



Balalatha's

CSB IAS ACADEMY

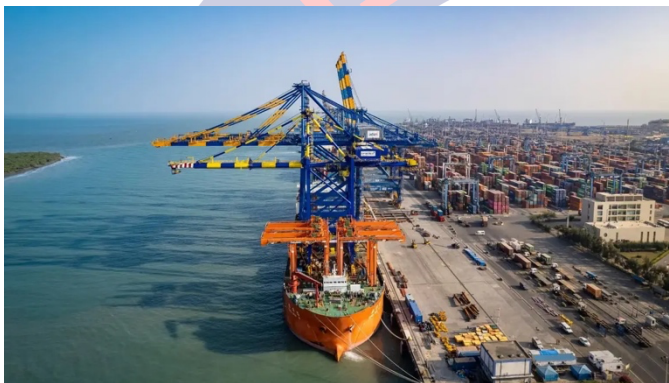
The Road Map to Mussoorie...



Prelims EDGE – 16/10/2024

VIZHINJAM INTERNATIONAL SEAPORT

Context: The first phase of the Vizhinjam International Seaport is set to commence in December 2024.



About Vizhinjam International Seaport:

- Located in **Vizhinjam**, near Thiruvananthapuram in Kerala.
- It is India's **first Deepwater Container Transshipment Port**.
- The port is currently being developed in **landlord model** with a **Public Private Partnership** component on a Design, Build, Finance, Operate and Transfer (DBFOT) basis.
 - Under **landlord model**, port authority acts as regulatory body and as landlord, while port operations (especially cargo handling) are carried out by private companies (Adani Vizhinjam Port Pvt Ltd in this case).
- The port boasts a natural depth of more than 18 meters, which can be further scaled up to 20 meters.
 - This depth is crucial as it enables the port to accommodate large vessels and mother ships with substantial cargo capacities.
- Initial capacity in the first phase is set at **one million** (twenty-foot equivalent units) TEUs, with potential for expansion to **6.2 million TEUs**.
- **Progress:** The first phase of Vizhinjam International Seaport will be commissioned by December 2024. Phases 2 and 3 are expected to be completed by 2028.



India has **12 major ports**. However, the country lacks a landside mega-port and terminal infrastructure to deal with ultra-large container ships.

Hence, nearly 75% of India's transshipment cargo is handled at ports outside India, mainly Colombo, Singapore, and Klang.

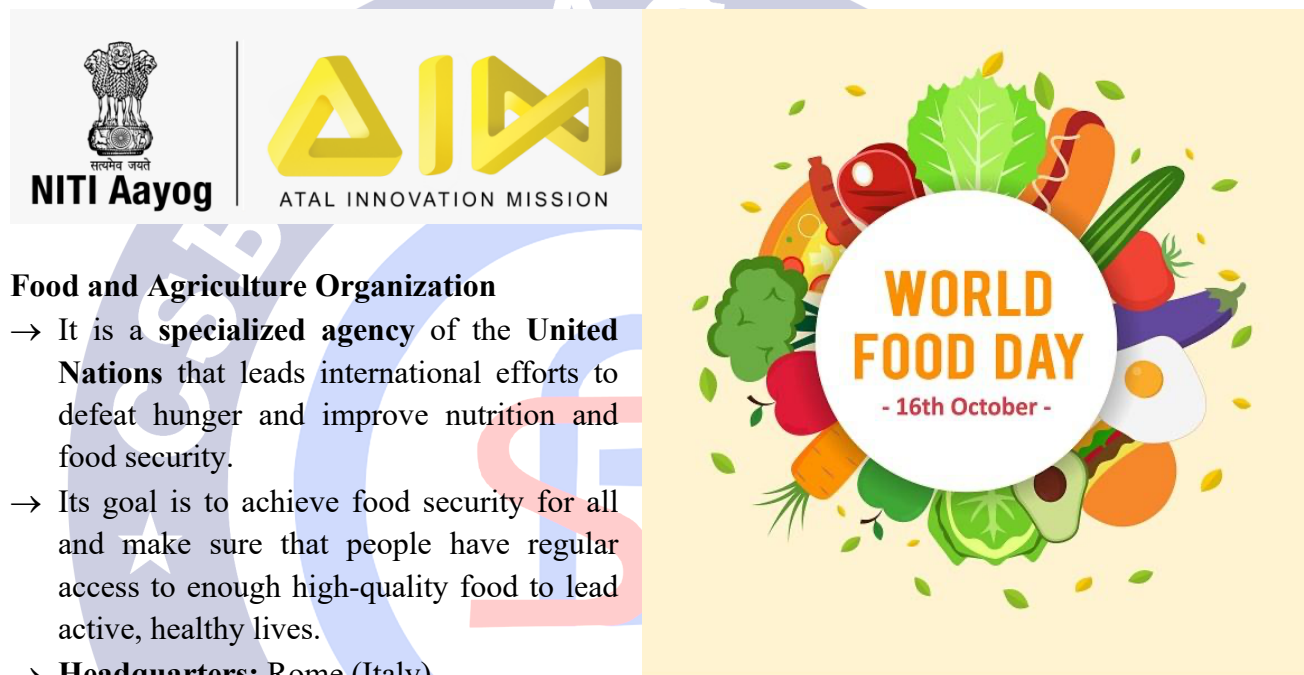
Source: First phase

WORLD FOOD DAY

Context: World Food Day is commemorated to celebrate the establishment of the United Nations Food and Agriculture Organization (FAO).

About World Food Day:

- World Food Day, observed annually on **October 16th**, serves as a global call to action in the fight against hunger and malnutrition.
- It emphasizes **Sustainable Development Goal 2 (SDG 2)** i.e., **Zero Hunger**.
- **2024 theme:** “Right to Foods for a Better Life and a Better Future.”



Food and Agriculture Organization

- It is a **specialized agency** of the **United Nations** that leads international efforts to defeat hunger and improve nutrition and food security.
- Its goal is to achieve food security for all and make sure that people have regular access to enough high-quality food to lead active, healthy lives.
- **Headquarters:** Rome (Italy).
- **Member countries:** 195 members - 194 countries and the European Union.
- Its sister bodies are the **World Food Programme (WFP)** and the **International Fund for Agricultural Development (IFAD)**.
- **Reports published by the FAO:**
 - The State of the World's Forests (SOFO),
 - The State of World Fisheries and Aquaculture (SOFIA),
 - The State of Agricultural Commodity Markets (SOCO),
 - The State of Food Security and Nutrition in the World (SOFI)

World Food Programme

- It was founded in 1961 by the Food and Agriculture Organization (FAO) and United Nations General Assembly (UNGA) with its headquarters in Rome, Italy.
- It is also a member of the United Nations Sustainable Development Group (UNSDG), a coalition of UN agencies and organizations aimed at fulfilling the Sustainable Development Goals (SDGs).
- The international community has committed to end hunger, achieve food security and improve nutrition by 2030.

→ WFP works in over 120 countries and territories to bring life-saving food to people displaced by conflict and made destitute by disasters.

International Fund for Agricultural Development (IFAD)

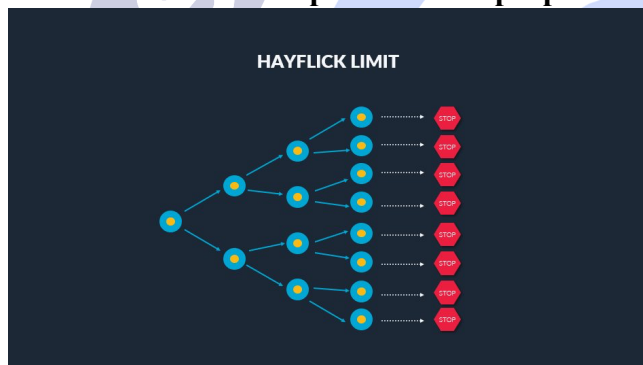
- It is an international financial institution and a specialized agency of the United Nations.
- It was established in 1977 through United Nations General Assembly Resolution 32/107 (15 December 1977) as one of the **major outcomes of the 1974 World Food Conference**.
- **Headquarters:** Rome, Italy
- It is a member of the **United Nations Development Group**.

Governance:

- The Governing Council is the principal decision-making body and consists of more than 160 members.
- The 18-member Executive Board oversees daily operations.

Functions:

- It focuses exclusively on **rural poverty reduction**, working with poor rural populations in developing countries to eliminate poverty, hunger and malnutrition; raise their productivity and incomes; and improve the quality of their lives.
- IFAD seeks to **empower rural people to increase their food security**, improve the



nutrition of their families and increase their incomes through **funding of grants and low-interest loans** to several projects.

→ The IFAD assists vulnerable groups such as smallholder farmers, pastoralists, foresters, fishers and small-scale entrepreneurs in rural areas by providing, among others, access to

weather information, disaster preparedness, social learning and technology transfer that enables farmers to feed growing populations and increase the climate resilience of rural farming systems.

Source: Food access is about equitable agrifood systems (The Hindu)

TERMS IN NEWS

Haber Bosch Process

- It is a process that fixes nitrogen with hydrogen to **produce ammonia** (NH₃)—a critical part in the manufacture of plant fertilizers.
- The process was developed in the early 1900s by Fritz Haber and was later modified to become an industrial process to make fertilizers by Carl Bosch.
- It is considered by many scientists and scholars as one of the most important technological advances of the 20th century.

- It is extremely important because it was the first of the processes developed that allowed people to mass-produce plant fertilizers due to the production of ammonia.
- It was the first industrial chemical process to use high pressure for a chemical reaction.
- It directly combines nitrogen from the air with hydrogen under **extremely high pressures and moderately high temperatures**.
- A **catalyst** made mostly from iron enables the reaction to be carried out at a lower temperature than would otherwise be practicable.



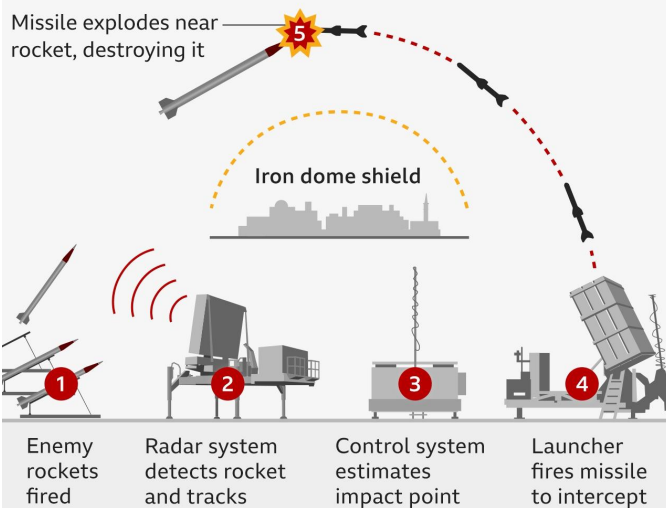
A catalyst is a substance that speeds up a chemical reaction, or lowers the temperature or pressure needed to start one, without itself being consumed during the reaction. Catalysis is the process of adding a catalyst to facilitate a reaction.

- The removal of ammonia from the batch as soon as it is formed ensures that an equilibrium favoring product formation is maintained.

The lower the temperature and the higher the pressure used, the greater the proportion of ammonia yielded in the mixture.

Iron Dome

How Israel's Iron Dome defence system works



Iron Dome system ignores incoming threats it determines will land in uninhabited areas

Source: Rafael Advanced Defense Systems

BBC

- It is a **short-range, ground-to-air, air defence system** of Israel.
- The Iron Dome has **three main systems** that work together to provide a shield over the area where it is deployed.
 - **Radar:** It has a detection and tracking radar to spot any incoming threats.
 - **Weapon Control:** It has a battle management and weapon control system (BMC).
 - **Missile Fire:** It also has a missile firing unit. The BMC basically liaises between the radar and the interceptor missile.

- It is used for countering rockets, artillery & mortars as well as aircraft, helicopters and Unmanned Aerial Vehicles (UAV).
- It is capable of being used in **all weather conditions**, including during the day and night.
- It claims a **success rate of over 90%**.
- It can protect deployed and maneuvering forces, as well as the forward operating base (FOB) and urban areas, against a wide range of indirect and aerial threats.

Biopolymers



- These are polymer materials that have been **manufactured from biological sources** such as fats, vegetable oils, sugars, resins, and proteins.
- The biopolymers have more complex structures than synthetic polymers.
- Biopolymers are **biodegradable**

and decomposition is easily done by bacteria in soil environment, as compared to synthetic polymers which causes environmental pollution due to incineration.

Characteristics:

- They are environmentally friendly.
- They are decomposed by the processes of oxidation (mainly reaction with oxygen), hydrolysis (decomposition by water) etc.
- Some of them are **compostable** and can show some chemical properties in their surface.
- Bio polymers like **polylactic acid**, **polyglycolate**, poly 3-hydroxy butyrate etc. may show plastic properties.

Benefits: ★

- These polymers can reduce carbon dioxide levels in the atmosphere and also decrease carbon emissions.
- This happens because bio-degradation of these chemical compounds can release carbon dioxide that can be reabsorbed by crops grown as a substitute in their place.

PLACES IN NEWS

Jordan Valley

- It is a rift valley in the Middle East in southwestern Asia.
- A segment of the East African Rift System, the Jordan Valley is about 105 kilometers long and stretches from the Sea of Galilee in the north to the Dead Sea in the south.
- It is located along the Jordan River and along Jordan's western border with Israel and the West Bank.
- It forms a natural border between Jordan, Israel, and the West Bank.
- It comprises over a fifth of the territory of the West Bank.
- It drops more than 1,400 feet (430 metres) below sea level at the Dead Sea, the **lowest natural point on Earth's land surface**.



- Its width extends about 6 miles (10 km), though it becomes narrower in some locations.
- Though the valley is sparsely populated, some communities exist, most notably the city of Jericho in the West Bank.
- The Jordan Valley holds immense religious importance for Christianity, Judaism, and Islam.

PRACTICE QUESTIONS

Q1. With reference to the Vizhinjam International Seaport, consider the following statements:

1. It is India's first deep water container transshipment port.
2. It is being developed through public private partnership (PPP) model.

Which of the given statements is/are correct?

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

Q2. With reference to World Food Day, consider the following statements:

1. World Food Day commemorates the establishment of the Food and Agriculture Organization.
2. The 2024 theme of World Food Day is "Leave no one behind".

Which of the given statements is/are correct?

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

Q3. With reference to the Iron dome, consider the following statements:

1. Iron Dome is Israel's short range, ground to air, air defense system.
2. It has a 100% success rate so far.
3. It consists of a radar, weapon control system and missiles.

How many of the given statements is/are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

Q4. The Haber Bosch process, recently seen in news, is associated with:

- (a) The origin of the universe
- (b) A method for desalination of water
- (c) Manufacture of ammonia
- (d) Creation of biodegradable plastics

Q5. Which among the following is the lowest natural point on land?

- (a) Lake Baikal
- (b) Dead Sea
- (c) Lake Eyre
- (d) Caspian depression

Answers:

1. C
2. A
3. B
4. C
5. B