



# PRECURE COMPILATION FOR 2020

**4<sup>th</sup> Week of May**  
**(25<sup>th</sup> May to 30<sup>th</sup> May)**

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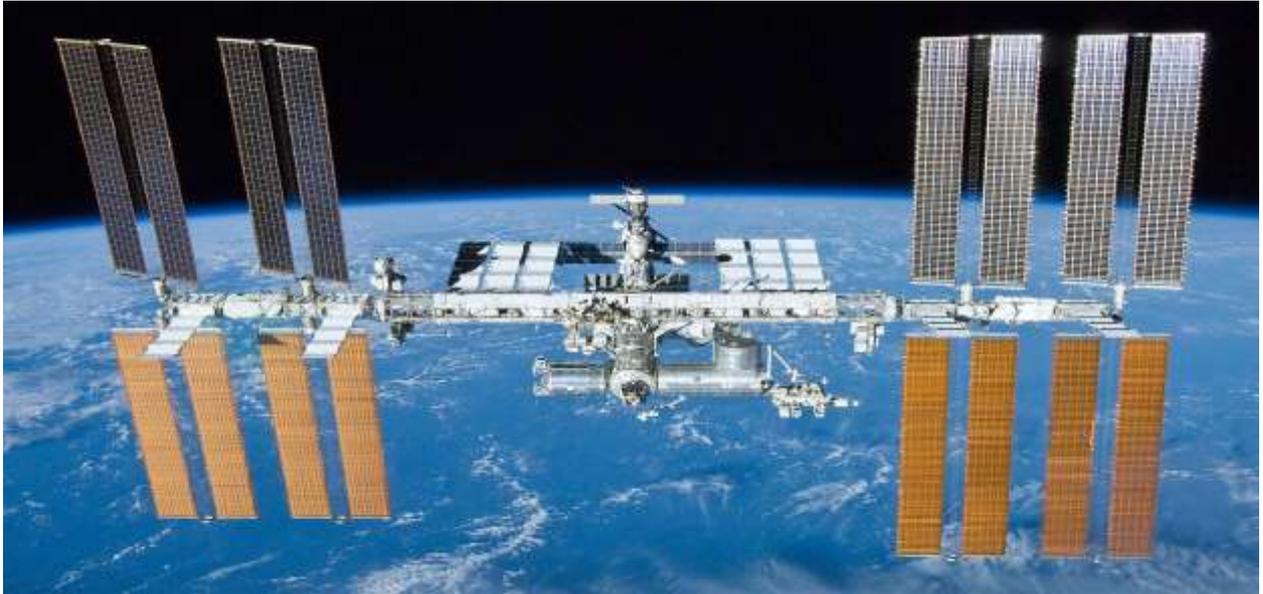
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## GEOGRAPHY

### 1. SpaceX Demo-2 Mission

- The Demo-2 mission is part of **NASA's Commercial Crew Program** with the aim of developing reliable and cost-effective access to and from the ISS.
- **Boeing and SpaceX** were selected by NASA in September 2014 to develop transportation systems meant to transfer crew from the US to the ISS.
- Essentially, the lift-off is a flight test to certify if SpaceX's crew transportation system can be used to ferry crew to and from the space station regularly.



### International Space Station

- The International Space Station (ISS) is a modular space station (**habitable artificial satellite**) in low Earth orbit. The ISS programme is a multi-national collaborative project between five participating space agencies: **NASA (United States), Roscosmos (Russia), JAXA (Japan), ESA (Europe), and CSA (Canada)**.
- The ownership and use of the space station is established by intergovernmental treaties and agreements.
- The ISS serves as a microgravity and space environment research laboratory in which scientific experiments are conducted in astrobiology, astronomy, meteorology, physics, and other fields.
- The station is suited for testing the spacecraft systems and equipment required for possible future long-duration missions to the Moon and Mars.
- As of September 2019, 239 astronauts, cosmonauts, and space tourists from 19 different nations have visited the space station, many of them multiple times.

### The Commercial Crew Program

- The main objective of this program is to make access to space easier in terms of its cost, so that cargo and crew can be easily transported to and from the ISS, enabling greater scientific research.
- Secondly, by encouraging private companies such as Boeing and SpaceX to provide crew transportation services to and from low-Earth orbit, NASA can focus on building spacecraft and rockets meant for deep space exploration missions

### 2. Cyclone Amphan

Cyclone Amphan is a tropical cyclone formed over Bay of Bengal that has turned into a "super cyclonic storm (maximum wind speed is 120 knots).

WEATHER SAFFIR-SIMPSON HURRICANE WIND SCALE		
CATEGORY	WINDS (MPH)	DAMAGE
1	74-95	SOME
2	96-110	EXTENSIVE
3	111-129	DEVASTATING
4	130-156	CATASTROPHIC
5	157+	CATASTROPHIC

## Stages of Cyclone Warning System in India

- **Pre Cyclone Watch:** Warnings are issued **72 hours in advance**. It contains early warning about the development of a cyclonic disturbance in the north Indian Ocean. It is issued by the Director General of Meteorology himself.
- **Cyclone Alert:** It is the **Second Stage warning**. It is issued at least **48 hrs.** In advance of the expected commencement of adverse weather over the coastal areas.
- **Cyclone Warning:** It is the **Third Stage warning**. It is issued at least **24 hours** in advance of the expected commencement of adverse weather over the coastal areas.
- **Post Landfall Outlook:** It is the **Fourth Stage of warning**. It is issued at least **12 hours in advance of expected time of landfall**

## Associated Static Topics

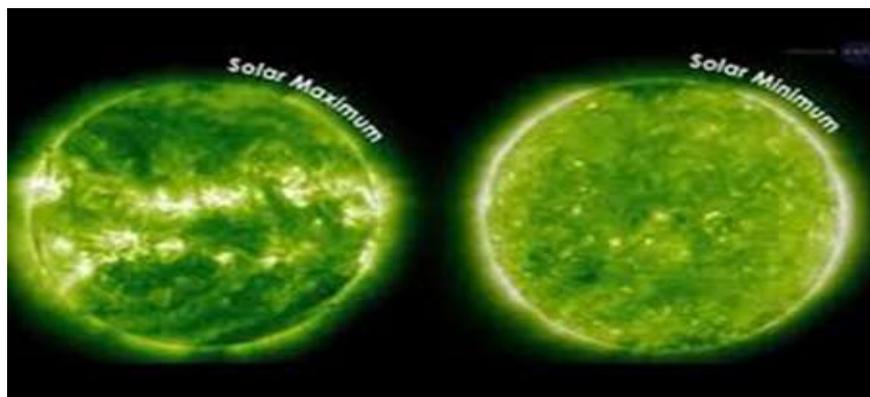
1. Conditions important Formation of Tropical Cyclone
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## 3. Solar Minimum

The sun is said to have gone into a state called the 'solar minimum' and is about to enter the deepest period of 'sunshine recession' as sunspots are virtually not visibly at all.

### Solar minimum and solar maximum

Solar activity simply changes form.



### Solar maximum

- Solar minima and maxima are the two extremes of the Sun's 11-year and 400-year activity cycle. At a maximum, the Sun is peppered with sunspots, solar flares erupt, and the Sun hurls billion-ton clouds of electrified gas into space.
- Sky watchers may see more auroras, and space agencies must monitor radiation storms for astronaut

protection. Power outages, satellite malfunctions, communication disruptions, and GPS receiver malfunctions are just a few of the things that can happen during a solar maximum.

## Solar Minimum

- At a solar minimum, there are fewer sunspots and solar flares subside. Sometimes, days or weeks go by without a spot. Every 11 years or so, sunspots fade away, bringing a period of relative calm. This is called the solar minimum. And it's a regular part of the sunspot cycle. While intense activity such as sunspots and solar flares subside during solar minimum, that doesn't mean the sun becomes dull.

## 4. Western Ghats:

- States surrounding the Western Ghats have pushed for the quick declaration of the region as an Ecologically Sensitive Area
- These six states include Kerala, Karnataka, Goa, Maharashtra, Gujarat and Tamil Nadu.

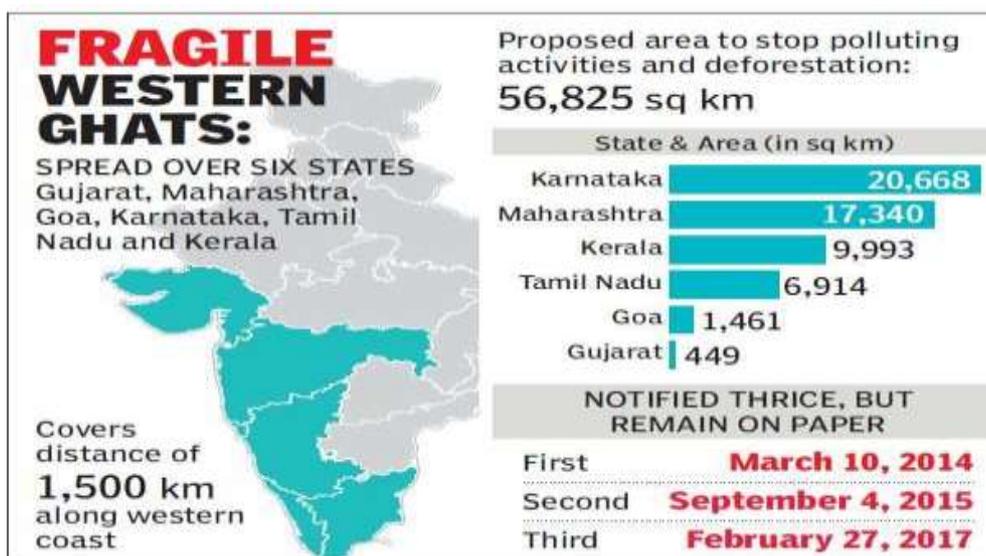
## Indian Express

- To conserve and protect the bio diversity of Western Ghats while allowing for sustainable and inclusive development of the region, the government had constituted a High Level Working Group under the Chairmanship of Dr. Kasturirangan.
- The Committee had identified geographical areas falling in the six States of Kerala, Karnataka, Goa, Maharashtra, Gujarat and Tamil Nadu as Ecologically Sensitive Areas.
- A draft notification was issued in October 2018 mentioning the areas to be notified in the ESA.
- The states were of unanimous view that there is a need to ensure protection of the western Ghats. However, the states expressed their views as regards activities and extent of area mentioned in the said notification. It was decided that state specific issues shall be further deliberated so as to arrive at a consensus on the issue.
- The states expressed their desire to expedite early notification while protecting interest of ecology and environment.

## Ecologically Sensitive Zone

- Eco-Sensitive Zones (ESZs) or Ecologically Fragile Areas (EFAs) are areas in India notified by the Ministry of Environment, Forests and Climate Change (MoEFCC), Government of India around Protected Areas, National Parks and Wildlife Sanctuaries.
- The purpose of declaring ESZs is to create some kind of "shock absorbers" to the protected areas by regulating and managing the activities around such areas.
- They also act as a transition zone from areas of high protection to areas involving lesser protection.

## States in Western Ghats



## Kasturirangan Report

- Instead of the total area of Western Ghats, only 37% (i.e. 60,000 sq. km.) of the total area be brought under

### ESA under Kasturirangan report.

- A **complete ban on mining, quarrying and sand mining in ESA.**
- Distinguished between **cultural** (58% occupied in the Western Ghats by things like human settlements, agricultural fields and plantations) and **natural landscape** (90% of it should come under ESA according to the committee).
- **No thermal power be allowed and hydropower projects are allowed only after detailed study.**
- **Red industries i.e. which are highly polluting be strictly banned in these areas.**
- Kasturirangan report on the Western Ghats has made several pro-farmer recommendations, **including the exclusion of inhabited regions and plantations from the purview of ecologically sensitive areas (ESAs).**

### Madhav Gadgil Report

- The Western Ghats Ecology Expert Panel (WGEEP) designated **the entire hill range as an Ecologically Sensitive Area (ESA).**
- The panel, in its report, has classified the 142 taluks in the Western Ghats boundary into **Ecologically Sensitive Zones (ESZ) 1, 2 and 3.**
- **ESZ-1 being of high priority, almost all developmental activities (mining, thermal power plants etc) were restricted in it.**
- It also asked for decentralization and more powers to local authorities.
- The commission recommended constitution of a **Western Ghats Ecology Authority (WGEA)**, as a statutory authority under the Ministry of Environment and Forests, with the powers under Section 3 of the **Environment (Protection) Act, 1986.**

## 5. Contract Farming Define

- **Contract farming involves agricultural production being carried out on the basis of an agreement between the buyer and farm producers.**
- Sometimes it involves the buyer specifying the quality required and the price, with the farmer agreeing to deliver at a future date.
- The **Odisha government has promulgated an ordinance allowing investors and farmers to enter into agreement for contract farming in view of the continuing uncertainties due to the pandemic.**
- According to the State government, the **ordinance was aimed at facilitating both farmers and sponsors to develop mutually beneficial and efficient contract farming system.**
- **The new system will lead to improved production and marketing of agricultural produce and livestock while promoting farmers' interest.**
- The government has, however, made it clear that **notwithstanding anything contained in the agreement, no title, rights, ownership or possession of land or premises or other such property will be transferred or alienated or vest in the sponsor or its successor or its agent.**
- Moreover, **both the loans and advances given by the sponsor to the producer can be recovered from the sale proceeds of the produce and in no case be realised by way of sale or mortgage or lease of the land in respect of which the agreement has been entered into.**
- The government will constitute a **“Contract Farming and Services (Promotion and Facilitation) Committee” to review the performance of the contract farming and to make suggestions to the government for its promotion and efficient performance.**

### Additional Info

- In India, **contract farming is regulated under the Indian Contract Act, 1872.**
- In addition, the **Model APMC (Agricultural Produce Market Committee) Act, 2003 provides specific provisions for contract farming, like compulsory registration of contract farming sponsors and dispute settlement.**
- Since **agriculture is a state list subject, therefore contract farming is not uniform.**

## 1. Surveys delayed cause data vacuum

- In 2009-10, the National Sample Survey Office (now National Statistical Office or NSO) conducted a large sample survey of Household Consumer Expenditure (HCE).
- This survey, usually carried out once in five years, was repeated in 2011-12. The reason: 2009-10 saw India suffer both a severe drought and the aftereffects of the global financial crisis. 2011-12 was a “normal” year like 1999-2000 and 2004-05, “free” from any major economic downturn.
- 2011-12 not only yielded the HCE survey data used for estimating poverty lines and ratios: Households with consumption expenditure below a certain level, which is state-specific and different for rural and urban areas, are considered poor.
- That period produced a surfeit of information also from other sources – the 2011 Census, NSSO’s Employment and Unemployment Survey (EUS), and the Rural Development Ministry’s Socio Economic and Caste Census (SECC). Policymakers and researchers were, simply put, spoilt for choice with regard to official data availability.
- Contrast these to the present times where there’s a virtual data vacuum. The NSO did carry out a HCE survey for 2017-18, but the Ministry of Statistics & Programme Implementation did not release its results citing “data quality issues”.
- Instead, it proposed conducting back-to-back HCE surveys in 2020-21 and 2021-22 “after incorporating all data quality refinements”.
- The Census, which collects individual-level demographic as well as socio-cultural, occupational, education and migration-related information, is scheduled to be conducted in February-March 2021.
- Prior to that, the first Houselisting & Housing phase – which looks at the amenities and assets possessed by households along with the condition of homes (construction material, number of rooms, etc) – was to take place during April-September 2020.
- The NPR Updation which saw much debate had also been clubbed with the same. The houselisting operation is crucial for carving out enumeration blocks or specific areas that are used for collection of census data.
- The same goes for the SECC, whose individual/household-level data, unlike that of the regular Census, isn’t confidential.
- The Narendra Modi government has used the SECC-2011 database for identifying beneficiaries under Pradhan Mantri Gramin Awaas Yojana (rural housing), Ujjwala (LPG connection), Saubhagya (household electrification), Ayushman Bharat (health insurance) and other welfare schemes.
- But the SECC-21, too, cannot be undertaken without the demarcation of enumeration blocks as part of the Census houselisting operation.

## 2. Changes proposed in Companies Act

- Finance and corporate affairs minister Nirmala Sitharaman on 21st May announced that the government was moving to decriminalise provisions of the Companies Act to enhance ease of doing business in the country as part of the government Covid-19 relief package.
- A number of offences previously classified as compoundable offences, i.e. those offences that had either imprisonment or fines as punishments have had the imprisonment penalty removed.
- Some of these offences have been omitted altogether while others have been shifted from the purview of the National Company Law Tribunals (NCLT) to an in-house adjudication mechanism.
- The move has been part of larger government efforts to boost ease of doing business since 2018. The recently decriminalised offences include administrative offences such as delays in filing CSR reports, or failure to rectify the register of members in compliance with orders from the NCLT.
- The government had also introduced amendments to the Companies Act making violations of the Corporate Social Responsibility (CSR) provisions punishable by imprisonment but did not operationalise the provision after feedback from industry.
- The Companies Act amendment bill 2020 has also proposed to remove criminal liability from CSR provisions.
- The numbers of compoundable offences under the Companies Act have come down to 31 from 81 prior to the 2018 amendment to the Companies Act.
- A number of these offences have been moved from needing to be prosecuted through the National Company

Law Tribunals to being dealt with by the Registrar of Companies.

- The RoC is empowered to decide penalties for these offences and companies can appeal to the Regional Director (RD) of the Ministry of Corporate Affairs (MCA) to appeal or seek modifications to these decisions.
- This move would help free up the bandwidth of NCLTs to deal with cases dealing with insolvency and other higher priority matters.
- According to experts, the ministry is expected to come out with further measures to decriminalise provisions in the companies act particularly those relating to auditors.
- The Company Law Committee had also in its report said that it would take up the matter of easing provisions of debarment of audit firms in the next phase of decriminalisation of the Companies Act.
- The corporate affairs ministry is however currently in the process of seeking debarment of audit firms Deloitte as well as KPMG affiliate firm BSR & Co. for their alleged role in the IL&FS scam.

### 3. Mission SAGAR

- As part of Mission Sagar, Indian Naval Ship Kesari entered Port Louis Mauritius on 23 May 2020. The Government of India is providing assistance to friendly foreign countries in dealing with the COVID-19 Pandemic, and towards this Indian Naval Ship Kesari is carrying COVID related essential medicines and a special consignment of Ayurvedic medicines for the people of Mauritius.
- In addition, a 14-member Specialist Medical Team comprising Indian Navy doctors and paramedics is also embarked onboard this ship, to work alongside their Mauritian counterparts and together render assistance for COVID-19 related emergencies.
- The assistance to Mauritius is a part of the Government of India outreach amidst the ongoing COVID-19 pandemic. **'Mission Sagar'**, is in consonance with the **Prime Ministers vision of Security and Growth for All in the Region 'SAGAR'**.
- This mission highlights the importance accorded by India to relations with the countries of the IOR and builds on the excellent relations existing between the two countries to battle the COVID-19 pandemic.
- The operation is being progressed in close coordination with the Ministry of External Affairs, and other agencies of the Government of India.

### 4. Katkari Tribe

- The Katkari tribes are located primarily in Raigad and in parts of Palghar, Ratnagiri and Thane districts as well and in some places of Gujarat. Katkaris are former criminal tribes under the Criminal Tribes Act, 1871, an inhuman piece of legislation enforced during the British rule.
- The act described certain groups of people as "habitually criminal" and put restrictions on their movements which led to alienation, stereotyping and harassment, to say the least.
- After independence, the Act was repealed. Presently, the Katkaris are classified as Particularly Vulnerable Tribal Groups (PVTGs).
- The Government of India came up with this classification to introduce targeted interventions noting that some tribal groups had the least development indices as compared to other tribal groups.
  - The criteria used by the Ministry of Home Affairs for classifying PVTGs was as follows:
  - A pre-agricultural system of existence such as hunting, gathering
  - Zero or negative population growth
  - Extreme low level of literacy in comparison with other tribal groups
  - A subsistence level of economy
- Groups that satisfies any one of the above criterion were considered a PVTG. There are more than 700 tribal groups in India and only 75 are classified as PVTG. Maharashtra is home to three such groups. Katkaris were historically forest dwellers.
- The name Katkari is derived from a forest based activity – the making and barter or sale of Katechu (kath) from the khair tree. They are bilingual, speaking the Katkari language amongst themselves and Marathi with others.

### 5. Pradhan Mantri Van Dhan Yojana

- Pradhan Mantri Van Dhan Yojana (PMVDY) is a retail marketing led value addition plan for Minor Forest Produce (MFP), meant for forest-based tribes to optimize the tribal income, locally.

- Under the program, MFP-based tribal groups / enterprises of around 300 members are formed for collection, value addition, packaging & marketing of Minor Forest Produces (MFPs).
- These tribal enterprises will be in the form of Van Dhan SHGs which will be a group of 15-20 members and such 15 SHG groups will further be federated into a larger group of Van Dhan Vikas Kendras (VDVKS) of around 300 members.
- TRIFED will support the VDVKS through providing them with model business plans, processing plans & tentative list of equipment for carrying out the value addition work of MFPs.
- The details would be made available on the TRIFED's website. Under its aegis, "Adivasi Ekatmik Samajik Sanstha" of Shahapur in Thane consisting mainly of people from Katkari tribe, markets Giloy and other products. Giloy is a medicinal plant with huge demand from pharmaceutical companies.

## ECONOMY

### 1. Locusts

#### What's the news

- A medium-sized swarm hit Rajasthan's Jaisalmer and Barmer districts a few days ago.
- Officials are now waiting for much larger swarms to arrive from across the border.

#### What are the likely causes

- Climate change
- Lack of effective spraying operations in sparsely inhabited and lawless parts of the world (like Somalia's Puntland area, Arabia's Empty Quarter and regions like Yemen)
- Unusual levels of rainfall because of cyclone.

#### Case of India

- India's probably the best-equipped country in this region to fight the locust swarms.
- Size of the task force sent to the region is much larger than before
- Task force is equipped with drones and aeroplanes to conduct spraying.
- Locust swarms are one subject where India and Pakistan have maintained strong cooperation.

#### Likely Challenges for the World

- Governments around the world have been focussing almost exclusively on Covid-19, and that's resulted in less attention being paid to locusts.
- Food and Agriculture Organisation has asked countries for \$100 million for pest-control operations. It will be a challenge in the present times.
- Climate change and global warming could lead to more frequent locust infestations because warming oceans could result in more frequent cyclones in the Indian Ocean, and those in turn would bring greater rainfall in normally arid zones like the Empty Quarter, creating hospitable breeding conditions.

### 2. Rights Entitlements

#### What's the news

- Because of Reliance Industries Rights Issue.
- It has become the first company to credit the rights entitlement of its shareholders directly to their demat accounts so they can trade them on the exchange platform.

#### What is Rights Entitlement

- When companies seek to raise more equity capital, they often give their existing shareholders a chance to participate in such offers through a rights offer.
- Rights offers are often priced at a discount to the market and allotment is assured.
- Rights Entitlement (RE) is the number of new shares that the shareholder of a company is eligible to apply for under the rights offer.
- REs are usually based on a ratio of existing shares held.

#### What has changed now

- Typically, the entire rights process of a company used to take 55-58 days to complete from the date of issue to listing.
- SEBI has streamlined the steps for rights issues, making them electronic, and reducing the timeline for various procedures, effectively bringing it down to 31 days.
- Rights Entitlements, under the new process, are directly credit of to the demat accounts of shareholders even before the issue opens.

#### Ease of Trading

- Direct credit of REs into shareholder accounts allows easy trading.
- Shareholders who don't want to subscribe can sell their entitlement to those who want to for the traded price.
- REs are traded on stock exchanges, similar to equity shares.
- In order to differentiate between the two, each company's RE is allotted a unique security identification

number or ISIN.

- Now, with REs traded in the stock market, you can buy more of these entitlements.

### So, the broader benefits are

- Right Entitlement platform reduces the timeline of rights issue
- Brings transparency into the entire process of renunciation of rights.
- RE trading allows retail investors to more easily participate in rights offers.
- They get to purchase additional rights shares, sell or renounce their shares in the stock exchange directly.
- REs credited to demat account can be renounced either by sale of REs using the exchange platforms or off-market transfers. Note that, if you sell on the exchange.

## 3. Urban MGNREGA?

### What's the news

- Increased spending on MGNREGA.
- Along with MGNREGA, there is PM-KISAN which gives some semblance of a social safety net for the rural population, however inadequate its scope.
- For the urban working poor, those who have left rural India in search of better opportunities, there is nothing to fall back on in an emergency.

### Why no such scheme in Urban Areas

- It didn't seem right at a time when the economy was doing well.
- A combination of MGNREGA and the construction boom in urban areas kept wages, on the whole, rising.
- There were also a lot of opportunities available because of rapidly expanding gig-economy propelled by rapid Urbanisation.
- Now, in the lockdown, they have been forced to migrate, because cities had not planned for their sustenance.

### What does the data tell us

- NCAER study ('Urban poor need better relief measures') tells us:
- There is imbalance in welfare delivery between rural and urban areas.
- More families in the rural areas (52 per cent) received extra rations compared to urban areas (42 per cent).
- The exodus from cities is perhaps also being driven by the prospect of migrants securing extra food grains in their villages.

### Way ahead

- One nation, one ration card needs to be implemented at the earliest.
- **An urban job guarantee programme.**
- **MGNREGA is a demand-based programme, which could form some sort of a universal basic income.**

## 4. Rupee Derivatives in GIFT-IFSC

### What's the news

- Two exchanges -- India International Exchange (IFSC) Ltd. and NSE IFSC Ltd. have started trading foreign-exchange settled rupee derivatives.

### Why is it being done

- The RBI has started the project of moving the large offshore market for the rupee back to India.
- The trading of rupee derivative contracts on exchanges in the International Financial Services Centre in GIFT City in Gujarat.

### Who all is expected to participate

- FPIs, Indian companies, IFSC banking units, trading members, global banks and custodians and NRIs can use this platform for hedging or for taking directional calls.

### More about the platform

- Transaction on the IFSC are exempt from short-term and long-term capital gains tax as well as transaction taxes and stamp duty.
- Experts say that this platform is quite competitive, compared to global offshore financial hubs.

## What is a Non-Deliverable Forward

- It is a cash-settled, and usually short-term, forward contract.
- The notional amount is never exchanged, hence the name "non-deliverable."
- The counterparties settle the difference between contracted NDF price and the prevailing spot price.

## What is Onshore and Offshore Currency Trading

- When the currency is traded vis-à-vis other foreign currencies **within the shores** it is called **onshore currency** markets.
- In India, it is closely regulated by the nodal regulators like the **RBI and SEBI**.
- **Offshore markets** are traded in a **neutral country**.
- For example, the USD-INR contract is traded in over the counter (OTC) market in London, Singapore and Dubai.
- This is also popularly called the Non-Deliverable Forward (NDF) market.
- These are **outside the purview of the RBI and SEBI**, which is one of the reasons the regulators are wary of such offshore markets.
- These offshore markets are **preferred by large traders** and investors to hedge their risk considering that **they are less regulated and the costs are much lower**.

## An Important Concern

- The size of the rupee NDF market has grown larger than the onshore forward market.
- The offshore trades have begun to play a larger role in price discovery.

### Usha Thorat Task Force

- NDF market driving onshore exchange rate.

## RBI's Attempt

- To begin moving the control over rupee value, back to India.

### How to do it

- Begin the trading of rupee derivatives on exchanges in the GIFT IFSC – Already Started.
- To allow banks in the GIFT IFSC to trade in rupee non-deliverable forwards – In process.

## Status of Foreign Branches

- RBI has permitted Indian banks which operate banking units in the GIFT IFSC (IFSC Banking Unit - IBUs) and have the licence to act as an authorised forex dealer to participate in the NDF market from June.
- Banks can trade through their branches in India, their foreign branches or through their IBUs.

## Way Ahead

### Important Concern: Liquidity.

- Platforms with large volumes can execute transactions with minimal impact cost.
- **Required:** Initial pools of traders or hedgers are needed who consistently execute big transactions.

### How it can be done

- Give easy access to FPIs registered in India and NRIs.
- RBI should allow individuals from opening bank accounts in IBUs.
- This will attract Indian HNIs (high net-worth individuals) from participating in the GIFT IFSC.

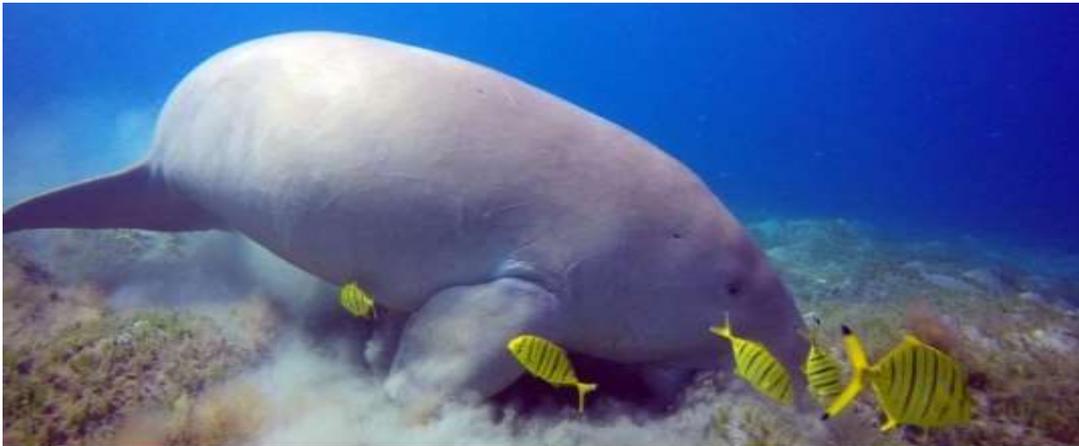
### Another Important Concern that needs to be addressed

- Dispute resolution System or Arbitration Process.
- The next step for the Centre is to help increase the participation in the exchanges in the GIFT City, since foreign investors are not likely to migrate here unless the liquidity price discovery is good.
- This move, coupled with the permission to international banking units in the GIFT-IFSC to trade in rupee NDFs, helps begin the process of reversing the migration of rupee trades, from offshore to onshore.

## ENVIRONMENT

### 1. World Dugong Day

- The dugong, commonly known as the **sea cow**, is fighting for its survival in Indian waters and unless conserved, could one day become extinct, experts have said on the eve of **'World Dugong Day'** on May 28, 2020.
- **Dugongs are mammals**, which means they give birth to live young and then produce milk and nurse them.
- **Dugongs graze on seagrass**, especially young shoots and roots in shallow coastal waters. They can consume up to 40 kilograms of seagrass in a day.



 Dugongs, the world's only vegetarian marine mammal are threatened with extinction. Photo: Ashis Senapati

- There were just 250 dugongs in the Gulf of Mannar in Tamil Nadu, the Andaman and Nicobar Islands and the Gulf of Kutch in Gujarat according to the 2013 **survey report of the Zoological Survey of India (ZSI)**.
- This year, it will be counted with the help of **underwater drone cameras**.
- There is no doubt that dugongs are an **important part of the marine ecosystem** and their depletion will have effects all the way up the food chain.
- They are listed as **Vulnerable** on the IUCN Red List and are protected in India under **Schedule I** of the Wild (Life) Protection Act, 1972.

### 2. Stubble Burning

- With **wheat harvesting** over in the key grain producing State of **Punjab**, there has been a spike in incidents of **stubble burning** compared with the past two years as many **farmers continue to defy the ban on the practice**.
- Burning of wheat straw can **cause diseases** such as problem in breathing, lungs etc, which could **affect recovery of patients suffering from COVID 19**.
- Government data show that across the State, between April 15 and May 24, as many as 13,026 incidents of straw fire have been reported.
- Last year the number of such incidents during the same period was 10,476 and in 2018, it was 11,236.
- The ban and action against people burning the crop residue is **regulated under the Air (Prevention and Control of Pollution) Act, 1981**.
- The stubble can be used for preparation of the **high-grade organic fertilizers** by mixing with cow dung and few natural enzymes.
- The stubble can be converted to **bio coal** and also can be used for **electricity generation**.
- The stubble burning emits **large amounts of toxic pollutants** in the atmosphere which contain harmful gases like methane (CH<sub>4</sub>), Carbon Monoxide (CO), Volatile organic compound (VOC) and carcinogenic polycyclic aromatic hydrocarbons.
- The burning of wheat straw **reduces the soil fertility**, besides polluting the environment.
- Additionally, the heat generated by stubble burning penetrates into the soil, **leading to the loss of moisture and useful microbes**.

### 3. Charru Mussel

- An **invasive mussel** native to the **South and Central American coasts** is spreading quickly in the **backwaters of Kerala**, elbowing out other mussel and clam species and threatening the livelihoods of fishermen engaged in molluscan fisheries.
- Externally, the **Charru mussel resembles the green and brown mussels** (kallummekka in Malayalam), but is much **smaller in size**.
- Its colour varies from black to brown, purple or dark green.
- The proliferation of Charu mussel poses a **serious threat to the endemic species diversity** of brackish water habitats of Kerala coast.



- The **Charru mussel** may have reached the Indian shores attached to ship hulls or as larval forms in **ballast water discharges**.
- **Cyclone Ockhi** which struck the region (South India, Sri Lanka, Maldives) in 2017, may **have sped up their invasion**.
- Surveys show the presence of the Charru mussel in the Kadinamkulam, Paravur, Edava-Nadayara, Ashtamudi, Kayamkulam, Vembanad, Chettuva and Ponnani estuaries/backwaters.
- **Ashtamudi Lake, a Ramsar site** in Kollam district, remains the worst-hit. With a population as high as 11,384 per sq metre here, it has replaced the Asian green mussel (*Perna viridis*) and the edible oyster *Magallana bilineata* (known locally as muringa).

### 4. Butterfly Migration

- A **surge of a million butterflies** happens annually in the Western Ghats, as they migrate **just before the onset of the Southwest Monsoon**.
- They **move towards the plains and the Eastern Ghats** to escape the rains.
- Sometimes, it is mere **dispersal to cope with food scarcity**, when there is a shortage of host plants.
- There is mass exodus to look for greener pastures.
- The **annual butterfly migration** happens across the Indian Peninsula.
- Between July and September, **when the rains recede in the Western Ghats, they move back**.
- They are **extremely sensitive to weather**, and when it is too cold or hot, they just quit the place.

## INTERNATIONAL RELATION

### 1. WHO Foundation

- It is an independent grant-making entity that will support WHO's efforts to address the most pressing global health challenges.
- It will support global public health needs by providing funds to WHO and trusted implementing partners to deliver on the Organisation's "triple billion" goals.
- The Foundation is a legally separate from WHO and will facilitate contributions from the general public, individual major donors and corporate partners to WHO and trusted partners to deliver on high-impact programmes.

### 2. Agneprastha Missile Park

- It aims to capture glimpses of Missile History of INS Kalinga since 1981 till date.
- The Missile Park has been set up with a replica of missiles and Ground Support Equipment (GSE) that showcase the evolution of missiles handled by the unit.
- It will provide a one-stop arena for motivation and stimulation of inquisitive minds regarding the missiles and related technologies from school children to Naval personnel and their families.

### 3. Tianwen-1

- It is China's first Mars mission which is expected to land on the Red Planet's surface in the first quarter of 2021.
- It will make China the third country to achieve a Mars landing after the USSR and the US.
- It will search the Martian surface for water, ice, investigate soil characteristics and study the atmosphere.
- USSR in 1971 became the first country to carry out a Mars landing.
- USA holds the record for the most number of Mars landings.

### 4. Antarctic Impulsive Transient Antenna (ANITA)

- It is an experiment that is maintained by NASA.
- It involves an array of radio antennas attached to a helium balloon which flies in the stratospheric region over the Antarctic ice sheet.
  - It flies at a height which is 4 times the height of commercial flights.
- It is designed to detect cosmic-ray air showers through radio-wave signals.
- It has indicated the possibility of a parallel universe.
- ANITA detects neutrinos pinged in from space and colliding with matter in the Antarctic ice sheet.