, the need to raise domestic crop yields and cut dependence on imports cannot be doubted. Hybrid technology is a potential technique to boost yields, as has been successfully demonstrated in a host of crops.

GENETIC ENGINEERING APPRAISAL COMMITTEE (GEAC)

- Established under MoEFCC is the apex body to accord notified under Rules 1989.
- For approval of activities involving large scale use of hazardous microorganisms and recombinants in research and industrial production from the environmental angle.
- The GEAC is also responsible for approval of proposals relating to release of genetically engineered organisms and products into the environment including experimental field trials.

MODIFIED SPECIAL INCENTIVE PACKAGE SCHEME (M-SIPS)

- M-SIPS policy was first introduced in July 2012 by the Central Government to promote investment in the Electronics Systems Design and Manufacturing (ESDM) sector, by providing various incentives to new units/ significant expansion by manufacturers and service providers in this sector.
- The scheme is available for both new projects and expansion projects.

- The scheme provides capital subsidy of 20% in SEZ (25% in non-SEZ) for units engaged in electronics manufacturing.
- It also provides for reimbursements of CVD/ excise for capital equipment for the non-SEZ units.
- For some of the high capital investment projects like fabs, it provides for reimbursement of Central Taxes and Duties.
- The incentives are provided on reimbursement basis. The incentives were available for 29 electronic verticals.
- Units all across the manufacturing value chain are covered under the scheme.
- For each of the product category, an investment threshold is prescribed which an applicant has to incur for getting eligible for incentives. The investment threshold varies from Rs 1 Crore to Rs 5000 Crores depending upon a type of project. The incentives are available for 10 years from the date of approval.

The scheme was amended on August 3, 2015. The salient amendments include:

- (i) The term of the scheme has been extended upto 27-07-2020.
- (ii) The scope of the scheme has been extended to cover additional verticals. The new products that will now be eligible for benefits under M-SIPS include consumer appliances like refrigerators, ACs, fully automatic washing machines, liquid crystal modules, Automatic Telling Machines amongst others.
- (iii) The procedure for grant of approval has been simplified and streamlined.
- (iv) The incentives are now available for investments made in a project within a period of 10 years from the date of application. Prior to the amendment, the period of 10 years was computed from the approval of the project.
- (v) M-SIPS will be available to any viable unit appraised by the Appraisal Committee located in any industrial area notified by Centre/ State/ local authority.

The extension of the M-SIPS policy, inclusion of new product verticals and rationalization of procedures aim to scale up exports of electronic items by providing a boost to domestic manufacturing in the ESDM sector and reducing dependence on imports.

INDIA KAZAKHSTAN JOINT EXERCISE “PRABAL DOSTYK-16”

The Indian Army is being represented by a platoon strength. The Kazakhstan Army contingent comprise of platoon from Special Operating Force’s Unit. A pioneering endeavor with the Kazakhstan Army, the exercise is being conducted in Karaganda region of Kazakhstan and will conclude on 17 Sep 2016.

The primary aim of the fourteen day exercise will be to enhance interoperability while undertaking Counter Terrorism & Counter Insurgency Operations in rural & semi-urban environment under the umbrella of United Nations.

The exercise will be conducted in two stages; first stage will be to familiarize with each others tactics, drills, weapons & equipment, whereas in the second stage troops of both the armies will graduate to jointly execute a helicopter borne operation in a simulated environment. Combat battle drills and physical fitness will be the focal point of the exercise.

‘Prabal Dostyk’ meaning ‘Robust Friendship’ will be a significant step towards fostering military as well as diplomatic ties between both countries.

INDIA-NAMIBIA JOINT TRADE COMMITTEE (JTC)

- During 2015, India was the seventh largest country from whom Namibia sourced its imports.
- Five rounds of India-Southern Africa Customs Union (SACU) Preferential Trade Agreement (PTA) negotiations have been held so far.
- The fifth round of negotiations was held in New Delhi in October 2010. Conclusion of the PTA would create opportunities for increased trade flows.
- Namibia will import leather, Gems and jewellery, food processing products and engineering goods like electrical and mechanical appliances from India and India will get Metals and mineral from Namibia.
- The Namibia encouraged Joint Ventures in Mining and Mineral exploration with Epangelo Mining and Exploration Company, trade of precious and semi precious Gems and Stones. Namibia expressed interest in development of skills through training in the fields of Gems and jewellery to encourage local value addition and employment opportunity in Namibia. Namibia also expressed willingness to utilize \$100 million of line of Credit for them.

Co-operation between both the countries in:

- Hydro-electric projects.
- Solar projects
- Water resource management
- Micro, small and medium enterprises.
- National Industries Corporation Limited to set up one vocational training centre –cum-incubation centre in Namibia on mutually agreed terms and conditions.
- Tourism.
- Production of Bajra by India in Namibia.
- Technology transfer for fertilizer manufacturing and vaccine production in Namibia.
- Market for table grapes and dates.

UJALA SCHEME

The Unnat Jyoti by Affordable LEDs (UJALA) programme has been widely accepted across rural and urban areas of the country and so far over 15.45 crore LED bulbs have already been distributed under this programme.

- The UJALA is the world’s largest Light Emitting Diode (LED) programme for the residential sector.
- The initiative is being implemented by Energy Efficiency Services Limited (EESL) a public sector undertaking of Ministry of Power.
- The scheme is presently operational in 18 states and 4 Union Territories. EESL will roll out the scheme in West Bengal and North Eastern states in the coming days.
- The LED bulbs distributed under the UJALA scheme is one third the market price.

Government of India is committed to achieving its target of replacing all the 77 crore inefficient bulbs in India with LEDs. This will result in reduction of 20,000 MW load, energy savings of 100 billion kWh and Green House Gas (GHG) reduction of 80 million tonnes every year.

CENTRAL ASSISTANCE TO IRRIGATION PROJECTS UNDER PMKSY

- Ministry of Water Resources, River Development and Ganga Rejuvenation and NABARD will provide central assistance to 99 prioritized irrigation projects under PMKSY.
- 56 AIBP projects will cover all most all drought prone districts of 18 States of country.
- The Union Cabinet had approved the Establishment of Mission for completion of 99 prioritized projects and its funding arrangement through NABARD.

Historical background:

- Central Government launched the Accelerated Irrigation Benefits Programme (AIBP) in the year 1996-97 to provide Central Assistance to major/medium irrigation projects in the country.
- **Objective:** to accelerate implementation of such projects which were beyond resource capability of the States or were in advanced stage of completion. Priority was given to those projects which were started in Pre-Fifth and Fifth Plan period and also to those which were benefiting Tribal and Drought Prone Areas.
- From the year 1999-2000 onwards, Central Loan Assistance under AIBP was also extended to surface minor irrigation projects (SMI) of special category States (N.E. States & Hill States of H. P., Sikkim, J&K, Uttaranchal and projects benefiting KBK districts of Orissa).
- Since its inception, 297 Irrigation / Multi Purpose Projects have been included for funding under AIBP. Out of this 143 projects have been completed and five projects were foreclosed.

PRADHAN MANTRI KRISHI SINCHAYEE YOJANA (PMKSY)

- During 2015-16, **Pradhan Mantri Krishi Sinchayee Yojana (PMKSY)** was launched with an aim to enhance physical access of water on farm and expand cultivable area under assured irrigation, improve on farm water use efficiency, introduce sustainable water conservation practices etc.
- Major and medium irrigation/multipurpose irrigation projects are being funded under PMKSY-AIBP and Repair, Renovation and Restoration (RRR) of Water Bodies.
- Surface Minor Irrigation (SMI) projects and Command Area Development & Water Management (CADWM) projects are being funded under PMKSY-Har Khet Ko Pani (HKKP).

One of the major reasons for the projects to remain incomplete was inadequate provision of funds by the concerned State Governments. As a result, large amount of funds spent on these projects were locked up and the benefits envisaged at the time of formulation of the projects could not be achieved. This was a cause for concern and initiative was required at the national level to remedy the situation.

National Horticulture Mission was launched in 2005-06 as a Centrally Sponsored Scheme to promote holistic growth of the horticulture sector through an area based regionally differentiated strategies. The scheme has been subsumed as a part of Mission for Integration Development of Horticulture (MIDH) during 2014-15.

India is the 2nd largest producer of fruits & vegetables in the world.

APEDA:

The **Agricultural and Processed Food Products Export Development Authority (APEDA)** was established by the Government of India under the Agricultural and Processed Food Products Export Development Authority Act passed by the Parliament in December, 1985.

In accordance with the Agricultural and Processed Food Products Export Development Authority Act, 1985, the following functions have been assigned to the Authority:

- Development of industries relating to the scheduled products for export by way of providing financial assistance or otherwise for undertaking surveys and feasibility studies, participation in enquiry capital through joint ventures and other reliefs and subsidy schemes.
- Registration of persons as exporters of the scheduled products on payment of such fees as may be prescribed.
- Fixing of standards and specifications for the scheduled products for the purpose of exports.
- Carrying out inspection of meat and meat products in slaughter houses, processing plants, storage premises, conveyances or other places where such products are kept or handled for the purpose of ensuring the quality of such products.
- Improving of packaging of the Scheduled products.
- Improving of marketing of the Scheduled products outside India.
- Promotion of export oriented production and development of the Scheduled products.
- Collection of statistics from the owners of factories or establishments engaged in the production, processing, packaging, marketing or export of the scheduled products or from such other persons as may be prescribed on any matter relating to the scheduled products and publication of the statistics so collected or of any portions thereof or extracts therefrom.

COMPETITION COMMISSION OF INDIA HITS PENALTY ON CEMENT COMPANIES FOR CARTELISATION

The Competition Commission's decision to impose Rs 6,320 crore penalty on 10 cement companies for price fixing. Cement companies, including ACC, Ambuja, UltraTech and Jaiprakash Associates, were responsible for "acting in concert in fixing prices of cement".

Cement companies allegedly shared details relating to prices, capacity utilization, production and dispatch which led to restricted production and supplies in the market hurting consumers and the economy.

About COMPETITION COMMISSION OF INDIA:

The CCI is quasi-judicial statutory body established under The Competition Act, 2002.

Competition is the best means of ensuring that the 'Common Man' has access to the broadest range of goods and services at the most competitive prices.

With increased competition, producers will have maximum incentive to innovate and specialize. This would result in reduced costs and wider choice to consumers. A fair competition in market is essential to achieve this objective.

Goal is to create and sustain fair competition in the economy that will provide a 'level playing field' to the producers and make the markets work for the welfare of the consumers.

The objectives of the Act are sought to be achieved through the Competition Commission of India (CCI), which has been established by the Central Government with effect from 14th October 2003.

CCI consists of a Chairperson and 6 Members appointed by the Central Government.

It is the duty of the Commission to eliminate practices having adverse effect on competition, promote and sustain competition, protect the interests of consumers and ensure freedom of trade in the markets of India.

The Commission is also required to give opinion on competition issues on a reference received from a statutory authority established under any law and to undertake competition advocacy, create public awareness and impart training on competition issues.

INDIA'S NET FDI INFLOWS FOR FY17 LIKELY AT \$35 BN

India is expected to see net FDI inflows of USD 35 billion this financial year.

According to the global financial services major, FDI inflows are inching up, but the pace of increase this fiscal might as well come up short in comparison to 2015-16.

Even after the surge in June-July, the gross FDI inflow so far this fiscal is 5 per cent lower than same period last year and the net tally is down 29 per cent.

The Union Government has liberalized the FDI regime, with the objective of providing major impetus to employment and job creation in India.

Changes introduced in the policy include increase in sectoral caps, bringing more activities under automatic route and easing of conditionalities for foreign investment.

1. **Food Products manufactured/produced in India:** 100% FDI under government approval route for trading, including through e-commerce, in respect of food products manufactured or produced in India.
2. **Foreign Investment in Defence Sector:** Present FDI regime permits 49% FDI participation in the equity of a company under automatic route. Foreign investment beyond 49% has now been permitted through government approval route, in cases resulting in access to modern technology in the country or for other reasons to be recorded.
3. **Pharmaceutical:** The extant FDI policy on pharmaceutical sector provides for 100% FDI under automatic route in greenfield pharma and FDI up to 100% under government approval in brownfield pharma. With the objective of promoting the development of this sector, it has been decided to permit up to 74% FDI under automatic route in brownfield pharmaceuticals and government approval route beyond 74% will continue.

4. **Civil aviation sector:** The extant FDI policy on Airports permits 100% FDI under automatic route in Greenfield Projects and 74% FDI in Brownfield Projects under automatic route. FDI beyond 74% for Brownfield Projects is under government route.
5. **Private Security Agencies:** The extant policy permits 49% FDI under government approval route in Private Security Agencies. FDI up to 49% is now permitted under automatic route in this sector and FDI beyond 49% and up to 74% would be permitted with government approval route.
6. **Animal Husbandry:** As per FDI Policy 2016, FDI in Animal Husbandry (including breeding of dogs), Pisciculture, Aquaculture and Apiculture is allowed 100% under Automatic Route under controlled conditions. It has been decided to do away with this requirement of 'controlled conditions' for FDI in these activities.
7. **Single Brand Retail Trading:** It has now been decided to relax local sourcing norms up to three years and a relaxed sourcing regime for another five years for entities undertaking Single Brand Retail Trading of products having 'state-of-art' and 'cutting edge' technology.

Amendments to the FDI Policy are meant to liberalize and simplify the FDI policy so as to provide ease of doing business in the country leading to larger FDI inflows contributing to growth of investment, incomes and employment.

CBDT SIGNS ADVANCE PRICING AGREEMENTS

The Central Board of Direct Taxes (CBDT) entered into twenty (20) Unilateral Advance Pricing Agreements (APAs) with Indian taxpayers.

The **APA Scheme** was introduced in the Income-tax Act in 2012 and the Rollback provisions were introduced in 2014. The scheme endeavours to provide certainty to taxpayers in the domain of transfer pricing by specifying the methods of pricing and determining the arm's length price of international transactions in advance for the maximum of five future years.

Further, the taxpayer has the option to rollback the APA for four preceding years. Since its inception, the APA scheme has attracted tremendous interest among Multi National Enterprises (MNEs) and that has resulted in more than 700 applications (both unilateral and bilateral) having been filed in just four years.

The 20 APAs signed in various sectors of the economy like Information Technology, Banking & Finance, Insurance, Human Resources, Pharmaceutical, Solar Energy, Oil & Gas, Foods & Beverages, Telecommunications and NGO. The international transactions covered in these agreements include Software Development Services, IT enabled services, Investment Advisory Services, KPO services, Contract manufacture, Contract R&D services, Import of components, Support services, Export of goods, Management services, Brand Royalty, Technical services, Engineering design services, Selling & Marketing services, Network operation & maintenance services, General & Administration services, HR consultancy services, etc.

The progress of the APA Scheme strengthens the Government's commitment to foster a non-adversarial tax regime.

INDIA MAY NOT RATIFY PARIS CLIMATE DEAL BY YEAR-END

India would not be able to ratify Paris climate deal by the end of this year. India was supported by Turkey, South Asia and Indonesia which articulated a similar position on climate change.

It aims to limit global temperature increases to two degrees centigrade, and will be triggered after it is ratified by at least 55 countries, accounting for 55% of global greenhouse gas emissions.

The 180-nation deal sets ambitious goals for capping global warming and funnelling trillions of dollars to poor countries facing climate catastrophe.

About Paris Climate Change Agreement:

Mitigation: reducing emissions

Governments agreed:

- A long-term goal of keeping the increase in global average temperature to **well below 2°C** above pre-industrial levels.
- To aim to limit the increase to **1.5°C**, since this would significantly reduce risks and the impacts of climate change.
- On the need for **global emissions to peak as soon as possible**, recognizing that this will take longer for developing countries.
- To undertake **rapid reductions thereafter** in accordance with the best available science.

Transparency and global stocktake

Governments agreed to

- come together every 5 years to **set more ambitious targets** as required by science;
- **report** to each other and the public on how well they are doing to implement their targets;
- Track progress towards the long-term goal through a robust **transparency and accountability** system.

Adaptation

Governments agreed to

- Strengthen societies' ability to **deal with the impacts** of climate change.
- Provide continued and **enhanced international support** for adaptation **to developing countries**.

Support

- The EU and other developed countries will continue to **support climate action** to reduce emissions and build resilience to climate change impacts **in developing countries**.
- Other countries are encouraged to provide or continue to provide such support voluntarily.
- Developed countries intend to continue their existing collective goal to mobilise USD 100 billion per year by 2020 and extend this until 2025. A new and higher goal will be set for after this period.

The agreement is due to enter into force in 2020.

INDIA SIGNED AN OPEN SKIES PACT WITH GREECE

- India signed an **open skies agreement with Greece**. At present, there are no direct flights between India and Greece and passengers travel one stop via Gulf States or Turkey to Greece.
- The **open skies agreement will allow airlines from India** to operate unlimited number of flights to Greece. While Greek carriers have been granted unlimited traffic rights to six Indian metro cities.

- Greece has become the first country to have an open sky agreement with India under the new policy.
- Prior to this, India had entered into an open skies agreement with the US and Britain. The open skies with Britain cover airports excluding London Heathrow.
- Open sky beyond 5,000-km, even without any restrictions, will have very limited or no impact as there is very low demand for additional bilaterals on these routes.
- According to the civil aviation policy, the government can enter into an ‘open sky’ air services agreement on a reciprocal basis with SAARC nations as well as countries with territory located entirely beyond a 5,000 kilometre radius from New Delhi.

CHINA DEVELOPS QUANTUM RADAR

A Chinese firm has developed and tested a radar system that uses quantum entanglement to beat the stealth technology of modern military craft.

The system was able to detect a target at a range of 100 kilometers in a real-world environment. The device employs single photon detection technology.

Quantum radar is a device that uses quantum entanglement photons to provide better detection capabilities than conventional radar systems. The method would be useful for tracking targets with a low radar cross section, such as modern aircraft using stealth technology or targets employing active countermeasures to jam or baffle enemy radar.

The technology may also find use in biomedicine, since quantum radar requires lower energy and can be used to non-invasively probe for objects with low reflectivity, such as cancer cells.

Earlier, China launched the world’s first quantum communications satellite, which uses quantum entanglement for cryptography.

INDIA–CHILE PREFERENTIAL TRADE AGREEMENT (PTA)

India and Chile have signed a pact on the expansion of the India–Chile Preferential Trade Agreement (PTA), which is expected to considerably strengthen the commercial relations between both the countries.

Under the expanded PTA,

- Chile has offered concessions to India on 1798 tariff lines with Margin of Preference (MoP) ranging from 30%-100%.
- India has offered concessions to Chile on 1031 tariff lines at 8-digit level with MoP ranging from 10%-100%.
- Among the LAC countries, Chile was the third largest trading partner of India during 2015-16.
- India’s bilateral trade with Chile stood at US\$ 2.64 billion with exports at US\$ 0.68 billion and imports at US\$ 1.96 billion respectively during 2015-16.

- India's exports to Chile are diverse which consist of transport equipment, drugs and pharmaceuticals, yarn of polyester fibres, tyres and tubes, manufacture of metals, articles of apparel, organic/inorganic and agro chemicals, textiles, readymade garments, plastic goods, leather products, engineering goods, imitation jewellery, sports goods and handicrafts.
- Major items of Import from Chile are copper ore and concentrates, iodine, copper anodes, copper cathodes, molybdenum ores & concentrates, lithium carbonates & oxide, metal scrap, inorganic chemicals, pulp & waste paper, fruits & nuts excluding cashews, fertilizers and machinery.

G 20 SUMMIT

Hangzhou city in China hosted the 11th G20 Summit that saw world leaders once again congregate to address matters of global concern.

KEY HIGHLIGHTS:

- The G20 members were in support of regional trade agreements to be in line with multilateral trade liberalization.
- Countries were in favour of a multilateral approach to address the issue of excess capacity and preferred to set up a global body that would work under the Organization for Economic Cooperation and Development (OECD).
- Issues of global concern such as Brexit and its impact on global economy, the problem of rising immigration in Europe and the problem of Anti-Microbial Resistance (AMR) that deals with rising resistance of bacteria and viruses to present medical formulations discussed.
- G-20 leaders pledge have pledged to continue to work for a globally fair and modern international tax system, foster growth and refrain from competitive devaluation of currencies.
- They will continue the work on addressing cross-border financial flows derived from illicit activities, including deliberate trade mis-invoicing, which hampers the mobilization of domestic resources for development.

The member of the G-20 includes basically 19 member countries which are Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, South Korea, Mexico, Russia, Saudi Arabia, South Africa, Turkey, United Kingdom and the United States along with the whole European Union which stands as the (EU). The EU is being referred to the European Commission and by the European Central Bank collectively.

The G-20 summits accounts for almost 85% of the World's Gross Product (GWP) and 80% of the World's Trade.

CANONIZATION OF MOTHER TERESA AT VATICAN, ROME

Mother Teresa, a Roman Catholic religious sister and missionary was proclaimed a Saint by Pope Francis in a ceremony at the Vatican.

United Nations has been observing September 5 every year as the International Day of Charity to commemorate the anniversary of the passing away of Teresa who received the Nobel Peace Prize in 1979 "for work undertaken in the struggle to overcome poverty and distress, which also constitute a threat to peace".

ABOUT MOTHER TERESA:

- Born in 1910, in Skopje, Macedonia, Mother Teresa taught in India for 17 years before in 1946 she experienced her "call within a call" to devote herself to caring for the sick and poor.
- Her order established a hospice; centers for the blind, aged, and disabled; and a leper colony.
- In 1979 she received the Nobel Peace Prize for her humanitarian work.
- She also received Padma Shri (1962), Ramon Magsaysay Award (1962), Nobel Peace Prize (1979), Bharat Ratna (1980) etc.
- In 1950, Teresa founded the Missionaries of Charity, a Roman Catholic religious congregation, which in 2012 consisted of over 4,500 sisters and was active in 133 countries.
- She had died at the age of 87 in 1997 in Kolkata

NATIONAL APPRENTICESHIP PROMOTION SCHEME

- It is for the first time a scheme has been notified to offer financial incentives to employers.
- The Scheme has an outlay of Rs. 10,000 crore with a target of 50 Lakh apprentices to be trained by 2019-20.
- Apprenticeship Training is considered to be one of the most efficient ways to develop skilled manpower for the country.
- It provides for an industry led, practice oriented, effective and efficient mode of formal training.
- The National Policy of Skill Development and Entrepreneurship, 2015 focuses on apprenticeship as one of the key components for creating skilled manpower in India. The policy proposes to work pro-actively with the industry including MSME to facilitate tenfold increase opportunities in the country by 2020.
- 25% of the prescribed stipend payable to an apprentice would be reimbursed to the employers directly by the Government of India.
- The scheme also supports basic training, which is an essential component of apprenticeship training by sharing of basic training cost with basic training providers in respect of apprentices who come directly to apprenticeship without any formal trade training (fresher apprentices).
- Online portal for ease of administering. All transactions including registration by employers, apprentices registration of contract and payment to employers will be made as online mode. Eligible employers shall engage apprentices in a band of 2.5% to 10% of the total strength of the establishment.

INDIA-EGYPT

It's a first presidential visit from Egypt to India since the visit of then President Mohamed Morsi in 2013. Egypt is a natural bridge between Asia and Africa.

Following are the key highlights of the India- Egypt meet:

- Enhancing security and anti-terrorism collaboration.
- Three pillars" to strengthen ties; closer political and security cooperation, deeper economic engagement, and scientific collaboration and wider cultural and people-to-people contacts.

- The Agreement will help both countries to encourage and facilitate development of their maritime trade and ties, and cooperate in enhancing and stimulating the steady growth of maritime traffic between them.
- It will also accelerate and facilitate the flow of commercial goods at sea and at ports, and help set up joint ventures in maritime transportation, shipbuilding and repairs, maritime training, information technology including development of simulators, port facilities and related maritime activities.
- Both the nations agreed to encourage companies and corporations from their respective countries to explore emerging economic and investment opportunities in each other's countries.
- Egyptian investments in India under the 'Make in India' initiative, in the manufacturing and services sectors.
- Indian participation in the Suez Canal Economic Zone, particularly in sectors such as petrochemicals, energy, agriculture, healthcare, education, skills and IT.
- The volume of trade between Egypt and India is \$4 billion.
- Exports from India to Egypt include petrochemicals, meat, rice, textiles, spices and car tyres, while imports from Egypt include gas, oil, raw materials used to manufacture fertilizers, cotton, tanned leather, marble, and a number of agricultural crops like oranges and onions.
- Indian investment in Egypt was around US\$ 3 billion. The number of Indian companies now in Egypt is 52.

INDIA-VEITNAM

India and Vietnam today signed 12 agreements in a wide range of areas covering defence, IT, space, double taxation and sharing white shipping information, signalling a strong upward push in their strategic ties.

The following Agreements are:

1. Framework Agreement on Cooperation in the Exploration and Uses of Outer Space for Peaceful Purposes.
2. Protocol for Amending the Agreement on Avoiding Double Taxation.
3. Program of Cooperation in UN Peacekeeping Matters.
4. Protocol between the Ministry of Foreign Affairs of Vietnam and the Ministry of External Affairs of India on Celebrating 2017 as the "Year of Friendship".
5. MOU on Health Cooperation.
6. MOU on Cooperation in Information Technology.
7. MOU on Cooperation between the Vietnam Academy of Social Sciences and the Indian Council of World Affairs.
8. MOU on cooperation in Cyber Security.
9. MOU between the Bureau of Indian Standards and Directorate for Standard, Metrology and Quality for Cooperation in the Fields of Standardization and Conformity Assessment.
10. MOU on Establishment of the Centre of Excellence in Software Development and Training.
11. Technical Agreement on Sharing of White Shipping Information.

12. Contract for Offshore High-speed Patrol Boats.

SAARC FINANCE MINISTERS' CONFERENCE IN ISLAMABAD

- The SAARC Finance Ministers' conference highlighted key issues pertaining to regional economic integration and reiterated the commitment to establish a South Asian Economic Union (SAEU).
 - The proposal to establish a SAEU by 2020 was made way back in 1998 in a report prepared by the SAARC Group of Eminent Persons (SGEP).
 - The SGEP report also proposed that as a precursor to SAEU, a South Asian Customs Union (SACU) should be established by 2015 whereby all South Asian countries will maintain common tariff and non-tariff barriers on imports from all non-member countries.
 - South Asia is the fastest growing region in the world, according to the World Bank, with economic growth projected to increase from 7.1 per cent in 2016 to 7.3 per cent in 2017.
 - Deeper economic integration will help sustain this growth rate by creating an integrated South Asian market ensuring a free flow of goods, services and capital.
- In 2012, under phase two of tariff liberalization under SAFTA, countries agreed to prune their sensitive list. For example, India brought down the number of products in its sensitive list by 95 per cent for least developed countries (LDCs) of South Asia (Nepal, Bhutan, Bangladesh, and Afghanistan), it reduced its sensitive list for non-LDC countries only by around 30 per cent. Pakistan shortened its sensitive list for all countries by about 20 per cent.
- Intra-SAARC trade also suffers from complex non-tariff barriers, poor infrastructure, lack of connectivity and bureaucratic red tape at borders.
 - Consider this: it takes 35 days for a container to go from Delhi to Dhaka because it has to go via Colombo or even Singapore whereas it can reach in five days if there is direct connectivity.
 - The recently signed Motor Vehicles Agreement between Bhutan, Bangladesh, India and Nepal is expected to improve connectivity but only on the eastern side of South Asia.
 - According to World Bank, intra-SAARC trade is even lower than 5 per cent of total trade whereas in East Asia it is 35 per cent and in Europe 60 per cent. Similarly, trade in services in South Asia is very low notwithstanding the signing of the SAARC Agreement on Trade in Services in 2010, aimed at liberalization of trade in services.

The World Investment Report, 2016, of the United Nations Conference on Trade and Development reveals:

- FDI inflows to South Asia increased from \$36 billion in 2013 to \$50 billion in 2015, it is significantly less compared to East and Southeast Asia where these numbers stand at \$350 billion and \$448 billion for 2013 and 2015, respectively.
- South Asia's share in world FDI inflows in 2015 stood at a meagre 2.9 per cent whereas East and Southeast Asia attracted 25 per cent of world FDI flows.

- A key characteristic of FDI inflows in East and Southeast Asia is the ever-increasing intra-regional FDI inflows. Within the Association of Southeast Asian Nations (ASEAN) region alone, intra-ASEAN FDI accounts for 18 per cent of total FDI flows in the region.

WHY ARE SO MANY CHILDREN IN INDIA STUNTED: UNICEF

Stunting reflects chronic undernutrition during the most critical periods of growth and development in early life.

It is defined as the percentage of children, aged 0 to 59 months, whose height for age is below minus two standard deviations (moderate and severe stunting) and minus three standard deviations (severe stunting) from the median of the WHO Child Growth Standards.

India has made progress with regard to child undernutrition with stunting rates dropping from 48 per cent in 2006 to 38.7 per cent in 2015. Yet India continues to be home to a staggering 48 million stunted children under age 5 — the highest in the world.

- One such underlying driver is access to safe water and toilets, handwashing facilities, and hygiene behaviour. Safe water, sanitation and hygiene (WASH) have been identified as playing a key role in catalysing further reductions in undernutrition, contributing to improvements in children's growth and development.
- lack of nutritious food significantly contributes to undernutrition, the World Health Organization estimates that half of all undernutrition is associated with diarrhoea and infections resulting from unsafe water and sanitation, and unhealthy hygiene behaviours.
- Repeated diarrhoea in the first two years of life directly contributes to a quarter of all cases of stunting.
- WASH responsible for a majority 88 percentage of all diarrhoea cases. WASH contributes to diarrhoea through several key routes.
 - a. When people lack access to adequate sanitation, they often defecate in the open, polluting water sources used for drinking, cooking, and washing purposes.
 - b. When people don't have access to safe drinking water or resources to make water safe, they end up consuming contaminated water.
 - c. when people do not have awareness about the importance of hygiene or access to adequate hygiene facilities such as water and soap, they may not wash their hands at critical times like after defecation and before they eat, which leads to germs entering their bodies and their children's bodies when they prepare and eat food.
 - d. Children who drink unclean water contaminated by faecal matter, or are unable to wash their hands after defecating and before eating are vulnerable to diarrhoea, intestinal worm and other infections prevent a child's intestines from absorbing nutrients, preventing physical and cognitive growth.

Children can become stunted if they experience five or more cases of diarrhoea before their second birthday. Stunting is irreversible after age two, and its effects are long-lasting in terms of educational performance, health, and future potential.

Major concern:

- Direct nutrition interventions, while essential, can reduce stunting only by 20 per cent in the worst-affected countries.
- To reduce the remaining 80 per cent of stunting, nutrition-sensitive interventions that tackle the underlying drivers such as WASH, among others, are critical.
- This is particularly salient in the case of India where 76 million people do not have access to safe water, and 774 million live without adequate sanitation.
- Tackling WASH for nutrition can also contribute to mitigating the economic impacts of malnutrition, estimated to be 11 per cent of GDP in Asia and Africa annually.

Suggestion:

- For India to continue to make significant strides to reach the Sustainable Development Goal target to end all forms of malnutrition by 2030, the Government must continue with its direct nutrition interventions such as promoting breastfeeding, iron and vitamin supplementation, and food fortification.
- But in addition to these, the Government must support efforts to improve WASH by investing in safe water, hygiene facilities and activities that engender hygienic and healthy behaviour.
- A multi-sectoral approach is critical. This can be done by the nutrition sector integrating WASH components into their ongoing platforms and programmes such as ICDS, and by the WASH sector keeping in mind nutrition outcomes affected by water, sanitation and hygiene.

REALIZING INDIA'S ENERGY SECTOR

- India is the 5th largest producer of electricity in the world. At an electricity-GDP elasticity ratio of 0.8, electricity will continue to remain a key input for India's economic growth.
- The targets set for power, coal and renewable energy at **175 gigawatt (GW)** of renewable capacity by 2022 and increase domestic coal production to **1,500 million tonnes (MT)** by 2020 from 612.4 MT in 2014-15 should enable reaching ambitious targets.

Factors Determining Energy Sector realizations

Coal production:

1. Coal Mines (Special Provisions) Act, 2015: The act aims to provide for allocation of coal mines and vesting of the right, title and interest in and over the land and mine infrastructure to successful bidders and allottees with a view to ensure continuity in coal mining operations and production of coal.
2. The domestic coal production target of 1,500 MT is to be realized in this manner
3. Provision from imports of some 66 MT (million tonne) of coking coal which still need domestic production of around 1,400 MT of coal. Thus, the target of 1,500 MT of coal production.

Renewable capacity:

Three measures to encourage renewable power:

- **Feed-in tariff (FIT):** a fixed tariff is guaranteed to the power producer for a certain number of years.
- **Renewable portfolio obligation (RPO):** an electricity distribution company (DISCOM) is required to purchase a certain percentage of its total distributed electricity from renewable sources. The price that a renewable power producer will receive is determined by the market. Thus there is also incentive to supply electricity at competitive rates.
- **Accelerated depreciation allowance:** provides incentive to set up the plant but not to maintain it or generate electricity, helped boost wind power in the country.

The need for RPO

Even though FIT has been successful but RPO as a “single most important” policy to drive renewable energy deployment in India seems imperative.

- It guarantees a certain minimum price to be paid to a renewable power producer.
- RPO is that it can be neutral to technology. One does not have to prescribe whether it is solar or wind or biomass. Competitive market forces will select the most economical option. Whereas FIT is related to Solar only.
- The Ministry of New and Renewable Energy (MNRE) has recently announced consultation guidelines for long-term RPO trajectory.
- The guidelines stipulate separate RPO for solar and non-solar electricity. The guidelines prescribe that 2.75 per cent, 4.75 per cent and 6.75 per cent has to be solar energy for 2016-17, 2017-18 and 2018-19, respectively. The shares of non-solar energy such as wind, biomass, and small hydro for these years are to be 8.75 per cent, 9.50 per cent, and 10.25 per cent, respectively.

INDIA- SOUTH-EAST ASIAN COUNTRIES DECIDED TO SET UP FUND FOR HEALTH EMERGENCIES IN REGION

- India along with 10 other member countries of WHO's South-East Asian Regional Committee decided to set up a dedicated fund aimed at building preparedness for health emergencies in the region.
- The joint funding stream will be established under the South-East Asia Regional Health Emergency Fund (SEARHEF). The decision was made at the **69th session of WHO Regional Committee Meeting held at Colombo, Sri Lanka**. The decision would help the member countries to invest in human resources and infrastructure at times of emergencies, as it is one of the most disaster-prone regions.
- The member countries also passed a resolution for promoting physical activity and expanding health workforces across the region. Insufficient physical activity is a major contributor to rising rates of non-communicable diseases in the region.
- In the recent years, earthquakes, cyclones and floods have caused health emergencies in south-east Asian region and it has also been threatened by a range of emerging diseases, including SARS, MERS CoV, pandemic influenza and Zika virus.
- WHO South-East Asia region committee comprises 11 member states namely Bangladesh, Bhutan, South Korea, India, Indonesia, Maldives, Myanmar, Sri Lanka, Nepal, Thailand and Timor-Leste.

NIDHI

- **NIDHI (National Initiative for Development and Harnessing Innovations)**, an umbrella program is pioneered by the Department of Science & Technology (DST), Government of India, for nurturing ideas and innovations (knowledge-based and technology-driven) into successful startups.
- DST aims to bring both speed and scale to transform the **Startup Ecosystem** in the country and has **committed 500 crores** to implement these new programs in next few years.
- NIDHI focuses on building a seamless and innovation driven entrepreneurial ecosystem especially by channelizing youth towards it and thereby bringing in the positive impact on the socio-economic development of the country.
- The program aims to provide technological solutions targets to create new avenues for wealth and job creation.
- There are 8 components of NIDHI that support each stage of a budding startup from idea to market, the first component is **PRAYAS (Promoting and Accelerating Young and Aspiring Innovators & Startups)**, aims to support innovators to build prototypes of their ideas by providing a grant up to Rs.10 lakhs and an access to Fabrication Laboratory (Fab Lab) and final component is **Seed Support System** which provides up to One Crore rupees per start-up and is implemented through Technology Business Incubators.
- During the current financial year with a view to drive the innovation and startup centric new initiatives in a scaled up manner for its wider outreach across the country, a 450% increase in allocation (Rs. 180 crores) has been made in the Department's budget.

DST has established more than 100 Technology Business Incubators in academic and R & D institutions of repute. These institutions include IITs, IIMs, NITs and other institutions.

- In addition, a variety of other new programs including a fellowship program for Entrepreneurs i.e. **Entrepreneurs in Residence**, scaling up of startups through accelerator program and women empowerment through entrepreneurship.

To initiate variety of technology driven and innovation based programs to promote startups, DST has partnered with large corporate like Intel, Lockheed Martin, Texas Instruments and Boeing.

Further, DST has also partnered with Department of Higher Education, MHRD to establish Research Parks and Startup Centers in various academic institutions of national importance.

The key stakeholders: Includes various departments and ministries of the central government, state governments, academic and R & D institutions, mentors, financial institutions, angel investors, venture capitalists, industry champions and private sectors.

NEARLY 50 MILLION CHILDREN “UPROOTED” WORLDWIDE – UNICEF

Across the globe, nearly 50 million children have been uprooted – 28 million of them driven from their homes by conflicts not of their making, and millions more migrating in the hope of finding a better, safer life.

As per report:

Children represent a disproportionate and growing proportion of those who have sought refuge outside their countries of birth: they make up about a third of the global population but about half of all refugees. In 2015 around **45 per cent of all child refugees under UNHCR's protection came from Syria and Afghanistan.**

28 million children have been driven from their homes by violence and conflict within and across borders, including 10 million child refugees; 1 million asylum-seekers whose refugee status has not yet been determined; and an estimated 17 million children displaced within their own countries – children in dire need of humanitarian assistance and access to critical services.

More and more children are crossing borders on their own. In 2015, over 100,000 unaccompanied minors applied for asylum in 78 countries – triple the number in 2014. Unaccompanied children are among those at the highest risk of exploitation and abuse, including by smugglers and traffickers.

About 20 million other international child migrants have left their homes for a variety of reasons including extreme poverty or gang violence. Many are at particular risk of abuse and detention because they have no documentation, have uncertain legal status, and there is no systematic tracking and monitoring of their well-being – children falling through the cracks.

According to Uprooted, **Turkey hosts the largest total number of recent refugees**, and very likely the largest number of child refugees in the world. Relative to its population, Lebanon hosts the largest number of refugees by an overwhelming margin: **Roughly 1 in 5 people in Lebanon is a refugee.** By comparison, there is roughly 1 refugee for every 530 people in the United Kingdom; and 1 for every 1,200 in the United States. When considering refugee-host countries by income level, however, the Democratic Republic of the Congo, Ethiopia, and Pakistan host the highest concentration of refugees.

The report argues that where there are safe and legal routes, migration can offer opportunities for both the children who migrate and the communities they join.

An analysis of the impact of migration in high-income countries found that migrants contributed more in taxes and social payments than they received; filled both high- and low-skilled gaps in the labour market; and contributed to economic growth and innovation in hosting countries.

HEALTH MINISTRY LAUNCHED LEPROSY CASE DETECTION CAMPAIGN

Ministry of Health and Family Welfare has launched the biggest Leprosy Case Detection Campaign (LCDC) in the country across 149 districts of 19 states/UTs. For this purpose, teams comprising of one lady ASHA worker and one male volunteer each would visit every house in their allotted area and screen all the family members for leprosy.

The states and UTs covered in this campaign are Andhra Pradesh, Assam, Bihar, Chhattisgarh, Gujarat, Haryana, Jharkhand, Karnataka, Maharashtra, Nagaland, Odisha, Tamil Nadu, Uttar Pradesh, Uttarakhand, West Bengal, Chandigarh, Dadra & Nagar Haveli, Delhi and Lakshadweep.

The districts having a prevalence rate of more than one case per 10,000 population in any of the last three years have been included in this campaign.

The Leprosy Case Detection Campaign is a unique initiative of its kind in the world where each and every member of the targeted population will be examined by the search team constituted of one male and one female volunteer at household level.

House to house visits will be done by the search team as per the micro plan prepared for the local area to detect hidden and undetected leprosy cases.

The objective of the campaign is the early detection of leprosy in affected persons so that they can be saved from physical disability and deformity by providing them timely treatment and thus also halting the transmission of disease at the community level.

The first LCDC was launched during March-April 2016 in 50 districts of 7 states namely Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Maharashtra, Odisha and Uttar Pradesh wherein a population of about 6.8 crores was covered. During this campaign 65427 suspected cases were identified out of which 4120 were later confirmed.

Chhattisgarh has the highest number of districts to be covered, followed by Dadra Nagar and Haveli.

About leprosy

- Leprosy is a chronic disease caused by a slow multiplying bacillus, *Mycobacterium leprae*.
- *M. leprae* multiplies slowly and the incubation period of the disease is about 5 years.
- Symptoms can take as long as 20 years to appear.
- The disease mainly affects the skin, the peripheral nerves, mucosa of the upper respiratory tract, and also the eyes.
- Leprosy is curable with multidrug therapy (MDT).
- Although not highly infectious, leprosy is transmitted via droplets, from the nose and mouth, during close and frequent contacts with untreated cases.
- Untreated, leprosy can cause progressive and permanent damage to the skin, nerves, limbs and eyes.
- Official figures from 121 countries from 5 WHO regions show the global registered prevalence of leprosy to be at 175 554 cases at the end of 2014. During the same year, 213 899 new cases were reported.

NEWLY DISCOVERED FISH SPECIES CALLED OBAMA

The fish named in honor of President Obama for his commitment to protecting nature through the expansion of the **Papahānaumokuākea Marine National Monument**.

- The maroon and gold creature was found 300 feet deep in the waters off Kure Atoll in Pacific Ocean.
- It's the one fish known to live only within the Papahanaumokuakea Marine National Monument, a pristine expanse of coral reefs and seamounts home to millions of seabirds, endangered turtles, endangered monk seals, and more than 7,000 species.
- The species was discovered at the world's northernmost atoll. The atoll's deep-water reefs, among the jewels of Papahanaumokuakea, hold a special biological distinction: The 17 genera and 22 species that live on them occur only in the northwest Hawaiian Islands, giving Kure Atoll the highest rate of marine endemism ever recorded.
- This is not the first fish to be named after Barack Obama. A species of darters found only in the Duck River and the Buffalo River in US was named *Etheostoma Obama* in 2012.

GHOST SNAKE SPECIES DISCOVERED IN MADAGASCAR

Scientists have discovered a 'ghost snake' — a new species of elusive, pale grey reptiles dwelling in Madagascar.

They named it Madagascarophislolo — which means ghost in Malagasy.

The ghost snake, discovered at the **Ankarana National Park in Madagascar**, is part of a common group of snakes called Madagascarophis, or cat-eyed snakes, named for their vertical pupils, which is often found among snakes that are active in the evening or night.

Many of the cat-eyed snakes are found in developed areas or degraded forests. However, the ghost snake found on pale grey limestone rocks.

the ghost snake's next closest relative is a snake called Madagascarophisfuchsi, which was discovered at a site about 100 kilometres north of Ankarana years ago. Both were found in rocky, isolated areas.

UZBEKISTAN'S PRESIDENT ISLAM KARIMOV DIES

Uzbekistan's President Islam Karimov, who dominated the Central Asia's most populous nation for 27 years, has died at the age of 78 after suffering a stroke

- Karimov grew up in an orphanage in the ancient city of Samarkand and went on to study mechanical engineering and economics.
- He rose up through the Communist Party ranks to head Soviet Uzbekistan in 1989.
- He was the first president of Uzbekistan from its independence.
- Before that, he was President of the Uzbek Soviet Socialist Republic from 24 March 1990 until he declared the independence of Uzbekistan on 1 September 1991.
- He declared Uzbekistan an independent nation on 31 August 1991 and subsequently won its first presidential election.

Uzbekistan under the Karimov government was classified as a hard authoritarian regime with little to no civil society promotion.

BRAZIL PRESIDENT DILMAROUSSEFF IMPEACHED

MsRousseff was accused of breaking fiscal laws. She was found guilty of moving funds between government budgets, which is illegal under Brazilian law.

Rousseff was also accused of taking illegal state loans to hide budget holes in 2014, covering up the country's problems as it slipped into its deepest recession in decades.

Rousseff is enormously unpopular because she is blamed for the multiple crises facing the country and has proved an inept leader.

Michel Temer, served as MsRousseff's vice-president and has been the acting president since her suspension in May and now a President of Brazil.

About DILMA ROUSSEFF

- **Dilma Vana Rousseff** is a Brazilian economist and politician who served as the 36th President of Brazil from 2011 until her impeachment and removal from office on 31 August 2016.
- She is the first woman president of Brazil.
- She was previously the Chief of Staff of President Luiz Inácio Lula da Silva from 2005 to 2010.

INDIAN SCIENTISTS UNLOCK PRETERM BIRTH MYSTERY

Indian researchers have made a major discovery by understanding the mechanisms by which preterm births (between 28 and 32 weeks of gestation) occur. At 35 per cent, India accounts for the highest burden of preterm births in the world.

It is found for the first time that gram-positive Group B Streptococcus (GBS) bacteria produce small balloons called membrane vesicles, which contain toxins that kill both foetal and maternal cells and destroy the collagen that binds the cells together.

Group B Streptococcus (GBS) bacteria are normally found in human vagina and their numbers can shoot up in some pregnant women. The GBS bacteria have been associated with premature rupture of amniotic membrane and preterm birth.

A lot of women who suffer from inflammation of the amniotic membrane do not have bacterial infection in the amniotic sac. So the bacteria present in the vagina were secreting certain factors that travels up the reproductive tract and acted in a synchronised fashion to cause preterm birth and stillbirth.

Fragmentation of the collagen leads to loss in elasticity and weakening of the amniotic membrane thus making it susceptible to rupture due to pressure from the growing foetus. This leads to preterm birth. The vesicles also degrade the collagen in the womb.

Group B streptococcus (GBS) is a type of bacterial infection that can be found in a pregnant woman's vagina or rectum. This bacteria is normally found in the vagina and/or rectum of about **25% of all healthy, adult women**. Women who test positive for GBS are said to be colonized. A mother can pass GBS to her baby during delivery.

Not every baby who is born to a mother who tests positive for GBS will become ill. Although GBS is rare in pregnant women, the outcome can be severe.

FIRST DNA SEQUENCING IN SPACE

DNA was successfully sequenced in microgravity as part of the Biomolecule Sequencer experiment. The ability to sequence the DNA of living organisms in space opens a whole new world of scientific and medical possibilities.

The tests were set up to attempt to make spaceflight conditions, primarily microgravity, the only variables that could account for differences in results.

- A space-based DNA sequencer would be an important tool to help protect astronaut health during long duration missions on the journey to Mars, and future explorers could also potentially use the technology to identify DNA-based life forms beyond Earth.
- DNA sequencing device called **MinION**, developed by Oxford Nanopore Technologies.

- The MinION works by sending a positive current through pores embedded in membranes inside the device, called nanopores. At the same time, fluid containing a DNA sample passes through the device. Individual DNA molecules partially block the nanopores and change the current in a way that is unique to that particular DNA sequence or it has minimal moving parts and plugs directly into a laptop or tablet, which supplies power to the device and collects the sequencing data. Unlike terrestrial instruments whose sequencing process can take days, this device's data is available in near real-time; analysis can begin within 10-15 minutes from the application of the sample.

DNA sequencing is used to identify forms of life; to study how different organisms are related and how they evolved; to pinpoint genetic diseases in individuals and to develop pharmaceutical treatments for maladies. It's even used for crime-fighting.

NIRVANA