INDO-PACIFIC ECONOMIC FRAMEWORK FOR PROSPERITY (IPEF)

Recently, an Inter-Ministerial delegation from India led by the Department of Commerce participated in the second Indo-Pacific Economic Framework for Prosperity (IPEF) negotiating round in Bali, Indonesia from March 13-19, 2023.

About Indo-Pacific Economic Framework for Prosperity (IPEF):

- Indo-Pacific Economic Framework for Prosperity (IPEF) is an economic initiative launched by United States President Joe Biden on May 23, 2022.
- **IPEF has fourteen member states:** Australia, Brunei, Fiji, India, Indonesia, Japan, South Korea, Malaysia, New Zealand, Philippines, Singapore, Thailand, United States and Vietnam.
- During the Bali Round, discussions covered all **four pillars of the IPEF**: **Trade** (Pillar I); **Supply Chains** (Pillar II); **Clean Economy** (Pillar III); and **Fair Economy** (Taxation & Anticorruption) - (Pillar IV).
- India participated in the discussions related to Pillars II to IV.

SHARDA PEETH

Recently, Union Home Minister said that the government will move forward to open Sharda Peeth on the lines of the Kartarpur corridor.

About Sharda Peeth:

- Sharda Peeth is an abandoned Hindu temple and ancient centre of learning.
- **Location:**It is located in the village of Sharda in the valley of **Mount Harmukh,** along the **Neelam River** in the Pakistani-administered territory of Azad Kashmir. It lies 16 miles to the northwest of the Line of Control.

- **As a Centre of Learning:** Between the 6th and 12th centuries CE, it was one of the foremost centres of higher learning, hosting scholars such as **Kalhana, Adi Shankara, and Vairotsana.**
- It is also said to be where Paṇini and Hemachandra completed and stored their writings on Sanskrit grammar.
- **Religious significance:** Sharda is the most revered religious place for Kashmiri Pandits. They believe that Sharada in Kashmir is a tripartite embodiment of the goddess Shakti: Sharada (goddess of learning), Saraswati (goddess of knowledge), and Vagdevi (goddess of speech).
- It is one of the 18 Maha Shakti Peethas throughout South Asia that commemorate the location of fallen body parts of the Hindu deity Sati.

INTERNATIONAL LIQUID MIRROR TELESCOPE (ILMT)

Recently, the Union Minister of Science & Technology inaugurated Asia's largest 4-metre International Liquid Mirror Telescope at Devasthal in Uttarakhand.

About International Liquid Mirror Telescope:

- ILMT is the first liquid mirror telescope designed exclusively for **astronomical observations** and is the first optical survey telescope in India.
- It has a 4-meter-diameter rotating mirror made up of a thin layer of liquid mercury to collect and focus light.
- The **metal mercury is in liquid form at room temperature**, which is highly reflective and designed to survey the strip of the sky passing overhead each night.
- The **Devasthal observatory** is equipped with the largest aperture telescope available in India that will use Big Data and Artificial Intelligence/Machine Learning (AI/ML) algorithms to classify objects in the sky.
- The telescope has **three components**: A bowl containing a reflecting liquid mercury metal, an air bearing (or motor) on which the liquid mirror sits, and a drive system.
- The mercury is protected from the wind by a scientific grade thin transparent film of mylar.

- The reflected light passes through a sophisticated multi-lens optical corrector that produces sharp images over a wide field of view and a 4k CCD camera, located above the mirror at the focus, records 22 arc-minute wide strips of the sky.
- The data collected from the ILMT, over an operational time of 5 years, will be ideally suited to perform a deep photometric and astrometric variability survey.
- Maintained by the **Aryabhata Research Institute of Observational Sciences (ARIES).**

KASHMIRI STAG ((HANGUL)

In a recent census conducted at Kashmir's Dachigam National Park, it was found that the population of Hangul or Kashmiri Stag has gradually increased over time at the national park.

About Kashmiri Stag:

- The Kashmir stag also called hangul is a subspecies of Central Asian red deer **endemic to Kashmir** and surrounding areas.
- It is found in dense riverine forests in the high valleys and mountains of Jammu and Kashmir and northern Himachal Pradesh.
- In Kashmir, it is found primarily in **the Dachigam National Park** where it receives protection.
- A small population has also been witnessed **in Overa-Aru Wildlife Sanctuary in south Kashmir.**
- **Conservation status**
  - **IUCN: Critically Endangered**
  - **CITES : Appendix I**

Key facts about the Dachigam National Park

- The actual beauty of the park lies in the **deep valleys, rocky outcrops**, steep wooded slopes and rolling alpine pastures.
- Being located in a mountainous area, Dachigam National Park faces a huge variation in altitude that ranges from 1600 m to 4200 m above sea level.

- This variation in altitude categorises Dachigam National Park into two regions- the upper region and the lower region.
- **Flora:** It is extremely rich in Wild Cherry, Pear, Plum, Peach, Apple, Apricot, Walnut, Chestnut, Oak, Willow, Poplar, Chinar, Birch, Pine and Elm.
- **Fauna:** Hangul (Kashmir Stag), **Musk deer**, Brown Bear, Leopards, Jungle Cats, Himalayan black bear, and a few species of wild goats like the **markhor and ibex.**

BHARAT 6G PROJECT: INDIA PLANS TO ROLL OUT HIGH-SPEED INTERNET BY 2030

Why in News?

- Recently, the Prime Minister of India has unveiled a vision document - **Bharat 6G Vision - for rollout of 6G/6th generation** communications technology in India **by 2030.**
- As part of its 6G mission, **India will identify priority areas for research** by involving all stakeholders, demonstrations and early market interventions through startups.

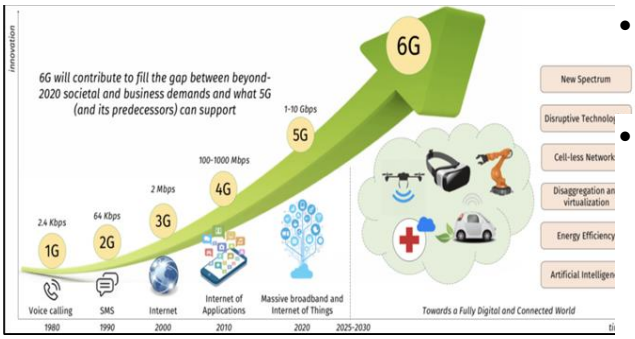
What is the Background in which Bharat 6G Vision was Launched?

- At present, **the total annual purchase of smartphones** is greater than 16 crore smartphones for about 30 crore Indian households.
- This means that every household today is buying smartphones at an average of **one phone every 2 years**, indicating that a typical Indian finds a personal smartphone as valuable and necessary as a personal vehicle.
- The PM of India formally launched 5G services in **October 2022** and said that India should be ready to launch 6G services in the next 10 years.

What is 6G?

- Technically, **not in existence today**, 6G has been conceived as a far superior technology than 5G.
- As opposed to 5G, which at its peak can offer internet speeds up to 10 gigabits per second, 6G promises to offer **ultra-low latency with speeds up to 1 terabit per second** (100 times faster than 5G).

- **Its application will include** remote-controlled factories, constantly communicating self-driven cars and smart wearables taking inputs directly from human senses.
- However, since the majority of 6G supporting communication devices will be battery-powered and can have a high carbon footprint, **it will also need to be balanced with sustainability.**



- **What is India's 6G Roadmap?**
- The Bharat 6G project will be implemented **in two phases** and the government has also appointed an **apex council to oversee the project and focus on issues** such as
  - Standardisation,
  - Identification of the spectrum for 6G usage,
  - Create an ecosystem for devices and systems, and
  - Figure out finances for research and development, etc.
- **In phase one (from 2023 to 2025)**, support will be provided to explorative ideas, risky pathways and proof-of-concept tests.
- Ideas and concepts that show promise and potential for acceptance by the global peer community will be adequately supported to develop them to completion, leading to commercialisation as part of **phase two (from 2025 to 2030).**
- **To fund research and innovation on 6G**, the document recommended the creation of a corpus of Rs 10,000 crore to facilitate various funding instruments such as grants, loans, VC fund, etc.
- **To decide on standardisation around 6G** and related technologies, the document called for India to take on a greater role in various international bodies such as 3GPP, ITU, IEC, and IEEE.

How are Other Countries Looking at the 6G Rollout?

- **South Korea** has outlined a 6G research and development plan with Rs 1200 crore worth of investments in the first phase running till 2025.

- **In Japan**, the Integrated Optical and Wireless Network (IOWN) Forum has published its Vision 2030 for 6G for infrastructure evolution in four dimensions: **cognitive capacity, responsiveness, scalability, and energy efficiency.**
- Key developments in 6G have also been identified and are being pursued in **China**, in order to support connectivity plus sensing plus AI.

SOLOMON ISLANDS

A state-backed Chinese company recently won a contract to develop a key port in the Solomon Islands.

Key Facts about Solomon Islands:

- **Location**:
  - It is an **island country** consisting of **six major islands** and over **900 smaller islands** in Oceania.
  - It is situated in the **southwest Pacific Ocean**, approximately 2,000 km to the **northeast of Australia.**
- **Capital**: Its capital, **Honiara**, is located on the **largest island, Guadalcanal.**
- The **terrain is mountainous and heavily forested**.
- **More than 90%** of the islanders **are ethnic Melanesians.**
- Once a British protectorate, the **Solomon Islands achieved independence** as a republic **in 1978.**
- **Language**:
  - There are **63 distinct languages** in the country, with numerous local dialects.
  - **English is the official language,** but **Pijin is the common language** for the majority of people.

WHAT IS THE IPCC SYNTHESIS REPORT AND WHAT DOES IT SAY?

Context

- The Intergovernmental Panel on Climate Change (IPCC) released its Synthesis Report for the Sixth Assessment Cycle recently in Interlaken, Switzerland.

- The report highlights the urgency of drastically reducing the emission of greenhouse gasses (GHGs) and to limit rising global temperatures by 1.5 C from pre-industrial levels, set by the Paris Agreement (2015).
- It also emphasised the need to **adapt to human-caused climate change** through "mainstream effective and equitable action" for a "liveable sustainable future for all."

The Intergovernmental Panel on Climate Change (IPCC)

- It is the United Nations body established by the World Meteorological Organization (**WMO**) and the United Nations Environment Programme (**UNEP**) in 1988.
- The main activity of the IPCC is **the preparation of reports assessing the state of knowledge of climate change** like assessment reports, special reports and methodology reports.
- The **assessment reports** are a **key input** into the international negotiations to **tackle climate change**.
- The IPCC does **not itself engage in scientific research**. Instead, its reports are based on all the relevant scientific literature related to climate change and draw up logical conclusions.

The IPCC Synthesis Report (SYR)

- It is a **compilation** of the main findings of the IPCC's Sixth Assessment Report, based on results from three Working Groups (WGs) as follows:
  - WG I evaluated the physical science basis of climate change
  - WG II evaluated the impacts, adaptation, and vulnerability
  - WG III evaluated the mitigation
- The SYR also drew from Special Reports based on **Global Warming of 1.5°C** (2018), **Climate Change and Land** (2019), and the **Ocean and Cryosphere in a Changing Climate** (2019).
- The SYR is presented in the wake of **major global upheavals** brought about by the COVID-19 pandemic, the Russian invasion of Ukraine and the subsequent global energy crisis.

What are the Implications of IPCC Synthesis Report for India?

- With the **rise in seawater level**, which the IPCC report documented as **7 mm per year** between 2006 and 2018, compared to the 1.9 mm per year between 1971 and 2006, India is facing a huge challenge with its long coastline.

What are the Recommendations in the SYR?

- **Deep systemic changes** across all economic sectors are needed to reduce emissions on a sustained basis. This could be done by shifting to **low-carbon economic systems**.
  - For instance, widespread **electrification, diversifying energy generation towards wind**, solar, and small-scale hydropower, battery-powered electric vehicles, and conserving and restoring forests while also reducing tropical deforestation.
- **Political commitment** and **equity** are key to enabling climate resilient development, that could be enabled by **technology development, transfer, capacity building and financing** to vulnerable nations.
  - It also stressed on the **need for financial resolution** for a more equitable world.
- An **accelerated financial support for developing countries** from developed countries as a critical enabler, with a greater focus needed on **public grant-based finance** to fight climate change.
  - **For example**, through central banks, government and financial regulators to scale up climate resilience, and protect low-income and marginalized communities.
- It also noted that **prompt action** to achieve **Paris Agreement** goals would **greatly reduce risks** to global population and **avoid irreversible damage** to coral reefs, Arctic ecosystems and forests.
  - It will also **reduce the rate of sea level rise**, allowing humans and ecosystems to adapt more easily, and avoid the complete melting of the Greenland and Antarctic ice sheets that would otherwise occur.
- The report thus suggested **climate resilient development** rooted in diverse values, world views, including indigenous knowledge to mitigate the effects of climate change.
  - The report also vitalized that the rise in average global temperature could be gradually reduced again **by achieving and sustaining net negative global CO2 emissions**.

CALL BEFORE U DIG (CBUD) APP

Recently, the Prime Minister of India during the inauguration of the new International Telecommunication Union (ITU) Area office and Innovation Centre launched the 'Call Before u Dig' (CBuD) app, to facilitate coordination between excavation agencies.

About Call Before u Dig (CBuD) app:

- **Aim:** To prevent damage to underlying assets like optical fibre cables that occurs because of uncoordinated digging and excavation, leading to losses of about Rs 3,000 crore every year.

How does the app work?

- The CBuD app will **connect excavators and asset owners through SMS/Email notifications** and click-to-call so that there are planned excavations in the country while ensuring the safety of underground assets.
- It aims to give excavating companies a point of contact, where they can inquire about existing subsurface utilities before starting excavation work.
- Utility owners can also find out about impending work at the location.
- It is an initiative of **the Department of Telecommunications, Ministry of Communications.**
- It will save potential business loss and minimise discomfort to the citizens due to reduced disruption in essential services like road, telecom, water, gas and electricity.