

INTERNATIONAL

30th Asia Pacific Economic Cooperation (APEC) Summit

30th Asia Pacific Economic Cooperation (APEC) Summit took place in Papua New Guinea.

For the first time since its inception APEC has failed to release a joint communique due to lack of consensus among the members over trade and security issues.

All 20 countries except China agreed to the joint statement.

Lack of consensus between China and the US

US targeted China's Belt and Road Initiative (BRI) and called it as "constricting belt" and a "One-way Road". US also warned smaller countries to be cautious of "debt-trap" by China and said not to accept debt which compromise sovereignty.

China defended BRI and said that there is no geo-political agenda behind it and it is not an exclusive club closed to non-members, nor is it a trap.

China targeted US policy of "America First" and said that erecting barriers and cutting ties is a short-sighted approach doomed to fail.

The U.S.-China discord at APEC highlighted the dangers of their trade war, trade war between the US and China could cripple the Pacific Rim economy.

Due to the tariff war International Monetary Fund has downgraded its global growth outlook for 2018 and 2019.

If this continues, global supply chains will be impacted, and shrinking trade volumes may cause companies to seek out new trading routes and partners.

About APEC

It was established in 1989 and has 21 members. (India is not a Member)

APEC is the premier Asia-Pacific economic forum. Primary goal of APEC is to support sustainable economic growth and prosperity in the Asia-Pacific region.

India has requested membership in APEC, and received initial support from the United States, Japan, Australia and Papua New Guinea. Officials have decided not to allow India to join as India does not border the Pacific Ocean, which all current members do.

India was invited to be an observer for the first time in November 2011.

Virtual climate summit

- World leaders to participate in an innovative climate change summit that will take place entirely online so it is carbon neutral.
- The Virtual Climate Summit is the brainchild of Marshall Islands President Hilda Heine, whose low-lying Pacific island nation will drown beneath rising seas if global warming continues unabated.
- It will be the first global political meeting to be held online.
- The virtual summit's main aim is to encourage the international community to keep global warming to 1.5 degrees Celsius above pre-industrial levels.
- The latest round of UN climate talks, COP24, will open in the southern Polish city of Katowice on December 2 with the aim of reinvigorating the Paris agreement.

India, Russia to build stealth frigates

- Goa Shipyard Ltd. signs Rs. 500 mn deal with Russia's Rosoboronexport to locally manufacture two stealth frigates with technology transfer.
- While the ships are built by Russia, the engines are supplied by Zorya Nashproekt of Ukraine.
- In October 2016, India and Russia signed an Inter-Governmental Agreement (IGA) for four Krivak or Talwar stealth frigates — two to be procured directly from Russia and two to be built by GSL.
- Of late, GSL has maintained a good track record. It has delivered 28 ships ahead of schedule in the past four years.
- India recently signed a \$1 bn deal with Russia for direct purchase of two frigates. The basic structures of the two frigates are already ready at the Yantar shipyard in Russia and will be finished now.

International Space Station (ISS) turned 20 years old on November 20, 2018.

The International Space Station (ISS) turned 20 years old on November 20, 2018. The project was kicked by Russian space agency Roscosmos when it launched its Zarya module from the Baikonur Cosmodrome in Kazakhstan on November 20, 1998. The launch was followed by NASA's Unity module. The pair was joined in low-earth orbit, which kick-started a 13-year construction effort of the most ambitious construction project in the history of humanity. The result of the effort was a habitable artificial satellite, which currently serves as a giant orbiting observatory and laboratory.

ISS History

On November 20, the International Space Station reached a two-decade milestone since the launch of its first module.

On this day in 1998, aerospace engineers from Russia and the United States celebrated the lift-off of the Russia-built, US-funded unit Zarya ("sunrise") as it took off from Kazakhstan's Baikonur Cosmodrome.

At 11:40 am, the first component of the ISS made its way into orbit where it served as the foundation of an international space exploration program that continues today.

The most significant thrust for the success of the project was the co-operation between former Cold War rivals- the United States and Russia (part of Soviet Union that disintegrated in 1990).

Zarya would not have been possible had the two nations not kept aside the decades of nuclear tensions to share the expertise both sides had accumulated during and after the Space Race of the 1960s to further the common good.

Following the collapse of the Soviet Union in 1991, the US tapped Russia's skilled but idle space industry to help bring down costs and expedite Ronald Reagan's 1984 vision of a "permanently manned space station."

In their audacious bid to create a continuously inhabited structure 250 miles above the Earth, the long-time adversaries found a common ground.

Key Facts about ISS

- It is the largest manned object in space, 357ft long, just a yard short of a full-length football field.
- It weighs 419,725kg including the weight of spacecrafts. The space station can accommodate as many as six spacecrafts at one time.
- It is the single most expensive object ever built at £93.4bn.
- It is the third brightest object in the Earth's night sky after the moon and Venus.
- It orbits the earth approximately once every 90 minutes or 16 times in a 24-hour period.
- It passes over 90 per cent of the earth's population in the course of its orbital path.
- The living space in the station includes six sleeping quarters, a gym and a 360-degree bay window, but only two bathrooms.
- The zero gravity causes astronauts to float while doing their daily activities.
- The orbiting station has been continuously occupied since November 2000.
- On September 2, 2017, Nasa's Peggy Whitson set the record of being the longest-serving human in space.

Why Is the Space Station Important?

- The space station has made it possible for people to have an ongoing presence in space. Human beings have been living in space every day since the first crew arrived. The space station's laboratories allow crew members to do research that could not be done anywhere else. This scientific research benefits people on Earth.
- Space research is even used in everyday life. The results are products called "spinoffs." Scientists also study what happens to the body when people live in microgravity for a long time. NASA and its partners have learned how to keep a spacecraft working well. All of these lessons will be important for future space exploration.
- NASA currently is working on a plan to explore other worlds. The space station is one of the first steps. NASA will use lessons learned on the space station to prepare for human missions that reach farther into space than ever before.

Australia joins US, Israel in refusing to sign UN migration pact

- Australia will not join a United Nations-backed global pact on migration, Prime Minister Scott Morrison announced, citing concerns that the deal would be used to "undermine Australia's strong border protection laws and practices."
- Australia believes that its immigration policy already promotes safe, orderly and regular migration. Hence, adopting the pact would risk encouraging illegal entry to Australia and reverse the hard-won successes in combating the people-smuggling trade.
- Australia's harsh immigration policy detains asylum-seekers who try to reach the country by boat on remote Pacific islands. While the policy has led to a decline in people-smuggling, hundreds of people are now being held in Papua New Guinea and Nauru.
- United Nations for first time has finalized Global Compact for Safe, Orderly and Regular Migration to better manage international migration, address its challenges, strengthen migrant rights and contribute to sustainable development. The agreement will be formally adopted by world leaders in Morocco in December 2018.
- The compact is the first intergovernmental agreement to cover wide-ranging dimensions of international migration in holistic and comprehensive manner, agreed upon by all the UN member states minus the United States.
- It sets out 23 objectives to deal issues ranging from factors that compel people to move, legal channels for migration, combating trafficking and smuggling, harnessing the economic benefits of migration and return of the migrants. It is not legally binding.
- Over 250 million migrants worldwide account for 3% of the world's entire population, but contribute 10% of the global gross domestic production (GDP). Migrants remittance is huge contributor to their home countries' development.

NATIONAL

Aligning the triad: On India's nuclear deterrence

INS Arihant, India's first indigenously developed nuclear submarine, returned to the Indian shores after successfully completing its first deterrence patrol. The submarine is a vital cog in India's quest in attaining a minimum deterrent nuclear 'triad' – the ability to fire nuclear-tipped missiles from land, air and sea.

What is the composition of INS Arihant?

INS Arihant is a 6,000-tonne submarine with a length of 110 meters and a breadth of 11 meters. The vessel will be able to carry 12 Sagarika K 15 submarine launched ballistic missiles that have a range of over 700 km.

INS Arihant will be the first SSBN-type submarine in the Navy. It has also been reported that its sister vessel, the INS Aridhaman, is nearing completion.

What is SSBN type submarine?

Strategic Strike Nuclear Submarines (SSBNs) are powered by a nuclear reactor and as a result, they can function submerged for months without having to surface. This feature allows them to travel further and with greater stealth.

They are different from conventional SSK submarines, which use a diesel-electric engine as their power source, and have to surface daily to get oxygen for fuel combustion.

Induction of INS Arihant does not complete Nuclear Triad. INS Arihant would have to develop further capabilities to act as a nuclear deterrent.

The range of nuclear tipped ballistic missile is insufficient to reach key targets in China and Pakistan.

Further, to target enemy countries, it would have to go closer to the waters of enemy countries where it increases the chances of being detected and targeted.

To ensure seamless and continuous presence, India needs 4 such submarines whose production and maintenance is extremely expensive.

Impact on Strategic Stability

- Induction of INS Arihant enhances maritime competition in the region, modernise naval fleet and seek to have enhanced presence in the region.
- Further, INS Arihant's aggressive posture may lead to confusion and minor conflicts which may escalate into a full-fledged war.
- Thus, there is a security dilemma involved considering that whatever actions a country takes to secure itself could actually end up making itself more insecure.
- For example, Pakistan could develop or purchase similar nuclear submarines with active help of China which may lead to increased instability in the region.
- Similarly, China's Belt and Road Initiative may lead to revival of QUAD Security dialogue between India, USA, Japan and Australia.

Command and Control

- There are concerns regarding command and control of the use of nuclear triads especially those under water.
- There will be no civilian presence on board an Ship Submersible Ballistic Nuclear (SSBN). The captain of SSBN will be under Strategic Forces Command under military control who can launch nuclear missile on orders from political authority.
- However, the article mentions that there is no fool proof mechanism to ensure misuse of nuclear missile which can escalate into a regional war in the South Asian Region.

INS Arihant makes a robust nuclear deterrence, but also changes deterrence stability in South Asian Region. Nuclear Triad comprises of capability of nuclear strike from land, air and under-water. It is suggested to reduce investment in land and air strike capability and to increase under-water strike capability.

USA and USSR in 1972 signed an agreement named "Incidents at Sea Agreement" which aimed to avoid confusion and accidents at sea and also to avoid escalation into full fledged war.

India, Pakistan and China should enter into a similar agreement to avoid escalation of war in the region.

Government of India to observe the remembrance of 100 years of the historical Jallianwalla Bagh massacre

- Government of India has decided to mark the remembrance of 100 years of the historical Jallianwalla Bagh Massacre next year.
- A number of commemorative as well as constructive activities will be taken up during the remembrance period.

Coin and Postage Stamps:

- The commemorative coin and postage stamps will be released on 13th April 2019 (the day the incident took place 100 years ago).
- Ministry of Culture will organize cultural activities like kavi sammelan, plays, exhibition, seminars, etc. across the country.
- A Committee is constituted to ensure timely implementation to Renovate, upgrade and beautify the Jallianwalla Bagh Memorial, and Develop Virtual Reality Theme Based show at the Memorial.

Development of Virtual Reality Theme Based show:

- The Ministry of Tourism earmarked an amount of Rs. 8 crore under Swadesh Darshan Scheme for development of Virtual Reality Theme Based show at the Memorial.
- The Ministry of Culture will provide additional funds, if needed.

Background:

- It is also known as the Amritsar Massacre (dated April 13, 1919) at Jallianwala Bagh, Amritsar, Punjab.
- On 13th April 1919, thousands of people were gathered at Jallianwala Bagh. This day marks the beginning of New Year for the Sikhs, also celebrated as Baisakhi festival all over Punjab.
- Colonel Reginald Dyer had announced curfew and a ban on all processions that even prohibited a group of 4 or more people to meet publicly. However, General Dyer sensed the number of people present there and the secret meeting that was about to take place. Thus, he arrived with armed troops and ordered to open fire.
- The troops were ordered to start shooting; this heinous act of violence resulted in extreme mass killing.
- To keep in mind this significance of this place, a trust was founded in 1920 to build a memorial site at Jallianwala Bagh. American architect, Benjamin Polk, built the memorial site which was inaugurated by the then President of India, Rajendra Prasad on 13 April 1961.

Pradhan Mantri Matru Vandana Yojana

As per the latest data released by the Centre for Digital Financial Inclusion (CDFI) that uses technology for financial inclusion, the government has transferred over Rs 1,600 crore to eligible mothers under Pradhan Mantri Matru Vandana Yojana through direct benefit transfer so far. Rs 16,04,66,63,000 has been transferred through direct benefit transfer to 48.5 lakh women.

CAS (Common Application Software) System:

CDFI is a non-profit organisation. It had conceptualised, designed and implemented the PMMVY-CAS (Common Application Software) System through which disbursements were made.

About PMMVY:

- Pradhan Mantri Matru Vandana Yojana (PMMVY) is a maternity benefit rechristened from erstwhile Indira Gandhi Matritva Sahyog Yojana (IGMSY). The IGMSY was launched in 2010.
- The scheme is a conditional cash transfer scheme for pregnant and lactating women of 19 years of age or above for first live birth.
- It provides a partial wage compensation to women for wage-loss during childbirth and childcare and to provide conditions for safe delivery and good nutrition and feeding practices.

Exceptions: The maternity benefits under Pradhan Mantri Matru Vandana Yojana (PMMVY) are available to all Pregnant Women & Lactating Mothers (PW&LM) except those in regular employment with the Central Government or State Government or Public Sector Undertaking or those who are in receipt of similar benefits under any law for the time being in force.

Funding: The scheme is a Centrally Sponsored Scheme under which cost sharing ratio between the Centre and the States & UTs with Legislature is 60:40 while for North-Eastern States & three Himalayan States; it is 90:10. It is 100% Central assistance for Union Territories without Legislature.

Need for special attention:

Under-nutrition continues to adversely affect majority of women in India. In India, every third woman is undernourished and every second woman is anaemic. An undernourished mother almost inevitably gives birth to a low birth weight baby. When poor nutrition starts in-utero, it extends throughout the life cycle since the changes are largely irreversible.

Owing to economic and social distress many women continue to work to earn a living for their family right up to the last days of their pregnancy. Furthermore, they resume working soon after childbirth, even though their bodies might not permit it, thus preventing their bodies from fully recovering on one hand, and also impeding their ability to exclusively breastfeed their young infant in the first six months.

'SHe-Box'

The Ministry of Women and Child Development has linked SHe-Box, the online portal to report complaints of Sexual Harassment at Workplace, to all the Central Ministries, Departments and 653 districts across 33 States/Union Territories. For prompt disposal of complaints on SHe-Box, each case goes directly to the central/ state authority concerned having jurisdiction to take action in the matter. Cases on SHe-Box can be monitored by the complainants and Ministry WCD, reducing the time taken in case disposal. Till November 20, 2018, as many as 321 complaints have been registered with 'SHe-Box' out of which 120 are related to central ministries/departments, 58 are from state governments and 143 are from private companies.

About SHe-box:

It is an online complaint management system for registering complaints related to sexual harassment at workplace. It was launched by the Ministry of Women and Child Development. The complaint management system has been developed to ensure the effective implementation of Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act (the SH Act), 2013.

How it works?

Once a complaint is submitted to the portal, it will be directly sent to the Internal Complaints Committee (ICC) of the concerned Ministry/Department/PSU/Autonomous Body etc. having jurisdiction to inquire into the complaint. Through this portal, WCD as well as complainant can monitor the progress of inquiry conducted by the ICC.

Significance of the portal:

This portal is an initiative to provide a platform to women working or visiting any office of Central Government (Central Ministries, Departments, Public Sector Undertakings, Autonomous Bodies and Institutions etc.) to file complaints related to sexual harassment at workplace under the SH Act. Those who had already filed a written complaint with the concerned Internal Complaint Committee (ICC) constituted under the SH Act are also eligible to file their complaint through this portal. It is also an effort to provide speedier remedy to women facing sexual harassment at workplace as envisaged under the SH Act.

ICMR releases guidelines for antibiotics' judicious use

To ensure judicious use of antibiotics in healthcare facilities, the Indian Council of Medical Research (ICMR) has released Antimicrobial Stewardship Guidelines to advise hospitals in setting up Antimicrobial Stewardship Programmes (AMSP) for the purpose.

Need for AMSP:

Antimicrobial resistance (AMR) is a major public health challenge, and with very few new antibiotics in the pipeline, it is important to use the existing drugs judiciously. Since inappropriate use of antibiotics is rampant in India, there is an urgent need to improve antibiotic use in hospitals, which can be achieved through implementation of good AMS programmes.

The guidelines and their significance:

These guidelines provide guidance for setting up structure and processes of Antimicrobial Stewardship Programmes in healthcare institutions.

It will help discuss essential elements of antimicrobial stewardship, diagnostic stewardship besides providing information on tools that can be used to measure progress.

What is Antimicrobial resistance and why is it on rise?

Antimicrobial resistance (AMR) is a major public health challenge, which is recognised as high priority area by the government. The increasing consumption of antibiotics is one of the key drivers of antimicrobial resistance seen in bugs.

Irrational prescription of broad-spectrum antibiotics, poor regulations around sale of antibiotics, self-medication, lack of education and awareness regarding responsible use of antibiotics have been identified as some of the key factors driving antimicrobial resistance in our country.

The National Health Policy, 2017, terms antimicrobial resistance as one of the key healthcare issues and prioritises development of guidelines regarding antibiotic use, limiting over-the-counter use of antibiotics and restricting the use of antibiotics as growth promoters in livestock.

Witness protection scheme

The Supreme Court of India has directed all the states to implement the draft witness protection scheme framed by the Centre in consultation with the National Legal Services Authority (NALSA).

Background:

In April this year, the Centre had informed the top court that it had framed a draft witness protection scheme and it was circulated among the states and Union Territories administration for comments. The court had asked the Centre to finalise the scheme after getting response from the states and Union Territories.

In November last year, the court had asked the Centre as to why a draft scheme cannot be formulated for witness protection in the country when specific provisions in this regard were already there in the National Investigation Agency (NIA) Act.

Objectives of the Witness Protection Scheme-2018:

To enable a witness to give testimony in a judicial setting or to cooperate with law enforcement and investigations without fear of intimidation or reprisal.

To ensure that the investigation, prosecution and trial of criminal offences is not prejudiced because witnesses are intimidated or frightened to give evidence without protection from violent or other criminal recrimination.

To promote law enforcement by facilitating the protection of persons who are involved directly or indirectly in providing assistance to criminal law enforcement agencies and the overall administration of Justice.

To give witnesses the confidence to come forward to assist law enforcement and Judicial Authorities with full assurance of safety.

To identify a series of measures that may be adopted to safeguard witnesses and their family members from intimidation and threats against their lives, reputation and property.

Need for the scheme:

Victims and witnesses of serious crimes are particularly at risk when the perpetrator is powerful, influential, or rich and the victims or witnesses belong to a socially or economically marginalised community. Girls and women who report sexual violence are often even more vulnerable and face extreme pressure or direct threats from the accused.

Also, witnesses need to have the confidence to come forward to assist law enforcement and prosecutorial authorities. They need to be assured that they will receive support and protection from intimidation and the harm that criminal groups may seek to inflict upon them in attempts to discourage or punish them from co-operating. Hence, legislative measures to emphasise prohibition against tampering of witnesses have become the imminent and inevitable need of the day.

BILATERAL

India, Pak. commit to Kartarpur corridor

India and Pakistan agreed to build the Kartarpur Sahib corridor for Sikh pilgrims to visit the Gurdwara in Kartarpur (Pakistan)

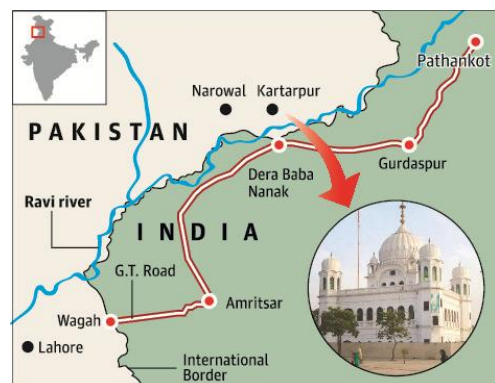
Both the countries exchanged letters committing to build the required infrastructure for visa-free direct travel by Sikh pilgrims to Pakistan's Kartarpur Sahib gurdwara.

November 2019 marks 550th birth anniversary of Guru Nanak Dev

India had first proposed the Kartarpur Sahib corridor in 1999 when the then Prime Minister Atal Bihari Vajpayee took a bus ride to Lahore.

Gurdwara in Kartarpur

- The gurdwara in Kartarpur is located on the bank of river Ravi in Pakistan
- It is about four km from the Dera Baba Nanak shrine,



and about 120 km northeast of Lahore

- It was here that Guru Nanak assembled a Sikh community and lived for 18 years until his death in 1539
- The shrine is visible from the Indian side, as Pakistani authorities generally trim the elephant grass that would otherwise obstruct the view
- Indian Sikhs gather in large numbers for darshan from the Indian side, and binoculars are installed at Gurdwara Dera Baba Nanak
- The gurdwara was opened to pilgrims after repairs and restoration in 1999, and Sikh jathas have been visiting the shrine regularly ever since
- Sikh jathas from India travel to Pakistan on four occasions every year- for Baishakhi, the martyrdom day of Guru Arjan Dev, the death anniversary of Maharaja Ranjit Singh, and the birthday of Guru Nanak Dev.

U.S. citizen killed by Andaman tribals

U.S. citizen was killed by Andaman tribals when he tried to enter the North Sentinel Island (one of the Andaman Islands).

Access to North Sentinel Island and its buffer zone is strictly restricted under the Protection of Aboriginal Tribe (Regulation), 1956 and Regulations under Indian Forest Act, 1927.

Photographing or filming the tribe members is also an offence. The rules were amended later to enhance penalties. But restricted area permits were relaxed for some islands recently.

Who are these Sentinelese?

- The Sentinelese, a negrito tribe who live on the North Sentinel Island of the Andamans, have not faced incursions and remain hostile to outsiders.
- The inhabitants are connected to the Jarawa on the basis of physical, as well as linguistic similarities, researchers say.
- Based on carbon dating of kitchen middens by the Anthropological Survey of India, Sentinelese presence was confirmed in the islands to 2,000 years ago. Genome studies indicate that the Andaman tribes could have been on the islands even 30,000 years ago.
- The Sentinelese have been fiercely hostile to outside contact. But in 1991 they accepted some coconuts from a team of Indian anthropologists and administrators.
- Some researchers argue that the Sentinelese have been mostly left alone even from colonial times, unlike other tribes such as the Onges, Jarawas and Great Andamanese, because the land they occupy has little commercial attraction.

From 1901 to 1921 they were estimated to be 117 people. In 1931, the number dropped to 50, a figure used for the 1961 Census too. In 1991 their head count was put at 23.

Census 2001 counted 39 inhabitants.

How are they protected?

The Govt. of India issued the Andaman and Nicobar Islands (Protection of Aboriginal Tribes) Regulation, 1956 to declare the traditional areas occupied by the tribes as reserves. It prohibited entry of all persons except those with authorisation. Photographing or filming the tribe members is also an offence. The rules were amended later to enhance penalties.

But restricted area permits were relaxed for some islands recently. In a major step earlier this year, the Indian government excluded this island and 28 others in the Union Territory from the Restricted Area Permit or RAP regime till December 31, 2022. The lifting of RAP means foreigners can go to the island without permission from the government

Why are they said to be vulnerable?

It is said they have made little to no advancement in the over 60,000 years and still live very primitive lives, surviving mainly on fish and coconuts.

They are very vulnerable to germs since they have not had contact with the outside world. Even a common flu virus carried by a visitor could wipe out the entire tribe.

Since the 1960s, there have been a handful of efforts to reach out to the tribe but all have largely failed. They have repeatedly, aggressively made it clear that they want to be isolated.

What is Restricted Area Permit (RAP) regime?

RAP regime was notified under the Foreigners (Restricted Areas) Order, 1963.

Under it, foreign nationals are not normally allowed to visit protected or restricted area unless Government is satisfied that there are extra-ordinary reasons to justify their visit.

Every foreigner, except citizen of Bhutan, who desires to enter and stay in protected or restricted area, is required to obtain special permit from competent authority having power to issue such permits to foreigner, seeking it.

Citizens of Afghanistan, China and Pakistan and foreign nationals of Pakistani origin are exception and are not allowed to enter such areas.

ECONOMY

NBFC Mudra loans grew faster than banks in FY18

According to the 2017-18 annual report of Pradhan Mantri Mudra Yojana (PMMY), though NBFCs sanctioned only over Rs. 27,000 crore of Mudra loans in FY18 against Rs. 92,492.68 crore by public sector banks, their year-on-year growth was faster. While NBFC Mudra loan sanctions increased Rs.

21,562.63 crore from a year ago, state-run banks could raise their Mudra loans by only Rs. 20,539.01 crore in the same period.

Impressively, NBFCs not only met their Mudra target of Rs. 9,050 crore for FY18, but their sanctions for the year were a five-fold jump from the previous year.

About the Pradhan Mantri MUDRA Yojana (PMMY) scheme:

- The PMMY Scheme was launched in April, 2015. The scheme's objective is to refinance collateral-free loans given by the lenders to small borrowers.
- The scheme, which has a corpus of Rs 20,000 crore, can lend between Rs 50,000 and Rs 10 lakh to small entrepreneurs.
- Banks and microfinance institutions (MFIs) can draw refinance under the MUDRA Scheme after becoming member-lending institutions of MUDRA.
- Mudra Loans are available for non-agricultural activities upto Rs. 10 lakh and activities allied to agriculture such as Dairy, Poultry, Bee Keeping etc, are also covered.
- Mudra's unique features include a Mudra Card which permits access to Working Capital through ATMs and Card Machines.

There are three types of loans under PMMY:

1. Shishu (up to Rs.50,000).
2. Kishore (from Rs.50,001 to Rs.5 lakh).
3. Tarun (from Rs.500,001 to Rs.10,00,000).

Objectives of the scheme:

Fund the unfunded: Those who have a business plan to generate income from a non-farm activity like manufacturing, processing, trading or service sector but don't have enough capital to invest can take loans up to Rs 10 lakh.

Micro finance institutions (MFI) monitoring and regulation: With the help of MUDRA bank, the network of microfinance institutions will be monitored. New registration will also be done.

Promote financial inclusion: With the aim to reach Last mile credit delivery to micro businesses taking help of technology solutions, it further adds to the vision of financial inclusion.

Reduce jobless economic growth: Providing micro enterprises with credit facility will help generate employment sources and an overall increase in GDP.

Integration of Informal economy into Formal sector: It will help India also grow its tax base as incomes from the informal sector are non-taxed.

MISCELLANEOUS

Microbiome research

The human microbiome has emerged as the crucial moderator in the interactions between food and our body. It is increasingly recognised that the microbiome can change our mind and health status, or switch on a wide range of diseases including cancer, cardio-metabolic diseases, allergies, and obesity. The causes of diseases are often only partially understood. However, nutrients, metabolites, and microbes are increasingly regarded as key players, even where the complete disease mechanisms remain unclear. The key to progress in the future will be to use and exploit additional, newly emerging disciplines such as metagenomics to complement patient information and to bring our understanding of diseases and the interrelation and effects of nutritional molecules to the next level. The EU has already funded 216 projects under the 7th Framework Programme and Horizon 2020 programmes to promote metagenomics and to advance our knowledge of microbes. This support started with the catalysing MetaHIT project that has produced a catalogue of gut microbes, and has arrived now at the very multi-disciplinary SYSCID action looking at how the microbiome is driving its resilience potential and our health. Together, these projects involve an investment of more than €498 M. However, in Horizon 2020, the new EU Health and Food Work Programmes for 2018–2020 go even further by setting new goals to find applications and to generate more knowledge on the microbiome, nutrition, various hosts of microbes, and their relation to health and disease. The big vision is to modulate health and diseases via the microbiome and nutrition, while at the same time other factors such as omics, molecular signatures, and lifestyle are constant. In this way, microbiome and nutrition research is moving from an isolated and despised offside position to a beacon of hope with a lot of potential and possibilities.

Why in News?

From November 19 to 22, Pune hosted an international conference on microbiome research — a field of study that is still in its infancy in India.

What is "Human Microbiome"?

The human body carries diverse communities of microorganisms, which are mainly bacterial. These are referred to as "human microbiome".

Their role:

These organisms play a key role in many aspects of host physiology, ranging from metabolism of otherwise complex indigestible carbohydrates and fats to producing essential vitamins, maintaining immune systems and acting as a first line of defense against pathogens.

Significance of research on the human microbiome

Research on the human microbiome has thrown light on various aspects — how different parts of the human body are occupied by characteristic microbial communities, and how various factors contribute in shaping the composition of the microbiome, including the genetics, dietary habits, age, geographic

location and ethnicity. These studies laid a strong foundation to decipher the microbiome's implications on health and a wide range of diseases.

India's project:

India has proposed a project that would study and map the human microbiome across the country. The Rs 150-crore project will get approval soon.

The project will include collection of saliva, stool and skin swabs of 20,000 Indians across various ethnic groups from different geographical regions. India provides for a wide range of research with more than 4,500 ethnic groups and presence of two global biodiversity hotspots (Himalayan range and Western Ghats).

Need:

Scientists at NCSS have conducted a meta-analysis on gut microbiota of healthy Indian individuals and compared it with that of individuals from other parts of the world. It shows that the Indian population harbours a distinct gut microbial community, which, scientists say, calls for an in-depth investigation of the Indian microbiome. India has a large number of tribal populations largely unaffected by "modern" diet and lifestyle. The prevalence of lifestyle-related disorders such as obesity and diabetes has been known to be significantly lower compared to the non-tribal (urbanised) populations across the globe. Hence, scientists say, a study on the tribal population would help improve knowledge of evolution of the mutualism between gut microbiota and the host.

"Atmosphere & Climate Research-Modelling Observing Systems & Services (ACROSS)" scheme

The Cabinet Committee on Economic Affairs, chaired by the Prime Minister Shri Narendra Modi has approved continuation of the nine sub-schemes of the umbrella scheme "Atmosphere & Climate Research-Modelling Observing Systems & Services (ACROSS)" during 2017-2020 at an estimated cost of Rs. 1450 crore. It will be implemented by the Ministry of Earth Sciences through its institutes namely India Meteorological Department (IMD), Indian Institute of Tropical Meteorology (IITM), National Centre for Medium Range Weather Forecasting (NCMRWF), and Indian National Centre for Ocean Information Service(INCOIS).

The CCEA also approved establishment of National Facility for Airborne Research (NFAR) with a financial commitment of Rs 130 crore during 2020-21 and beyond.

Impact:

The scheme will provide improved weather, climate and ocean forecast and services, thereby ensuring transfer of commensurate benefits to the various services like Public weather service, disaster management, Agro-meteorological Services, Aviation services, Environmental monitoring services, Hydro-meteorological services, climate services, tourism, pilgrimage, power generation, water management, Sports & adventure etc.

Generating employment opportunities:

A sizable number of scientific and technical staff along with requisite administrative support, thereby generating employment.

To ensure last-mile connectivity of the weather based services to the end -user, a large number of agencies like the Krishi Vigyana Kendras of Indian Council of Agricultural Research, Universities and local municipalities are roped in thus generating employment opportunities to many people.

Details:

ACROSS scheme pertains to the atmospheric science programs of the Ministry of Earth Sciences (MoES) and addresses different aspects of weather and climate services, which includes warnings for cyclone, storm surges, heat waves, thunderstorms etc.

Each of these aspects is incorporated as nine sub-schemes under the umbrella scheme "ACROSS" and is implemented in an integrated manner through the aforesaid four institutes.

The ACROSS scheme consists of nine sub-programmes which are multi disciplinary and multi institutional in nature and will be implemented in an integrated manner through IMD, HIM, NCMRWF and INCOIS.

As the objective of the ACROSS scheme is to provide a reliable weather and climate forecast for betterment of society, the scheme will aim at improving skill of weather and climate forecast through sustained observations, intensive R & D, and by adopting effective dissemination and communication strategies to ensure its timely reach to the end-user of all services like Agro-meteorological Services, Aviation service, Environmental monitoring services, Hydro-meteorological services, climate services, tourism, pilgrimage, mountaineering etc.,

Background:

The Ministry of Earth Sciences has a mandate to carry out research and development activities to develop and improve capability to forecast weather, climate and natural hazard related phenomena. Towards this direction, MoES has taken several initiatives to formulate specific schemes like augmentation of observing systems and infrastructure, understanding processes through special campaigns, weather and climate modelling, monsoon-research, climate change science & climate services etc. These schemes involve multi-institutes wherein each unit has a designated role for accomplishing the aforesaid tasks. As a result, all these schemes with specific objectives and budget are implemented in an integrated manner and are put together under the umbrella scheme "ACROSS".