



NaVIC

❖ Context

- The Indian government is pushing smartphone makers to enable support for its **NavIC navigation system** in new devices sold in the country from next year i.e 2023.

❖ About NavIC

NavIC, or **Navigation with Indian Constellation**, is an independent stand-alone navigation satellite system developed by the **Indian Space Research Organisation (ISRO)**.

- It was originally approved in 2006. But only became operational in **2018**.
- It consists of **eight satellites** and covers the **whole of India's landmass and up to 1,500 km (930 miles) from its boundaries**.

❖ Current Applications

- Its current use is limited to such as :
 - **Public vehicle tracking** in India.
 - Providing **emergency warning alerts to fishermen** venturing into the deep sea where there is no terrestrial network connectivity.
 - Tracking and providing information related to **natural disasters**.

❖ Comparison with GPS and Others

- The main difference is the **serviceable area** covered by these systems. **GPS caters to users across the globe & its satellites circle the earth twice a day.**

- There are three more navigation systems that have global coverage - **Galileo** from the European Union, Russia-owned **GLONASS** and China's **Beidou**.
- **QZSS**, operated by Japan, is another **regional navigation system** covering the **Asia-Oceania region**, with a focus on Japan.

❖ Reason for Promoting NavIC

- Removing dependence on foreign satellite systems for navigation service requirements, particularly for "strategic sectors."
- Systems like GPS and GLONASS may not always be reliable, as those are **operated by the defence agencies of respective nations** and it is possible that civilian services can be degraded or denied.
- To promote local industry engaged in developing indigenous NavIC-based solutions.



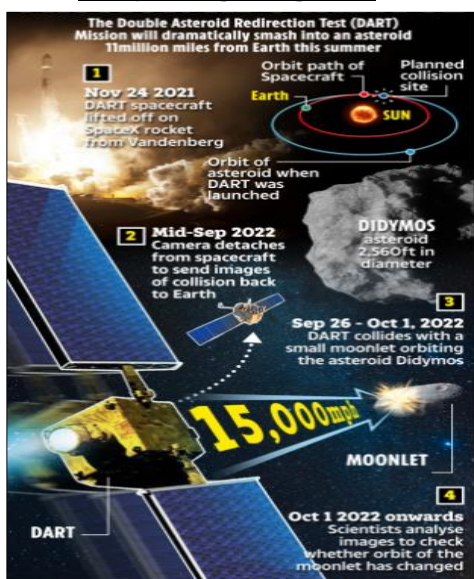
DART

❖ Context

- NASA's **Double Asteroid Redirection Test (DART)** spacecraft, launched in **November 2021**, collided with a small asteroid, **Dimorphos**.



❖ Key Highlights



- The asteroid was **11 million km** (about 300 times the distance to the moon) away, the closest it came to Earth in its orbit.
- The targeted asteroid **Dimorphos** is actually a moon to a slightly larger asteroid called **Didymos**. This two-body system orbits the Sun.
- One of the reasons scientists chose to target Dimorphos was because of its **relatively shorter orbit around Didymos**. A **deviation** in this orbit was likely to be more noticeable, and thus **easier to measure**.

- While smaller asteroids burn due to friction in air before reaching the surface of the earth, **bigger asteroids come towards the Earth in about 100 to 200 million years**.
- The one that destroyed the dinosaurs was about **10 km in width**.
- Recently in **2013**, an **asteroid (18 metres in size)** entered the earth's atmosphere and exploded over Russia, causing injuries to hundreds of people, and causing widespread damage.

- The collision is likely to create a crater on Dimorphos.
- While Didymos is 780 m at its widest, Dimorphos is about 160 metres.

❖ Why did NASA Undertake Such a Mission?

- The collision was a **technology demonstration**, and an experiment to assess the capabilities to do such manoeuvres in future should a need arise. According to NASA, though there was or is no threat from this or any other asteroid for next 100 years, **the danger is real**.



Face to Face Centres



Rotterdam Convention

❖ Context

- International trade of two new hazardous pesticides - **Iprodione and Terbufos** - has been recommended for "prior informed consent" (PIC) procedure under the Rotterdam Convention.



❖ Key Highlights

- The recommendations were made by the **Chemical Review Committee** recently at the **18th meeting (CRC 18)** held at **Rome, Italy**.
- CRC 17 had recommended these two pesticides for listing in **Annex III** to the Rotterdam Convention.
- **Iprodione**, a **fungicide** used on vines, fruits, trees and vegetables, has been classified as carcinogenic and toxic for reproduction.
- **Terbufos** is a soil **insecticide** used commonly on sorghum, maize, beet and potatoes. It has also been found to pose risk to aquatic organisms due to its toxicity.
- In **India**, the use of these chemicals was permitted by the **2015 Anupam Verma committee** report. **The country is among the largest exporters of Terbufos.**
- CRC 18 has also recommended two other pesticides, **paraquat and methyl bromide**, to be listed in Annex III.

❖ About Rotterdam Convention

- The Convention is an **international legally binding treaty** adopted in **1998** by a **Conference of Plenipotentiaries** in Rotterdam, the Netherlands, to facilitate informed decision-making by countries with regard to **trade in hazardous chemicals**.
- The Convention entered into force in **2004**.



- The **export and import of hazardous chemicals listed in Annex III** are subject to the **Prior Informed Consent procedure ("PIC procedure")**.

- Exports are only allowed if the State of import has consented to the future import of the specific chemical through an Import Response.
- **Annex III** includes pesticides and industrial chemicals that have been **banned or severely restricted for health or environmental reasons by two or more parties**.
- The Convention also requires that a party seeking to export a **chemical that is not listed under the Convention** but that is subject to a ban or severe restriction in its own territory must provide notice to the importing country of the proposed export.

Defence Exports

❖ Context

- India has registered a growth of **334%** in its defence exports and has begun to export defence products over **75 countries**.



❖ Key Highlights

- Notably, India exported around Rs 1,387 crore worth of defence-related exports during the first quarter of the financial year 2022-23 (April-June).
- Further, the country's defence & technology related exports touched the highest-ever figure of Rs 12,815 crore in the financial year 2021-22, a 54.1% rise over the previous year.
- India's defence exports are mainly to countries like the US, the Philippines and other countries in South-East Asia, the Middle East and Africa.
- In the past few years, the Government of India has taken various policy initiatives to encourage indigenous manufacturing of defense equipment, thereby promoting self-reliance in defense manufacturing & technology.
- To minimize import by Defence Public Sector Undertakings (DPSUs), the Department of Defence Production (DDP) has notified three Positive Indigenisation Lists (PIL) of sub-systems/assemblies/sub-assemblies/ components.

- The first list contains 2,851 items out of which 2,500 items have already been indigenized.
- The second list consists of 107 strategic important Line Replacement Units/major sub-assemblies.
- The third list includes 101 military equipment which will come into effect from December 2022.

Year	Value in ₹ crore
2014-15	1,941
2015-16	2,059
2016-17	1,522
2017-18	4,682
2018-19	10,746
2019-20	9,116
2020-21	8,435
2021-22	11,607

(TILL MARCH 21, 2022)



- Strategic defence products including Light Tanks, Helicopters, and Unmanned Aerial Vehicles are the part of indigeneous list for which there would be an embargo on the import beyond the timelines indicated against them.
- Importantly, two defense industrial corridors have been established — one each in Uttar Pradesh and Tamil Nadu to bolster indigeneous manufacturing.
- The Defence Ministry has set a target of Rs 1.75 lakh crore of defence production by 2025, which will include export of Rs 35,000 crore.

Carbon Calculator

❖ Context

- Mastercard is in talks with Indian banks to roll out its Carbon Calculator feature, which offers consumers an estimated carbon footprint for each of their purchases.



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❖ Key Highlights

- The personalised carbon footprint tracker can tell consumers the cumulative effect of carbon footprint across a variety of spending categories in a month.
- Mastercard Carbon Calculator, developed in collaboration with Swedish fintech Doconomy, is currently used in over 25 countries.
- Before choosing a product, they can know how sustainably it is sourced, buy products locally to support indigenous companies, buy from companies founded by women or coloured people, and so on.

- Because they know that the power of their spending is a reflection of what they believe in.
- In Carbon Calculator, you can see the carbon effect of your purchases; the Priceless Planet Coalition allows you to redeem your reward points towards tree planting projects.
- In some countries, people produce more energy than they consume and contribute the surplus back to the grid to get solar credits from the government.

National Conference of Environment Ministers

❖ Context

- Prime Minister recently inaugurated the National Conference of Environment Ministers at Ekta Nagar in Narmada district of Gujarat via video conference.



❖ Key Highlights

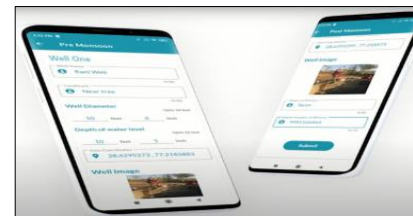
- This two-day conference aimed at creating further synergy among the central and state governments on various issues, such as climate change, tackling plastic waste, wildlife and forest management.

- Taking forward the spirit of cooperative federalism, the conference is being convened to create further synergy amongst the central and state governments in formulating better policies on issues such as elimination of plastic pollution through multi-pronged approach, state action plans to effectively combat climate change with focus on LiFE- **Lifestyle for Environment**.
- It will also focus on increasing the forest cover with special emphasis on restoration of degraded land and wildlife conservation.

Jaldoot

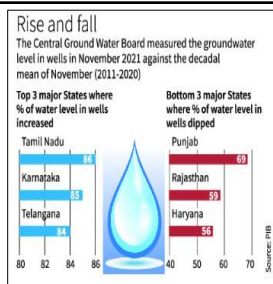
❖ Context

- With the rapidly declining water table threatening to push many regions into drought, the Union government recently launched a mobile application – ‘Jaldoot’.



❖ Key Highlights

- It has been Jointly developed by the **Union Ministry of Rural Development & the Panchayati Raj Ministry** to monitor the underground water levels across the country.
- The app will be used to capture the water level of selected two-three wells in every village.
- The water levels in these open wells will be measured twice a year, from May 1 to May 31 during the pre-monsoon time, and from October 1 to October 31 for post-monsoon levels.



- To ensure transparency, the officers assigned to measure have been told to upload the geotagged photographs through the app each time the measurement is done.
- The mobile app, the ministry will work both in online and offline mode to ensure that lack of internet connectivity does not come in the way of the exercise.
- The regular data to be input by the ‘Jaldoots’ would be integrated with the database of the National Water Informatics Centre, which can be utilised for analysis and help in conservation efforts.
- The State governments and gram panchayats should involve themselves towards systematically collecting groundwater level data and assimilation of the same in the central digital database for analysis.
- **Significance:** Data generated by this exercise will help us in better planning and give us the right assessment of the problem at hand.

News in Between the Lines

World Tourism Day



❖ Context

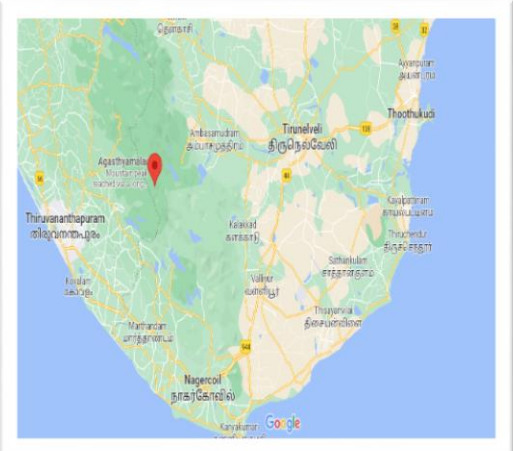
- Recently **World Tourism Day** was widely celebrated across the world as a remembrance to the important role played by tourism in enhancing socio-cultural value, generating employment, running economy of a country.

❖ Key Highlights

- This year's theme of World Tourism Day is **‘Rethinking Tourism’**.
- The theme highlights the need to revamp how the world thinks about tourism.
- The pandemic has shown the economic importance of the tourism sector for a country like Sri Lanka, Maldives, and Indonesia.
- The day marks the generation of the United Nations World Tourism Organisation (UNWTO). Regulations of the UNWTO were adopted on this day in 1970.

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Thamirabarani River



❖ Context

➤ The district administration of **Tirunelveli** in Tamil Nadu along with NGOs and local communities have adopted a **'hyper local' approach** to restore the socio-ecological systems of the whole river, under a project called **TamiraSES**.

❖ About the River

- Also called as **Tamraparni or Porunai**, it is the **only perennial river in Tamil Nadu**. It originates and ends in the same state.
- It originates from the Agastyarkoodam peak in the **Pothigai Hills** of the **Western Ghats** in Tirunelveli district. The river flows through Tirunelveli and then neighbouring Thoothukudi and ends in the **Gulf of Mannar at Punakayil**.
- The river supports wildlife such as the **Nilgiri marten, slender loris, lion-tailed macaque, white spotted bush frog, galaxy frog, Sri Lankan Atlas moth and the great hornbill**.
- A study published in 2021 found that paddy and soil discovered in an urn during an **archeological excavation** near the river in Thoothukudi district's Sivakalai were **at least 3,200 years old**.
- The objective of the project is to bring it to drinking water quality by 2024.

Aerosol Pollution



❖ Context

➤ A new study has found that aerosols can inflict different levels of damage based on the regional weather patterns and topography.

❖ Key Highlights

- Aerosols such as **black carbon, organic carbon, carbon monoxide, nitrogen oxides, volatile organic compounds and sulphur dioxide** are short lived pollutants, known to hurt the climate and human health.
- Though these pollutants can have a cooling effect as they reflect sunlight into space, they overall do not provide any benefit.
- **India faces higher impacts on infants and crop productivity** due to aerosol pollution.
- **China and India** are currently the **largest sources of aerosol emissions**.
- **India and East Africa** had the **highest number of infant deaths from aerosols**.
- **Europe was responsible for four times** as many excess infant deaths outside its borders compared to regional impacts.
- Aerosol emissions **hit the GDP of the United States and China** the most.

World Environment Health Day



❖ Context

➤ The World Environment Health Day was celebrated on **September 26**, dedicated to informing people about the health of the environment and preserving it.

❖ Key Highlights

- The day has its footprints in the year 2011 when the environmental summit and **International Federation of Environmental Health (IFEH)** met in Denpasar, Bali, Indonesia.
- The International Federation of Environmental Health is an organisation whose full members are national associations representing the interests of environmental health professionals throughout the world.
- The theme for this World Environment Health Day is **"Strengthening Environmental Health Systems for the implementation of the Sustainable Development Goals."**
- With the possibility of reducing a quarter of the global disease burden by ensuring healthier environments, WHO stresses on **One Health approach** as an absolute necessity.
- The Food and Agriculture Organisation of the United Nations (FAO), the United Nations Environment Programme (UNEP) and the World Organisation for Animal Health (WOAH) work together with WHO to form the **One Health Quadripartite**.
- In India, under the **Pradhan Mantri Atma Nirbhar Swasth Bharat Yojna**, the first One Health institute is set to come up in **Nagpur**.

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