

### NUCLEAR-POWERED INS ARIHANT CARRIES OUT SUCCESSFUL LAUNCH OF SLBM

#### In News:

- India's Strategic Strike Nuclear Submarine INS Arihant carried out a successful launch of a Submarine Launched Ballistic Missile (SLBM).
- The missile was tested to a predetermined range and impacted the target area in the Bay of Bengal with very high accuracy.
- This trial was significant to prove crew competency and validate the SSBN (Ship Submersible Ballistic Nuclear Submarine) program.

#### INS Arihant

- INS Arihant, a 6,000-tonne submarine is the lead ship of India's Arihant class of nuclear-powered ballistic missile submarines built under the Advanced Technology Vessel (ATV) project.
  - Under the Rs 90,000 crore top secret ATV project, India is currently building three more SSBNs to follow INS Arihant.
  - The second such submarine, **INS Arighat**, is slated to become fully operational next year.
  - The vessel will be followed by two 7,000-tonne SSBNs under the ATV project.
  - There is also plan to build 13,500-tonne SSBNs with more powerful 190MW reactors.
- It is **India's first indigenous nuclear submarine** that has been inducted in the Indian Navy.
  - Launched in 2009, INS Arihant was commissioned in 2016.

#### Features

- **Power source**
  - It is propelled by an 83 MW pressurised light-water reactor at its core with enriched uranium fuel.
- **Builder**
  - Shipbuilding Centre (SBC), Visakhapatnam.

- Its design is based on the Russian Akula-1 class submarines and its 83MW pressurised water reactor has been built with significant Russian assistance.
- **SSBN:**
  - SSBN's are that class of submarines which can go deep beneath the ocean making them virtually undetectable for months, they also carry nuclear-tipped ballistic missiles.
- **Armament:**
  - It is capable of carrying ballistic missiles with nuclear warheads.
  - It is armed with the K-15 Sagarika missiles with a range of 750 km.
  - Later, it will also be armed with K-4 missiles, being developed by the DRDO, which are capable of striking targets at a distance of up to 3,500 km.
- These 'K' series of missiles are named after former President APJ Abdul Kalam.

## Significance

- **Nuclear triad**
  - With INS Arihant, India completed its 'nuclear triad'.
  - i.e., India can launch nuclear missile from all three key defence bastions — land, air and sea.
- **Stealth capability**
  - Due to satellites, other legs of our nuclear triad (missile sites and air-bases) remain exposed to enemy attack.
  - However, being a SSBN, it can stay deep inside the ocean making them virtually undetectable for months.
- **Part of Elite club**
  - INS Arihant places India in the league of select group of five Countries — US, Russia, France, UK and China — which can design, construct and operate Strategic Strike Nuclear Submarines.
- **Credible minimum deterrence:**
  - While India remains committed to the doctrine of Credible Minimum Deterrence and No First Use," the success of INS Arihant gives a fitting response to those who indulge in Nuclear Blackmail.
- **Maritime security**

- INS Arihant will strengthen India's position in the Indian Ocean region where it has to face challenges from Chinese submarines.
- **Boost of defence manufacturing**
- The Arihant is a live manifestation of Government's Make in India vision as it is India's first indigenously built nuclear submarine.

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## GLOBAL HUNGER INDEX IS OUT, INDIA IN 'SERIOUS' CATEGORY AT RANK 107

### **In News:**

- India ranks 107 out of 121 countries on the Global Hunger Index in which it fares worse than all countries in South Asia barring war-torn Afghanistan.

### **About Global Hunger Index (GHI):**

- Created in 2006, the GHI was initially published by the US-based **International Food Policy Research Institute (IFPRI)** and Germany-based **Welthungerhilfe**.
- In 2007, the Irish NGO **Concern Worldwide** also became a co-publisher.
- In 2018, IFPRI stepped aside from its involvement in the project and the GHI became a joint project of Welthungerhilfe and Concern Worldwide.

### **What does GHI indicate?**

- The global hunger index is a means of monitoring **whether countries are achieving hunger-related Sustainable Development Goals (SDGs)**. It can be used for international ranking.
- **Goal 2** of the SDGs aims to end hunger and all forms of malnutrition by 2030.
- It also commits to universal access to safe, nutritious and sufficient food at all times of the year.

### **How is GHI defined?**

- The GHI captures **three dimensions** of hunger –
  - Insufficient availability of food,
  - Shortfalls in the nutritional status of children and
  - Child mortality

- Accordingly, the **index includes the following four equally weighted indicators** –
- Countries are ranked on a **100-point scale**, with 0 and 100 being the best and worst possible scores, respectively.

### Consequences & Implications:

- Hunger is one of the world's major problems and, therefore, one of its most important challenges.
- Hunger and undernourishment form a vicious circle, which is often "passed on" from generation to generation.
- The children of impoverished parents are often born underweight and are less resistant to disease; they grow up under conditions that impair their intellectual capacity for their whole lives.
- **Factors that contribute to a high global hunger index have been identified as –**
  - Low income and poverty,
  - War and violent conflict,
  - General lack of freedom,
  - Low women's status, and
  - Poorly targeted and delivered health and nutrition programmes.

### News Summary:

- India ranks **107<sup>th</sup> out of 121 countries** on the Global Hunger Index 2022.
- India also ranks below Sri Lanka (64), Nepal (81), Bangladesh (84), and Pakistan (99).
- Afghanistan (109) is the only country in South Asia that performs worse than India on the index.

### Global Performance:

- Globally, progress against hunger has largely stagnated in recent years. The 2022 GHI score for the world is considered “**moderate**”.
- This is due to overlapping crises such as conflict, climate change, the economic fallout of the COVID-19 pandemic as well as the Ukraine war, which has increased global food, fuel, and fertiliser prices.

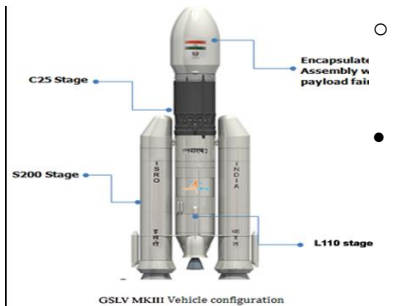
- It is expected to “worsen hunger in 2023 and beyond.”

## GSLV MKIII TO MAKE COMMERCIAL FORAY BY LAUNCHING 36 ONEWEB SATELLITES ON OCT 23

- The Indian Space Research Organization's (ISRO) heaviest rocket - the GSLV MKIII, will launch 36 satellites of the OneWeb communication constellation from the country's only space port in Sriharikota, Andhra Pradesh, soon.
- With this launch, the GSLV MKIII will enter the global commercial launch service market.

### Geosynchronous Satellite Launch Vehicle (GSLV):

- It is a space launch vehicle designed, developed and operated by the ISRO to launch satellites and other space objects into Geosynchronous Transfer Orbits (GTO).
  - A satellite in the GTO, orbits (at an altitude of ~37,000 km) the Earth once per day, keeping the satellite in roughly the same area over the ground.
- GSLV has the capability to put a heavier payload (up to 5,000 kg up to 37,000 km) in orbit than the Polar Satellite Launch Vehicle (PSLV can carry up to 2000 kg into space up to 600-900 km).
  - PSLV is designed mainly to deliver earth observation or remote sensing satellites, whereas GSLV has been designed for launching communication satellites.
  - GSLV delivers satellites into a higher elliptical orbit - GTO.
- **GSLV is a 3-stage launcher with strap-on motors.**
  - The first stage - uses the solid rocket motor with four liquid engine strap-on motors. This stage generates maximum thrust.
  - The second stage uses a liquid rocket engine which is known as Vikas engine.



- The third stage uses a **Cryogenic engine**, which uses liquefied oxygen and hydrogen as fuel.
- **GSLV-D5** - launched in 2014 - was the first successful flight of the GSLV using the indigenous cryogenic engine (CE-7.5).

### About GSLV MKIII:

- - GSLV MKIII Project was approved in 2002, with a mandate of achieving the capability to launch a 4-ton (4000 kg) class satellite to Geo-Synchronous orbit, by realizing an indigenously developed launch vehicle.
  - GSLV MKIII is configured as a 3-stage vehicle with two solid strap-on motors (S200, among the largest in the world), one liquid core stage and a high thrust Cryogenic Upper Stage (CUS).
  - **Characteristics of GSLV MKIII:**
    - Performance capability of 4.3 ton to GTO
    - Payload capability to support 10 ton to LEO missions
    - Cost effective
    - Improved reliability, operability and redundancy management
    - Future growth potential of payload with minimal design changes
    - To support manned missions (like Gaganyaan mission) of Indian Space Programme
  - The maiden operational flight of GSLV MKIII has successfully launched **Chandrayaan-2 spacecraft** into the Super Geo-Synchronous Transfer Orbit in 2019.
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## ECO-SENSITIVE ZONES

Supreme Court recently indicated it may consider taking up Kerala's review of the Supreme Court's judgment to have a one-km eco-sensitive zone ringing protected forests, national parks and wildlife sanctuaries.



### About:

#### What are Eco-Sensitive Zones?

- Land within 10 km of the boundaries of national parks and wildlife sanctuaries are to be notified as eco-fragile zones or Eco-Sensitive Zones (ESZ).



- While the 10-km rule is implemented as a general principle, the extent of its application can vary.
- Areas beyond 10-km can also be notified by the Union government as ESZs, if they hold larger ecologically important “sensitive corridors”.

### Why are Eco-Sensitive Zones created?

- They are created as “shock absorbers” for the protected areas, to minimize the negative impact on the “fragile ecosystems” by certain human activities taking place nearby.
- Furthermore, these areas are meant to act as a transition zone from areas requiring higher protection to those requiring lesser protection.

### Activities:

- **Activities prohibited** in an ESZ, such as commercial mining, saw mills, commercial use of wood, etc., apart from **regulated activities** like felling of trees.
- There are **permitted activities** like ongoing agricultural or horticultural practices, rainwater harvesting, organic farming, among others.

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## ELECTORAL BONDS

The Union government recently told the Supreme Court that the procedure for funding political parties under the Electoral Bond Scheme-2018 is “absolutely transparent”.



### About:

- The electoral bonds system was introduced in 2017 by way of a money bill introducing amendments in the Finance Act and the Representation of People Act.
- It was **implemented in 2018**.
- The electoral bonds are issued in multiples of Rs 1,000, Rs 10,000, Rs 1 lakh, Rs 10 lakh and Rs 1 crore.
- **State Bank of India** is the only bank authorised to sell electoral bonds.

- Buyers can donate the bonds to a party of their choice and the bonds have to be cashed by the party through its verified account within **15 days**.
- No payment shall be made to any political party if the electoral bond is deposited after expiry of the validity period of 15 days.
- Eligible political parties are allotted a verified account by the Election Commission of India (ECI) and the electoral bond transactions can be made only through this account.
- Buyers of the bonds have to submit full KYC details at the time of buying. However, the beneficiary political party is not required to reveal the identity of the entity that has given it the bonds.

### **Eligibility:**

- Electoral Bonds can be purchased by a person, who is a citizen of India or a company incorporated or established in India.
- Only political parties registered under section 29A of the Representation of the Peoples Act, 1951 are eligible to receive electoral bonds.
- Further, in order to be eligible the party must have secured at least one per cent of the votes polled in the most recent Lok Sabha or State elections.

### **Duration of availability:**

- The bonds are available for purchase for a period of 10 days each in the beginning of every quarter, i.e. in **January, April, July and October**, as specified by the Central Government.
- An additional period of 30 days shall be specified by the Central Government in the year of Lok Sabha elections.
- However, there have been some occasions when the government has deviated from the specified schedule for issuance of these bonds.

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### **WORLD STANDARDS DAY 2022**

**Bureau of Indian Standards, Mumbai recently organised a Conclave –“Manak Mahotsav” on occasion of World Standards Day based on the theme ‘Standards for Sustainable Development Goals - A Shared Vision for a Better World’.**





- World Standards Day is celebrated every year on October 14.
- This day, also known as International Standards Day, strives to educate consumers, policymakers, and businesses about the value of standardisation.

- The International Organization for Standardisation (ISO) was founded in 1947.

### **Bureau of Indian Standards (BIS):**

- BIS is the National Standard Body working under the Ministry of consumer affairs, food and public distribution, Government of India.
- It is established by the Bureau of Indian Standards Act, 2016 which came into effect on 12 October 2017.
- Objective is the harmonious development of the activities of standardization, product testing and quality certification of goods in the country.

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### **DIGITAL BANKING UNITS (DBU)**

**Prime Minister of India will dedicate 75 Digital Banking Units across 75 districts to the Nation on 16th October.**



#### **About:**

- As part of the Union budget speech for 2022-23, the Finance Minister had announced the setting up of the 75 DBUs in 75 districts of the country to commemorate the 75 years of independence of our country.
- 11 Public Sector Banks, 12 Private Sector Banks and one Small Finance Bank are participating in the endeavour.

#### **Digital Banking Unit**

- A digital banking unit is a specialised fixed point business unit or hub housing certain minimum digital infrastructure for delivering digital banking products and services as well as servicing existing financial products and services digitally in self-service mode at any time.



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- The objective is to ensure benefits of digital banking reach every nook and corner of the country and will cover all the States and Union territories.
  - DBUs will be brick and mortar outlets which will provide a variety of digital banking facilities to people such as opening of savings account, balance-check, print passbook, transfer of funds etc.
  - They will spread Digital Financial Literacy and special emphasis will be given to customer education on cyber security awareness and safeguards.
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