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## **Topics**

- 1. Palm Oil**
- 2. GAGAN**
- 3. Electric Vehicle Fires**
- 4. National Intelligence Grid**
- 5. RBI's Interest Rate Hike**
- 6. India-Nordic Countries Bilateral Talks**
- 7. One Liners**



## Palm Oil

**Indonesia, the world's biggest producer, exporter, and consumer of palm oil**, announced that it will ban all exports of the commodity and its raw materials to reduce domestic shortages of cooking oil and bring down its skyrocketing prices.

The announcement came amid surging global food prices as a consequence of the ongoing Russia-Ukraine conflict.

### Importance of palm oil to global supply chains

- ✓ Palm oil is the **world's most widely used vegetable oil** with its global production in crop year 2020 exceeding 73 million tonnes (MT). Output is estimated to be 77 MT for the current year.
- ✓ Made from the **African oil palm**, it is **used as cooking oil, and in everything from cosmetics to processed food to cleaning products**.
- ✓ The oil palm industry has come under criticism for what are reportedly **unsustainable production practices** leading to deforestation, and exploitative labour practices carried forward from the colonial era.
- ✓ However, palm oil is preferred by many as it is **inexpensive**; oil palms produce more oil per hectare than other vegetable oil plants. **Indonesia and Malaysia together account for almost 90% of the global palm oil production**, with Indonesia producing the largest quantity at over 43 MT in the 2021 crop year.
- ✓ Palm oil makes up 40% of the global supply of the four most widely used edible oils: palm, soybean, rapeseed (canola), and sunflower oil. Indonesia is responsible for 60% of the global supply of palm oil.

### Reasons for rising prices of edible oils

The prices of palm oil rose this year as demand increased because of the **short supply of alternative vegetable oils**. The production of soybean oil, the second most-produced oil, is expected to take a hit this year due to a poor end soybean season in major producer Argentina. The production of canola oil was hit in Canada last year due to drought; and supplies of sunflower oil, 80-90% of which is produced by **Russia and Ukraine**, has been badly hit due to the ongoing conflict.

### Impact on India

- ✓ **India is the biggest importer of palm oil** which makes up 40% of its vegetable oil consumption. India meets half of its annual need for 8.3 MT of palm oil from Indonesia. Last year, the Centre also unveiled its plan to **boost India's domestic palm oil production**.

- ✓ Despite the rising prices of the commodity, India's palm oil imports jumped 21% in March from the previous month as traders moved to secure alternatives to sunflower oil that could no longer be bought from Ukraine.

## GAGAN

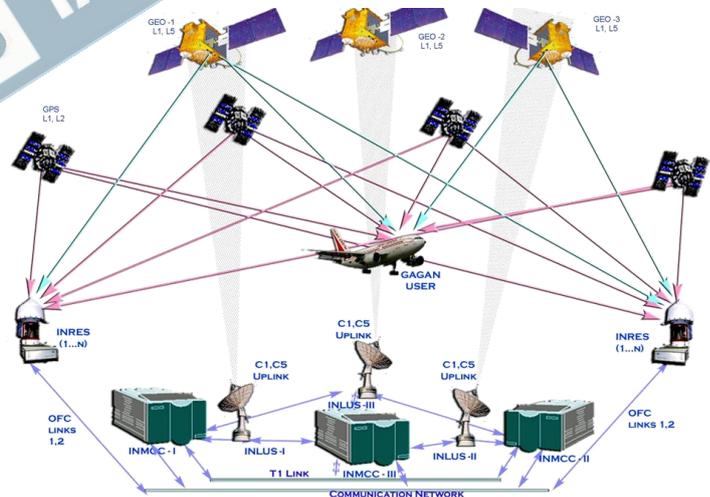
The Airports Authority of India has successfully conducted the light trial using the GAGAN-based Localizer Performance with Vertical Guidance (LPV) Approach Procedures at Rajasthan's Kishangarh Airport.

The successful trial is a great achievement and major milestone in the field of Air Navigation Services (ANS) in the history of the Indian Civil Aviation Sector. India is the first country in the Asia Pacific Region to achieve such a landmark.

The LPV permits aircraft guided approaches that are operationally nearly equivalent to Cat-I/ILS, without the need for ground-based navigational infrastructure. The service relies on the availability of GPS and GAGAN Geo Stationary Satellites, launched by ISRO. The tests, at Kishangarh Airport, were performed as part of initial GAGAN LPV flight trials. After the final approval by DGCA, the procedure will be available for the usage of commercial flights.

### About GAGAN

- ✓ GAGAN is an **Indian Satellite Based Augmentation System (SBAS)** launched by the Indian government in 2015. GAGAN stands for **GPS Aided GEO Augmented Navigation**.
- ✓ SBAS is a wide area augmentation system that provides augmented accuracy and integrity to a Global Navigation Satellite Systems (GNSS) navigation signal such as GPS.
- ✓ GAGAN is implemented to provide required accuracy, continuity, availability, and integrity to enable users/aircrafts to rely on GPS for all phases of flight.
- ✓ It was developed by the **Airports Authority of India (AAI)** and **Indian Space Research Organization (ISRO)**.
- ✓ There are **only four Space-Based augmentation systems available in the world** namely India (GAGAN), the United States (Wide Area Augmentation System- WAAS) Europe (European



Geostationary Navigation Overlay Service- EGNOS) and Japan (MTSAT Satellite Augmentation System- MSAS).

- ✓ GAGAN is the **first such system developed for India and neighbouring countries in the equatorial region.**

### **Benefits from GAGAN**

- ✓ GAGAN system is being used for **effective management of wildlife resources and monitoring of forests.**
- ✓ It can provide **navigational support** to Indian railways for signalling.
- ✓ The **Road Asset Management System (RAMS)** is likely to be developed for all National Highways in the country and a modern management system that will use the GAGAN system.
- ✓ GAGAN signals can also be used to **manage traffic** in real time to avoid traffic jams.

## Electric Vehicle Fires

*The Union Government has constituted an expert panel to probe the recent series of battery explosions in electric vehicles (EVs).*

### **Electric vehicles (EVs)**

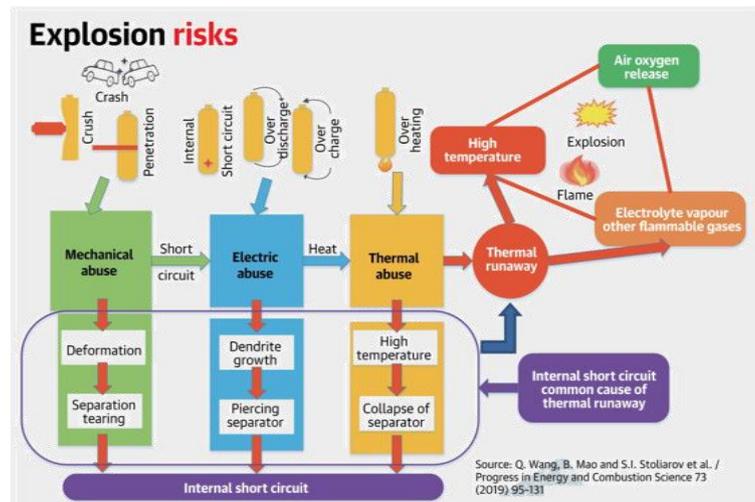
- ✓ EVs are vehicles that are either partially or fully powered on electric power.
- ✓ While some EVs used lead acid or nickel metal hydride batteries, the standard for modern battery electric vehicles is now considered to be lithium ion batteries.
- ✓ But, the recent incidents of fire involving electric two-wheelers (ETWs) have raised concerns over quality and safety of these vehicles.

### **Li-ion battery**

- ✓ Every Li-ion battery consists of three active components
  - **Anode**- Typically graphite
  - **Cathode**- Typically based on a nickel, cobalt, and manganese-based oxide
  - **Electrolyte**- Typically a salt of lithium in an inorganic solvent
- ✓ The sheets of the anode and cathode are assembled into a sandwich structure held apart by a thin separator (about 15 microns in thickness) to prevent shorting.
- ✓ Accidental shorting of the electrodes is a known cause of fires in Li-ion cells.
- ✓ Safety features, such as thermal switches that turn off if the battery overheats, are added into a battery cell.
- ✓ Battery cells are assembled into modules and then further assembled into packs that are designed to ensure uniform temperature profile with minimal thermal variation during operation.

### Causes of battery fires

- ✓ Battery fires occur due to the convergence of three parts of the “fire triangle” - heat, oxygen, and fuel.
- ✓ **Heat-** If an adverse event such as a short circuit occurs in the battery, the internal temperature can raise as the anode and cathode release their energy in an uncontrolled manner, along with oxygen.
- ✓ **Oxygen-** Such events also rupture the sealed battery further exposing the components to the second part of the fire triangle, namely, oxygen.
- ✓ **Fuel-** The final component of the triangle is the liquid electrolyte, which is flammable and serves as a fuel.



### Trigger for battery fires

- ✓ **Internal shorts** - manufacturing defect that results in sharp objects penetrating the separator
- ✓ **External events**
  - puncture of the cell and shorting of the electrodes
  - overcharging the battery
  - faulty battery management system
  - bad thermal design at the module and pack level

## National Intelligence Grid

The Union Minister for Home and Cooperation inaugurated the National Intelligence Grid (NATGRID) Bengaluru premises.

- ✓ The NATGRID has been conceived to develop cutting edge technology to enhance India's counter terror capabilities.
- ✓ The NATGRID is an IT platform for accessing information dispersed from data collection agencies in the country.
- ✓ Envisaged as a robust mechanism to track suspects, the NATGRID prevent terrorist attacks with real-time data and access to classified information like immigration, banking, individual taxpayers, etc.
- ✓ The NATGRID will be available to 11 central agencies and police of all states and Union territories.

## RBI's Interest Rate Hike

India's central bank has raised the benchmark interest rate for the first time in two years in an attempt to control high consumer prices.

### RBI's move

- ✓ **Repo rate**- The Reserve Bank of India (RBI) raised the repo rate at which it lends money to commercial banks by 40 basis points to 4.4%.
- ✓ The rate had been reduced to a record low of 4% during the Covid-19 pandemic.
- ✓ **CRR**- The cash reserve ratio (CRR) is the percentage of cash that banks need to keep in reserve against their total deposits to suck out excess liquidity from the system.
- ✓ The RBI has announced a 50 basis point increase in CRR.

### RBI's reason to hike the interest rate

- ✓ **Ukraine crisis**- Inflation-sensitive items relevant to India such as edible oils are facing shortages due to the conflict in Europe and export bans by key producers.
- ✓ **Inflation**- By hiking the Repo rate and CRR, the RBI is aiming to keep inflation (already close to 7%) at its desired level.
- ✓ The central banks in advanced economies led by the U.S. Federal Reserve are pursuing a path of policy normalisation.
- ✓ **Volatility in financial markets** - But the prospects of volatility in capital flows adding pressure on the exchange rate and heightening the risks of imported inflation have added to the reason.
- ✓ **Pandemic**- The fact that the novel coronavirus is still lurking and it could trigger a fresh wave of infections, as seen in China, adds to the uncertainty.
- ✓ **Economic Growth**- Recent GDP releases suggest that the global economic recovery is losing pace.

### Impact of the decision

- ✓ **Impact of Repo rate hike**- The hike in repo rate means the cost of funds for banks will go up thus prompting banks and NBFCs to raise the lending and deposit rates in the coming days.
- ✓ SBI and many banks recently raised the MCLR (marginal cost of funds-based lending rate) points anticipating a rate hike.
- ✓ MCLR (marginal cost of funds based lending rate) is the lowest interest rate that a bank or lender can offer.
- ✓ Some analysts say that consumption and demand can be impacted by the repo rate hike.
- ✓ Equated monthly instalments (EMIs) on home, vehicle and other personal and corporate loans are likely to go up.
- ✓ Deposit rates are also set to rise after the repo rate hike that came after nearly four years.

- ✓ **Impact of the CRR hike-** The 50 bps hike in CRR will suck out Rs 87,000 crore from the banking system and the lendable resources of banks will come down.
- ✓ It also means the cost of funds will go up and banks' net interest margins could get adversely impacted.

*If the RBI wants to infuse more liquidity into a system, it lowers the CRR and leaves banks with more liquidity to lend. If the RBI wants to suck out liquidity from the system, it increases the CRR rate.*

## India-Nordic Countries Bilateral Talks

Recently, the Prime Minister of India held a series of **bilateral meetings with his counterparts from Denmark, Norway, Sweden, Iceland and Finland.**

At the meetings, a discussion was made regarding ways to further **deepen bilateral ties and views were exchanged on regional and global developments.**

The meeting was organized on the sidelines of the **second India-Nordic Summit in the Danish capital, Copenhagen.**



### Background of Second India-Nordic Summit

- ✓ The **second edition** held against the backdrop of the **two most significant events that affected the world.**
  - One is **post-pandemic economic recovery**, and the other is the **ongoing war between Ukraine and Russia.**
- ✓ Besides **economy, trade and investment**, the summit can be seen from the perspective of the **concept of the welfare state** that goes along with **capitalism and democratic practices, blending the welfare model with the market economy.**
- ✓ India invited Nordic companies for **investing in the blue economy sector, especially in Sagarmala Project.**
  - India's **Arctic Policy** provides a good framework for expansion of India-Nordic cooperation in the Arctic region.
- ✓ The Nordic countries reiterated their **support for India's permanent membership of a reformed and expanded United Nation Security Council.**

- ✓ At the **inaugural edition of the summit in 2018**, the focus of the leadership was on **global security, economic growth, innovation and climate change** while **emphasizing innovation and digital transformation as a driver of growth**.
  - The first summit sought to explore an extension of the application to New Delhi's flagship programmes like **Make in India, Startup India, Digital India and Clean India**, besides the support of the **Nordic countries' Sustainable Cities Project** to **India's Smart Cities project**.
  - At the first summit, the Nordic countries welcomed India's application for membership in the **Nuclear Suppliers' Group**.

### Highlights of the Meeting

- ❖ **India-Denmark:** Discussed a wide range of issues of mutual interest to boost bilateral relations, including the war in Ukraine, the India-European Union (EU) free trade deal and the situation in the Indo-Pacific.
  - Agreed to further strengthen the **Green Strategic Partnership** with a focus on **green hydrogen, renewable energy and wastewater management**.
- ❖ **India-Norway:** Both leaders discussed the potential for deepening engagement in areas like Blue Economy, renewable energy, green hydrogen, solar and wind projects, green shipping, fisheries, water management, rainwater harvesting, space cooperation, long term Infrastructure investment, health and culture.
  - Indian PM asserted that Norway is a key pillar of India's recently announced **Arctic Policy**.
- ❖ **India-Sweden:** During the meeting, the two leaders took stock of the progress in the Joint Action Plan and appreciated the expanding scope of the jointly launched **Leadership Group on Industry Transition (LeadIT) initiative**.
  - This was an India-Sweden joint global initiative to set up a **Leadership Group on Industry Transition (LeadIT) in September 2019 at the UN Climate Action Summit** to help guide the world's heaviest greenhouse gas emitting industries toward a low-carbon economy.
  - **During the 2018 visit of Prime Minister Modi to Sweden**, the two sides adopted a wide-ranging **Joint Action Plan** to take forward a wide range of initiatives in defense, trade and investment, renewable energy, smart cities, women's skill development, space and science and healthcare etc.
- ❖ **India-Iceland:** Both leaders discussed ways to further strengthen economic cooperation especially in the sectors of geothermal energy, Blue Economy, Arctic, renewable energy, fisheries, food processing, education including digital universities, and culture.

- Discussions also took place on expediting the **India-European Free Trade Association (EFTA) trade negotiations.**
- ❖ **India-Finland:** Discussions were done regarding opportunities to expand cooperation in the fields of new and emerging technologies like **Artificial Intelligence, quantum computing**, future mobile technologies, clean technologies and smart grids.
  - Indian PM invited Finnish companies to partner with **Indian companies and take advantage of the enormous opportunities** that the Indian market presents, particularly in telecom infrastructure and digital transformations.

### Significance of Nordic Countries for India

- ✓ India and Nordic countries enjoy robust business partnerships though the economics of these countries individually is much smaller than those of the **G20 countries.**
  - The combined GDP is over **USD 1.6 trillion, with a per capita income of around USD 54,000.**
  - The total bilateral trade and services between India and the Nordic countries is **USD 13 billion.**
- ✓ **Areas of Cooperation:** The countries which have technological prowess and growing business ties will explore cooperation in **five areas of mutual interest.**
  - These include **green partnership, digital and innovation economy, trade and investment linkages, sustainable development**, and collaboration regarding the Arctic region.

Apart from the United States, **India is the only other country with which the Nordic countries have summit-level meetings.**

### One Liners

- ❖ Union Ministry of External Affairs of India has launched a platform called the Trilateral Development Corporation (TDC).
- ❖ Maharashtra Environment Minister Aaditya Thackeray launched a tap-in tap on the Gateway of India to Churchgate road to ease commuting in Mumbai.
- ❖ Health and Medical Education Minister of Karnataka, K. Sudhakar launched the 'Social Awareness and Action to Neutralise Pneumonia Successfully' (SAANS).
- ❖ The Kuril Islands dispute between Japan and Russia is over the sovereignty of the South Kuril Islands. These islands are claimed by Japan but occupied by Russia as the successor state of the Soviet Union.

- ❖ Robert Golob has defeated three-time prime minister Janez Jansa in the Slovenia Prime Minister election.
- ❖ Sir David Attenborough was named the recipient of the Champions of the Earth Lifetime Achievement Award 2021 by UNEP.
- ❖ India and Maldives are planning to set up a transmission interconnection for the transfer of renewable power between the two countries, to facilitate the energy transition programme of Maldives.
- ❖ The Ministry of Steel recently announced that the country exported 13.5 million tonnes (mt) of finished steel amounting to Rs 1 lakh crore and imported steel of around Rs 46000 crores.
- ❖ Himachal Pradesh government has signed MoU for the development of seven ropeway projects in Kangra, Kullu, Chamba, Sirmour and Bilaspur districts of the state. The MoU was signed between Ropeways and Rapid Transport System Development Corporation (RTDC) HP Limited and National Highways Logistic Management Limited (NHLML) for the development of ropeways as innovative transport solution in Himachal Pradesh.
- ❖ Palli village in Samba district of Jammu has become the nation's first carbon-neutral panchayat, fully powered by solar energy.
- ❖ The Union Cabinet approved a proposal to open a new Indian mission in Lithuania in 2022.
- ❖ The Ministry of Electronics and IT launched the 'Digital India RISC-V Microprocessor (DIR-V)' program. It aims to enable creation of Microprocessors and achieve industry-grade Silicon and Design wins by December 2023.
- ❖ Bihar country's first ethanol plant has inaugurated in the Purnea district.
- ❖ It also set milestones for commercial silicon of SHAKTI & VEGA and their design wins by December 2023. DIR-V will see partnerships with Startups, Academia and Multinationals to make India, a RISC-V Talent Hub for the World as well as supplier of RISC-V SoC (System on Chips) for Servers, Mobile devices, Automotive, IoT & Microcontrollers.
- ❖ BJP leader and former Union minister Vijay Sampla has been appointed as the chairperson of the National Commission for Scheduled Castes (NCSC) for a second time.
- ❖ IndiGo becomes the first airline in Asia to land its aircraft using the indigenous navigation system GAGAN.
- ❖ The Tallinn, Estonia NATO Cooperative Cyber Defence Centre of Excellence, abbreviated as CCDCOE, is organising the Locked Shields 2022.
- ❖ The Maharashtra Cabinet approved the 'Maharashtra Gene Bank', a first-of-its-kind project in India. It aims to document native natural resources and conserve them with local communities to ensure biodiversity conservation and the inclusion of traditional knowledge.
- ❖ The United States Trade Representative released the "Special 301 Report" on the effectiveness of US trading partners' protection and enforcement of intellectual property rights.

- ❖ Noted snow leopard expert and wildlife conservationist Charudutt Mishra has won the prestigious Whitley Gold Award.
- ❖ The Border Roads Organisation (BRO) engineering marvel, Atal Tunnel, built-in Rohtang in Himachal Pradesh, received the Indian Building Congress (IBC) 'Best Infrastructure Project' award in New Delhi.
- ❖ The Madras High Court has invoked the “parens patriae jurisdiction” to declare Mother Nature as a Living Being with all corresponding rights, duties and liabilities of a living person. The order was spelt while responding to the petition from an official who sought to quash the proceedings against him for allegedly granting land deed for government land classified as ‘Forest Land’. The court said indiscriminate destruction of nature will endanger the existence of flora and fauna.
- ❖ The Odisha State ST and SC development department signed an MoU with the Regional Medical Research Centre (RMRC), Bhubaneswar, to set up a tribal health observatory (TriHOb). This is said to be the first in the country, for ensuring equity in tribal health in Odisha. TriHOb will establish a repository on the health of tribal population of Odisha. Odisha Tribal Family Health Survey was also launched.

