



# EXCEL QUEST

VOLUME - 29, MAY 2022



Israeli forces storm Al-Aqsa compound



'Mahatma Gandhi Green Triangle' Unveiled In Madagascar



India-Finland Relations



PM Kisan Credit Card Yojana



INS Shivaji's marine engineering centre recognised by skill development ministry



Demand for Restarting Mid-Day Meals In Schools.



Species Spotlight: Pink-ringed Tent Turtle



Steel Scrap Recycling policy

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## **Director's Message**

Dear Aspirants,

The policy of procuring food grains by the Government has broad objectives of ensuring MSP to the farmers and availability of food grains to the weaker sections at affordable prices through the Public Distribution System (PDS). It also plays a major role in keeping the prices under check through effective market intervention and also adding to the overall food security of the country. The nodal agency for the procurement process is the Food Corporation of India (FCI). FCI, in coordination with other state agencies undertakes the procurement of wheat and paddy under price support scheme. The procurement under Price Support is taken up mainly to ensure remunerative prices to the farmers for their produce which works as an incentive for achieving better production. The Government of India, before the harvest during each Rabi/Kharif season, announces the minimum support price (MSP) for procurement on the basis of the recommendation of the Commission of Agricultural Costs and Prices (CACP). The CACP takes into consideration the cost of various agricultural inputs and the reasonable margin for the farmers for their produce to announce the MSP for the product.

FCI and various state agencies in consultation with the State Government establish a large number of purchase centers at various mandis and key points to facilitate procurement of food grains. The number of centers and their locations are decided by the State Governments, based on various parameters, so as to maximize the MSP operations. Such extensive & effective price support operations have resulted in sustaining the income of farmers over a period and in providing the required impetus for higher investment in agriculture sector for improved productivity.

The stocks which are brought to the purchase centers falling within the Government of India's specifications are purchased at the fixed support price. If the farmers get prices better than the support price from other buyers such as traders / millers etc., the farmers are free to sell their produce to them. FCI and the State Government/its agencies with their MSP mechanism ensure that the farmers are not compelled to sell their produce below support price.

Recently, the GoI and the Government of Telangana have encountered a contentious issue which is of purchasing parboiled rice from Telangana by FCI. Telangana falls under the category of Decentralised Procurement Scheme (DPS) wherein it acquires the stocks of paddy and distributes it under its PDS and other welfare schemes. If in case it falls short of the requirement, the FCI mobilises the required quantities from the Central pool stocks. The expenditure incurred by the State Government for the procurement operations is reimbursed by the Central government. The quality of the rice thus procured is also monitored by the Central government.

Telangana has seen a massive rise in paddy production, courtesy the State government's irrigation projects, over the past few years, forcing governments to increase procurement. However, with supply



outstripping demand, the Centre has refused to continue procuring the parboiled rice produced in the Rabi (winter) season, citing full stocks and the drain on the exchequer. Telangana doesn't consume parboiled rice but supplies it to consuming states like Tamilnadu, Jharkhand and Kerala. But due to the increase in the output of parboiled rice in such States and the availability of sufficient stocks with FCI which can last for next two years, the demand for parboiled rice has drastically come down. During a meeting of Food Secretaries in August 2021, it was decided that no parboiled rice will be accepted in view of excess stocks with FCI. The Chief Secretary of Telangana, has issued a press note in November 2021 asking the farmers not to cultivate paddy in the upcoming Rabi season as the supply has exceeded the demand. In spite of the advice from both the Central and State governments, farmers in Telangana resorted to cultivating paddy as it is less labour intensive when compared to other crops and also the abundance of water and availability of free and uninterrupted power supply played a major role in this.

Now, the farmers are left with stocks of parboiled rice and the Central government has categorically rejected to purchase them. FCI Chairman and MD said that the Telangana government needs to get paddy converted to raw rice instead of parboiled rice during the milling stage. FCI bears the milling charges and it has no problem in taking raw rice. On the other hand, the TRS government in Telangana has accused the Central government of discriminating its farmers. It demanded for a common procurement policy and also ramp up the procurement targets when the output is increasing year on year.

The solution to this problem as suggested by the Central government, State government and farmer welfare organizations is to cultivate alternate crops. The Telangana government is keen to encourage alternative cropping patterns instead of rice. However, experts point out that the shift won't be easy, and might take "years" to be implemented. They suggest that there needs to be a proper "framework" from the State Government, which should include incentives for farmers. The best option is to encourage cultivation of oil seeds and pulses as around 70 percent of oil seeds are imported every year. This needs coordinated efforts between Central and State governments by setting their political agendas aside and forecast the needs of the country in terms of agricultural produce. This collaborative effort will help the country in becoming self-reliant and avoid such traumatic situations for farmers in future.

Best wishes.

Yours sincerely,



K. Rajendra Kumar IPS(Retd)

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## 1. NATIONAL

### 1.1 World Happiness Report 2022

The World Happiness Report 2022 was published by the United Nations Sustainable Development Solutions Network.

- This year marks the 10th anniversary of the World Happiness Report.
- World Happiness Report published since 2012, is based on two key ideas:
  - a) Happiness or life evaluation measured through opinion surveys and
  - b) Identifying key elements that determine well-being and life evaluation across countries.
- The report usually ranks 150 countries based on several factors such as real GDP per capita, social support, healthy life expectancy, freedom to make life choices, generosity and perceptions of corruption.
- This year, the report ranked 146 countries.
- Every year, each variable measures a populated-weighted average score on a scale of 0-10 that is tracked over a period of time and further compared with other countries.
- This year, countries which ranked in the top 10 last year, moved upwards and downwards.

#### **Performance of the Countries:**

- Finland has been named the world's happiest country for the fifth year running followed by Denmark.
- The biggest gains in happiness have taken place in Serbia, Bulgaria and Romania.
- Afghanistan was ranked as the unhappiest nation, followed by Lebanon, Zimbabwe, Rwanda and Botswana respectively.
- India's Performance: India saw a marginal improvement in its ranking, jumping three spots to 136, from 139 a year ago.

### 1.2 Film Industry to Constitute Joint Committee on POSH Act: Kerala Govt.

- Kerala High Court has asked organisations associated with the film industry to take steps to constitute a joint committee to deal with cases of sexual harassment of women, in line with the Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act of 2013.
- The law against sexual harassment is commonly known as the prevention of sexual harassment or POSH Act, passed by Parliament in 2013.
- Sexual Harassment of Women at Workplace (Prevention, Prohibition And Redressal) Act, 2013 defines sexual harassment as "any one or more" of the following:  
"unwelcome acts or behaviour "committed directly or by implication; physical contact and advances, sexually coloured remarks, showing pornography, a demand or request for sexual favours, any other unwelcome physical, verbal or non-verbal conduct of sexual nature.

**Key provisions of the act:**

- This Act lays down the procedures for a complaint and inquiry and the action to be taken.
- It mandates that every employer constitute an Internal Complaints Committee (ICC) at each office or branch with 10 or more employees.
- It lays down the procedures and defines various aspects of sexual harassment.
- A woman can be of any age, whether employed or not, who “alleges to have been subjected to any act of sexual harassment”, which means the rights of all the women working or visiting any workplace, in any capacity, are protected under the Act.

**1.3 Translation of India’s Constitution into Ol Chiki Script**

- India’s Constitution has been translated into Ol Chiki script for the first time.
- The Ol Chiki script, also known as Ol Chemet’, Ol Ciki, Ol, and sometimes as the Santali alphabet, is the official writing system for Santhali, an Austroasiatic language recognized as an official regional language in India.
- The Constitution of India has special provisions for the development of the Scheduled Castes and the Scheduled Tribes, and the translation has been useful in providing a deeper understanding of laws, powers and the community’s fundamental rights for readers like Hembram. (Hembram is a surname which is commonly used among the Santhal tribals).
- Adivasi scholars often point to Article 21 under Schedules V and VI of the Constitution that set out the rights of tribal people to development in ways that affirm their autonomy and dignity, and are considered by many to be the foundation of Adivasi rights.
- 5th Schedule: It deals with the administration and control of Scheduled Areas as well as of Scheduled Tribes residing in any State other than the States of Assam, Meghalaya, Tripura and Mizoram.
- 6th Schedule: It provides for the administration of tribal areas in Assam, Meghalaya, Tripura and Mizoram to safeguard the rights of the tribal population in these states. This special provision is provided under Article 244(2) and Article 275(1) of the Constitution.

**Official languages:**

- English, Urdu and Hindi were the official languages of Colonial India. In 1950, when the Constitution of India came into effect, it envisaged that English would be phased out in favour of Hindi over a period of 15 years. It also gave the Indian Parliament the power to provide for the continued use of English even thereafter by law. In 1964, the Government of India faced resistance in the non-Hindi speaking belt of the country over its plans to make Hindi the sole official language of the country. Since then, both Hindi and English are used as the official languages of the country.



- India has no National Language as per the Constitution but has Hindi and English as the official languages. As per Article 343 of the Indian Constitution:
  - 1) The official language of the Union of India shall be Hindi written in Devanagari script.
  - 2) Notwithstanding anything mentioned in clause (1), for a period of fifteen years from the commencement of this Constitution, the English language shall continue to be used for all the official purposes of the Union of India for which it was being used immediately before such commencement: President may, during the said period, by order authorise the use of the Hindi language in addition to the English language and of the Devanagari form of numerals in addition to the international form of Indian numerals for any of the official purposes of the Union.
  - 3) Notwithstanding anything in this article, Parliament may by law provide for the use, after the said period of fifteen years, of— (a) the English language, or (b) the Devanagari form of numerals, for such purposes as may be specified in the law.
- The Official Languages Act, 1963, allowed for the continuation of English alongside Hindi in the Indian Government indefinitely until legislation is passed to change it.

#### 1.4 **Mahatma Gandhi Green Triangle**

Mahatma Gandhi Green Triangle has been unveiled in Madagascar to mark Azadi ka Amrit Mahotsav.

- The word green in the plaque (a flat piece of stone or metal) signifies their commitment to sustainable development and saving the environment.
- The naming of this park as Mahatma Gandhi Green Triangle is a tribute to Mahatma Gandhi.
- Gandhi was a 'Pravasi' who returned to India from South Africa and led India's freedom struggle.
- Madagascar has a large diaspora from the Indian state of Gujarat and it is fitting that a green triangle named after Gandhi, who hailed from Porbandar in the state, is being unveiled in the capital of Madagascar (Antananarivo).
- Madagascar voiced appreciation for efforts by the Indian Embassy in greening the area, saying it meets the objective of the Urban Municipality of Antananarivo to create the maximum green space in the capital city of Madagascar.

#### **Madagascar -India relations:**

- Madagascar is an important strategic country. It is the largest and most populous island (27 million) in the Indian Ocean located in the South western Indian Ocean. It has been a part of the Indian Ocean Rim Association, where it often exchanges views with India. Subsequently, Madagascar has supported India's entry into Indian Ocean Commission as an observer in March 2020 and the Djibouti code of conduct in August 2020. Madagascar is the current chair of the Indian Ocean Commission. Madagascar's Foreign Minister during his visit to Delhi called Indo-Pacific a legitimate vision and

batted for peaceful military ties with India. He mentioned that they would look forward to Indian participation in the IOC summit in June 2022.

- There is a growing convergence between India and Madagascar, on how we view the world together. Four important issues come to mind:
  - 1) The Ukraine crisis: This is not a crisis which is of Indian or Madagascar origin. It is thrust upon us and we are being asked to take sides in a war which is not ours. Madagascar and India, along with 56 other countries abstained in the UN General Assembly on the resolution which sought to condemn Russia. Both are disturbed by the inaction on the part of the UN and its agencies and the efforts to rusticate Russia from several international organisations. India and Madagascar together want peace to return, so that the other challenges which are upon us can be effectively handled.
  - 2) Other major challenge is the COVID pandemic: In this, India and Madagascar have looked together to reduce the impact and India has offered vaccines to Madagascar. Indian pharmaceutical companies look at Madagascar as an important partner and would like to expand their footprint there to build Madagascar's capacities.
  - 3) A consequence, which we are dealing with is the global economic scenario, which is recovering from the pandemic. The Ukraine War and its attendant sanctions have impacted oil, gas and food grain and sunflower oil prices.
  - 4) Closer economic cooperation between India and Madagascar is seeing a marginal increase in bilateral trade and a greater interest by Indian companies in investing in Madagascar, whose business environment has considerably improved. Earlier, only small companies were looking at investing in Madagascar. Now larger companies in more diverse sectors are coming in; the presence of Airtel and Tatas is a positive sign.

### 1.5 **FAME India Scheme**

- Under FAME-India Scheme, incentives are provided to buyers of electric vehicles in the form of an upfront reduction in the purchase price of electric vehicles.
- As per the information received from Department of Revenue, at present the GST rate on electric vehicles is 5%.

**The GST rates are prescribed based on the recommendations of the GST Council.**

- Electric vehicles are already at the lowest rate slab of 5%.
- The Government on 12th May, 2021 approved a Production Linked Incentive (PLI) scheme for manufacturing of Advanced Chemistry Cell (ACC) in the country in order to bring down prices of battery in the country.
- Drop in battery price will result in cost reduction of electric vehicles.

- GST on electric vehicles has been reduced from 12% to 5%; GST on chargers/ charging stations for electric vehicles has been reduced from 18% to 5%.
- Ministry of Road Transport & Highways (MoRTH) announced that battery-operated vehicles will be given green license plates and be exempted from permit requirements.
- MoRTH issued a notification advising states to waive road tax on EVs, which in turn will help reduce the initial cost of EVs.

**About FAME India scheme:**

- FAME-India Scheme is being implemented by Department of Heavy Industry to promote manufacturing of electric and hybrid vehicle technology and to ensure sustainable growth of the same.
- FAME India is a part of the National Electric Mobility Mission Plan.
- Main thrust of FAME is to encourage use of electric vehicles by providing subsidies.
- FAME-India Scheme proposes to give a push to electric vehicles (EVs) in public transport and seeks to encourage adoption of EVs by way of market creation and demand aggregation.
- The First phase of the scheme was initiated on 1<sup>st</sup> April 2015 and was supposed to cover the period of 3 years i.e. till 31<sup>st</sup> March 2018 but had an extension up until 31<sup>st</sup> March 2019. The second phase of the scheme commenced from 1<sup>st</sup> April 2019 and is expected to be completed by 2022.

**1.6 Dysfunction Of National Commission For Scheduled Tribes**

- According to a Parliamentary committee's recent report, the National Commission for Scheduled Tribes has been dysfunctional for the last four years and has not delivered a single report to Parliament.
- NCST was set up with effect from 19th February, 2004 by amending Article 338 and by inserting a new article 338A in the Constitution through the 89th Constitution Amendment Act, 2003. Hence, it is a constitutional body.
- Article 338A inter-alia gives powers to the NCST to oversee the implementation of various safeguards provided to STs under the Constitution or under any other law for time being in force or under any other order to the Government and to evaluate the working of such safeguards.
- It consists of a Chairperson, a Vice-Chairperson and 3 other Members who are appointed by the President by warrant under his hand and seal.
- At least one member should be a woman.
- The Chairperson, the Vice-Chairperson and the other Members hold office for a term of 3 years.
- The members are not eligible for appointment for more than two terms.
- The Chairperson has been given the rank of Union Cabinet Ministers, the Vice Chairperson has the rank of a Minister of State and other Members have the rank of a Secretary to the Government of India.

**What are the issues with the NCST?**

- In the financial year 2021-22, it has met only four times. Its rate of pendency of resolution of complaints and cases that it receives is also close to 50%.
- The Committee expressed dismay over the near paralysis of the Commission's working with manpower and budgetary shortage.
- The recruitment in the Commission was constrained because of lack of applicants as the eligibility bar was set too high and the rules are to be tweaked to enable many more candidates to apply.

**What are the Recommendations of the Panel?**

- The vacancies should be immediately filled as there should be no reason now for any further delay since the recruitment rules have been suitably revised.
- The budgetary allocation for the Commission needs to be reviewed so that its functioning is not made to suffer for lack of funds.

**1.7 Wings India 2022 : Objectives**

- The Ministry of Civil Aviation, Airports Authority of India (AAI) and Federation of Indian Chambers of Commerce and Industry (FICCI) is jointly organising Wings India 2022 from 24th – 27th March 2022, Begumpet Airport, Hyderabad, India. It is Asia's largest event on Civil Aviation (Commercial, General and Business Aviation).

**Objective of Wings India 2022:**

- It is in synergy with India's commitment to transform the country into World's top aviation hub.
- It seeks to provide a congenial forum catering to the rapidly changing dynamics of the sector, focusing on new business acquisition, investments, policy formation and regional connectivity.
- It will provide a much-desired fillip to the aviation and restructured focused forums shall be instrumental in attaining the objective of connecting the buyers, sellers, investors, and other stakeholders at a common vantage forum 'Wings India 2022'.
- India's Civil Aviation is among the fastest-growing aviation markets globally and will be a major growth engine to make India a USD 5 trillion economy by 2024.
- India is the 3rd largest aviation market by domestic air passenger traffic which stood at 274.05 million in FY20. It grew at a Compound Annual Growth Rate (CAGR) of 12.91% during FY16-FY20.
- 75 airports opened in 75 years of Civil Aviation in India while under the aegis of Ude Desh Ka Aam Naagrik (UDAN), within a span of 3 years, work has been initiated to provide scheduled connectivity to 76 unserved / 20 underserved airports, 31 heliports and 10 water aerodromes.
- 713 aircraft of scheduled Indian carriers have been operating year around and private scheduled airlines plan to add over 900 aircrafts in the next 5 years.

- Comprehensive regulatory policies and strategies have been adopted to reduce aviation carbon footprints.
- Systematic approaches have been incorporated to redress passenger grievances, and improve operational efficiencies across the system.

### **1.8 INS Shivaji : Centre of Excellence In The Field Of Marine Engineering**

- The Ministry of Skill Development and Entrepreneurship (MSDE) has recognised INS Shivaji as the Centre of Excellence (CoE) in the field of Marine Engineering.
- MSDE's designation of INS Shivaji as a Centre of Excellence is the first of its kind for any military organisation, and it reflects the INS Shivaji's continued commitment to skill and technology development.
- INS Shivaji is an Indian Naval Station in Lonavala, Maharashtra.
- It houses the Naval College of Engineering, which educates and trains Indian Navy and Coast Guard officials.
- It has three premier training entities, namely Centre of Marine Engineering and Technology (CMET), Centre of Excellence in Marine Engineering and School of Basic Sciences.
- The Nuclear Biological Chemical Defence School, which trains naval personnel on all aspects of NBCD, is also located in the station.
- The naval Station was commissioned as HMIS (His Majesty's Indian Ship) Shivaji in February, 1945.
- INS Shivaji's Centre of Excellence (Marine Engineering) was established in 2014 with a broad mandate that included the induction of niche technologies for naval applications, quality research in collaboration with R&D (Research and Development) and academic institutes of high reputation.
- The larger goal here is to improve the skills of the personnel across the Indian Navy, Friendly Foreign Navies, and the entire ecosystem.

#### **Centre of Excellence (CoE):**

- CoE is a body that provides leadership, best practices, research, support, training of trainers and skill training for a specific sector/s.
- The literal meaning of a Centre of Excellence is – 'A place where the highest standards are maintained'.
- As per the National Policy for Skill Development & Entrepreneurship, 2015, it was decided that National Skills Universities and Institutes will be promoted in partnership with States as centres of excellence for skill development and training of trainers.
- The Centre of Excellence in the skilling ecosystem is envisioned as a one-stop resource centre established/working in partnership with industry to raise training standards, boost productivity, address emerging skill gaps, and align training and research with industry needs.



- With the intent to overcome skill demand-supply mismatch, to have continuous supply of skilled workforce and disseminate best practices, “Centre of Excellence” is proposed to be recognized by the Ministry of Skill Development & Entrepreneurship (MSDE).
- The initiative will encourage such bodies already engaged in research and development activities in the skilling domain and allied fields to work on key emerging areas where there is knowledge deficit or skill gap, so as to set up Centres of Excellence.

### **1.9 Protest Of Ahir Community**

- Members of the Ahir community have been sitting on an indefinite protest near Kherki Daula toll plaza in Gurgaon since February 4, demanding the formation of an Ahir regiment in the Indian Army.
- The protests are being organised under the banner of ‘Sanyukt Ahir Regiment Morcha’, a group comprising Ahir community leaders from south Haryana.
- The protesters contend that the Indian Army had several caste-based regiments (for Sikhs, Gorkhas, Jaats, Garhwals, Rajputs).
- Since Ahirs had a large representation in the army, they want a separate regiment for Ahirs along similar lines.
- In the battle of Rezang La in 1962, out of 120 casualties, 114 were Ahirs.
- It is unfortunate that Ahirs have not got the recognition like other communities.
- The recruitment to President’s Bodyguard (PBG) is open only for Rajputs, Jats and Sikh regiments.
- Ahir or Aheer is a community in India, most members of which identify as being of the Indian Yadav community because they consider the two terms to be synonymous.
- The Ahirs are variously described as a caste, a clan, a community, a race and a tribe.
- The traditional occupations of Ahirs are cattle-herding and agriculture.
- They are found throughout India but are particularly concentrated in the northern area.

### **1.10 Article 355**

- Citing post-poll violence in Birbhum district, West Bengal, many political leaders have urged the president to invoke Article 355 of the Constitution to ensure that the state government functions in accordance with the provisions of the Constitution.
- The petitioner has asked for imposition of Article 355 on account of breakdown of constitutional machinery.
- Article 355 refers to the provision in the Constitution that states that “It shall be the duty of the Union to protect every State against external aggression and internal disturbance and to ensure that the government of every State is carried on in accordance with the provisions of this Constitution”.

- The Article 355 is part of emergency provisions contained in Part XVIII of the Constitution of India, from Article 352 to 360.
- It is this duty in the performance of which the centre takes over the government of a state under Article 356 in case of failure or breakdown of constitutional machinery in a state.

**This is popularly known as ‘President’s Rule’.**

- The president’s rule can be proclaimed under Article 356 on two grounds:
  - 1) Article 356 empowers the President to issue a proclamation if he is satisfied that a situation has arisen in which the government of a State cannot be carried on in accordance with the provisions of the Constitution.
  - 2) Article 365 says that whenever a State fails to comply with or to give effect to any direction from the centre, it will be lawful for the President to hold that a situation has arisen in which the government of the state cannot be carried on in accordance with the provisions of the constitution.
- A proclamation imposing the President’s rule must be approved by both the houses of Parliament within two months from the date of its issue.

**The President acquires the following extraordinary powers when the President’s rule is imposed in a state:**

- He can take up the functions of the state government and powers vested in the Governor or any other executive authority in the state.
- He can declare that the powers of the state legislature are to be exercised by the Parliament.
- He can take all other necessary steps including the suspension of the constitutional provisions relating to any body or authority in the state.
- The 38th Amendment act of 1975 made the satisfaction of the President in invoking Article 356 final and conclusive which would not be challenged in any court on any ground.
- But, this provision was subsequently deleted by the 44th Amendment Act of 1978 implying that the satisfaction of the President is not beyond judicial review.

**1.11 Demand For Restarting Mid-Day Meals In Schools**

- Political parties made a strong demand for restarting mid-day meals in schools as they open after the long closure due to the Covid pandemic.
- The mid-day meal scheme was stopped when schools were shut down due to the Covid pandemic.
- Children were given dry rations during the pandemic and food grains were also provided under the National Food Security Act. But for children, dry ration is no substitute for hot cooked meals.
- The scheme guarantees one meal to all children in government and aided schools and madarasas supported under Samagra Shiksha.

- Students up to Class VIII are guaranteed one nutritional cooked meal at least 200 days in a year.
- The Scheme comes under the Ministry of HRD.
- It was launched in the year 1995 as the National Programme of Nutritional Support to Primary Education (NP – NSPE), a centrally sponsored scheme.

## 2. INTERNATIONAL RELATIONS

### 2.1 Jerusalem's Al-Aqsa Mosque

- Recently, tensions flared up again at Jerusalem's Al-Aqsa Mosque between the Palestinians and Israeli police.
- Over the decades, this site in Jerusalem's Old City has frequently been a flashpoint for violence between Palestinians and Israeli forces and hard-line groups and is at the heart of competing for historical claims.
- These recurring clashes are part of the on-going Israeli–Palestinian conflict.



#### What is Al-Aqsa Mosque & Associated Conflict?

- The Al-Aqsa Mosque is one of Jerusalem's most recognized monuments.
- The site is part of the Old City of Jerusalem, sacred to Christians, Jews and Muslims.
- The United Nations Educational, Scientific and Cultural Organization (UNESCO), has classified the Old City of Jerusalem and its walls as a World Heritage Site.

- The mosque's complex is the reason for the conflict between Israel & Palestine (Islam & Judaism).
- Al-Aqsa Mosque is one of Islam's most revered locations, and the Temple Mount is the holiest site in Judaism.
- The Temple Mount is a walled compound inside the Old City in Jerusalem, and is the site of two structures: The Dome of the Rock to the north and the Al-Aqsa Mosque to the south. To the southwest of the Temple Mount, is the Western Wall, a remnant of the Second Temple and the holiest site in Judaism.
- In Islam, the Dome of the Rock is a seventh-century structure, an important Islamic shrine, believed to be where the Prophet Muhammad ascended to heaven.
- Before modern borders were drawn up in the region, pilgrims to the Muslim holy cities of Mecca and Medina would stop over in Jerusalem to pray at this mosque.
- In Judaism, it is believed to be the site where God gathered dust to create Adam.
- According to the Bible, in 1000 BC King Solomon built the First Temple of the Jews on this mountain, which Babylonian troops tore down some 400 years on the orders of the Babylonian king Nebuchadnezzar.
- In the first century BC, Jews returned from their banishment and built the Second Temple.

### **What is the Geopolitics of Conflict over Jerusalem?**

- Jerusalem has been at the center of the Israeli-Palestinian conflict.
- According to the original 1947 United Nations (UN) partition plan, Jerusalem was proposed to be an international city.
- However, in the first Arab Israel war of 1948, the Israelis captured the western half of the city, and Jordan took the eastern part, including the Old City that houses Haram al-Sharif.
- Following the Six-Day War in 1967, an armed conflict between Israel and a coalition of Arab states primarily comprising Jordan, Syria and Egypt, the Waqf Ministry of Jordan that had till then held control of the al-Aqsa Mosque, ceased to oversee the mosque.
- Israel captured East Jerusalem from Jordan in the Six-Day War of 1967 and annexed it later.
- Since its annexation, Israel has expanded settlements in East Jerusalem.
- Israel sees the whole city as its "unified, eternal capital", whereas the Palestinian leadership across the political spectrum have maintained that they would not accept any compromise formula for the future Palestinian state unless East Jerusalem is its capital.

### **Way Forward**

- The world at large needs to come together for a peaceful solution but the reluctance of the Israeli government and other involved parties have aggravated the issue more.



- Thus, a balanced approach would help to maintain favorable relations between Arab countries and Israel.
- The recent normalization agreements between Israel and the UAE, Bahrain, Sudan, and Morocco, known as the Abraham Accords, are the steps in the right direction.
- All regional powers should envisage peace between the two countries on line with the Abraham Accords.

## **2.2 Colombo Security Conclave**

- Recently, the Colombo Security Conclave (CSC) Virtual Conference was organized by the National Investigation Agency of India.
- The participants discussed various challenges related to terrorism in their respective countries and shared experiences in the prosecution of terrorism cases, strategies to deal with foreign fighters and countering the misuse of the internet and social media.

### **What is Colombo Security Conclave?**

- About: The CSC, was formed in 2011 as a trilateral maritime security grouping of India, Sri Lanka and the Maldives.
- It welcomed Mauritius as a fourth member at the fifth meeting of national security advisers.
- Bangladesh and Seychelles attended as observers and have been invited to join the group.
- Envisaged Goal: The fifth meeting of national security advisers of the CSC identified key areas of cooperation to enhance and strengthen regional security in the following five pillars:
  - 1) Maritime Safety and Security
  - 2) Countering Terrorism and Radicalization
  - 3) Combating Trafficking and Transnational Organized Crime
  - 4) Cyber Security, Protection of Critical Infrastructure and Technology
  - 5) Humanitarian Assistance and Disaster Relief

### **Significance: CSC is being seen as India's outreach to the Indian Ocean to underline regional co-operation and shared security objectives.**

- Countering China: The CSC hopes to restrict China's influence in an area of strategic importance and to reduce the Chinese footprint in the member countries.
- Maritime Security: India has a large coastline of nearly 7500 Km along with islands of strategic chokepoints. This makes maritime security a priority for the country, in which CSC plays a vital role.
- Synergy with SAGAR Vision: The grouping is also in line with India's vision of "SAGAR: Security and Growth for all in the Region" and India being a member of QUAD grouping.

- **Emerging Sub-regionalism:** The coming together of the 6 Indian Ocean region countries indicate the development of sub-regionalism on a common maritime and security platform and is significant in a wider global context as well.
- **Associated Challenge:** Even though the strategic interests of the six countries are aligned in the Indian Ocean Region (IOR), an attempt to mold the CSC into an institution to counter China's influence would meet the fate of the South Asian Association of Regional Cooperation (SAARC), widely regarded as a failure.

### **Way Forward**

- **Need for Regional Cooperation:** There is an immense need for cooperation in the IOR given the rising number of security issues and uncertainties.
- The CSC is more likely to succeed if it maintains a common strategic vision and does not get bogged down by the growing Chinese influence in the region.
- To avoid points of contention with its neighbours, India should start to accept that the IOR is developing into a global common.

### **UPSC Civil Services Examination, Previous Year Questions (PYQs)**

1. Consider the following in respect of Indian Ocean Naval Symposium (IONS): (2017)
  - 1) Inaugural IONS was held in India in 2015 under the chairmanship of the Indian Navy.
  - 2) IONS is a voluntary initiative that seeks to increase maritime co-operation among navies of the littoral states of the Indian Ocean Region.

Which of the above statements is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Ans: (b)

Explanation: The 'Indian Ocean Naval Symposium' (IONS) is a voluntary initiative that seeks to increase maritime cooperation among navies of the littoral States of the Indian Ocean Region by providing an open and inclusive forum for discussion of regionally relevant maritime issues.

### **2.3 Kuril Island Dispute**

- Recently, Japan described four islands whose ownership it disputes with Russia as illegally occupied in the latest version of a diplomatic Bluebook.
- The use of stronger language underscored the chilled relations between the two sides amid the Russian invasion of Ukraine.
- Russia refers to these islands as the Kuril Islands, whereas Japan calls them Northern territories.
- Japan is also having a similar dispute regarding Northern territories with South Korea. South Korea refers to them as Dokdo islands.

#### **What is Diplomatic Bluebook?**

- The Diplomatic Bluebook of Japan is an annual report on Japan's foreign policy and international diplomacy published by the Ministry of Foreign Affairs in Japan.
- It has been published every year since its first issue in September 1957.

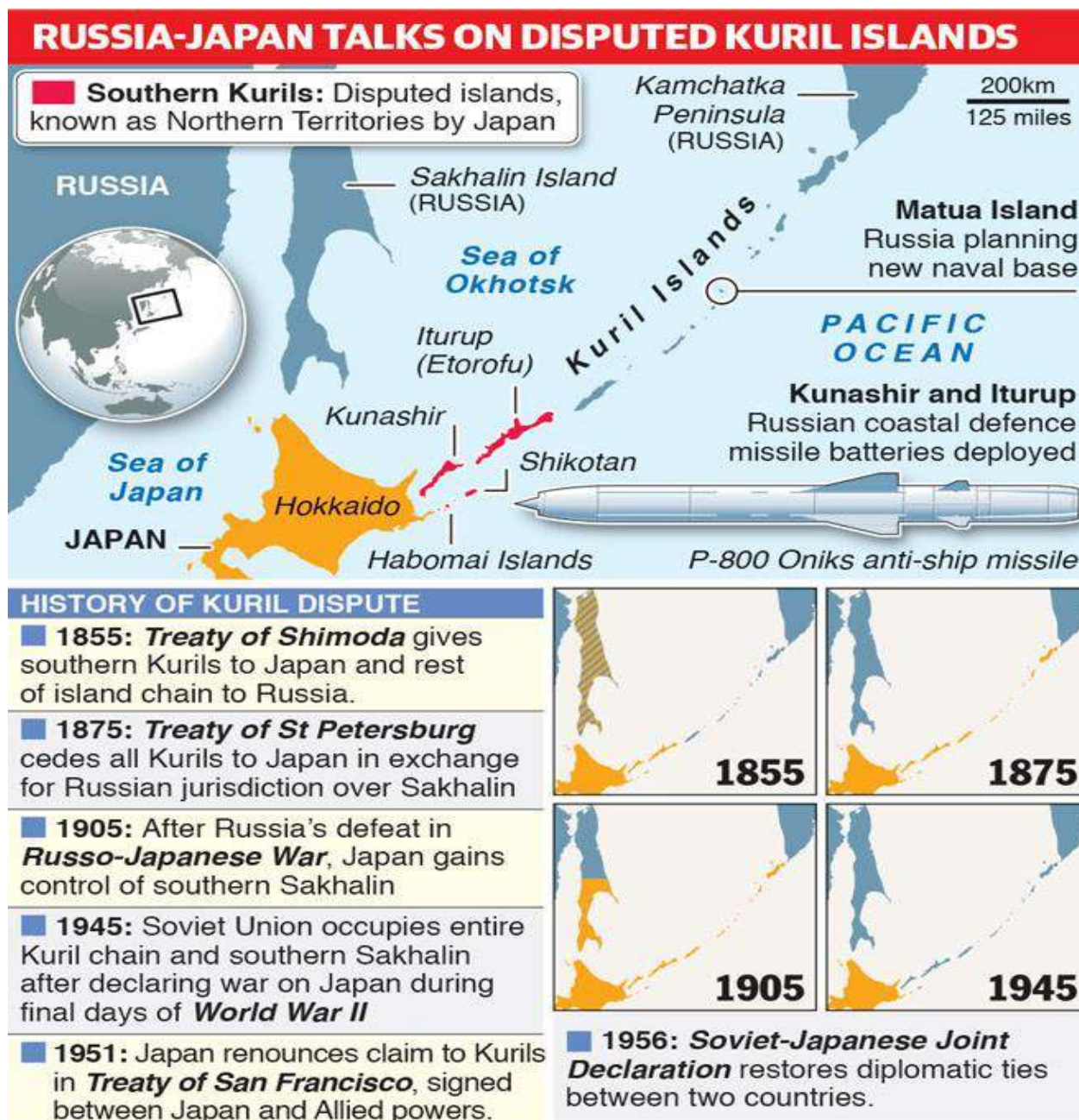
#### **What is the Geographic Location and Significance of the Kuril Islands?**

##### **Location:**

- The Kuril Islands are stretched from the Japanese island of Hokkaido to the southern tip of Russia's Kamchatka Peninsula separating the Okhotsk Sea from the North Pacific Ocean.
- The chain is part of the belt of geologic instability circling the Pacific (Ring of Fire) and contains at least 100 volcanoes, of which 35 are still active, and many hot springs.

##### **Significance:**

- Natural resources: The islands are surrounded by rich fishing grounds and are thought to have offshore reserves of oil and gas.
- Strategic Importance: Russia has deployed missile systems in the region. Russia also plans a submarine project and intends to prevent any American military use of the islands.
- Cultural Importance: The Japanese people, especially conservatives in Hokkaido, are emotionally attached to the islands.



### What is the History of the Kuril Islands Dispute?

#### Background:

- The Kuril Islands dispute between Japan and Russia is over the sovereignty of South Kuril Islands.
- The South Kuril Islands comprise Etorofu island, Kunashiri island, Shikotan island and the Habomai island.
- These islands are claimed by Japan but occupied by Russia as the successor state of the Soviet Union.

#### Treaty of Shimoda (1855):

- In 1855, Japan and Russia concluded the Treaty of Shimoda, which gave control of the four southernmost islands to Japan and the remainder of the chain to Russia.

**Treaty of Saint Petersburg (1875):**

- In the Treaty of Saint Petersburg, signed between the two countries in 1875, Russia ceded possession of the Kurils to Japan in exchange for uncontested control of Sakhalin Island. However, these islands were again seized by the Soviet Union at the end of World War II.

**Yalta Agreement (1945):**

- In 1945, as part of the Yalta agreements (formalized in the 1951 Treaty of Peace with Japan), the islands were ceded to the Soviet Union, and the Japanese population was repatriated and replaced by the Soviets.

**San Francisco Peace Treaty (1951):**

- The San Francisco Peace Treaty signed between the Allies and Japan in 1951, states that Japan must give up “all right, title and claim to the Kuril Islands”, but it also does not recognize the Soviet Union’s sovereignty over them.

**Japan-Soviet Joint Declaration (1956):**

- The dispute over the islands has prevented the conclusion of a peace treaty to end World War II. In 1956, diplomatic ties were restored between Japan and Russia by Japan-Soviet Joint Declaration. During that time, Russia offered to give away the two islands closest to Japan. But the offer was rejected by Japan as the two islands constituted only 7% of the land in question.

**What is the Current Scenario?**

- Despite a series of agreements, the dispute continues, and Japan still claims historical rights to the southernmost islands and has tried repeatedly to persuade the Soviet Union and, from 1991, Russia to return those islands to Japanese sovereignty.
- In 2018, the Russian President and the Japanese Prime Minister (PM) met on the sidelines of the East Asia Summit and decided to end the territorial dispute by the Japanese PM agreeing to negotiate based on the 1956 declaration.
- This implicitly showed that Japan has given up the two islands to maintain peace with Russia.
- However, Russia indicated that the joint declaration signed by Japan and the Soviet Union in 1956 neither mentions a basis for returning Habomai and Shikotan nor clarifies which country has sovereignty over the islands.
- Further, in 2019, the Japanese PM made it clear that the country is not in the favour of withdrawing control over the Islands.
- Japan also believes that the islands are an inherent part of the nation’s territory.
- Therefore, Japan mentioned that it aims to sign the peace treaty after the territorial issue is resolved.



## **2.4 International Religious Freedom Report 2022**

- Recently, the US Commission on International Religious Freedom (USCIRF) has recommended for the second year in the row to put India on a list (Countries of Particular Concern or CPCs) for the worst violations of religious freedoms in 2021.
- Earlier, the US State Department released a strong and critical report on human rights in India in 2021.

### **What is USCIRF?**

- USCIRF is an independent, bipartisan US federal government commission, dedicated to defending the universal right to freedom of religion or belief abroad.
- It is an advisory body to the US Congress.
- USCIRF's 2022 Annual Report provides recommendations to enhance the U.S. government's promotion of freedom of religion or belief abroad.
- It is headquartered in Washington DC.
- Established by the US government in 1998 after the inaction of the International Religious Freedom Act, recommendations of USCIRF are non-binding on the state department.
- Traditionally, India does not recognize the view of USCIRF.

### **What are the Key Highlights of the Report?**

- The Report's primary focus is on two groups of countries:
  - 1) Country of Particular Concern (CPC): It is a designation by the US Secretary of State of a nation engaged in severe violations of religious freedom under IRFA (International Religious Freedom Act of 1998).
  - 2) Special Watch List: A "Special Watch List" country is one that is deemed not to meet all the CPC criteria but engages in or tolerates severe violations of religious freedom.
- The Report also includes USCIRF's recommendations of violent nonstate actors for designation by the US State Department as Entities of Particular Concern (EPCs), under International Review of Financial Analysis (IRFA).
- The report also highlights important global developments and trends related to religious freedom during 2021—including in countries that do not meet the criteria for CPC or SWL recommendations.
- These include the Covid-19 pandemic and religious freedom, blasphemy and hate speech law enforcement, transnational repression, religious intolerance in Europe, deteriorating religious freedom conditions in South Asia, and political upheaval that raises religious freedom concerns.

**What are the Latest Recommendations of USCIRF?****For the CPC List:**

- Other than India, countries recommended for the CPC designation are Afghanistan, Nigeria, Syria, and Vietnam.
- Countries recommended for redesignating include Myanmar, China, Eritrea, Iran, North Korea, Pakistan, Russia, Saudi Arabia, Tajikistan, and Turkmenistan as CPCs.

**For A Special Watch List:**

- Algeria, Cuba, and Nicaragua were placed in 2021.
- Others include Azerbaijan, CAR, Egypt, Indonesia, Iraq, Kazakhstan, Malaysia, Turkey, and Uzbekistan.

**For EPCs:**

- Al-Shabaab, Boko Haram, the Houthis, Hay'at Tahrir al-Sham (HTS), Islamic State in the Greater Sahara (ISGS), Islamic State in West Africa Province (ISWAP or ISIS-West Africa), and Jamaat Nasr al-Islam Wal Muslimin (JNIM).

**What are the Concerns Raised about India?**

- The report highlighted that the government had “repressed critical voices”, especially minority communities and individuals reporting on them.
- It mentions the arrest of rights activist Khuran Pervez in Kashmir, and the July 2021 death of octogenarian Father Stan Swamy, arrested in October 2020 under the Unlawful Activities Prevention Act 1967 (UAPA).
- The report also touches on challenges faced by Non-Governmental Organisations (NGOs), especially about foreign funding.
- It also highlights anti-conversion laws. In October 2021, Karnataka’s government ordered a survey of churches and priests in the state and authorized police to conduct a door-to-door inspection to find Hindus who have converted to Christianity.

**What is the State of Freedom of Religion in India?**

- Freedom of religion in India is a fundamental right guaranteed by Article 25-28 of the Constitution of India.
- Article 25 (Freedom of conscience and free profession, practice and propagation of religion).
- Article 26 (Freedom to manage religious affairs).
- Article 27 (Freedom as to payment of taxes for promotion of any religion).

- Article 28 (Freedom as to attendance at religious instruction or religious worship in certain educational institutions).
- Further, Article 29 and 30 of the Constitution deal with the protection of interests of minorities.

## **2.5 China's Global Security Initiative**

- Recently, a new Global Security Initiative (GSI) was put forward by Chinese President. The GSI looks to counter the US Indo-Pacific strategy and the Quad (India, US, Australia, Japan grouping).
- However, China did not provide much clarity or details about the proposed global security initiative.

### **What is GSI, as Envisaged by China?**

- Principle of Indivisible Security: With growing threats posed by unilateralism, hegemony and power politics, and increasing deficits in peace, security, trust and governance, mankind is facing more and more intractable problems and security threats.
- Thus, China held that the Global security initiative is envisaged to uphold the principle of "indivisible security".
- The principle of "indivisible security" means that no country can strengthen its own security at the expense of others.
- Asian Security Model: GSI calls for a "common, comprehensive, cooperative and sustainable" security and building an Asian security model of mutual respect, openness and integration".
- Opposing Sanctions: This would oppose the use of unilateral sanctions and long-arm jurisdiction, appearing to refer to Western sanctions.
- Tackling New Cold War: Indo-Pacific' strategy to divide the region and create a 'new Cold War', and the use of military alliances to put together an 'Asian version of North Atlantic Treaty Organization (NATO).
- According China, the Quad grouping was equivalent to the "Five Eyes" intelligence alliance involving Australia, New Zealand, Canada, the U.S. and U.K. and the AUKUS pact, as a key element in what he called U.S. plans to build an "Asian NATO".

### **What are Reactions of Quad Members?**

- Quad is not a Military Alliance: The members of the Quad have rejected the notion that it is an Asian NATO or a military alliance, and pointed to its broad-based cooperation, including on vaccines and technology.
- Double Standards of China: Chinese criticism of unilateralism, hegemony and double standards is usually aimed at the US.

- Impact of Russia-Ukraine War: China's new advances in the Pacific could be related to the stagnation of the Belt and Road Initiative, due to the Ukraine war.

### **What are Events Signalling a New Cold War?**

- China's Development: For several decades, China's aggressive development under the relatively enlightened authoritarianism of Deng Xiaoping and his successors was seen positively in the United States.
- However, under Xi Jinping (President), China has evolved from a soft to a hard authoritarianism.
- There is now a president-for-life with a budding personality cult.
- US' Counter: In order to contain rising China's assertiveness, the US under its 'pivot to Asia policy' has launched a Quad initiative & Indo pacific narrative.
- Most recently, the US proposed to expand G7 to G-11 without including China in it. China's Stance on South China Sea: China's actions in the South China Sea, first by land reclamation and then constructing artificial islands for extending extra-territorial claim, has seen sharp criticism from the US and its allies.
- Challenging Economic Hegemony: China has come out with alternative governance mechanisms to the U.S.-dominated International Monetary Fund, World Bank and World Trade Organization with its all-encompassing Belt and Road Initiative and institutions like Asia infrastructure investment bank, Contingency Reserve Agreement (CRA) of New Development Bank.

### **What should be the role of India?**

- India is a rising global power and citing its importance both the US and China sought to attract India in its camp. Foreign policy experts in the US argue India is a natural US Ally in the new cold war.
- On the other hand, Chinese's Ambassador in India has suggested writing "together a new chapter" with "a shared future for mankind". In this context:
- India can promote new multilateralism under the aegis of Vasudhaiva Kutumbakam- which relies on restructuring both the economic order and societal behaviour for equitable sustainable development.
- India must take up intensified diplomacy with global powers so that Asian Century can be defined in terms of peaceful co-existence and global interest.
- Apart from it, India should acknowledge that national security now relies on technological superiority in Artificial Intelligence (AI), Cyber Space, and not expensive capital equipment.
- Thus, India should become self-sufficient in the domain of critical technologies.

## **2.6 Meeting of IMCG on Neighbouring Countries**

- Recently, the first meeting of the Inter-Ministerial Coordination Group (IMCG) at Secretary level was convened by India's Foreign Secretary.

- The IMCG has been set up as a high-level mechanism towards mainstreaming of India's 'Neighbourhood First' policy vision that sought to develop better relations with the country's neighbours.
- IMCG is supported by inter-ministerial Joint Task Forces (JTFs) convened by joint secretaries in the external affairs ministry.

### **What are the Key Highlights of the Meeting?**

#### **About:**

- The IMCG provided a comprehensive direction with a whole-of-government approach to promote better connectivity, stronger interlinkages and greater people-to-people connect with the neighbours.
- The focus of the meeting was construction of border infrastructure that would facilitate greater trade with neighbours like Nepal; special needs of countries such as Bhutan and Maldives in terms of supply of essential commodities; opening rail connectivity with Bangladesh; humanitarian assistance to Afghanistan and Myanmar; and fisheries issue with Sri Lanka.

#### **Significance:**

- IMCG will further improve institutional coordination across government and provide comprehensive direction to this whole-of-government approach to India's relations with its neighbouring countries.

### **What is the Purpose of 'Neighbourhood First' Policy Vision?**

#### **Connectivity:**

- India has entered into MoU (Memorandum of Understanding) with members of the South Asian Association for Regional Cooperation (SAARC). These agreements ensure a free flow of resources, energy, goods, labour, and information across borders.

#### **Improving Relations with Neighbours:**

- Priority is to improve the relations with immediate neighbours as peace and tranquillity in South Asia is essential for realising development agenda.

#### **Dialogue:**

- It focuses on vigorous regional diplomacy by engaging with neighbouring nations and building political connectivity through dialogue.

#### **Resolving Bilateral Conflicts:**

- The Policy focuses on resolving bilateral issues through mutual agreement.

#### **Economic Cooperation:**

- It focuses on enhancing trade ties with neighbours. India has participated and invested in SAARC as a vehicle for development in the region.



- One such example is the Bangladesh-Bhutan-India-Nepal (BBIN) grouping for energy development i.e. motor vehicles, waterpower management and inter-grid connectivity.

**Disaster management:**

- The policy also focuses on cooperating on disaster response, resource management, weather forecasting and communication and also capabilities and expertise in disaster management for all South Asian citizens.

**Military and Defence cooperation:**

- India is also focusing on deepening security in the region through military cooperation by conducting as well as participating in various defence exercises.

**2.7 Black Sea and Russia**

- Recently, the sinking of the warship Moskva, flagship of the Russian Black Sea Fleet — whether due to a Ukrainian missile strike or, as Russia claims, a fire on board — is a serious setback for Russia in the War against Ukraine.

**What is the Black Sea's Geography?**

- Littoral Geography: The Black Sea is bordered by Ukraine to the north and northwest, Russia and Georgia to the east, Turkey to the south, and Bulgaria and Romania to the west.
- Maritime Geography: It links to the Sea of Marmara through the Bosphorus Strait and then to the Aegean Sea through the Dardanelles strait.



**What is the Importance of Black Sea to Russia?**

- **Strategic Importance:** Domination of the Black Sea region is a geostrategic imperative for Russia, both to project Russian power in the Mediterranean and to secure the economic gateway to key markets in southern Europe.
- **Gateway to Mediterranean Sea:** It has traditionally been Russia's warm water gateway to Europe.
- **Strategic Buffer:** It is a strategic buffer between the North Atlantic Treaty Organisation (NATO) and itself.
- **Black Sea Fleet:** In this context, Russia has been making efforts to gain complete control over the Black Sea since the Crimean crisis of 2014.
- Thus, Russia has stationed its Black Sea naval fleet in the Black Sea.
- **Black Sea Fleet:** The Black Sea Fleet has a long history and is considered to have been founded back in 1783.
- It comprises warships of the Russian Navy in the Black Sea, Sea of Azov, and the eastern Mediterranean, and is headquartered at Sevastopol, the major port on the Crimean peninsula.

**What is Russia Doing in the Black Sea?**

- During the on-going invasion, the domination of the Black Sea has been a major Russian objective, along with the land bridge to connect Russia and Crimea.
- **Capturing Mariupol:** There have been intense efforts to capture Mariupol, the Sea of Azov port in the breakaway eastern Ukrainian oblast of Donetsk.
- **Capturing Odessa:** Russia was also expected to focus its military efforts on Odessa, to the west of Crimea.
- If the Odessa region were to fall as well, Ukraine would lose access to its entire Black Sea coastline and would in effect be reduced to a landlocked country.
- It is also the largest region in Ukraine which serves as an important energy and transport corridor with abundant natural resources.
- The Rhine-Main-Danube canal connects the Black Sea to the Atlantic Ocean and the port of Odessa serves as a vital link between Ukraine and the outside world.

**What are Russia's Prospects?**

- The loss of the warship Moskva is expected to put brakes on an anticipated amphibious assault on Odessa.
- This incident means Russia has now suffered damage to two key naval assets since invading Ukraine, the first being Russia's Alligator class landing ship Saratov in March 2022.
- Both events will likely lead Russia to review its maritime posture in the Black Sea.



## 2.8 India-Finland Relations

- Recently, Finland's Minister of Economic Affairs met India's Union Minister of State Science & Technology.
- They announced the decision to establish an Indo-Finnish Virtual Network Centre on Quantum Computing.
- The Indian side has identified three premier institutes viz IIT Madras, IISER Pune and Centre for Development of Advanced Computing (C-DAC) Pune for Virtual Network Centre on Quantum Computing.



**What are the Highlights of the Meeting?**

- India is keen to develop research collaborations with Finnish R&D institutions and technology collaboration with Finnish Industry especially focusing on the following technology domains and application of Quantum Computing in areas such as: Sustainable Energy Technologies (generation, conversion, storage and conservation), Environment and Clean Technologies, Bio based Economy, Bio Banks and Bio based materials for different applications, Water and Marine Technologies, Food & Agri Technologies, Affordable Healthcare (including, Pharmaceuticals and Biomedical Instrumentation), Technologies for Advanced Manufacturing, Integration of Artificial Intelligence and Machine Learning in all domains.
- The Department of Science & Technology has initiated several new mission mode programs like Electric Vehicles, Cyber-Physical System, Quantum Technologies, Future Manufacturing, Green Hydrogen Fuel etc. and sought joint collaboration with Finland in solving issues of societal challenges.
- The visiting Finnish Minister assured that Finnish companies will partner with India for Carbon- neutral technologies and enhance cooperation for Sustainability in Climate Change.
- The Finnish Minister also invited India to explore the possibility of deeper cooperation in Finland's Biobank project to mediate high-quality human samples for medical research to promote the development of new products and services that promote public health.

**What is the History of India-Finland Relations?**

- Background: Finland and India have traditionally enjoyed warm and friendly relations. In recent years, bilateral relations have acquired diversity with collaboration in research, innovation, and investments by both sides.
- 2019 marked 70 years of diplomatic relations between the two countries.
- Each Other's Importance: Finland sees India as a market for its products and a favourable investment destination for its high technology industries.
- India views Finland as an important member of the European Union and a repository of modern technology.
- S&T Collaboration: India and Finland have strong bonding in Science, Technology and Innovation.
- Both India and Finland are consultative members of the Antarctic Treaty and have active stations in Antarctica.
- Finland would be hosting the Antarctic Treaty Consultative Meeting (ATCM) in 2023 and India in 2024.
- India Meteorological Department (IMD) and the Finnish Meteorological Institute (FMI) have been cooperating in the field of Atmospheric Environment since 2014.

- Under this collaboration, Air Quality Forecasting models developed by FMI are customised for the Indian region resulting in the enhanced capability to forecast pollution events from microscale to regional scale so that pollution control authorities can take appropriate action.
- Finland is a leader in 5G/6G technology and Top Indian IT companies are looking to collaborate in this sector.

**Economic and Commercial Relations:**

- In 2020, India's total trade (goods and services) with Finland was USD 2.3 billion which is in India's favour.
- Trade-in goods in 2020 were approximately USD 950 mn and were in Finland's favour by approximately USD 134 million.

**Finland's top imported goods from India (Jan-Dec 2020):**

- Medicinal, pharmaceutical products articles of apparel and clothing accessories, textile yarn, fabrics, electric machinery and parts.

**India's top imported goods from Finland (Jan-Dec 2020):**

- Machinery for special industries electric machinery and parts paper, paperboard and articles thereof, metalliferous ores and metal scrap and general industrial machinery

**Cultural Relations**

- Finland is very receptive to Indian culture.
- There are several Indian dance schools and Yoga schools.
- Cultural events are organised regularly by Indian Associations and other cultural organisations promoting Indian dance and music (both classical as well as contemporary).
- Finnish India Society has been active since 1956.



### 3. ECONOMY

#### 3.1 Promotion of Agricultural Exports

- Promotion of exports of agricultural products is a continuous process. To promote agricultural exports, the Government has taken several steps at State/District levels. State specific Action Plans have been prepared by some states and State Level Monitoring Committees (SLMCs), Nodal Agencies for agricultural exports and Cluster Level Committees have been formed in a number of States. Country and product-specific action plans have also been formulated to promote exports. It has also been decided that the institutional framework created under the 'District as Export Hub' Initiative of the Department of Commerce would be utilized to achieve the objectives of Agriculture Export Policy.
- A Farmer Connect Portals has been set up for providing a platform for farmers, Farmer-Producer Organizations (FPOs) and cooperatives to interact with exporters, Buyer-Seller Meets (BSMs) have been organized in the clusters to provide export-market linkages. Regular interactions, through video conferences, have been held with the Indian Missions abroad, to assess and exploit export opportunities. Country specific BSMs, through Indian Missions, have also been organized.
- The Government has also introduced a Central Sector Scheme –Transport and Marketing Assistance for Specified Agriculture Products' –for providing assistance for the international component of freight to mitigate the freight disadvantage for the export of agriculture products.
- The Department of Commerce provides assistance through several other schemes, to promote exports, including exports of agricultural products viz. Trade Infrastructure for Export Scheme (TIES), Market Access Initiatives (MAI) Scheme etc. In addition, assistance to the exporters of agricultural products is also available under the Export Promotion Schemes of Agricultural & Processed Food Products Export Development Authority (APEDA), Marine Products Export Development Authority (MPEDA), Tobacco Board, Tea Board, Coffee Board, Rubber Board and Spices Board.
- Besides, Product specific Export Promotion Forums (EPF) for eight high potential agri products i.e. Grapes, Mango, Banana, Onion, Rice, Nutri-Cereals, Pomegranate, Floriculture & Plant material have been created at the insistence of Department of Agriculture & Farmers Welfare (DA&FW) under the auspices of APEDA which will work on promoting the export of identified products in a focused manner.

#### 3.2 Electric Vehicles Manufactures registered under FAME-India Scheme phase-II

- Under FAME-India Scheme, incentives are provided to buyers of electric vehicles in the form of an upfront reduction in the purchase price of electric vehicles. The incentive is linked to battery capacity i.e. Rs. 10,000/KWh for e-3W and e-4W with a cap 20% of the cost of vehicle. Further, the incentive/subsidies for e-2W has been increased to Rs. 15,000/KWh from Rs. 10,000/KWh with an increase in cap from 20% to 40% of the cost of vehicle w.e.f. 11th June, 2021.



- As per the information received from Department of Revenue, at present the GST rate on electric vehicles is 5%. The GST rates are prescribed based on the recommendations of the GST Council. Electric vehicles are already at the lowest rate slab of 5%. Further, following steps have been taken by the Government for adoption of electric vehicles in the country:
  - i. The Government on 12th May, 2021 approved a Production Linked Incentive (PLI) scheme for manufacturing of Advanced Chemistry Cell (ACC) in the country in order to bring down prices of battery in the country. Drop in battery price will result in cost reduction of electric vehicles.
  - ii. Electric Vehicles are covered under Production Linked Incentive (PLI) scheme for Automobile and Auto Components, which was approved on 15th September, 2021 with a budgetary outlay of Rs. 25,938 crore for a period of five years.
  - iii. GST on electric vehicles has been reduced from 12% to 5%; GST on chargers/ charging stations for electric vehicles has been reduced from 18% to 5%.
  - iv. Ministry of Road Transport & Highways (MoRTH) announced that battery-operated vehicles will be given green license plates and be exempted from permit requirements.
  - v. MoRTH issued a notification advising states to waive road tax on EVs, which in turn will help reduce the initial cost of EVs.

**The Production Linked Incentive (PLI) Scheme for Automobile and Auto Component successful in attracting proposed investment of ₹ 74,850 crore against the target estimate of investment ₹ 42,500 crore over a period of five years.**

- The Production Linked Incentive (PLI) Scheme for Automobile and Auto Component Industry in India has been successful in attracting proposed investment of ₹ 74,850 crore against the target estimate of investment ₹ 42,500 crore over a period of five years. The proposed investment of ₹ 45,016 crore is from approved applicants under Champion OEM Incentive Scheme and ₹ 29,834 crore from approved applicants under Component Champion Incentive Scheme.
- A total of 115 companies had filed their application under the Production Linked Incentive (PLI) Scheme for Automobile and Auto Component Industry in India which was notified on 23 September 2021. Out of which, 5 (five) Auto OEM companies had applied for both the parts of the scheme. The scheme was open for receiving applications till 23:59:59 hours IST on 9 January 2022. Incentives are applicable under the scheme for Determined Sales of Advanced Automotive Technology (AAT) products (vehicles and components) manufactured in India from 1 April 2022 onwards for a period of 5 consecutive years.
- Reacting to the response Union Heavy Industries Minister Dr. Mahendra Nath Pandey said, “The overwhelming response shows that Industry has reposed its faith in India’s stellar progress as a world class manufacturing destination which resonates strongly with Hon’ble Prime Minister’s clarion call of

Atma Nirbhar Bharat - a self-reliant India. India will surely take a huge leap towards cleaner, sustainable, advanced and more efficient Electric Vehicles (EV) based system”.

- The Government approved the Production Linked Incentive (PLI) Scheme for Automobile and Auto Component Industry in India for enhancing India's Manufacturing Capabilities for Advanced Automotive Products (AAT) with a budgetary outlay of ₹25,938 crore. The Production Linked Incentive (PLI) Scheme for Automobile and Auto component industry proposes financial incentives to boost domestic manufacturing of Advanced Automotive Technology (AAT) products and attract investments in the automotive manufacturing value chain. Its prime objectives include overcoming cost disabilities, creating economies of scale and building a robust supply chain in areas of AAT products. It will also generate employment. This scheme will facilitate the Automobile Industry to move up the value chain into higher value-added products.
- The scheme has two components viz. Champion OEM incentive scheme and Component Champion incentive scheme. Total 95 applicants have been approved under this PLI scheme. MHI had earlier approved 20 applicants (along with their 12 subsidiaries) for Champion OEM Incentive scheme. Subsequently, MHI has processed the applications received under Component Champion incentive scheme and 75 applicants (along with their 56 subsidiaries) have been approved under this category of the scheme. Two Auto OEM companies have been approved for both the parts of the scheme.

### **3.3 Investment in Industrial Sector**

- Recently Government has taken various steps to boost domestic investments in India. These include Promoting FDI (Foreign Direct Investment) and improve Ease of Doing Business, Make in India initiative, National Infrastructure Pipeline, Reduction in Corporate Tax, easing liquidity problems of NBFCs (Non-Banking Financial Companies) and Banks, trade policy measures, constitution of Investment and Project Development Cells, One District One Product (ODOP), and PLI (Production Linked Incentive) Scheme for 14 key sectors etc. Government of India has also taken up various Industrial Corridor Projects as part of National Industrial Corridor Programme which is aimed at development of green field industrial nodes/regions which can compete with the best manufacturing and investment destinations in the world.
- The time taken for completion of a project depends on factors like type of project, number of stakeholders, statutory clearances, various other issues related to project etc.
- In order to minimize delays and for timely completion of projects, the Government has institutionalized a monitoring mechanism called Project Monitoring Group (PMG) for various infrastructure and industrial projects above Rs. 500 Crore. The PMG reviews such projects and resolve issues related to various central ministries as well as State Government. Private Companies can also upload their issues on this portal and get their issues resolved. As per available information, out of total 1805 Projects on

the PMG Portal, 442 Projects under implementation have reported issues. Further, 421 projects have been commissioned after resolution of issues.

- Department for Promotion of Industry and Internal Trade (DPIIT) also has 32 greenfield industrial nodes across 11 Industrial Corridors in the country. National Industrial Corridor Development Corporation (NICDC) as well as DPIIT monitors these project on regular basis.
- The Government has also developed PM Gati Shakti National Master Plan which is supported by a digital platform to enable synchronized planning for providing multi-modal infrastructure connectivity to various economic zones, including industrial parks and clusters.

### **3.4 Steel Scrap Recycling policy**

- The Steel Scrap Recycling Policy was notified in the Gazette of India on 7th November, 2019. The Policy provides a framework to facilitate and promote establishment of metal scrapping centers in India for scientific processing & recycling of ferrous scrap generated from various sources. The policy framework provides standard guidelines for collection, dismantling and shredding activities in an organized, safe and environmentally sound manner in order to curb pollution and prevent health hazards.
- Under the Steel Scrap Recycling Policy, the role of Government is that of a facilitator to create conducive eco-system for the entrepreneurs and investors to establish scrapping centres in the country.
- Details of the number of registered and unregistered set ups working in the field of steel recycling and scrapping, state-wise and year-wise is not available with the Government. The scrapping centres are approved by the State Governments/Union Territories.
- Government of India has notified the Hazardous and Other Wastes (Management and Transboundary Movement) [HOWM] Rules, 2016 to ensure safe storage, treatment and disposal of hazardous and other wastes in an environmentally sound manner without causing adverse effect to environment and human health.
- The Ministry of Road Transport and Highways has formulated the Vehicle Scrapping Policy that includes a system of incentives/dis-incentives for creation of an eco-system to phase out older, unfit polluting vehicles.
- Bureau of Indian Standards has formulated IS 2549:1994–Code of Classification of Processed Ferrous Scrap-for classification of scrap.

**Centre focusses on promoting exports of GI-tagged niche agricultural products**

**GI-tagged products of India find new markets in the United Kingdom, South Korea and Bahrain.**

**Virtual Buyer-Seller meets arise as crucial platforms to improve market access**

- In a bid to promote exports of locally sourced Geographical Indications (GI) tagged agricultural products, Centre has been striving to identify new products and new export destinations.

- While Darjeeling Tea and Basmati Rice are the two popular GI-tagged agricultural products of India, which have ready markets across the globe, there is a host of GI-tagged products in various corners of the country which have niche but loyal customers and need to be marketed properly to reach more potential buyers.
- In line with Hon'ble Prime Minister's call for 'Vocal for Local' and 'Atmanirbhar Bharat', the Centre, through Agricultural and Processed Food Export Development Authority (APEDA) has been facilitating trial shipments into new markets worldwide for products such as Kala Namak rice, Naga Mircha, Assam Kaji Nemu, Bangalore Rose Onion, Nagpur Oranges, GI varieties of Mangoes, GI-tagged Shahi Litchi, Bhalia wheat, Madurai Malli, Bardhaman Mihidana and Sitabhog, Dahanu Gholvad Sapota, Jalgaon Banana, Vazhakulam Pineapple, Marayoor Jaggery, etc.
- Notable shipments of GI products in 2021 included export of Naga Mircha (King Chilli) from Nagaland to UK, Black Rice from Manipur and Assam to the United Kingdom, Assam Lemon to the United Kingdom and Italy, three GI varieties of Mango (Fazli, Khirsapati, and Laxmanbhog) from West Bengal and one GI variety of Mango (Zardalu) from Bihar to Bahrain and Qatar. Around 30 kgs of a sample shipment of Joynagar Moa, a sweetmeat delicacy from South 24 Pargana district of West Bengal was sent via Kolkata airport to Bahrain.
- Subsequent to the sample shipment, further orders for Joynagar Moa were received from Bahrain.
- In a major thrust to exports of GI-tagged products from Bihar, the first shipment of 524 Kg GI tagged Shahi Litchi was exported from Muzaffarpur district of Bihar to London in May 2021. The year also witnessed the export of GI tagged Banaganapalle Mango from Andhra Pradesh to South Korea.
- The Government has placed great emphasis on connecting farmer producer organisations (FPOs), food producer companies (FPCs) and exporters with international business communities to create an export hub in Varanasi, especially for GI-tagged agricultural products.
- To ensure GI tagged product promotion, a prime location has been identified at the departure area of Lal Bahadur Shastri International Airport, Varanasi. In June 2021, the season's first shipment of 1048 kg GI Tagged Malihabadi Dusseheri Mango was exported from Lucknow to the United Kingdom and UAE.
- To promote the unique GI Products from the North Eastern Region such as Manipur Black Rice (Chak-Hao), Manipur Kachai Lemon, Mizo Chilli, Arunachal Orange, Meghalaya Khasi Mandarin, Assam Kaji Nemu, Karbi Anglong Ginger, Joha Rice, and Tripura Queen Pineapple, Centre through APEDA has been organising buyer-seller meets, conducting awareness and capacity building workshops with the participation of representatives of the NER States, FPOs/FPCs, Exporters, Associations, and Government Departments such as Indian Railways, AAICLAS, NAFED, DGFT, IIFPT etc.
- GI products from other regions included Sangli raisins, Nagpur Orange, Dahanu Gholvad Chikoo, Marathwada Kesar Mango, Jalgaon Banana from Maharashtra, Kandhamal Turmeric from Odisha and

Bangalore Rose Onion from Karnataka, Allahabad Surkha Guava, Kalanamak Rice from Uttar Pradesh, Madurai Malli from Tamil Nadu etc.

- In 2020, virtual buyer-seller meets were organized with UAE and USA, two of the largest export markets for APEDA scheduled products, in association with the Embassy of India in Abu Dhabi and the Embassy of India in Washington DC.
- The meet on GI products provided a platform for interaction between Indian exporters and importers of USA and UAE. The exporters were informed about the potential GI products for exports such as Basmati Rice, Mango, Pomegranates, Bangalore Rose Onions, Sangli Grapes/Raisin, Banana and products of North-Eastern Region such as Joha Rice of Assam, Black Rice (Chak-Hao), Naga Mircha, and their derived processed products. During April 2020 to March 2021, VBSMs were held with potential importing countries such as UAE, Indonesia, Kuwait, Iran, Thailand, Bhutan, Belgium, Switzerland, Germany, Saudi Arabia, Uzbekistan, etc., for the promotion of APEDA scheduled products. Special focus was given on export of GI-tagged products.
- APEDA also organized in-store promotional programmes in importing countries in association with foreign retailers such as Al-Zajira Group of Bahrain and Family Food Center of Doha, Qatar. Dispatch of samples of GI-tagged Nanjangud Banana from Karnataka to LuLu Group, UAE was also facilitated to enhance exports.
- As on date, there are 417 registered GI products and of them, around 150 GI tagged products are agricultural and food products, out of which more than 100 registered GI products fall under the category of APEDA scheduled products (Cereals, Fresh Fruits and vegetables, processed products, etc)

### **3.5 KISAN CREDIT CARD SCHEME**

- The Reserve Bank of India has issued Master Circular on Kisan Credit Card Scheme vide circular FIDD.CO.FSD.BC.No.6/05.05.010/2018-19 dated July 04, 2018. The scheme aims at providing adequate and timely credit support from the banking system under a single window with flexible and simplified procedure to the farmers individual/joint borrowers who are owner cultivators, tenant farmers, oral lessees & share croppers, Self Help Groups (SHGs) or Joint Liability Groups (JLGs) of farmers including tenant farmers, share croppers etc. for their cultivation and other needs as indicated below:
  - (i) To meet the short term credit requirements for cultivation of crops;
  - (ii) Post-harvest expenses;
  - (iii) Produce marketing loan;
  - (iv) Consumption requirements of farmer household;

- (v) Working capital for maintenance of farm assets and activities allied to agriculture;
  - (vi) Investment credit requirement for agriculture and allied activities.
- Further, Reserve Bank of India vide circular FIDD.CO.FSD. BC.12/05.05.010/2018-19 dated February 04, 2019 has extended KCC facility to farmers engaged in Animal Husbandry and Fisheries for their working capital requirements.
  - Government of India is also implementing Interest Subvention Scheme under which interest subvention (IS) of 2% and Prompt Repayment Incentive (PRI) of 3% is given to farmers on Short Term Agri Loan upto 3 lakh which makes the effective rate of interest on such loans at 4%.
  - The following steps have been taken to bring the maximum number of farmers under KCC in order to provide easy access to concessional institutional credit and simplify the process to avail KCC:-
  - All the charges including processing fee, inspection, ledger folio charges, service charges for loans upto Rs.3.00 lakh were waived off.
  - Collateral free loan limit for short term agri-credit has been raised from Rs.1.00 lakh to Rs.1.60 lakh by RBI.
  - State Governments have been advised to hold bank-wise and village wise camps to collect KCC application forms from eligible farmers and the applications collected therein to be submitted to the Bank's branch.
  - KCC is to be issued within 14 days from the receipt of completed application.
  - A simple one-page special application form was also designed and shared with banks.
  - The KCC has been extended to the farmers doing allied activities including Animal Husbandry, dairying and fisheries.

### **3.6 Agriculture Infrastructure Fund**

- Agriculture Infrastructure Fund (AIF) scheme was launched with an objective to mobilize a medium - long term debt financing facility for investment in viable projects for post-harvest management Infrastructure and community farming assets through incentives and financial support in order to improve agriculture infrastructure in the country. So far, AIF portal has received 19000+ applications seeking subsidized loan worth Rs 13,400 crore under the Agriculture Infrastructure Fund (AIF) scheme. Out of this, a total of 10394 projects have been sanctioned under the scheme worth loan of Rs.7677 crore which includes in principle sanction by NABARD.
- Further, to make the scheme more attractive DA&FW have increased project limit of one project per beneficiary to upto 25 projects per beneficiary and also included APMCs, Federations of FPOs, SHGs and Cooperative and State agencies as eligible beneficiaries under the scheme. For the awareness creation Hon'ble Agriculture Minister had conducted two review meetings with the Chief Ministers of



all the states (August 2020 and September 2021) and department is conducting various awareness programmes, workshops and review meetings with State Nodal Officers, Bank Officials, Applicants, Agri-entrepreneur, FPOs etc. on a regular basis.

- Besides, on the basis of the share in agriculture production, the Rs.1 lakh crore debt financing facility has been tentatively allocated to each of the states and UTs. However, the state wise allocated target issued in the guidelines is indicative in nature. The amount will be distributed among states on first cum first serve basis with the overall financial limit of ₹1 lakh crore under the fund.

### **3.7 Improving e-NAM**

- National Agriculture Market (e-NAM) is a virtual platform integrating physical wholesale mandis/ markets of different States/ Union Territories (UTs) to facilitate online trading of agricultural commodities through transparent price discovery method to enable farmers to realize better remunerative prices for their produce.
- The Central Government is providing free e-NAM software and financial grant assistance for related hardware including quality assaying equipment's and for creation of infrastructure like cleaning, grading, sorting, packaging and compost unit etc.
- States/ UTs have availed the assistance by submission of Detailed Project Reports (DPRs) and created related infrastructure for smooth functioning of e-NAM at respective mandis. States like Rajasthan, Gujarat & Haryana had installed quick assaying equipment's in their e-NAM mandis.
- State Governments have been advised to explore the possibilities of upgrading the internet connectivity with internet service providers. States have also been advised to provide sufficient computers & other hardware's with requisite manpower. Close monitoring of the progress through meetings at various levels and visits of the officers to e-NAM mandis is carried out. Under the scheme, various training & awareness programmes are conducted for farmers, traders, commission agents and other stakeholders for successful implementation of e-NAM.
- Farmers are free to register on e-NAM Portal and sell their produce through online transparent and competitive bidding method, which is encouraging them to join increasingly on e-NAM platform. Also APMCs help farmers in registering as sellers in e-NAM.
- So far, more than 1.72 Crore farmers have registered on e-NAM platform, within the catchment area of 1000 mandis which are integrated on e-NAM platform. The agricultural produce trade with a value of Rs 1.82 lakh crore have so far been recorded on e-NAM platform.
- Following are some of the major efforts taken by the Government to continuously promote the e-NAM platform:-
  - i. Integration of additional 415 mandis with e-NAM, taking the total number of mandis to 1000 across 18 states and 3 UTs, thus bringing more markets access to farmers to sell their agriculture produce.

- ii. FPO trading module has been launched whereby FPOs can trade their produce from their collection center/ premise without bringing the produce to APMC.
- iii. Warehouse based trading module is provided in e-NAM to facilitate trade from warehouses based on e-NWR.
- iv. Further the e-NAM platform is made inter operable with Rashtriya e Market Services Private Limited (ReMS) platform of Government of Karnataka which will facilitate farmers of either platforms were can sell their produce in other platform thereby increasing their market access.
- v. GPS Based e-NAM Mandi Locator: Farmers / Sellers can locate their nearby e-NAM mandi using GPS based mandi locator feature through e-NAM mobile app. This will helps the farmers to easily locate and reach the selected mandis and sell their agri-produce.
- vi. Weather Forecasting Details for e-NAM mandis.
- vii. Integration with AGMARKNET platform: Farmer can access the prevailing commodity prices & arrival information of e-NAM mandi as well as non e-NAM mandi on e-NAM mobile app. prior to even going to the mandi.

### **3.8 Blue Economy**

- The Memoranda of Understanding (MoUs) have been signed between India and other countries namely, Norway, Bangladesh, Iceland, Indonesia, Morocco and Vietnam to promote bilateral cooperation in the field of Fisheries. Besides, India is also party to various multilateral agreements and arrangements including Indian Ocean Tuna Commission (IOTC), Indian Ocean Rim Association for Regional Co-operation (IOR-ARC), the Bay of Bengal Initiative for Multi- Sectoral Technical and Economic Cooperation (BIMSTEC), Bay of Bengal Programme Inter- Governmental Organization (BoBP-IGO), etc. to strengthen Blue economy by way of trade and export promotion, socio-economic developments and technical cooperation in various sectors including sustainable exploitation of marine wealth.
- The Department of Fisheries, Ministry of Fisheries, Animal Husbandry and Dairying is implementing a flagship scheme Pradhan Mantri Matsya Sampada Yojana (PMMSY)- A scheme to bring about Blue Revolution through sustainable and responsible development of fisheries sector in India with highest ever investment of Rs.20,050 Crores in the fisheries sector, for implementation over a period of five years from financial year 2020-21 to financial year 2024-25 in all States/Union Territories.
- The PMMSY inter-alia provides financial support for acquisition of technologically advanced fishing vessels, deep sea fishing vessels for traditional fishermen, fishing boats and nets for traditional fishermen, providing safety kits for fishermen of traditional and motorized fishing vessels, communication and/or tracking devices for traditional and motorized vessels and infrastructure facilities for monitoring, control and surveillance, etc. The Government of India, in 2018-19, has also extended the facility of Kisan Credit Card (KCC) to fisheries and animal husbandry farmers to help them and to

meet their working capital needs. The Fisheries and Aquaculture Infrastructure Development Fund (FIDF) has been created at a total outlay of Rs. 7522 Crores to provide concessional finance to Eligible Entities (EEs). Besides, the concerned coastal State Governments/UTs are also providing tax rebate for fuel and other subsidies to Indian fishermen.

- In the on-going negotiations on fisheries subsidies in World Trade Organization (WTO), the member countries including India are participating as per the mandate of the United Nations Sustainable Development Goals (UN-SDG) target 14.6 and the WTO Ministerial Conference Decision of 2017(MC-11). The scope of on-going negotiations is limited to marine capture fisheries. Aquaculture and inland fisheries are excluded from the scope of WTO Regulation on Fisheries subsidies. For securing livelihood of our traditional and small-scale fishermen, India is advocating for appropriate and effective special and differential treatment (S&DT) for the developing countries including least developed countries (LDCs) and has sought policy space to develop and modernize its fisheries sector.

### **3.9 Export Promotion**

- Delhi Government is encouraging and promoting Indian exports in international markets and is initiating suitable interventions from time to time. The key schemes/interventions taken are:
  1. Market Access Initiative (MAI) Scheme provides assistance to Export Promotion Organizations/Trade Promotion Organizations/National Level Institutions/ Research Institutions/Universities/Laboratories, Exporters etc., for enhancement of exports through accessing new markets or through increasing the share in the existing markets.
  2. 'Transport and Marketing Assistance (TMA) for Specified Agriculture Products' provides assistance for the international component of freight, to mitigate the freight disadvantage for the export of agriculture products, and marketing of agricultural products, is under implementation.
  3. Assistance to the exporters of agricultural products is also available under the Export Promotion Schemes of Agricultural & Processed Food Products Export Development Authority (APEDA), Marine Products Export Development Authority (MPEDA), Tobacco Board, Tea Board, Coffee Board, Rubber Board and Spices Board.
  4. 'Districts as Export Hubs Initiative' for products and services with export potential have been identified in all districts of the country.
  5. Trade Infrastructure for Export Scheme (TIES) provides assistance to Central and State Government agencies for creation of appropriate infrastructure for growth of exports.
  6. Remission of Duties and Taxes on Exported Products (RoDTEP) provides remission of Central, State and Local duties/taxes/levies which are incurred in the process of manufacture and distribution of exported products, but are currently not being refunded under any other duty remission scheme.

7. Common Digital Platform for Certificate of Origin to facilitate trade and increase FTA utilization by exporters.
8. 12 Champion Services Sectors have been identified for promoting and diversifying services exports by pursuing specific action plans.
9. Active role of EPCs, Commodity Boards and Indian missions abroad towards promoting India's trade, tourism, technology and investment goals has been enhanced.

## 4. ENVIRONMENT

### 4.1 Indian Tent Turtle

- Indian tent turtles, listed in Schedule –I of the Wild Life (Protection) Act, 1972 are provided the highest degree of protection in India. They are native to India, Nepal, and Bangladesh and are similar to the Indian roofed turtle.
- There have been reports that these turtles are on the verge of extinction due to mining in the Narmada river.
- This was denied by the Union minister, "There are no reports to indicate that the Indian tent turtle is on the verge of extinction due to illegal mining in Narmada River," according to Union Minister of State for Environment, Forest & Climate Change, Ashwini Kumar Choubey. He further informed that the Zoological Survey has not conducted any survey in the Narmada river on the impact of illegal mining on Indian tent turtles and its effect on the river ecosystem.



- The subspecies *P. t. tentoria* is found in peninsular India and is recorded from Orissa, Maharashtra, Andhra Pradesh, Assam, and Madhya Pradesh.
- *P. t. circumdata* occurs in the western tributaries of Ganga and the rivers of Gujarat. It is found in Rajasthan, Madhya Pradesh, Uttar Pradesh, and Gujarat.
- *P. t. flaviventer* occurs in the northern tributaries of Ganga and is recorded from Uttar Pradesh, Bihar, West Bengal, and Assam.
- Mainly herbivorous, these turtles, known as natural cleaners, survive by eating moss and algae, etc., and increase the amount of oxygen in the water. They inhabit still water pools on the riverside and slow running water near the river banks. The turtles vary in colour depending upon their subspecies, for instance, Subspecies *tentoria* has an olive or brownish head with a red postocular spot. However, the turtles face the threat of illegal trade in the pet market.

**Government Initiatives:**

- The Government of India has taken several steps to protect wildlife and its habitats including for Indian tent turtle species. Important steps taken in this regard include:
  - Protected areas, namely, national parks, wildlife sanctuaries, conservation reserves, and community reserves have been created in the country covering important habitats to provide better protection to wildlife, including threatened species and their habitat.
  - Under the Centrally Sponsored Scheme of 'Integrated Development of Wildlife Habitats', financial assistance is provided to the State/Union territories for providing better protection to wildlife and improvement of habitat.
  - The Wild Life (Protection) Act, 1972 provides for stringent punishment for violation of its provisions. The Act also provides for forfeiture of any equipment, vehicle, or weapon that is used for committing wildlife offence(s).
  - The local communities are involved in conservation measures through eco-development activities which help the forest departments in the protection of wildlife.
  - The Wildlife Crime Control Bureau (WCCB) coordinates with State/UTs and other enforcement agencies to gather intelligence about poaching and unlawful trade in wild animals and animal articles.

**4.2 Gujarat grabs top spot in NITI Aayog's State Energy & Climate Index among larger states**

- Gujarat, Kerala and Punjab have been ranked as the top three performers in the category of larger states on the list prepared by the State Energy and Climate Index (SECI). Goa emerged as the top-performing state in the smaller states category, followed by Tripura and Manipur. Among UTs, Chandigarh, Delhi, and Daman & Diu/Dadra & Nagar Haveli are the top performers.
- The State Energy and Climate Index (SECI) is the first index that aims to track the efforts made by states and UTs in the climate and energy sector. This ranking is intended to boost the energy sector related reforms and help initiate a dialogue with the states on the same so that much required policy improvements can be made. An in-depth analysis of the states will also help in enhancing the service delivery on various parameters of energy.

**Energy and climate-related goals**

- Moreover, synergy and partnership among the Centre and the states will be critical for achieving energy and climate-related goals and making the country self-reliant in the energy sector. After extensive discussions with stakeholders, several key parameters have been identified to track and rank the performance of the states in this report.

**Ranking on six parameters**

- The State Energy & Climate Index (SECI) Round I has just ranked the states' performance on 6 parameters, namely- 1- DISCOM's performance, 2- access, affordability and reliability of energy, 3-



clean energy initiatives, 4- energy efficiency, 5- environmental sustainability and 6- new initiatives. The parameters are further divided into 27 indicators. Based on the composite SECI round I score, the states and UTs are categorized into three groups- front runners, achievers, and aspirants. The states have been categorized based on size and geographical differences as larger states, smaller states, and UTs. These parameters have been devised keeping in mind India's goals for climate change and clean energy transition.

### **States are diverse in nature**

- India is a resource-rich and diverse country with many of its states being comparable to several countries of the world including those of the European Union in terms of area, population and diversity of resources. Hence, a one-size-fits-all approach may not work for all the states as they differ in terms of culture, geography, use of energy resources and other things, making it essential for them to have their own need based policy to harness their potential.

### **Report reflects three thematic parts**

- The report consists of three thematic parts. The first part explains the background, objective and present energy scenario in India. Different global and national indices are described, as well as a comparison of the Indian economy with a few other countries is done to give an insight into how these economies perform in the energy and climate sectors. A review of all existing indices reveals that there is no comprehensive index to evaluate the performance of the states in the energy sector.

### **Explanation of parameters and indicators**

- The second part lays out the explanation of parameters and indicators used in the study, the methodology used to construct the index, followed by key findings at the state level and further analysis of each parameter. A comprehensive State Energy & Climate Index covers affordability, accessibility, efficiency, DISCOM's performance and climate friendliness of all forms of energy. This formed the motivation for formulating the State Energy & Climate Index. This index is envisaged to be at par with the international indices covering the entire energy value-chain.

## **4.3 Changes in Lifestyle to Save the Environment**

- Prime Minister Narendra Modi gave to the world the mantra of LIFE – Lifestyle for Environment – to combat climate change, at COP26 held in Glasgow, United Kingdom. The message urged people to make changes in one's lifestyles that would contribute towards saving the environment.
- At the macro level, our Government is taking major steps toward a greener and energy-efficient country. However, micro-steps are as important as macro steps. The most powerful way to fight climate change is 'Behavioural Change', PM Modi had once said, stressing behavioral change in day-to-day life such as

avoiding single-use plastics, switching off the light when not in use, proper waste management, etc, are critical steps for fighting climate change.

### **Sustainable Development Goals (SDG)**

- The United Nations has created a framework of 17 Sustainable Development Goals (SDG), which is a comprehensive strategy to reorient economies toward long-term sustainability. The SDGs address issues such as health and education, inequity, climate change, and the preservation of our oceans and forests, among others.
- Goal 12 of the SDG ensures sustainable consumption and production patterns focussing on waste management (both municipal and hazardous), food loss reduction, waste recycling, and reuse, and sustainability in industries such as tourism. SDG 12 also calls for a change in the present lifestyle to one that is more sustainable.
- India too has taken several measures for promoting Resource Efficiency and a Circular Economy, including for prevention and management of waste. The step is a part of the United Nations Decade of Action for the attainment of SDGs. Further, the concepts of Extended Producer Responsibility (EPR) and circular economy are based on principles of reduce-reuse-recycle and are relevant for promoting sustainable consumption and production.

### **Curbing Plastic Usage**

- NITI Aayog has constituted Committees for the development of circular economy (CE) action plans for different categories of wastes. Ministry of Environment, Forest and Climate Change (MoEFCC) is the Nodal Ministry for Circular Economy Action Plan for Tyre and Rubber. On February 16, 2022, the Ministry notified the 'Guidelines on the Extended Producer Responsibility (EPR) for Plastic Packaging' under Plastic Waste Management Rules, 2016.
- The policy mandates to reuse of rigid plastic packaging material and reducing the use of fresh plastic material for packaging. This is a step to manage plastic pollution. Further, the guidelines allow for the sale and purchase of surplus extended producer responsibility certificates, thus setting up a market mechanism for plastic waste management.

### **Green Good Deeds**

- In January 2018, MoEFCC launched the Green Good Deeds (GGDs) movement as a social movement to bring about mass environmental awareness in society at all levels. GGDs are simple, practical steps that every individual may perform in day-to-day life to adopt an environment-friendly lifestyle.
- A compilation of such deeds has also been published under the title 'Green Deeds & Habits for Sustainable Environment'. Further, the government has also taken steps to promote GGDs among school and college students under the National Green Corps (NGC) "Eco-club" programme.

- Moreover, cleanliness drives, plantation drives, awareness on waste management, minimizing the use of single-use plastic, eco-friendly celebration of festivals, etc. are also some of the activities undertaken by Eco-club students.

#### **4.4 Experts meet to discuss the seriousness of climate change**

- Climate and policy experts met to discuss the seriousness of climate impact on South Asia as highlighted in the Intergovernmental Panel on Climate Change (IPCC) report. They also discussed the adaptation and mitigation steps that need to be taken under the current scenario along with necessities for climate finance, net-zero emission, and sustainable lifestyle at a panel discussion titled ‘The IPCC Report 2022: Is it Code Red for South Asia?’.
- The Intergovernmental Panel on Climate Change (IPCC) has released the third installment of the IPCC’s Sixth Assessment Report (AR6). The report has warned about rising global temperatures while also being hopeful that actions can still be taken to combat climate change.

#### **IPCC Report:**

- The IPCC report released on April 4, 2022, claims that there are realistic options in all the sectors to cut down emissions by half by 2030. It also discusses numerous strategies to limit greenhouse gas (GHG) emissions in different sectors. It presents realistic calculations to stop global mean temperature increase by 1.5°C and 2°C.
- The sixth assessment report highlights that increased heatwaves, droughts, and floods are already exceeding plants’ and animals’ tolerance thresholds, driving mass mortalities in species such as trees and corals. These weather extremes are occurring simultaneously, causing cascading impacts that are increasingly difficult to manage. They have exposed millions of people to acute food and water insecurity, especially in Africa, Asia, Central, and South America, on small Islands, and in the Arctic.
- According to the report, average annual global GHG emissions were at their highest levels in human history between 2010 and 2019. However, the rate of growth of these emissions has slowed down.
- The IPCC report stresses the need for a paradigm shift for climate mitigation; putting people at the centre and aiming toward sustainable development. There is also a need for regional-level adaptation and mitigation efforts. During the panel discussion, Saad Hayat Tamman, Prime Minister’s Office, Pakistan, said that South Asia needs capital finance to tackle the problem of climate change.

#### **What are we doing?**

- India’s commitment toward climate change mitigation and adaptation measures includes achieving net-zero by 2070 while maintaining the human development index. Other climate targets of India include
- 1. Reduction in the emissions intensity of GDP by 45% over 2005 levels**
  - 2. Installation of 500 GW non-fossil energy capacity by 2030**

**3. 1 billion tonnes reduction in carbon emissions till 2030****4. 50% electric installed capacity from non-fossil sources by 2030**

- In addition to above targets, the Department of Science and Technology has increased efforts to understand the quantum of present and future impacts of climate change through studies like the district level vulnerability assessment and disaster risk assessment.
- The assessment will help in initiating appropriate climate actions. It will also benefit climate-vulnerable communities across India through the development of better-designed climate change adaptation projects.
- Furthermore, in response to climate change, some of the key initiatives of the Indian Government are the National Action Plan on Climate Change (NAPCC), National Adaptation Fund on Climate Change (NAFCC), Climate Change Action Programme (CCAP) and State Action Plan on Climate Change (SAPCC).

**What can still be done?**

- To avoid the loss of life, biodiversity, and infrastructure, ambitious, accelerated action is required to adapt to climate change. Further, it is also required to take steps to cut greenhouse gas emissions. According to the IPCC Report, so far, progress on adaptation is uneven, and there are increasing gaps between action taken and what is needed to deal with the increasing risks, the new report stressed.
- Communities also need to work together to meet the challenges of climate change at both local and global levels. Funding for climate change, dependence on renewable resources for energy needs, and reducing carbon footprints are the need of the hour.

**4.5 Impact of Climate Change on South Asia**

- According to Sanjay Bhowmik, MoEF, Bangladesh, the country is prioritizing local adaptation to address climate change. Bangladesh faces the issues of sea-level rise, city heat, and urban burden. On the other hand, Nepal faces the vulnerability of the mountains, increasing impacts like loss of glaciers, change in timing of seasons as well as socio-economic changes due to climate change.
- Dr. Anjal Prakash, Indian School of Business (ISB), Hyderabad said that the impact on South Asia is serious. This will impact both urban and rural areas and their livelihood. Cities in particular also have an impact on climate, and hence cities need to come up with action plans and act with urgency.
- In order to limit global warming to around 1.5°C, the world needs to start reducing greenhouse gas emissions from 2025. The report said that emissions have to peak by 2025 at the latest, and be reduced by 43% by 2030; at the same time, methane would also need to be reduced by about a third.
- According to WHO, every year, more than 13 billion deaths occur due to avoidable environmental causes. Thus WHO recognises the climate crisis as the single biggest threat to health facing humanity.

**India's efforts towards mitigating Climate Change**

- In multiple international climate agreements, India has committed itself to reach net-zero carbon emissions by 2070 and to meet 50 per cent of its energy requirement from renewable sources by 2030.
- India has achieved its Paris Agreement goal. India achieved, and surpassed its nationally determined contribution (NDC) target which was 40% capacity by non-fossil-fuel sources by 2030.
- The government is emphasizing the use of ethanol, electric vehicles and green hydrogen. Green energy corridors have been developed to procure power from RE sources.
- India is also focusing on the use of compressed bio-gas. The government has provided clean cooking gas to over 150 million families, thus improving the health of the environment, of women and children.
- India has seen the highest growth in renewable energy capacity addition among all global economies over the last 7.5 years, with renewable energy capacity (including large hydro) increasing 1.97 times and solar energy increasing nearly 18 times.
- Centre has also announced waiver of inter-state transmission charges on the transmission of the electricity generated from the solar and wind sources, for projects to be commissioned up to 30 June 2025.

**4.6 Crimson Horned Pheasant rediscovered after 170 years in Darjeeling**

- Crimson Horned Pheasant, one of the rarest birds in India has been rediscovered after a span of 170 years. According to the Ministry of Environment, Forest and Climate Change (MoEF&CC), the scientists at the Zoological Survey of India (ZSI), rediscovered satyr tragopan, or crimson horned pheasant in Senchal Wildlife Sanctuary, Darjeeling, West Bengal.



- The sighting of the satyr tragopan was first reported by Hickell in 1842, between the present Kurseong and Sonada region of Darjeeling district.



### About Satyr Tragopan

- Considered one of the most beautiful birds in India, the male Satyr tragopan (*tragopan satyra*) is also one of the rarest in the country. Male Satyr's are 68 cm and are a bright crimson red with white spots. On the other hand, the female ones are smaller and less conspicuous and are brown in colour.
- The bird is best seen in Neora Valley National Park, Darjeeling, although Singalila National Park, Darjeeling is also known to inhabit some of these birds. Often called "horned pheasants", Tragopans display horn-like projections during their courtship. Satyr tragopans reside in moist oak and rhododendron forests with dense undergrowth and bamboo clumps.

### A Significant Sighting

- According to Dhriti Banerjee, Director of ZSI, the rediscovery of satyr tragopan, a pheasant bird after 170 years from the landscape is encouraging as it indicates that the forested habitats are well preserved and effectively managed.
- Moreover, their population faces the threat of habitat destruction and hunting. Thus, the rediscovery of the now considered to be a near-threatened bird is a positive sign for the bird species.

### Other animal sightings

- In addition to crimson horned pheasant, the scientists recorded the high abundance of melanistic barking deer (12 camera captures) and common leopard (14 camera captures) in the Protected Area (PA). A camera trap study conducted in the sanctuary between 2018-2020, revealed the presence of 17 species of such medium and large mammals, signaling a thriving environment for flora and fauna.
- Of these animals, three have been categorized as vulnerable (Asiatic black bear, common leopard, mainland serow) and three as near threatened (golden cat, marbled Cat, black giant squirrel) by the International Union for Conservation of Nature (IUCN). Barking deer yielded the most number of camera captures followed by wild boar, large Indian civet, mainland serow, leopard cat, common leopard, Malayan porcupine etc.

## 4.7 Light Pollution

- Although light seems to be the guiding spirit when the dark draws upon you, Light Pollution causes a health-related impact on humans, animals and plants. Light Pollution is responsible for interfering with living organisms' biological activities. Living beings depend on the Earth's daily cycle of light and dark that governs behaviours such as reproduction, sleep and migration. Artificial light at night has negative effects on these behaviours.
- Plants are affected by three characteristics of light: Quantity, quality and duration. Quantity of light refers to the total concentration or intensity of the light. Light quality indicates the wavelength of the



light and duration refers to the total period for which light is present. Light pollution has the potential to alter one or more of these characteristics.

- Similarly, animals are also affected by light pollution. Crepuscular (active only at dusk and dawn) and nocturnal (active only during the night) animals depend on the duration of day (light) length to start/stop their daily activities.
- Exposure to artificial light interferes with these activities, decreases their chances of finding food and mates and exposes them to predators. While light pollution can potentially affect any organism, its effects are particularly pronounced on insects, amphibians, sea turtles and migratory birds.

#### **What should we do? Switch it off?**

- There are various possible ways to decrease light pollution. Installation of time and motion sensor-based lighting can help in places where at times light is needed. Artificial light should be minimised in ecologically sensitive areas such as routes for migratory birds and beaches with active hatching of turtle eggs. Regarding this, Mr Angchuk in the interview with PBNS stated, “Sky sanctuaries kind of thing where it can be created in any parts of India. These areas will not have any Light Pollution and people could enjoy the night sky from there. Hence, it will be economically beneficial for locals and for the environment as well.”

#### **4.8 Saving Planet Earth through climate financing, action & cooperation**

- Union Minister of Environment, Forest and Climate Change (MoEF&CC), Bhupender Yadav on April 26 met Aminath Shauna, Maldives’ Minister of Environment, Climate Change, and Technology. Their discussion focused on issues relating to vulnerabilities of climate change, cooperation on climate actions, and follow-up to COP 26.
- Climate change is a global collective action problem. Unchecked global warming may lead to negative impacts on ecosystems in the future, however, governments of the world are pledged to limit the temperature goals set by the Paris Agreement.
- Appreciating the climate actions taken by the Maldives, Union Minister Bhupender Yadav stressed the importance of concrete actions on adaptation in tackling climate change and implementing the Glasgow Climate Pact or COP 26. To fight climate change, it is important to ensure climate justice for all, commitment toward climate finance and technology support, adaptation finance provisions, and more.
- Earlier in January this year, the Union Environment Minister had called for action and implementation of commitments and stressed that the current pace and scale of climate finance and technology support from developed countries do not match the global aspiration to combat climate change.

**What is Climate Financing?**

- All the countries need to reduce their emissions and adapt to climate change. However, several developing countries lack the resources and the technology to do so. On the other hand, financial resources and sound investments can help in addressing climate change, reducing emissions, promoting adaptation to the impacts that are already occurring, and building resilience.
- Climate finance helps countries reduce greenhouse gas emissions such as by funding renewable power like wind or solar. Therefore, all countries agreed that industrialized nations with money and technological know-how must step up and increase their financial support for climate action in developing countries, particularly the poorest and most vulnerable.
- Thus, climate finance refers to local, national, or transnational financing drawn from public, private, and alternative sources of financing that seek to support mitigation and adaptation actions to address climate change.

**4.9 Climate Finance Commitments**

- The Convention, the Kyoto Protocol, and the Paris Agreement call for financial assistance from Parties with more financial resources to those that are less endowed and more vulnerable. In the Paris Agreement, wealthier countries committed to providing developing countries with at least \$100 billion a year by 2020 for climate mitigation and adaptation. They also agreed to significantly increase adaptation finance. The Paris Agreement also emphasizes the transparency and enhanced predictability of financial support.
- Further, the Convention (UNFCCC) states that the operation of the financial mechanism can be entrusted to one or more existing international entities. The Global Environment Facility (GEF) has served as an operating entity of the financial mechanism since the Convention's entry into force in 1994. At COP 16, in 2010, Parties established the Green Climate Fund (GCF) and in 2011 also designated it as an operating entity of the financial mechanism.

**India's contribution**

- India with more than 17% of the global population has contributed only about 4% of the global cumulative greenhouse gas emissions between 1850 and 2017. India is part of the solution and has been taking initiatives to protect the environment.
- In addition to continuously monitoring the impact of climate change, the Government of India through its various policies, schemes, and initiatives is spending nearly Rs 2,000 crore on solar energy plans. It has also achieved its Paris Agreement goals of generating 40% of power from renewable sources.
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- India is also committed to the ambitious targets announced by Prime Minister Narendra Modi in the form of five nectar elements “Panchamrit” including the ambitious target of 500 GW of non-fossil energy at the COP 26 summit held in Glasgow in November 2021.

## 5. SCIENCE & TECHNOLOGY

### 5.1 India-US space cooperation

- In a major development in bolstering the security of the space sector, India and the US finalized the signing of a new 'Space Situational Awareness' arrangement, paving way for more advanced cooperation at 2+2 Ministerial Dialogue.
- The landmark development is the outcome of five years of efforts between India and the US. The signing of the Space Situational Awareness (SSA) will help in the exchange of data on the threat posed to the satellites and other assets between the two countries.
- The arrangement was inked between the diplomatic and defence leadership of India and the US during the 2+2 Ministerial dialogue between External Affairs Minister S Jaishankar and Defence Minister Rajnath Singh on the Indian side, and Secretary of State Antony Blinken and Secretary of Defence Lloyd Austin representing the United States.

#### **What SSA agreement will bring?**

- With the SSA agreement, India will receive data from the US about space debris and other objects in space and the potential threat that may pose to the safety and security of the new launches as well as the existing satellites and other space assets.
- Besides this, the SSA framework will ensure the sharing of data and services to make certain, the long-term sustainability of outer space activities of the two countries, which will protect the two countries' satellites from man-made or natural threats.

#### **The Indo-US Space Cooperation:**

- During PM's visit to Washington, the Indian leader had discussed India-US bilateral cooperation in the space sector with US Vice President Kamala Harris, who heads the National Space Council of America.
- Further, India's premier space entity Indian Space Research Organisation (ISRO) has been working on the orbital debris tracking capability by deploying new radars and optical telescopes under the Network for Space Objects Tracking and Analysis (NETRA) project, a dedicated control centre for SSA activities set up in Bengaluru. NETRA is expected to become involved in various international collaborations on SSA.

#### **India-US take steps in Defence cooperation:**

- During the 2+2 Ministerial Dialogue, US Secretary of Defense Lloyd J. Austin III and Secretary of State Antony J. Blinken hosted their Indian counterparts, Defense Minister Rajnath Singh and Minister of External Affairs S. Jaishankar for the fourth Ministerial Dialogue between the two countries.
- Noting the nearly 20 years of the bilateral defense partnership between the two nations Secretary of Defense Lloyd J. Austin III said, "Today's meeting shows that we're working together to build one of

the most consequential partnerships of our time,” he said. “We’ve made important commitments today that will drive technological innovation and cooperation in emerging defense domains, including space and cyberspace.”

- He further announced that the U.S. and India will launch new defense space exchanges this year between U.S. Space Command and India’s Defense Space Agency. “And I’m pleased to announce that just a few moments ago, we signed a bilateral space situational awareness arrangement,” he said.
- The two defense establishments aim at deepening cooperation in cyberspace, including through training and exercises later this year. India and the United States are also expanding information-sharing partnerships across all war fighting domains.
- The U.S.-India defense trade and technology cooperation continues to grow, the secretary said. “We recently concluded, an agreement to work together on air-launched unmanned aerial vehicles through our defense technology and trade initiative,” he said. “And today, we agreed to launch new supply chain cooperation measures that will let us more swiftly support each other’s priority defense requirements.”

## **5.2 Indigenisation of Indian Space Program**

- In an important step towards the Government of India’s vision of making India Atmanirbhar and a global leader in the space arena, what HAL has delivered is its heaviest semi-cryogenic propellant tank (SC120- LOX) ever fabricated. This is a semi cryo-liquid oxygen tank – the first developmental welded hardware, which is a part of the SC120 stage, intended for payload enhancement by replacing the L110 stage in the existing Mk-III launch vehicle.
- Indigenisation is not a mere sum total of creating a manufacturing ecosystem where indigenous development can thrive, but it is equally about getting the end-users.
- HAL had delivered the biggest ever cryogenic Liquid Hydrogen tank (C32-LH2) last year, which is four metres in diameter and eight metres in length. HAL did it much ahead of the contractual schedule.
- As a matter of fact, this is not the first time when HAL has proven its prowess in the field of skills and technologies required for fabricating welded propellant tanks. The Aerospace Division of HAL has delivered 244 propellant tanks and 95 water tanks to ISRO for the space programmes of Polar Satellite Launch Vehicles (PSLVs), Geo-stationary Satellite Launch Vehicle (GSLV) Mk-II, and GSLV Mk-III of diameter 2.1, 2.8, and 4 metres where the length of the tank varies from 2.5 to 8 metres. HAL has also delivered critical structures, tankages, satellite structures for PSLV, GSLV-MkII, and GSLV-MkIII launch vehicles to ISRO. These all are ISRO’s major rockets, often called ISRO’s workhorses. Several other new projects with HAL for unique infrastructures are also nearing completion, including PS2/GS2 integration, Semi-cryo structure fabrication, and manufacturing of cryo and semi cryo engines. The PS2 stage is the second stage of PSLV launch vehicle in which earth storable propellants are used for propulsion.



- The Gaganyaan mission is the ambitious mission of ISRO, which would see Indian launch its first astronauts to space. The Gaganyaan mission includes a total of three launches. The first crewed flight will follow two unmanned launches, the first of which is scheduled to begin in the second half of 2022 followed by the second launch at the end of the same year. After the first unmanned mission, ISRO would conduct another launch wherein a spacefaring robot named “Vyommitra” will be carried into space.
- “Vyommitra” is developed by the ISRO. Four Indian Air Force Officers are undergoing training at an astronaut training facility in Bengaluru for the third and the manned mission. According to an official release by the Ministry of Science & Technology, the designing process of all systems of Gaganyaan are complete and the activities related to development of microgravity experiments have commenced.
- In fact, more than 500 Industries are involved in the project. Besides them, the Russian Space Agency Roscosmos is delivering space suits, crew seats and viewports, and the French Space Agency the CNES is also delivering some specific parts.
- The objective of Gaganyaan is to demonstrate the Indian Space Research Organisation’s capability to send humans to low earth orbit on-board on Indian Launch Vehicle and bring them back to earth safely.
- Even before the take-off of Gaganyaan, India’s space programme has been known for credible and cost-effective space launch missions and India has emerged as a hub for cost-effective satellite launches.

### **How the ecosystem firmed up?**

- It all got a boost by the opening up of India’s space sector. On 1st October, 2021 Prime Minister Narendra Modi announced the opening up of India’s space sector with the launch of the Indian Space Association (ISpA) – the premier industry association of space and satellite companies.
- Speaking on that occasion Prime Minister Modi has said “For 75 years since independence, Indian space has been dominated by a single umbrella of Indian government and government institutions. Scientists of India have made huge achievements in these decades, but the need of the hour is that there should be no restrictions on Indian talent, whether it is in the public sector or in the private sector... Let this collective power of India’s population take the space sector forward in an organised manner.”
- ISpA also works towards building global linkages for the Indian space industry to bring in critical technology and investments into the country to create more high skill jobs. The founding members of ISpA include Bharti Airtel, Larson & Toubro, Nelco (Tata Group), One Web, Map my India, Walchand nagar Industries and Alpha Design Technologies. Other core members include Godrej, Hughes India, Ananth Technology Limited, Azista-BST Aerospace Private Limited, BEL, Centum Electronics, Maxar India.
- This bold and visionary move unleashed reforms across industries and the Indian space industry moved on with a strong ‘Make in India’ element. The large Indian talent pool, growing prowess of home grown

technology, start-ups and private enterprises together took a giant leap in the space arena. This built a formidable home grown foundation for the next phase of growth, as was reflected in the launch of the lowest cost mission to the Moon and Mars.

### **5.3 Indian Researchers discovers a galaxy hiding in our local Universe**

- Do you know that there are an estimated 100 billion galaxies in the universe or so and with the improved telescope technology in space, the number is likely to increase to about 200 billion! It is an inevitable fact that the deeper we look into the cosmos, the more galaxies we will discover. A study from 2016 estimates that the observable universe contains two trillion or two million million–galaxies. But the question is, what have we found so far and how our scientists are probing into the discovery of them?
- Recently, a team of researchers from the Indian Institute of Astrophysics, Bengaluru have discovered a faint but star-forming galaxy, around 136 million light-years away. The discovery was not easy, as this galaxy was hiding in front of a much brighter, bigger galaxy. The optical images indicate that the galaxy has a ‘ghost-like’ appearance, that shows hints of stars still forming within it.

#### **Unravelling the Mystery:**

- Indian Scientists along with international collaborators spotted the galaxy while studying a known interacting galaxy NGC6902A. The first hint of the hidden galaxy came when the color image of the southwest outer region of the galaxy NGC6902A in the shows diffuse blue emission. According to the official press release, this south-western region shows prominent star-forming regions in the Far Ultraviolet (FUV) image.
- It is worth highlighting that most of the FUV emission in galaxies is due to young stars of types O and B – the most massive stars, and also the most short-lived in the galaxies. But they emit FUV light for 100 million years which is comparatively long compared to the other star formation tracer. The excess FUV light led the researchers to probe into the peculiar feature in more detail to determine the cause of the interaction.

#### **About the ‘New-Found’ Galaxy:**

- The newfound galaxy is dubbed UVIT J2022, based on the fact that data from Ultra-Violet Imaging Telescope (UVIT) on AstroSat helped the researchers to discover the galaxy and determine its coordinates in the sky. In this study, the researchers also used Multi-Unit Spectroscopic Explorer (MUSE) instrument on the Very Large Telescope (VLT) in Chile and images from IRSF in South Africa and from Dark Energy Camera Legacy Survey (DECaLS).
- Previously, this newfound galaxy was mistaken to be a part of the interacting tail of NGC6902A. The researchers believe that the study holds the potential to raise the possibility that there could be similar

diffuse galaxies that have been wrongly interpreted as interacting galaxies due to their superposition with foreground or background galaxies.

- “The material that we see around us is known as baryonic matter. Cosmological studies suggest that baryonic matter should make 5% of the Universe’s mass. The rest of the mass should be contributed by unknown forms, such as dark matter and dark energy. We still do not have a clear understanding of the 5% of the baryonic content present in the Universe; we do not know where all the baryons are present. These faint galaxies can act as a link for understanding the origin of missing baryons in the universe, as they may contribute significantly to the baryonic mass in the universe,” the official press release stated.

#### **5.4 Genome editing technology Vs Genome modified technology**

- The central government has decided to introduce genome edited crops thereby clearly distinguishing it from genome modified crops.

##### **What is genome editing?**

- A decade ago, scientists in Germany and the US discovered a technique which allowed them to ‘cut’ DNA strands and edit genes. For agriculture scientists this process allowed them to bring about desired changes in the genome by using site directed nuclease (SDN) or sequence specific nuclease (SSN).

**Note: Nuclease is an enzyme which cleaves through nucleic acid — the building block of genetic material.**

- Advanced research has allowed scientists to develop the highly effective clustered regularly interspaced palindromic repeat (CRISPR) -associated proteins based systems. This system allows for targeted intervention at the genome sequence. This tool has opened up various possibilities in plant breeding. Using this tool, agricultural scientists can now edit genome to insert specific traits in the gene sequence. Depending on the nature of the edit that is carried out, the process is divided into three categories — SDN 1, SDN 2 and SDN 3.
- SDN1 introduces changes in the host genome’s DNA through small insertions/deletions without introduction of foreign genetic material. In the case of SDN 2, the edit involves using a small DNA template to generate specific changes. Both these processes do not involve alien genetic material and the end result is indistinguishable from conventionally bred crop varieties. On the other hand, SDN3 process involves larger DNA elements or full length genes of foreign origin which makes it similar to Genetically modified organisms (GMO) development.

##### **Genetically Modified Technology:**

- (GMO) involves modification of the genetic material of the host by introduction of a foreign genetic material. In the case of agriculture, soil bacteria is the best mining source for such genes which are then

inserted into the host genome using genetic engineering. For example, in case of cotton, introduction of genes cry1Ac and cry2Ab mined from the soil bacterium *Bacillus Thuringiensis* (BT) allow the native cotton plant to generate endotoxins to fight pink bollworm naturally. BT Cotton uses this advantage to help farmers naturally fight pink bollworm which is the most common pest for cotton farmers.

- The basic difference between genome editing and genetic engineering is that while the former does not involve the introduction of foreign genetic material, the latter does. In the case of agriculture, both the techniques aim to generate variants which are better yielding and more resistant to biotic and abiotic stress. Before the advent of genetic engineering, such variety improvement was done through selective breeding which involved carefully crossing plants with specific traits to produce the desired trait in the offspring. Genetic engineering has not only made this work more accurate but has also allowed scientists to have greater control on trait development.

#### **What are the regulatory issues which have prevented wider adoption of this technique?**

- Across the world, GM crop has been a topic of debate, with many environmentalists opposing it on the grounds of bio safety and incomplete data. In India, the introduction of GM crops is a laborious process which involves multiple levels of checks. The Genetic Engineering Appraisal Committee (GEAC), a high power committee under the Ministry of Environment, Forest and Climate Change, is the regulator for introduction of any GM material and in case of agriculture multiple field trials, data about biosafety and other information is necessary for getting the nod before commercial release of any GM crop. Till date the only crop which has crossed the regulatory red tape is Bt cotton.
- Scientists both in India and across the world have been quick to draw the line between GM crops and genome edited crops. The latter, they have pointed out, has no foreign genetic material in them which makes them indistinguishable from traditional hybrids. Globally, European Union countries have bracketed genome edited crops with GM crops. Countries like Argentina, Israel, US, Canada, etc. have liberal regulations for genome edited crops.
- Last year, a group of eminent agricultural scientists had written to Prime Minister Narendra Modi voicing their concern about what they said was a move to put the issue of genome edited crops to the back burner. Back then, the central government had invited suggestions and objections from states and Union Territories about the issue and put on hold field trials of such crops. The signatories, many of whom were Padma awardees, had categorically said that the variants developed through SDN1 and SDN2 techniques do not have any alien DNA and as such can be treated as other hybrids.

#### **What has the government decided?**

- On April 1 2022, the Environment Ministry put a lid to the topic by issuing fresh guidelines. The notification has exempted SDN 1 and SDN 2 genome from the same and instead it would rely on reports of Institutional Biosafety Committee to exclude exogenous genetic material.

- The institutional biosafety committees are expert committees constituted under the Act to deal with research and release of GM material. Such committees would now be entrusted to certify that the genome edited crop is devoid of any foreign DNA this would be a less cumbersome and time consuming process for commercial release of genome edited crops.

### **5.5 Alopecia Areata**

- An ugly event took place during the recent Oscar awards ceremony, Oscar nominee Will Smith slapped Chris Rock for joking on his (Smith's) wife's baldness. Her baldness is a manifestation of an autoimmune condition called Alopecia Areata.

#### **What is alopecia?**

- In simple terms, Alopecia Areata is classified as a common autoimmune condition that results in unpredictable hair loss. It is regarded as a common condition among many, and individuals with the disorder might often experience that hair falls out in small patches and in some cases it is extreme and rapid hair loss in patches. Experts also state that some individuals might see complete hair loss on the scalp while in some extreme cases hair fall is seen throughout the body.
- Alopecia Areata can affect people from different any gender, age, etc. However, it is stated that it usually happens before the age of 30. One in five people who are suffering from Alopecia usually have a family member, too, who has the disorder.

#### **What is the treatment for alopecia?**

- In terms of treatment, there is no cure for Alopecia Areata so far. However, doctors do suggest a few alternative solutions for hair re-growth. Multiple reports state that the most commonly suggested treatment for the condition is the usage of corticosteroids, which is an anti-inflammatory drug that is known to suppress the affected individual's immune system. Even though doctors prescribe medications for hair re-growth, the individual will continue to see random patches of hair loss.

#### **Mental health and alopecia**

- Alopecia Areata is not a contagious condition and nor does it directly make people sick through the condition. However, more than the physical health, it is the mental health that gets affected.
- People with Alopecia Areata need to accept the fact that they will have rapid hair loss and can even go bald.

### **5.6 Para Special Forces to add an indigenously upgraded AK-47 to its arsenal**

- The call for Atma nirbhar Bharat has taken a whole new dimension in recent years. Several sectors like Healthcare, Defence, Sports, manufacturing, etc. are encouraging Atma nirbhar Bharat. On similar lines, the Para Special Forces will soon add the indigenously upgraded AK-47 to its arsenal.

- Bengaluru based SSS Defence recently won a contract for the up-gradation of the AK 47 rifles for the Indian Army's Para Special Forces unit. The company has completed the delivery of its Proprietary upgrade kits. The initial order was very small; however, the company is expected to get a larger contract to upgrade a large number of Kalashnikov rifles in service.
- The deal is a key turning point for the Indian company SSS Defence, as it is for the first time the incumbent Israeli supplier – FAB Defence has been replaced by the SSS Defence.
- The Indian defence ecosystem has provided a sustainable platform for the success of the home grown tech, ushering more start-ups and establishing OEMs (Original Equipment Manufacturers) to venture. Since India continues to rank among the largest importers of infantry systems.

### **Info about the upgraded AK-47 assault rifles**

- Israeli FAB Defense Company and SSS Defence were in the race for the deal. The new upgrade of the AK-47 assault rifles has been done using SOPMOD (Special Operations Peculiar Modification) package from the house of SSS Defence.
- According to the available data, the AK-47 upgrade includes a new gas tube, quad rail fore-end, a rugged dust cover and a flash suppressor. The flash suppressor allows an optic to be mounted along the full-length rail with an under-barrel grenade launcher (UBGL) on the bottom rail. The upgrade includes a new tactical butt stock. In the new upgrade, there is no need for an external locking mechanism.
- The company has said that the package recoils significantly, and it also helps in reducing 'pull up to the right' traditional to the AK system. According to the available data, the Special Forces of the Indian Army use a mix of frontline assault weapons — M4A1s, TAR-21s and other rifles.

### **5.7 India & Finland to set up virtual Centre of Excellence (CoE) in quantum computing**

- Quantum Computing- a rapidly-emerging technology has reshaped human understanding. It harnesses the laws of quantum mechanics to solve problems that are too complex for the classical computers of today's generation.
- India has also acknowledged the power of Quantum Computing. As a result, the Quantum Computing ecosystem has grown fast under the current regime. The Government of India declared quantum tech a "mission of national importance" in 2019. With National Supercomputing Mission (NSM) in place, the nation is on the path of establishing quantum supremacy on the world stage.
- On Similar lines, recently India & Finland discussed possible areas of cooperation in quantum computing for the virtual Centre of Excellence (CoE). During the discussion, delegates from India and Finland discussed a roadmap for the collaborative virtual Centre of Excellence (CoE) that has been planned to be set up.

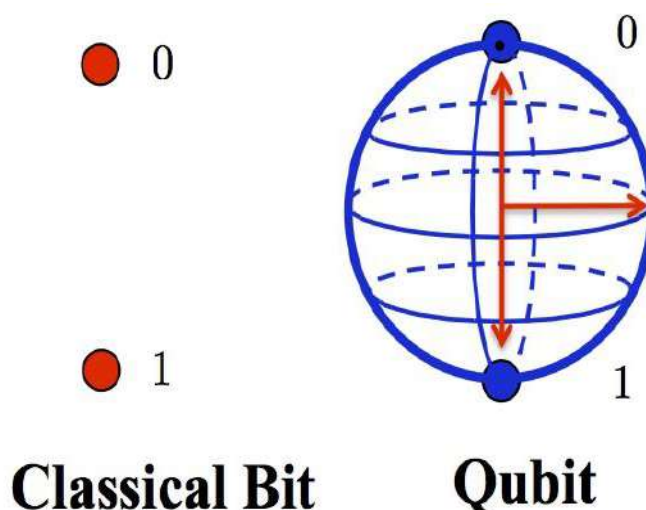


- During the meeting, Secretary Department of Science and Technology (DST), Dr S Chandrasekhar said that “The two countries are trying to get academic and industrial partners which can help develop quantum science and technology for the betterment of humankind in particular and the planet in general. We are committed towards global excellence in this field to achieve the best possible technologies in the shortest possible time.”
- He also stressed the necessity to chalk out the strengths and weaknesses of both countries in this area and to work together towards a plan to overcome the weaknesses by establishing a core group that will drive the initiative.
- On the other hand, Petri Peltonen, Under-Secretary of State, Ministry of Economic Affairs and Employment, Finland, underlined the need to join the best of Finland with the best of India, use the scientific ecosystems, and the strong IT communities of both the countries and strengthen them in a way that can facilitate spin-offs.

### **NSM: Strengthening Super Computing in India**

- The mission was set up to provide the country with supercomputing infrastructure to meet the increased computational demands of academia, researchers, MSMEs, and start-ups by creating the capability to design and manufacture supercomputers indigenously in India.
- The mission is a first of its kind attempt to boost the country’s computing power, the National Super Computing Mission is steered jointly by the Ministry of Electronics and IT (MeitY) and the Department of Science and Technology (DST) and implemented by the Centre for Development of Advanced Computing (C-DAC), Pune and the Indian Institute of Science (IISc), Bengaluru.

### **Understanding Quantum Computers**



- Harnessing the phenomena of quantum mechanics, Quantum computing is a leap forward to solve complex problems that today's most powerful computers cannot solve and will not be able to solve in future. It would not be wrong to say that for some complex problems, supercomputers aren't that super.

**Why are Quantum Computers considered fast?**

- To represent complex and large problems, Quantum computers are able to create vast multidimensional spaces which classical supercomputers are unable to do. Put simply, Algorithms that employ quantum wave interference are used to find solutions in this vast multidimensional space and translate them back into forms that are understandable by the scientists which allow them to tackle and solve problems. Quantum computing depends on bits that have properties of quantum physics which are known as qubits.
- Traditional computing bits are either "0" or "1," but qubits can be in both states simultaneously, which is a quantum property represented as superposition. These machines are very different from the classical computers that have been around for more than half a century.



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