

WEEKLY UPDATES – (12th June – 18th June)

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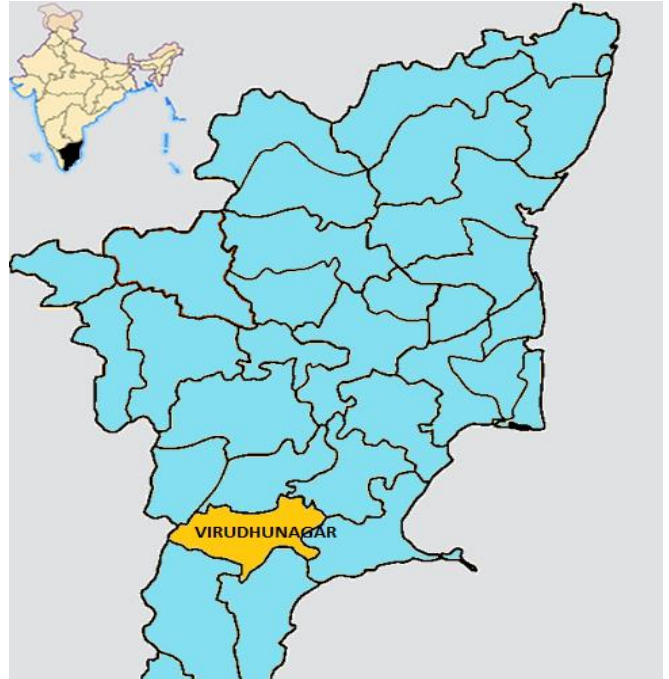
HISTORY

Mesolithic Scraper, Neolithic Celt Found

Context: A scraper belonging to the mesolithic age and a celt from the neolithic age have been found at Vizhuppanur near Srivilliputhur in Virudhunagar district.

Important Highlights

- The ancient stone tools were found during an exploration by a four-member team on the Kollam Madurai national highway, opposite the government agricultural engineering department's new office at Vizhuppanur panchayat.
- The mesolithic scraper, measuring 4cm in length and 4.5cm in width, was made of a type of stone called cert.
- The mesolithic or microlithic period dates back to 10,000 BC to 3,000 BC. These tools are also known as microlithic tools, due to their small size, as they are made from splinters that form when bigger tools are made, in the palaeolithic period.
- They were used as arrows, knives and scrappers in the microlithic age.
- The neolithic period from 3,000 BC to 1,000 BC, marked man's transition from nomadic life to stable life, where they used polished neolithic tools and pottery made by hand and wheel.
- The small celt found here belongs to the neolithic age. Its length is 5cm and 5.5cm in width at the bottom and 3cm on top. It is 1.5cm in thickness.. It is made of granite stone and is well rubbed and polished. Usually, it was tied to a wooden stick and used for weapons and other purposes.



What is a Celt?

- A celt is a prehistoric tool made of stone or metal, typically used as a cutting or shaping implement. It can serve as an axe, chisel, or adze, and was commonly used during the Neolithic period for various purposes such as woodworking, farming, and construction.
- A shoe-last celt was a polished stone tool used during the early European Neolithic for felling trees and woodworking.

INTERNATIONAL RELATIONS

ISRO, Norway and the 'Svalbard Mission'

Context: The Norwegian Ambassador has paid a visit to the ISRO Chairman. The meeting concluded with a mutual agreement on the importance of maintaining a continued partnership and fostering increased engagements between India and Norway in the field of space exploration and technology.

- This visit offers an occasion to recall the challenging Svalbard mission which took place 26 years ago at Ny-Alesund, Svalbard.

About India-Norway Svalbard Mission in 1997

- In 1997, 4 Scientists from Indian Space Research Organisation (ISRO) travelled to the Svalbard Rocket Range.
- Antrix had signed an agreement with the Norwegian Space Centre for the sale of a Rohini RH-300 Mk.II Sounding Rocket.
- The RH-300 Mk-II was given a new name by the Norwegian Space Centre as Isbjorn-1, which translates literally as ‘Polar Bear-I.’
- On the technical side, the Norway mission presented unique challenges for ISRO.
- The Rohini rockets had till then flown only in the tropical hot and humid conditions in India. On the other hand, the Svalbard archipelago sits in the Arctic Ocean and temperatures were on the extremely low side.
- ISRO had shipped the RH-300 Mk-II to Norway after qualifying it for arctic weather conditions.
- However, the rocket, unfortunately, did not achieve the predicted height, rising only up to 71 km.
- The reason was a strange one. To keep the ambient temperature at 18 degrees Celsius, it was kept covered with a velostat shroud. The idea was that it would pierce through the cover during launch. Instead, the rocket dragged it along, and the increased drag resulted in a lower altitude.
- Nevertheless, the Norwegian scientists seemed quite happy with the launch for the data collected during the flight led to some new findings.

India Norway Relations

- India and Norway have enjoyed a cordial relationship since relations were established between the two countries in 1947.
- Prior to Independence, a Danish-Norwegian trading station was established in Tranquebar (Tharangambadi), Tamil Nadu in the 17th Century.
- In 1952, the India Fund was established with the objective of providing development assistance with a focus on fisheries.
- Norway has expressed support for India’s claim to membership of export control regimes such as the Missile Technology Control Regime (MTCR), the Wassenaar Arrangement (WA), and the Australia Group (AG).

Economic Relations

- The Norwegian Pension Fund Global is likely one of India’s largest single foreign investors with investments worth \$9.5 billion, as of 2019.
- Norway’s exports to India include nonferrous metals, natural gas, plastic in primary form, crude minerals, and chemicals.
- Norway’s imports from India include apparel and accessories, textile yarns, metal manufactures, rice, and other miscellaneous manufactured goods.
- India revised its Double Taxation Avoidance Agreement (DTAA) which was signed with Norway in 1986 in 2011.

India Strategy

In December 2018, the Government of Norway launched a new 'India Strategy' which has set out clear priorities for the Norwegian government to develop bilateral cooperation with India. The five pillars of the Strategy are:

- Democracy and a rules-based world order
- Oceans
- Energy
- Climate and Environment
- Research, higher education, and global health

Blue Economy

- The India-Norway Task Force on Blue Economy for Sustainable Development was launched jointly in 2020.
- The Task Force aimed to develop and implement joint initiatives between the two countries and mobilize stakeholders from both countries at the highest level.

Cooperation in Various Fields

- Norway, with the world's fifth-largest commercial fleet, is cooperating closely with India in ship recycling and shipbuilding activities.
- The two countries are also partners in the education sector as major institutions in India such as the Indian Institute of Technology-Madras and the Institute of Wind Energy in Chennai have collaborated with Norwegian institutes.
- The Norwegian company, Piql was involved in the digitization of India's historical monuments such as the Taj Mahal, Dholavira in Gujarat, and the Bhimbhetka Caves in Madhya Pradesh.

Climate Investments

- Norway has expressed intent to invest \$1 billion in the next five years in climate investments, clean energy, and ocean technology in various countries including India. India's vast potential for solar energy makes it a suitable partner for partnership with Norway.
- Norway is also collaborating with the National Institute of Wind Energy to expand Wind energy infrastructure in India.

Science and Technology

- India's Polar Research Station "Himadri" which was established at Ny Alesund in Svalbard, Norway in 2008 hosts teams of researchers each year.
- IndARC was deployed in 2014 at Kongsfjorden fjord, Svalbard, Norway as India's first underwater moored observatory in the Arctic region with the goal of studying the Arctic climate and its influence on the monsoon.
- India and Norway have also initiated projects to combat marine litter and plastic pollution.

India, UAE target \$100 bn in non-oil trade by 2030

Context: India and the UAE on Monday set a target to increase the non-oil trade from the current \$48 billion to \$100 billion by 2030.

Key Highlights:

- The goal to achieve \$100 billion in non-oil trade was set during the first meeting of the Joint Committee of India-UAE Comprehensive Economic Partnership Agreement (CEPA).
- The target of \$100 billion will not include the oil trade. It was also agreed to set up certain sub-committees and councils.
- In the meeting, it was also decided to set up a new sub-committee to handle issues related to services trade. India-UAE CEPA council will be set up to further facilitate the implementation of the agreement.

India-UAE Comprehensive Economic Partnership Agreement (CEPA)

The Agreement is a comprehensive agreement, which will cover:

Trade-in Goods	Rules of Origin	Trade-in Services	Technical Barriers to Trade (TBT)	Sanitary and Phytosanitary (SPS) measures
Dispute Settlement	Movement of Natural Persons	Telecom	Customs Procedures	Pharmaceutical products
Government Procurement	Intellectual Property Rights (IPR)	Investment	Digital Trade	Cooperation in other Areas

What is CEPA?

- It is a kind of free trade pact that covers negotiation on the trade in services and investment, and other areas of economic partnership.
- It may even consider negotiation in areas such as trade facilitation and customs cooperation, competition, and IPR.
- Partnership agreements or cooperation agreements are more comprehensive than Free Trade Agreements.
- CEPA also looks into the regulatory aspect of trade and encompasses an agreement covering the regulatory issues.
- India has signed CEPAs with South Korea and Japan.

Background of India-UAE CEPA

- India and the UAE enjoy excellent bilateral relations, which are deep-rooted and historical, sustained and nurtured by close cultural and civilizational affinities, frequent high-level political interactions, and vibrant people to people linkages.
- The India-UAE comprehensive strategic partnership was initiated during the visit of the Prime Minister of India to UAE in 2015.

Status of Trade

- India and the UAE have been each other's leading trading partners.
- From USD 180 million per annum in the 1970s, India-UAE bilateral trade has steadily increased to USD 60 billion in FY 2019-20 making the UAE, India's third-largest trading partner.

Exports

The UAE is also the second-largest export destination of India.

Investments

- The UAE is also the eighth largest investor in India with an estimated investment of USD 18 billion
- India and the UAE have recently entered into a Memorandum of Understanding (MoU) whereby the UAE has committed USD 75 billion towards infrastructure development in India.

Economic Importance of UAE

- The UAE is an important source of India's energy supply and a key partner of India in the development of strategic petroleum reserves, upstream, and downstream petroleum sectors.

Significance

- The India-UAE CEPA will further cement the already deep, close and strategic relations between the two countries and will create new employment opportunities, raise living standards, and improve the general welfare of the peoples of the two countries.

Highlights of Progress Made In India and Africa

Context: It was remarked at the 18th CII-EXIM Bank Conclave on 'India-Africa Growth Partnership'.

- The bilateral trade of India with Africa grew by 9.26% in FY 2022-23 reaching almost \$100 Billion.
- India's goal is to double the trade volume to US\$ 200 Billion by 2030.
- The exports and imports are approximately balanced with exports being US\$ 51.2 Billion and imports being US\$ 46.65 Billion in FY 2022-23.
- 27 Least Developed Countries (LDCs) of Africa benefit from the Duty-Free Tariff Preference on non-reciprocal basis already.
- Free Trade Agreements (FTAs) and Comprehensive Economic Partnership Agreement (CEPA) can be explored with other African countries as well.

About India Africa partnership

- Long history of partnership, with solidarity and political affinity going back to the early 1920s when both regions were fighting against colonial rule and oppression.

- However, India's economic engagement with Africa began intensifying in the early 2000s.

Importance of Africa

- With abundant mineral reserves, oil and natural gas reserves, Africa can help India's quest for energy security.
- Critical to India's security, especially the Horn of Africa region.
- Support of African countries is important for India's aim of gaining a permanent seat in UNSC.

IMPORTANT DAYS

World Blood Donor Day

Context: World Blood Donor Day is observed annually on June 14 to express gratitude towards selfless voluntary blood donors and celebrate the essence of life and humanity.

Importance of this Day

- This occasion serves as a significant platform to appreciate and acknowledge voluntary blood donors worldwide for their generous contribution of blood, while also emphasizing the importance of ensuring universal access to safe blood transfusion.

Theme for World blood Donor Day 2023

- The slogan or theme of the World Blood Donor Day 2023 is "Give blood, give plasma, share life, share often."
- The theme highlights the importance of giving blood or blood plasma regularly to create a safe and sustainable supply of blood and blood products that can be always available, all over the world, so that all patients in need can receive timely life saving treatment.

History of World Blood Donor Day

- The World Health Organization (WHO) officially established World Blood Donor Day in 2004. During the 58th World Health Assembly in 2005, it was designated as an annual global event with the purpose of increasing awareness regarding the significance of blood donation.
- The origins of blood donation can be traced back to ancient times. In recorded history, the noteworthy contributions of Richard Lower, an English physician, stand out.

Global Wind Day

Context: Global Wind Day celebrated on 15th June 2023 by the Ministry of New and Renewable Energy (MNRE) with the theme of "Pawan - Urja: Powering the Future of India".

Important Highlights

MNRE has set the target of 500 GW renewable energy capacity by 2030 and Wind Atlas at 150 meter above ground level was also launched by National Institute of Wind Energy (NIWE), estimating the onshore wind potential at 1,164 GW.

What is Global Wind Day?

- Global Wind Day is an annual event since 2007 to promote wind energy as a clean and renewable source of power.

- It was started by the European Wind Energy Association (EWEA) and later joined by the Global Wind Energy Council (GWEC).
- GWEC is a member-based organisation that represents the entire wind energy sector.

MNRE has set the target of 500 GW renewable energy capacity by 2030 and Wind Atlas at 150 meter above ground level was also launched by National Institute of Wind Energy (NIWE), estimating the onshore wind potential at 1,164 GW.

Contribution of states in wind energy sector

The states, Rajasthan, Gujarat and Tamil Nadu, were appreciate for their significant contribution to promotion of wind energy.

- Rajasthan – for achieving the highest addition of wind capacity.
- Gujarat - for achieving the highest addition of wind capacity but through open access.
- Tamilnadu – for its initiative to repower wind turbines.

Wind energy status of India

Wind power capacity	4th rank in the world
The total installed capacity of wind power	41 GW (as of May 2022)
Onshore wind energy potential at 150 meter above ground level	1,164 GW approximately
Offshore wind energy potential	194GW
Domestic wind manufacturing capacity	15 GW

POLITY

Law Commission Seeks Fresh Inputs On Uniform Civil Code

Context: The 22nd Law Commission of India on Wednesday sought fresh suggestions from various stakeholders, including public and religious organisations, on the Uniform Civil Code (UCC).

Important Highlights

- The previous 21st Law Commission had also examined the subject and solicited the views of stakeholders through its appeal.
- The previous commission has also issued a consultation paper on “Reforms of family law” in August 2018.
- “Since more than three years have lapsed from the date of issuance of the said consultation paper, bearing in mind the relevance and importance of the subject and also the various court orders, the 22nd Law Commission considered it expedient to deliberate afresh over the subject,” the panel said.
- Those willing to share their views, suggestions on the UCC can write to the commission through the email of the member-secretary or via its website.
- The panel said a unified nation did not necessarily need to have “uniformity” and that “efforts have to be made to reconcile our diversity with universal and indisputable arguments on human rights”.

Uniform Civil Code

Uniform Civil Code (UCC) refers to the idea of having a common set of civil laws applicable to all citizens of a country, irrespective of their religious beliefs. In simpler terms, it means having a unified code that

governs personal matters like marriage, divorce, inheritance, and adoption. Currently, in many countries, including India, different religious communities have their own laws for these matters. UCC aims to promote equality and uniformity by ensuring that all citizens are subject to the same laws, regardless of their religious background. It seeks to harmonize personal laws while respecting the diversity and rights of individuals.

ECONOMICS

Retail Inflation Cooled Down to 4.25% In May

Context: India's retail inflation eased further in May to a 20-month low of 4.25%, from 4.7% in April, with price rise in food items faced by consumers moderating to 2.91%.

Important Highlights

- This is the third successive month that inflation has remained below the Reserve Bank of India's (RBI's) upper tolerance limit of 6% after a prolonged streak above it.
- Base effects from May 2022 when retail inflation was over 7% also played a role in lowering the inflation rate this May.
- On a month-on-month basis, however, price levels continued to firm up, with the Consumer Price Index (CPI) rising 0.51% for the second successive month, while the Consumer Food Price Index (CFPI) ticked up 0.7%, compared to 0.6% in April.
- Urban consumers faced slightly higher inflation at 4.27% than their rural counterparts (4.17%).
- However, food inflation was lower in urban areas, easing significantly to 2.43% from 3.7% a month earlier.
- In comparison, rural food price rise moderation was less benign, cooling to 3.2% in May from 3.9% in April.
- Among food items, vegetables and edible oils contributed the most to the cooling inflation pace, with prices falling 16% and 8.8% from May 2022 levels, respectively.
- At the same time, inflation in cereals (12.7%), pulses (6.6%), milk (8.91%) and spices (17.9%) remained areas of concern.

Cooling down

India's retail inflation decelerated to 4.25% in May from 4.7% in April. Retail inflation has been below RBI's upper threshold of 6% and is now closer to RBI's medium-term target of 4%



Consumer Food Price Index (CFPI)

- Consumer Food Price Index (CFPI) measures changes in the retail prices of food items consumed by a defined population group in a given area with reference to a base year.
- Like the Consumer Price Index (CPI), the CFPI is also calculated on a monthly basis. The methodology of CFPI remains the same as that of CPI.
- The National Statistical Office (NSO) under the Ministry of Statistics and Program Implementation started releasing the CFPI for three categories – Rural, Urban, and Combined – separately on an All-India basis with effect from May 2014.

- CFPI (Rural/Urban/Combined) is based on ten sub-groups contained in the “Food and Beverages” group of CPI.



May Wholesale Prices Drop 3.48%

Context: India’s wholesale prices remained in deflationary mode for the second month in a row in May, with prices falling 3.48%, and all categories reporting a contraction in prices compared with May 2022, when inflation had hit a record high of 16.6%.

Important Highlights

- Effects of a high base from last May, when taxes on petroleum products were slashed near the month-end, dragged fuel and power prices lower into a 9.2% deflation, while manufacturing products’ prices shrank 3%.
- Primary articles recorded a deflation of 1.8% and the wholesale food index dropped 1.6% compared with a 0.2% rise in April 2023, when overall wholesale prices had recorded a 0.92% deflation.
- Decline in the rate of inflation in May 2023 is primarily contributed by fall in prices of mineral oils, basic metals, food products, textiles, non-food articles, crude petroleum & natural gas, and chemical & chemical products,” the Commerce and Industry Ministry said in a statement.
- ICRA chief economist said this was the lowest WPI inflation since November 2015 and deflation was likely to persist at about 2.5-3.5% in June due to base effects from last year, when wholesale prices rose 16.2%.

Wholesale Price Index (WPI)

The Wholesale Price Index (WPI) is the average change in prices of a fixed basket of commodities at the first point of bulk sale in the domestic market over a particular period of time. This is looked at from the manufacturer's and wholesalers' points of view. It is compiled and published by the Office of Economic Adviser on a monthly basis.

Significance of WPI

- It gives estimates of inflation for the entire economy at the wholesale transaction level. This enables the government to intervene quickly to control inflation, particularly inflation in vital goods before the price increase reaches retail prices.

- For several sectors of the economy, the WPI is utilized as a deflator by the CSO when measuring GDP. It's also used to deflate nominal production values in high-frequency IIP.
- WPI is often used by users in commercial contracts for indexing.
- WPI is also one of the important macro indicators that global investors use to make investment decisions.
- The WPI-based inflation estimates are also used by the government in the formation of trade, fiscal, and other economic policies.
- WPI is also utilized in the delivery of raw materials, machinery, and building work for escalation clauses.
- Price adjustment (escalation) provisions in long-term sales and purchase contracts are frequently used by businesses looking for effective ways to deal with price increases.

Change in Base Year of WPI

- In May 2017, WPI's base year was updated from 2004-05 to 2011-12.
- WPI with Base 2011-12 has a number of key new features:
- The basket's contents have been raised from 676 to 697 items.
- To ensure thorough coverage and representativeness, the number of quotations has been increased from 5842 to 8331.
- To eliminate the impact of fiscal policy, the new definition of the wholesale price index excludes taxes. This also aligns the new WPI series with worldwide practices by bringing it closer to the Producer Price Index.
- In comparison to the Arithmetic mean used in the WPI 2004-05 series, the item level indices are compiled using a statistically robust Geometric mean.
- A distinct WPI Food Index has been launched as part of the updated WPI series.
- The WPI food index tracks changes in the pricing of food commodities at the producer level.
- Food inflation in India might be efficiently monitored using the WPI Food Index and the CPI Food Price Index.

GOVERNANCE

Poshan App

Context: More than 57,000 migrant workers have registered for the One Nation, One Anganwadi programme under which even if people relocate to another State, they can receive benefits given by the government to children under six years of age and pregnant and lactating women.

Important Highlights

- The Women and Child Development Ministry said this was possible through coordination between the Central and the State governments by using the Poshan Tracker app on mobile phones.
- The activities of the Anganwadi centres (child care centres), service deliveries of Anganwadi workers and complete beneficiary management for pregnant women, lactating mothers and children under six. It also digitises and automates physical registers used by workers that helps improve the quality of their work.
- The Anganwadi workers are being provided smartphones procured through the Government e-Marketplace (GeM) for efficient service delivery.

- A total of 8.66 lakh such phones have been procured by all States and Union Territories. More than 6.5 lakh Anganwadi workers have been trained so far.
- A nodal person has also been appointed for providing technical support and resolving any issue about downloading the new Poshan Tracker application and its functioning in each State.
- Migrant worker who have registered in their original State can go to the nearest Anganwadi in their current place of residence and use the schemes and services offered.
- Since the launch of the Poshan Abhiyan in 2018, a total of 10.6 crore beneficiaries have been registered out of which 47.6 lakh were lactating mothers, 7.48 crore pregnant women and the rest children.

What is Poshan Abhiyan?

POSHAN Abhiyaan (Prime Minister's Overarching Scheme for Holistic Nutrition) was launched the Prime Minister on 8th March 2018 in Jhunjhunu district of Rajasthan.

Objectives

- Prevent and reduce Stunting in children (0- 6 years).
- Prevent and reduce under-nutrition (underweight prevalence) in children (0-6 years).
- Reduce the prevalence of anemia among young Children (6-59 months).
- Reduce the prevalence of anemia among Women and Adolescent Girls in the age group of 15-49 years.
- Reduce Low Birth Weight (LBW).

Poshan Tracker App?

- The Ministry of Women and Child Development (MoWCD) has launched an application called Poshan Tracker.
- The Poshan Tracker management application provides a 360-degree view of the activities of the Anganwadi Centre.
- The app facilitates efficient service delivery by digitizing and automating the tasks performed by Anganwadi Workers.
- To support their work, smartphones procured through Government e-Market (GeM) have been provided to the workers.
- Additionally, a designated individual has been appointed in each state to offer technical support and resolve any issues related to downloading and using the new Poshan Tracker application.
- Migrant workers who have registered in their original state can visit the nearest Anganwadi in their current place of residence to access the schemes and services provided through the app.

80 Castes To Be Added To Central OBC List

Context: Approximately 80 more castes in six States are now likely to be added to the Central List of Other Backward Classes (OBCs) in the coming months, with the National Commission for Backward Classes (NCBC) already processing the approval for most of them.

Important Highlights

- In a report released by the Ministry of Social Justice and Empowerment (MSJE) last week, the government said that under the leadership of Prime Minister it had facilitated the addition of as many as 16 communities to the Central list of OBCs in Himachal Pradesh, Bihar, Jharkhand, Madhya Pradesh and Jammu and Kashmir.
- The communities likely to be added to the Central list are from States such as:
 - Maharashtra,
 - Telangana,
 - Andhra Pradesh,
 - Himachal Pradesh,
 - Punjab and Haryana.
- The Telangana government has requested that nearly 40 communities currently listed under the State OBC list should be added to the Central list.
- Andhra Pradesh has sought the addition of the Turup Kapu community, whereas Himachal Pradesh has asked for the Majhra community to be added.
- The Maharashtra government has asked that the Lodhi, Lingayat, Bhojar Pawar, Jhandse communities in the State also be added to the Central list of OBCs. Similarly,
- Punjab has asked for the Yadav community to be included and Haryana for the Gosai/Gosain Community.
- There are currently over 2,650 different communities listed in the Central OBC list for all States and Union Territories, including the 16 communities that were added since 2014.

The procedure of addition

- Articles 15(4) and 16(4) of the Constitution consist of special provisions for the socially and educationally backward classes of citizens (SEBC) which includes the SCs and STs.
- At present, there are two OBC lists - one for the state and the Centre.
- A caste included in the state OBC list enjoys reservation benefits in state government jobs and educational institutions, but not in central government jobs or educational institutions.
- As per the Procedure for Addition mentioned in the NCBC Act, 1993, the Commission is mandated to constitute a Bench to examine such proposals and then forward their decision to the Union government including dissent, wherever applicable.
- The Cabinet must then approve the additions and bring legislation to this effect. Following this the President is empowered to notify the change.
- At present, there are over 2,650 different communities listed in the Central OBC list for all States and Union Territories.
- The Union government introduced the 105th Amendment to the Constitution to reaffirm the right of the individual states to maintain their own OBC list.
- The Amendment was required after the Supreme Court interpreted in the Maratha Reservation case, that the 102nd Amendment that gave the NCBC constitutional status had effectively saved 671 State OBC communities from being deprived of benefits.
- Under Article 342(A), Parliament's approval is necessary before adding or removing any community from the backward list.

NCBC

- The National Commission for Backward Classes was established in 1993 under the Union Ministry of Social Justice and Empowerment following the Supreme Court's directions in the Indira Sawhney case.
- The 102nd Constitutional Amendment (2018) granted the NCBC constitutional status.
- Objective: The primary objective behind the establishment of the Commission was to evaluate the conditions and challenges faced by the socially and economically backward communities and provide suggestions as necessary for their betterment.

Structure

- The Commission consists of five members i.e. a Chairperson, Vice-Chairperson, and three other members
- The members are nominated by the President by warrant under his hand and seal.
- The service conditions and terms of office of the members are determined by the President.

Functions

- The NCBC has been tasked with redressing backward-class grievances.
- The NCBC has been mandated to investigate and monitor all matters pertaining to the safeguards granted for the socially and educationally disadvantaged under the Constitution and other laws
- It advises the government on the socio-economic development of socially and educationally disadvantaged groups and assesses their progress.
- The commission must perform other tasks related to the protection, welfare, development, and progress of the socially and educationally disadvantaged that the President may designate by regulation subject to the rules of any law passed by Parliament.
- Article 338B has granted the NCBC the jurisdiction to investigate complaints and welfare measures related to the socially and educationally disadvantaged.
- It has all the powers of a civil court when hearing cases.
- The commission presents an annual report to the president and can also submit a report as and when necessary.

MILITARY EXERCISES OF INDIA & DEFENSE

IAF and Army Carry Out Joint Exercise In The Central Sector

Context: The Indian Air Force (IAF) has carried out a joint exercise with the Indian Army in the central sector with deployment of multiple combat assets to check the operational readiness of the two forces.

Important Highlights

- The exercise follows the IAF's two strategic missions over the Indian Ocean region that involved Rafale and Su-30MKI jets.
- A few days ago, a fleet of Su-30MKI jets of the IAF carried out a strategic mission over the Indian Ocean region for eight hours, days after a similar operation was carried out by four Rafale aircraft.

- The Su-30MKI jets flew over the south-western region of the Indian Ocean demonstrating their operational prowess and capability to carry out long-range missions.
- The IAF carried out the two missions at a time China has been ramping up its presence in the Indian Ocean region, which is largely considered as the backyard of the Indian Navy.

Sukhoi 30 MKI

- Sukhoi 30 MKI is a Twin-seater, Multi-role, Long range Fighter / Bomber / Air Superiority Aircraft.
- It was developed by Russia's Sukhoi Aviation Center and built under license by India's Hindustan Aeronautics Limited (HAL) for the Indian Air Force (IAF).
- There are many variants of Sukhoi-30 aircraft, and the variant used by Indian Air Force is Sukhoi 30 MkI.
- There are many variants of Sukhoi-30 aircraft, and the variant used by Indian Air Force is Sukhoi 30 MkI.
- Range – 3000 Km, Maximum Speed – Mach 2.

Rafale

- These are twin-engine medium multi-role combat aircraft.
- Rafale jets are developed by the French company Dassault Aviation and they can carry out interceptions during the same flight.
- Aircraft is fitted with an on-board oxygen generation system (OBOGS) and that is why; it does not require liquid oxygen re-filling or ground support for oxygen production.
- The aircraft are capable of carrying a range of potent weapons. European missile maker MBDA's Meteor beyond visual range air-to-air missile, SCALP cruise missiles and MICA weapons system will be the mainstay of the weapons package of the Rafale jets.

Two Warships Launched

Context: Two warships of different classes were launched into the water, while the keel of a third vessel was laid on Tuesday at Larsen & Toubro (L&T) shipyard at Kattupalli in Chennai. All these are being built by the Kolkata-based defence shipyard Garden Reach Shipbuilders and Engineers Ltd (GRSE).

Important Highlights

- The ships launched were Anjadip, the third Anti-Submarine Shallow Water Craft (ASWSWC), and Sanshodhak, the fourth Survey Vessel Large (SVL), while the keel was laid for the seventh ASWSWC, the GRSE said in a statement.
- Part of the construction has been sub-contracted to L&T Shipbuilding.
- The contract for building four SVL ships was signed between the Ministry of Defence and the GRS on October 30, 2018.
- As per the build strategy, the first ship would be built at GRSE, Kolkata, and the construction of the remaining three ships up to the outfitting stage has been subcontracted to L&T Shipbuilding.

- Similarly, the contract for building eight ASWSWC ships was signed between MoD and GRSE on April 29, 2019, and four ships are being built at GRSE and the balance four ships subcontracted to L&T Shipbuilding.

Anjadip

- The ship has been named Anjadip after the island of Anjadip, located off Karwar.
- It signifies the strategic maritime importance of the Island.
- The island is connected to the mainland by a breakwater and is part of INS Kadamba.
- The building of eight ASW SWC ships is as per the contract signed between MoD and Garden Reach Shipbuilders & Engineers (GRSE), Kolkata.
- Four ships are being built at GRSE, Kolkata and the construction of a balance of four ships has been given to M/s L&T Shipbuilding, Kattupalli as per the terms of the contract.
- This Arnala class ship will replace the Abhay class ASW Corvettes of the Indian Navy.



They are designed to undertake the following operations:

- Anti-submarine operations in coastal waters,
- Low-Intensity Maritime Operations (LIMO), and
- Mine Laying operations including subsurface surveillance in littoral waters.

BIODIVERSITY & ENVIRONMENT

Warming Oceans Make It Harder To Forecast Cyclones In Arabian Sea

Context: Experts say cyclones in the Bay of Bengal, being far more frequent, were better understood; Arabian Sea has seen fewer cyclones historically because of relatively colder sea surface temperatures, but now it is heating up more than average.

Important Highlights

- Most cyclones around India tend to originate in the Bay of Bengal but global warming, as scientists have been pointing out for a while now, is causing the Arabian Sea to be heating up more than average and increasingly stronger cyclones like Biparjoy are forming.
- Biparjoy was situated about 700 km west of Goa. As per the IMD forecast, it was to move away from the Gujarat coast to dissipate into the sea without reaching land in either Kutch, Gujarat or Pakistan.
- Four days before Biparjoy commenced landfall, did the IMD first suggest that the storm would strike India.

- Contrast this with the most recent storm, Mocha, in the Bay of Bengal. On May 9, the IMD forecast that Mocha, then located in the South Andaman sea, would recurve (sharply change direction) towards the Bangladesh-Myanmar coasts.
- This was the trajectory that the cyclone largely adhered to when it made landfall on May 14 between Cox's Bazaar (Bangladesh) and Sittwe (Myanmar).
- Cyclone Yaas in May 2021, Cyclone Mandous in December 2022 and Cyclone Gulab in September 2021 – all major storms in the Bay of Bengal in recent years that made landfall – followed paths predicted by the IMD at least four or more days in advance.
- The last major cyclonic storm in the Arabian Sea before Biparjoy — Cyclone Tauktae — also threw a surprise. Its direction could be gauged only two days before landfall.

Challenge Arabian Sea Cyclone Forecasts

- **Difficult to predict:** India Meteorological Department (IMD) has over the years been largely accurate in forecasting the direction and intensity of cyclones in India, however, it takes more time to accurately forecast the trajectory of storms that originate in the Arabian Sea, than those in the Bay of Bengal.
- **Global Warming:** Most cyclones around India tend to originate in the Bay of Bengal but global warming is causing the Arabian Sea to heat up more than average. Nearly 48% of cyclones here never reached land, as opposed to only 13% in the Bay of Bengal.
- **Factors Unique to Arabian Sea:** The Arabian Sea has a much deeper - up to 40 meters – layer of warm water compared to that in the Bay of Bengal. Many times, these sub-surface values aren't captured in the cyclone prediction models and that's why, the strength and speed of the cyclones aren't accurately captured in advance.

SCIENCE & TECHNOLOGY

Scientists Develop Synthetic Embryos Using Stem Cells

Context: Scientists from the University of Cambridge and California Institute of Technology have reported creating the world's first synthetic human embryo models using stem cells and without using eggs or sperm.

Important Highlights

- These structures have no organs like the brain or the heart and are at very early stages of human development.
- These have cells that would proceed to form the placenta, yolk sac and the embryo, said scientists about a research that is yet to be published in journals but has been accepted for publication.
- Scientists said the study was triggered by their need to understand the black box period of human development.
- The black box period is the period following 14 days after fertilisation, which is the agreed limit for scientists to grow and study embryos in a lab.
- Scientists in India said the work presented vast research possibilities but equally posed ethical questions. Human embryos developed from IVF are governed by laws but there are no regulations on stem cell-based models of human embryos.

About Stem Cells

- A cell with the unique ability to develop into specialised cell types in the body.
- Provide new cells for the body as it grows, and replace specialised cells that are damaged or lost.
- Two unique properties:
 - Can divide over and over again to produce new cells.
 - As they divide, they can change into the other types of cell that make up the body.

Solar Ultraviolet Imaging Telescope (Suit) Delivered to ISRO

Context: The Solar Ultraviolet Imaging Telescope (SUIT), a unique space telescope developed by Pune's Inter-University Center for Astronomy and Astrophysics (IUCAA) has been delivered to the Indian Space Research Organisation (ISRO).

About

- SUIT, developed by Pune's Inter-University Center for Astronomy and Astrophysics (IUCAA), is set to be integrated with ADITYA-L1 mission along with its 6 other payloads.
- SUIT is one of the main payloads on Aditya-L1.
- It will provide full disk images of Sun in 2000 - 4000 Å wavelength range.
- Full disk images in entire wavelength range have never been obtained.



Significance

It will answer fundamental questions like:

- Existence of a higher temperature atmosphere above cooler surface.
- Origin and variation of near-ultraviolet radiation from Sun.
- High energy explosions such as solar flares observed in solar atmosphere, etc.
- Aditya-L1, propelled by Polar Satellite Launch Vehicle (PSLV) XL, is first Indian space mission to observe Sun and solar corona.
- It'll be inserted in a halo orbit around Lagrangian point 1 (L1) of Sun-Earth system, which is about 1.5 million km from Earth.
- Other solar missions: NASA's Parker Solar Probe, European Space Agency's Solar and Heliospheric Observatory, China's Kuafu-1 solar probe etc.

Key points about Aditya-L1 Mission

- It is India's first dedicated scientific mission to study the Sun.
- The spacecraft will be placed in a halo orbit around the first Lagrange point, L1, which is 1.5 million km from the Earth towards the Sun.
- A satellite around the L1 point has the major advantage of continuously viewing the Sun without occultation/eclipses.
- Aditya-L1 carries seven payloads to observe the photosphere, chromosphere, and the outermost layers of the Sun (the corona) using electromagnetic and particle detectors.
- The satellite will be launched by a PSLV-XL launch vehicle from Sriharikota.