

INTERNATIONAL RELATION**Lithuania Quits China's 17+1**

Recently, Lithuania quit China's 17+1 cooperation forum with central and eastern Europe, by calling it "divisive", now it is 16+1. Lithuania (Baltic Country) urged other EU (European Union) members to pursue "a much more effective 27+1 approach and communication with China."

Key Points**About 17+1:**

- **Formation:**The 17+1 (China and Central and Eastern Europe Countries) initiative is a China-led format founded in 2012 in Budapest with an aim to expand cooperation between Beijing and the CEE (Central and Eastern Europe) member countries, with investments and trade for the development of the CEE region.
- **Member Countries:**The initiative includes twelve EU member states and five Balkan states — Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Greece, Hungary, Latvia, Lithuania, Macedonia, Montenegro, Poland, Romania, Serbia, Slovakia and Slovenia.
- **Aim and Objectives:**The framework focuses on infrastructure projects such as bridges, motorways, railway lines and modernisation of ports in the member states. The platform is largely seen as an extension of China's flagship Belt and Road initiative (BRI). India has consistently opposed BRI as a key part of it passes through Pakistan-occupied Kashmir (PoK).

Background of Declining Relations:

- **China's Narrative towards 17+1 Initiative:**China's narrative towards the 17+1 initiative is about improving its relations with the European countries that are less developed as compared to the Western European states. Trade relations between China and the CEE countries remained modest, leading to an increasing trade deficit since its inception.
- **Growing Distance:**Czech Republic President's decision to skip the ninth summit of the 17+1 initiative citing lack of actual investments, had showcased the differences between Beijing and Prague.
- Some CEE countries refused to attend the BRI event in 2020.
- **The Huawei Equation:**Some CEE countries signed a declaration with the US to ban China's 5G network expansion.

INDIAN ECONOMY**FDI Inflow Touches \$82 Bn in FY21**

In 2019-20, India had received \$74.39 billion in FDI, with almost \$50 billion coming in the form of equity investments. In the Financial Year 2020-21, India sees growth of 10% (to \$82 bn) in Foreign Direct Investment (FDI). FDI equity investments rise 19% to \$60 billion.

Key Points

Top Investors:Singapore emerged as the top investor with almost a third of all investments, followed by the US which accounted for 23% of FDI and Mauritius from where 9% of the foreign capital flows originated.

Sharpest Growth from Saudi Arabia:The sharpest growth among the top 10 FDI-origin countries was recorded from Saudi Arabia. Investments jumped from \$90 million in 2019-20 to \$2.8 billion in 2020-21.

FDI Equity:FDI equity flows from the US more than doubled during the year compared with 2019-20, while investments from the UK surged 44%.

Top FDI Destinations:Gujarat was the top FDI destination in 2020-21, accounting for 37% of the foreign equity inflows, followed by Maharashtra (2nd) which got 27% of the equity inflows. Karnataka (3rd) accounted for another 13% of the equity investments.

Top Sectors: Computer software and hardware has emerged as the top sector during 2020-21 with about 44% share of the total FDI equity inflow. These are followed by construction (infrastructure) activities (13%) and services sector (8%), respectively.

Foreign Direct Investment

- **Definition:**

1. FDI is the process whereby residents of one country (the home country) acquire ownership of assets for the purpose of controlling the production, distribution and other activities of a firm in another country (the host country).
2. It is different from Foreign Portfolio Investment where the foreign entity merely buys stocks and bonds of a company. FPI does not provide the investor with control over the business.

- **Three Components:**

1. Equity capital is the foreign direct investor's purchase of shares of an enterprise in a country other than its own.
2. Reinvested earnings comprise the direct investors' share of earnings not distributed as dividends by affiliates, or earnings not remitted to the direct investor. Such retained profits by affiliates are reinvested.
3. Intra-company loans or intra-company debt transactions refer to short- or long-term borrowing and lending of funds between direct investors (or enterprises) and affiliate enterprises.

- **Routes through which India gets FDI:**

1. Automatic Route: In this, the foreign entity does not require the prior approval of the government or the RBI.
2. Government Route: In this, the foreign entity has to take the approval of the government.
3. The Foreign Investment Facilitation Portal (FIFP) facilitates the single window clearance of applications which are through approval route.
4. It is administered by the Department of Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce and Industry.

- **Government Measures to Promote FDI:**

1. In 2020, factors such as a swift response in combating the Covid crisis, favourable demographics, impressive mobile and internet penetration, massive consumption and technology uptake, played an important role in attracting the investments.
2. Launch of Schemes attracting investments, such as, National technical Textile Mission, Production Linked Incentive Scheme, Pradhan Mantri Kisan SAMPADA Yojana, etc.
3. The government has elaborated upon the initiatives under the Atmanirbhar Bharat to encourage investments in different sectors.
4. As a part of its Make in India initiative to promote domestic manufacturing, India deregulated FDI rules for several sectors over the last few years.

SCIENCE AND TECHNOLOGY

Havana Syndrome

Recently, two US officials have shown symptoms of a mystery illness that is linked to Havana Syndrome. In 2020, a report by the National Academies of Sciences (NAS), US found directed microwave radiation to be the plausible cause of the Havana syndrome.

Key Points

About:

- In late 2016, a few diplomats from the USA and their employees had reported certain usual symptoms during their stay in Havana, Cuba.
- They experienced some odd physical sensations and heard peculiar sounds, after which they started feeling sick.
- The US had even accused Cuba of carrying out sonic attacks. But Cuba denied the accusations of the sonic attacks and refused awareness of any such illness or syndrome.

- Ever since many bodies and institutions have been researching the cause of the Havana syndrome and many plausible factors have been discovered till date.
- The symptoms of the syndrome include Nausea, Severe headaches, Fatigue, Dizziness, Sleep problems, Hearing loss.
- A few of those who had been affected more faced chronic issues like vestibular processing and cognitive problems.

Microwave Weapons:

- **Direct Energy Weapon (DEW):**

1. They are a type of direct energy weapons, which aim highly focused energy in the form of sonic, laser, or microwaves, at a target.
2. They release electromagnetic radiations which cause sensations in the human body.
3. Electromagnetic radiation heating the water in the human body makes a person feel dizziness and nausea.

- **Countries with Microwave Weapons:**

1. A number of countries are thought to have developed these weapons to target both humans and electronic systems.
2. China had first put on display its microwave weapon, called Poly WB-1, at an air show in 2014.
3. The US has also developed a prototype microwave-style weapon, which it calls the “Active Denial System”, which is the first non-lethal, directed-energy, counter-personnel system with an extended range greater than currently fielded non-lethal weapons.

- **India’s Plans for Directed Energy Weapons:**

1. Recently, the Defence Research and Development Organisation (DRDO) has announced its plans to develop (DEWs) using high-energy lasers and microwaves.
2. Development of DEWs is seen as particularly important in the context of India’s worsening security environment, especially its ties with China.

- **Concerns:**

1. These weapons are a cause of concern as they can affect both machines and human beings.
2. They can cause long-term damages without leaving a single mark on the human body.

BIODIVERSITY AND ENVIRONMENT

Conference of Parties (COP 28)

Recently, the United Arab Emirates announced an offer to host the 28th session of Conference of Parties (COP 28) to the UNFCCC in Abu Dhabi in 2023. COP 26 was postponed in 2020 and will take place in Glasgow, UK in November 2021.

Key Points

About UNFCCC:

- The United Nations Framework Convention on Climate Change (UNFCCC), signed in 1992 at the United Nations Conference on Environment and Development also known as the Earth Summit, the Rio Summit or the Rio Conference.
- India is among the select few countries to have hosted the COP of all three Rio conventions on climate change (UNFCCC), biodiversity (Convention on Biological Diversity) and land (United Nations Convention to Combat Desertification).
- The UNFCCC entered into force on 21st March 1994, and has been ratified by 197 countries.
- It is the parent treaty of the 2015 Paris Agreement. It is also the parent treaty of the 1997 Kyoto Protocol.
- The UNFCCC secretariat (UN Climate Change) is the United Nations entity tasked with supporting the global response to the threat of climate change. It is located in Bonn, Germany.

Objective: To achieve stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous repercussions within a time frame so as to allow ecosystems to adapt naturally and enable sustainable development.

The Conference of the Parties (COP):

- COP is the apex decision-making authority of UNFCCC.
- The COP meets every year, unless the Parties decide otherwise. The first COP meeting was held in Berlin, Germany in March, 1995.
- The COP meets in Bonn, the seat of the secretariat, unless a Party offers to host the session.
- The office of the COP President normally rotates among the five United Nations regional groups which are - Africa, Asia, Latin America and the Caribbean, Central and Eastern Europe and Western Europe and Others.
- The President is usually the environment minister of his or her home country. S/he is elected by acclamation immediately after the opening of a COP session.

COP's with Significant Outcomes

1. **1995: COP1 (Berlin, Germany)**
2. **1997: COP 3 (Kyoto Protocol):** It legally binds developed countries to emission reduction targets.
3. **2002: COP 8 (New Delhi, India) Delhi Declaration.** : Focuses on the development needs of the poorest countries and the need for technology transfer for mitigating climate change.
4. **2007: COP13 (Bali, Indonesia):** Parties agreed on the Bali Road Map and Bali action plan, which charted the way towards a post-2012 outcome. The Plan has five main categories: shared vision, mitigation, adaptation, technology and financing.
5. **2010: COP 16 (Cancun):** Resulted in the Cancun Agreements, a comprehensive package by governments to assist developing nations in dealing with climate change. The Green Climate Fund, the Technology Mechanism and the Cancun Adaptation Framework were established.
6. **2011: COP 17 (Durban)** Governments commit to a new universal climate change agreement by 2015 for the period beyond 2020 (Resulted in the Paris Agreement of 2015).
7. **2015: COP21 (Paris) :** To keep global temperature well below 2.0C above pre-industrial times and endeavor them to limit them even more to 1.5C. It requires rich nations to maintain USD 100bn a year funding pledge beyond the year 2020.
8. **2016: COP22 (Marrakech) :** To move forward on writing the rule book of the Paris Agreement. Launched the Marrakech Partnership for Climate Action.
9. **2017: COP23, Bonn (Germany)** Countries continued to negotiate the finer details of how the agreement will work from 2020 onwards. First set of negotiations since the US, under the presidency of Donald Trump, announced its intention earlier this year to withdraw from the Paris deal. It was the first COP to be hosted by a small-island developing state with Fiji taking up the presidency, even though it was being held in Bonn.
10. **2018: COP 24, Katowice (Poland) :** It finalized a "rulebook" to operationalise the 2015 Paris Agreement. The rulebook covers climate financing facilities and the actions to be taken as per Nationally Determined Contributions (NDC).
11. **2019: COP25, Madrid (Spain) :** It was held in Madrid (Spain). There were no concrete plans regarding the growing climatic urgency.

2. Protected Planet Report 2020

The report, titled Protected Planet Report 2020, underlined the progress the world has made toward the ambitious goals agreed by countries in 2010 at the United Nations Convention on Biological Diversity.

Key Points**About the Protected Planet Reports:**

- The reports are released by the United Nations Environment Programme (UNEP) World Conservation Monitoring Centre (UNEP-WCMC) and the International Union for the Conservation of Nature (IUCN) with support from the National Geographic Society, a global non-profit.
- These are biennial landmark publications that assess the state of protected and conserved areas around the world.

- The report is the first in the series to include data on Other Effective Area-based Conservation Measures (OECM) in addition to protected areas.
- OECM are a conservation designation for areas that are achieving the effective in-situ conservation of biodiversity outside of protected areas.
- The 2020 edition provides the final report on the status of Aichi Biodiversity Target 11, and looks to the future as the world prepares to adopt a new post-2020 global biodiversity framework.
- Aichi Biodiversity Target 11 aimed to conserve 17% of land and inland water ecosystems and 10% of its coastal waters and oceans by 2020.

Findings of the Report:

- **Increase in Protected Area:**

1. As many as 82% of countries and territories have increased their share of protected area and coverage of Other Effective Area-based Conservation Measures (OECM) since 2010.
2. Protected areas covering almost 21 million km² have been added to the global network.

- **Increase in OECMs:**

1. Since OECMs were first recorded in 2019, these areas have added a further 1.6 million km² to the global network.
2. Despite being limited to only five countries and territories, the available data on OECMs show that they make a significant contribution to coverage and connectivity.
3. Of the area now covered by protected areas and OECMs, 42% was added in the past decade.

- **Key Biodiversity Areas (KBAs):**

1. KBAs are sites that contribute significantly to the global persistence of biodiversity, in terrestrial, freshwater and marine ecosystems.
2. On an average, 62.6% of KBA either fully or partially overlap with protected areas and OECMs.
3. The average percentage of each KBA within protected areas and OECMs is 43.2% for terrestrial; 42.2% for inland water and 44.2% for marine (within national waters).
4. There was an increase of 5 percentage points or less in each case since 2010, the greatest growth in marine and coastal areas.

Challenges:

- Management effectiveness assessments have been conducted across only 18.29% of the area covered by protected areas, and it is likely that many do not meet the standards for full effectiveness.
- Integrating protected areas and OECMs across landscapes and seascapes, and in development sectors, remains a crucial challenge for ensuring the persistence of biodiversity. Measurable targets for integrated land-use and marine spatial planning are needed to facilitate progress.
- Governance is a key contributor to effective conservation. Both protected areas and OECMs can have a variety of governance regimes: government, private, governance by indigenous peoples and local communities, or any combination of these. Data are still poor on governance diversity and quality for protected areas and OECMs. New guidance and better reporting can provide new opportunities to better recognise and support the conservation efforts of diverse groups, including indigenous peoples, local communities, and private actors.

Protected Area in India

- Protected areas are regions or zones of land or sea which are given certain levels of protection for conservation of biodiversity and socio-environmental values. In these areas, human intervention and exploitation of resources is limited.
- India has a network of 903 Protected Areas covering about 5% of its total geographic area.
- India has the following kinds of protected areas, in the sense of the word designated by IUCN: National Parks, Wildlife sanctuaries, Biosphere reserves, Reserved and protected forests, Conservation reserves and community reserves, Private protected areas.

Way Forward

- Greater application of the global standard for effectiveness, the IUCN Green List of Protected and Conserved Areas, will help to address weaknesses.
- Increasing recognition of the role that protected and conserved areas can play as nature-based solutions to climate change and other global challenges, and their contribution to realising multiple Sustainable Development Goals, provides a strong justification for investing in more effective national and global networks.
- The further identification and recognition of OECMs is likely to contribute significantly to improved performance on all criteria, including connectivity, ecological representation, governance diversity and coverage (including areas important for biodiversity and ecosystem services).
- A global network of effective and equitable protected and conserved areas will play a vital role in safeguarding the health of people and the planet for generations to come.

IMPORTANT FACTS FOR PRELIM

Semiconductor Chips Shortage in Vehicle Manufacturing

Recently, an unusual shortage of inputs, especially semiconductor chips, has made India-based vehicle manufactures (car manufactures and premium bikes) curtail production across categories.

Key Points

Semiconductor Chips:

- Semiconductors are materials which have a conductivity between conductors (generally metals) and nonconductors or insulators (such as most ceramics). Semiconductors can be pure elements, such as silicon or germanium, or compounds such as gallium arsenide or cadmium selenide.
- Conductivity is the measure of the ease at which an electric charge or heat can pass through a material.
- A semiconductor chip is an electric circuit with many components such as transistors and wiring formed on a semiconductor wafer. An electronic device comprising numerous of these components is called Integrated Circuit (IC), and can be found in electronic devices such as computers, smartphones, appliances, gaming hardware and medical equipment.
- These devices find widespread use in almost all industries, especially in the automobile industry.
- Electronic parts and components today account for 40% of the cost of a new internal combustion engine car, up from less than 20% two decades ago.
- Semiconductor Chips account for a bulk of this increase.

Reason for Shortage:

- **Covid and Lockdowns:** The Covid-19 pandemic and the subsequent lockdowns across the world that forced shut crucial chip-making facilities in countries including Japan, South Korea, China and the US. Its shortage causes cascading effects, given that the first one creates pent-up demand that becomes the cause for the follow-up famine.
- **Increased Consumption:** The number of transistors mounted in IC chips has doubled every two years. Notably, the increase in chip consumption over the last decade is also partly attributable to the rising contribution of electronic components in a car's bill of materials.

Impact:

- **Reduced Supply:** Consumers of semiconductor chips, which are mainly car manufacturers and consumer electronics manufactures, have not been receiving enough of this crucial input to continue production. Chip shortage is measured in chip lead time, which is the gap between when a chip is ordered and when it is delivered.

- **Reduced Production of Automobiles:**With just-in-time deliveries, carmakers typically kept low inventory holdings and relied on an electronics industry supply chain to feed production lines as per demand.
- **Delayed Supply and Reduced Features:**It has caused delaying vehicle deliveries, some companies have reportedly started discarding features and high-end electronic capabilities on a temporary basis to deal with the chip shortage.

Way Forward

The present slump in the automobile industry seems to be a temporary phase. Vaccination drive and economic recovery will provide a much needed trigger. However, at least for some time, there is a need to reduce Goods and Services Tax (GST) on entry level cars and that on the two wheelers. The state governments also need to reduce the road tax.

DAILY ANSWER WRITING PRACTICE

Qns. Discussing the impacts of Micro Climatic zones shifting in India, suggest measures required to mitigate its impact. (250 words)

Ans:

Introduction

- The microclimates of a region are defined by the moisture, temperature, and winds of the atmosphere near the ground, the vegetation, soil, and the latitude, elevation, and season. Weather is also influenced by microclimatic conditions
- Microclimatic zones are shifting across various districts of India. A shift in microclimate zones may lead to severe disruptions across sectors. For example: every 2 degrees Celsius rise in annual mean temperature will reduce agricultural productivity by 15-20%.
- Some reasons identified behind this shift in microclimatic zones is change in land-use patterns, deforestation, encroachments upon mangroves, disappearing wetlands and natural ecosystems by encroachment, and urban heat islands that trap heat locally.

Body

Impact of Micro Climatic zones shifting

- **Increase in frequency, intensity, and unpredictability of extreme events:** While India witnessed 250 extreme climate events in 35 years between 1970 and 2005, it recorded 310 such weather events in only 15 years since then. With an unusual spike in extreme events since 2005, these districts are bearing the effects of changing microclimate with loss of property, livelihoods and lives.
- **Loss of lives and property:** Extreme weather events resulting from climate change led to 4,95,000 human deaths across the world in 1999-2018. More than 12,000 extreme weather events led to losses worth USD 3.54 trillion (measured in terms of purchasing power parity or PPP) during this period. The current trend of catastrophic climate events results from a mere 0.6 degrees Celsius temperature rise in the last 100 years.

Measures to mitigate impacts of Micro Climatic zones shifting

- Develop a Climate Risk Atlas to map critical vulnerabilities such as coasts, urban heat stress, water stress, and biodiversity collapse.
- Develop an Integrated Emergency Surveillance System to facilitate a systematic and sustained response to emergencies.
- Building Sustainable and Environmentally-friendly Cities.
- Legislating laws that plan and provide environmentally sound cities and smart growth.

- Mainstream risk assessment at all levels, including localised, regional, sectoral, cross-sectoral, macro and micro-climatic level.
- Enhance adaptive and resilience capacity to climate-proof lives, livelihoods and investments.
- Increase the participatory engagement of all stakeholders in the risk assessment process.
- Integrate risk assessment into local, sub-national, and national level plans.

Conclusion

According to the Council on Energy, Environment and Water (CEEW), India is already the 5th most vulnerable country globally in terms of extreme climate events, and it is all set to become the world's flood capital. Thus, India needs to take immediate steps taking cognisance of the report "Preparing India for Extreme Climate Events" released by CEEW, so that India is well equipped and prepared to mitigate the vulnerabilities from Micro Climatic zones shifting.

DAILY QUIZ

Q1. Consider the following statements with reference to social stock exchange (SSE) in India.

1. The Economic Survey 2021 highlighted the concept of setting up a social stock exchange (SSE) in India.
2. The aim of the initiative is to help social and voluntary organisations which work for social causes to raise capital as equity or debt or a unit of mutual fund.

Which of the given above statements is/are correct?

- a. 1 only
- b. 2 only
- c. **Both 1 and 2**
- d. Neither 1 nor 2

Q2. Consider the following statements about Lumpy Skin Disease:

1. It is a mosquito-borne viral infection.
2. In India it was first reported from Mysore, Karnataka in 2019.

Which of the given above statements is/are correct?

- a. **1 only**
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

Q3. Serial number 15 (SN15), a prototype of the futuristic Starship rocket developed by:

- a. Blue Origin Federation
- b. Boeing Company
- c. **SpaceX company**
- d. Lockheed Martin Corporation

Q4. Consider the following pairs:

Launch vehicles	developed/built by
1. Falcon Heavy	SpaceX
2. New Shepard	Virgin Galactic
3. Stardust 1.0	Blue Origin

Which of the above pairs is/are correctly matched?

- a. 1 and 3 only

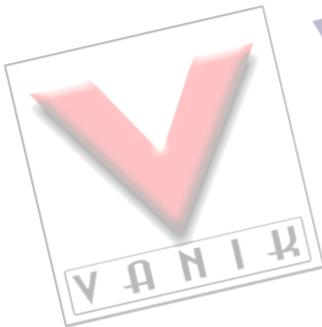
- b. **1 only**
- c. 1 and 2 only
- d. None of the above

Q5. Consider the following statements:

1. In India, Uranium deposits occur in the Dharwar rocks.
2. Currently, India imports Uranium fuel from Russia and Kazakhstan only.
3. Significant quantity of Uranium reserves were recently discovered in parts of Kerala and Tamil Nadu.

Which of the given above statements is/are correct?

- a. 1 and 2 only
- b. **1 only**
- c. 2 and 3 only
- d. 1 and 3 only



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