



## 1. Black Sea Grain Deal

**Topic: International Relations**



**In News:** India has voiced support for the U.N.'s efforts in continuing the Black Sea Grain initiative and expressed hope for an early resolution to the present impasse after Russia announced it was terminating the deal.

**More on the Topic:**

- The Black Sea grain initiative was negotiated in July 2022 between Turkey, the UN and Russia as a way of ensuring that Ukraine, one of the breadbaskets of the world, could ensure that its grain could leave its southern ports via the Bosphorus.
- The grain could not be exported in the quantities required using the alternative methods of road or rail through Poland or by canal and river through Romania.
- Turkey was involved due to the close relationship between Russia and Turkey and under **the Montreux convention signed in 1936**, it oversees maritime traffic in the Bosphorus and Dardanelles straits.

**What did the grain deal promise?**

- The initiative, one of the few diplomatic achievements since the war started, allows for **commercial food and fertiliser (including ammonia) exports from three key Ukrainian ports in the Black Sea – Odesa, Chornomorsk, and Pivdennyi** (formerly known as Yuzhny).



- Ukrainian vessels guide cargo ships into international waters of the Black Sea, avoiding mined areas.
- The vessels then proceed towards Istanbul along an agreed maritime humanitarian corridor.
- Ships heading to and from the Ukrainian ports are inspected by teams composed of Russian, Turkish, Ukrainian and UN inspectors.
- Alongside this memorandum, a separate deal was signed minimising the impact of sanctions on the export of Russian food and fertiliser.
- Both memorandums were subject to four- and then two-monthly reviews.

#### **Did it succeed?**

- Despite the acute lack of trust, 33m tonnes of grain left Ukraine's ports in the year to July.
- About 61% of that has gone to low- and middle-income countries, and 65% of wheat alone.
- **The World Food Programme** bought about 750,000 tonnes of Ukrainian grain that was shipped immediately to places such as Afghanistan, Ethiopia, Somalia and Sudan.
- Partly as a result of this, **the price of grain stabilised** at \$800 (£620) per tonne, down from a high of \$1,360.

#### **What went Wrong?**

- Russia claims that **promises made to it under the deal have not been met**, and it is still facing trouble exporting its agricultural products and fertilisers because of many sanctions placed on it.
- The end of the deal may result in a hike in global food prices and an increase in global hunger and malnourishment.

#### **How it will affect India?**

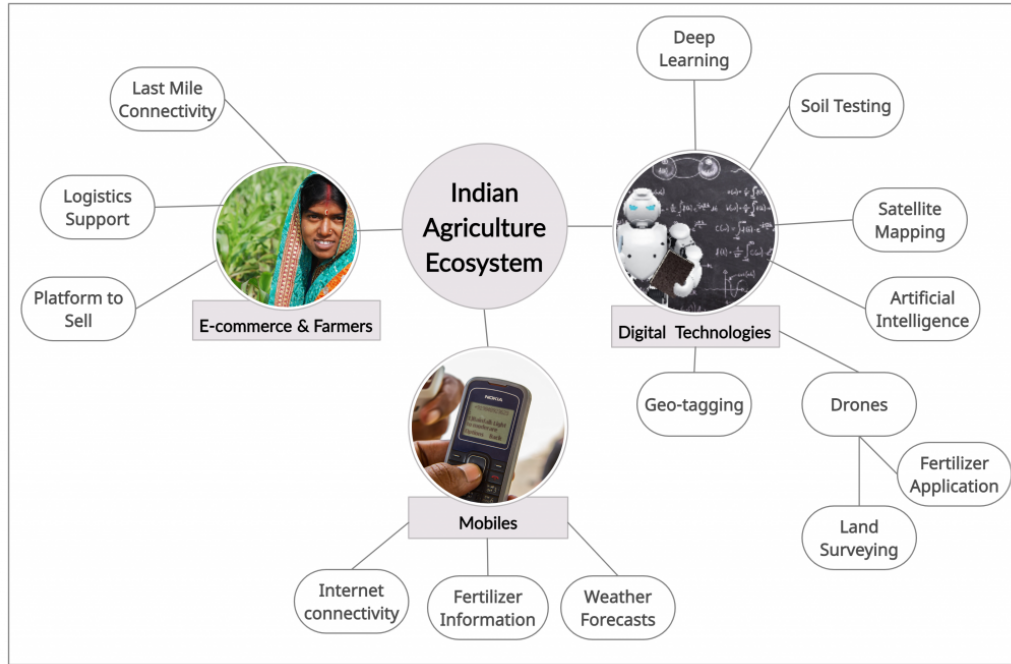
- Due to the escalating prices of edible oils and food grains, India is confronted with the **risk of imported inflation**, primarily stemming from the fact that **approximately 70% of its sunflower oil is sourced from Ukraine**.

**Source: The Guardian**

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## 2. Technological Initiatives in The Agricultural Sector

Topic: Science and Technology



**In News:** Weather Information Network Data Systems (WINDS) portal, AIDE mobile app and Yield Estimation System based on Technology (YES-TECH) Manual was released by the union ministry of Agriculture.

**More on the Topic:**

### Weather Information Network Data Systems:

- Crucial weather-related information and data will be available to the farmers through WINDS.
- Keeping in view the challenges of obtaining accurate meteorological data from inadequate infrastructure, the WINDS initiative is emphasizing setting up a **strong network of weather stations**.
- Through this initiative, the target is to establish a **wide network of weather stations at the block and gram panchayat levels**.
- This strategic approach will ensure widespread access to accurate and timely weather data.
- The goal is to **bridge the gap in weather information availability** and empower decision-makers, farmers and stakeholders at the grassroots level.
- This extensive network of weather stations will enable accurate monitoring of weather patterns, effective planning, risk assessment and timely response to meteorological challenges.

### AIDE mobile app:

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 Kanakapura road,  
 Tata Silk Farm, Jayanagar,  
 Bengaluru, Karnataka-560028

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*Go, change the world*



- It is a mobile application specifically developed to streamline the enrollment process for farmers in crop insurance schemes like **Pradhan Mantri Fasal Bima Yojana (PMFBY)** and **Restructured Weather-Based Crop Insurance Scheme (RWBCIS)**.
- The app ensures a seamless and transparent process, **making crop insurance more accessible and convenient for farmers.**
- It serves as a user-friendly tool that facilitates the seamless enrolment of farmers under these insurance programs.

**YES-TECH Manual:**

- This comprehensive guide serves as a **facilitator for the successful implementation of YES-TECH, a technology-driven yield estimation system.**
- It provides **in-depth methodologies, best practices, and integration insights to ensure precise yield assessments at the Gram Panchayat level.**

Source: PIB

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### 3. National Flag Adoption Day

**Topic: Modern India**



**HAPPY  
NATIONAL  
FLAG  
ADOPTION**

*I pledge allegiance to my  
Flag and the Republic, for  
which it stands, one  
nation, indivisible, with  
liberty and justice for all.*

**In News:** Every year, National Flag Adoption Day is celebrated in India on July 22.

**More on the Topic:**

- The day is observed to commemorate the Constituent Assembly's adoption of the tricolour in its current form in 1947, a month before our country gained Independence from British rule.
- The motion proposed that **“the National Flag of India shall be horizontal tricolour of deep saffron (Kesari), white and dark green in equal proportion.”**



- The white band was to have a **wheel in navy blue** (the charkha being replaced by the chakra), which appears on the abacus of the Sarnath Lion Capital of Ashoka.
- One of the minor committees of the Constituent Assembly, the **Ad-hoc Committee on the National Flag** was headed by **Dr. Rajendra Prasad**.

#### **Flag Code of India (FCI) 2002:**

- Flag Code of India (FCI) 2002 allows citizens to hoist the Indian flag over their homes, offices and factories on any day.
- It allowed the **unrestricted display of the Tricolour as long as the honour and dignity of the flag were being respected**.
- The flag code **did not replace the pre-existing rules** governing the correct display of the flag.
- It was, however, an effort to bring together all the previous laws, conventions and practices.

#### **Guidelines in the Flag Code:**

- Tricolour can be of nine standard dimensions including 6300 x 4200, 900 x 600, etc. (all sizes in mm). It should be **rectangular in shape and the length-to-width ratio should always be 3:2**.
- The use of polyester, apart from cotton, wool, silk and khadi is allowed for making hand-spun, hand-woven and machine-made flags.

**Source: The Hindu**

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## 4. Electron rains on Mercury Causing X-ray Auroras

**Topic: Science and Technology**



**In News:** Using the observations made by the BepiColombo spacecraft, scientists discovered that electrons from the Sun raining down on the surface of the planet generates X-ray auroras on Mercury.

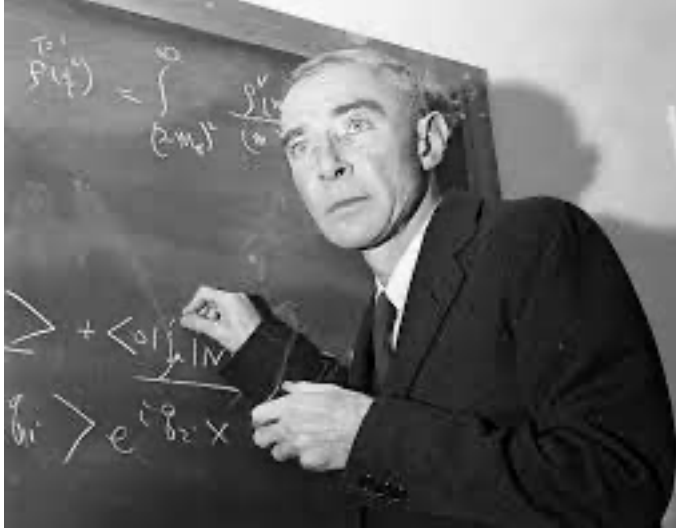
### More on the Topic:

- On Earth, auroras are a result of **charged particles from the Sun crashing into the planet's charged ionosphere.**
- But Mercury has a very thin atmosphere, meaning that a lot of electrons from solar wind crash onto the surface.
- A paper published in Nature Communications on the discovery is the first time that the cause of X-ray auroras on the planet has been explained.
- Auroras on the planet are created when **solar wind, the stream of particles, interacts directly with the planet's surface.**

**Source: The Indian Express**

## 5. J Robert Oppenheimer

### Topic: Reports and Indices



**In News:** American theoretical physicist J Robert Oppenheimer, the subject of Christopher Nolan's newest film, is known as the father of the atomic (nuclear) bomb.

#### More on the Topic:

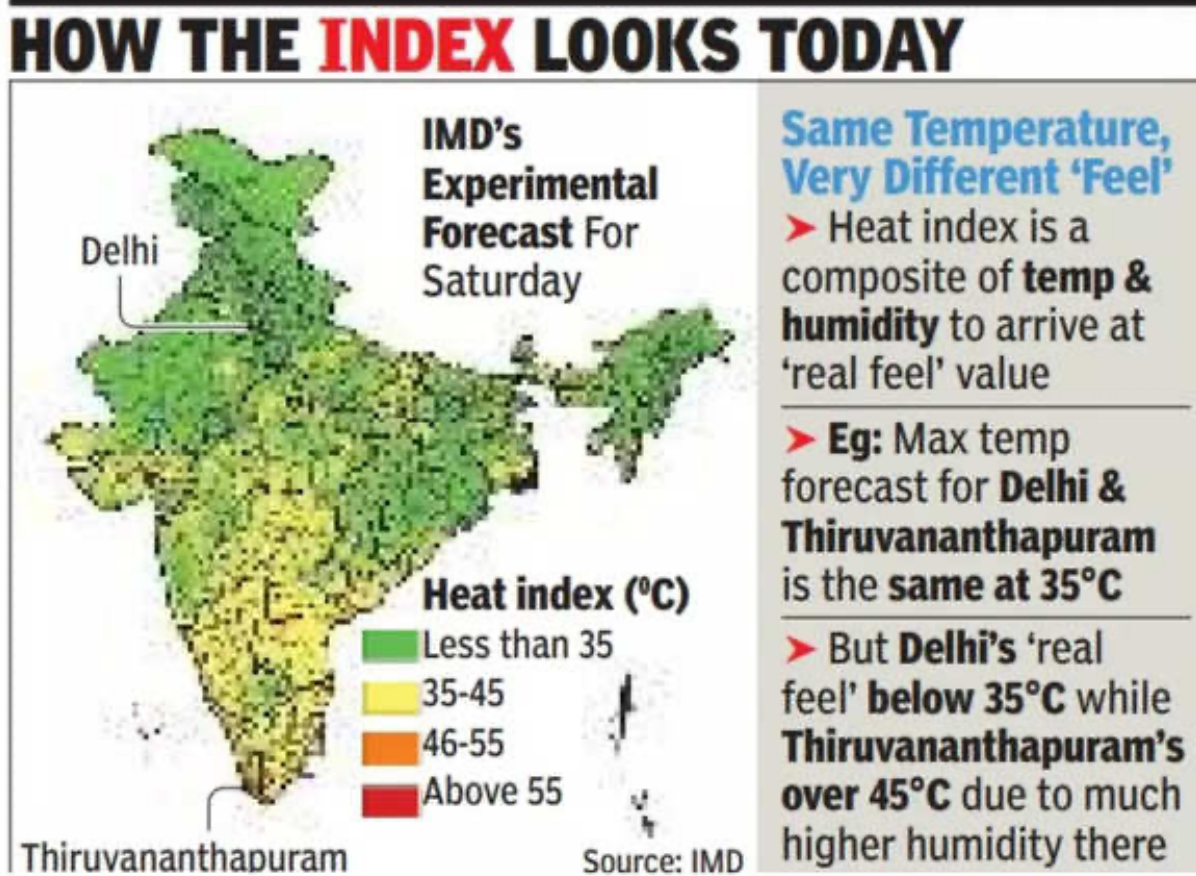
- He was a distinguished American physicist who played a pivotal role in the success of the **Manhattan Project**, the codename for the American-led initiative to develop a functional atomic weapon during World War II.
- His groundbreaking research was instrumental in the creation of the first nuclear bombs, earning him the title "**father of the atomic bomb.**"
- Additionally, he made significant contributions to **fast neutron physics and was honoured with the Enrico Fermi Award by the Atomic Energy Commission.**
- However, in later years, he became a **vocal advocate against nuclear weapons and their unrestricted spread.**

**Source: The Hindu**

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## 6. Heat Index

Topic: Reports and Indices



**In News:** In the Rajya Sabha, Kiren Rijiju, the Union Minister of Earth Sciences, announced that the India Meteorological Department (IMD) has introduced a heat index on a trial basis.

### More on the Topic:

- The heat index, modelled after the equation used by **the National Weather Service of the National Oceanic and Atmospheric Administration (NOAA) in the USA**, has been developed and implemented in India.
- Under the Heat Action Plan, **specific heat indexes have been created for Bhubaneswar and Ahmedabad**, with the project being carried out by the National Disaster Management Authority (NDMA).
- Collaborating with the NDMA on this initiative are local agencies such as the Indian Institute of Public Health (IIPH).

### Significance of the Index:



- The heat index will be included in the **daily weather bulletins** for the entire country.
- It will help people in understanding the impact of humidity on high temperatures.
- The information provided by this index could be utilized to **identify the heat implications to humans and to understand temperature ranges which are causing discomfort.**

Source: PIB

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## 7. Black Sea

Topic: Geography



**In News:** Black Sea is in news related to the Black Sea grain trade initiative.

**More on the Topic:**

- The Black Sea is a large inland sea located in southeastern Europe.
- It is bordered by six countries: **Ukraine to the north, Russia to the northeast, Georgia to the east, Turkey to the south, and Bulgaria and Romania to the west.**
- The Black Sea is **connected to the Mediterranean Sea through the Bosphorus Strait and the Dardanelles Strait.**
- The sea has a diverse and rich history, with ancient civilizations such as the Greeks, Romans, and Byzantines having significant influence in the region. Today, it remains an important area for trade, transportation, and tourism.
- The Black Sea is known for its unique hydrography, **including a layer of anoxic water at depths**, which means there is little to no oxygen in that layer. This anoxic layer preserves shipwrecks and artefacts remarkably well, making it a fascinating area for marine archaeology.
- Some of the major cities along its coast include **Istanbul (Turkey), Varna (Bulgaria), Odesa (Ukraine), and Constanta (Romania).**

Source: The Hindu

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