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## News Analysis (02 Sep, 2020)

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### NPAs in SHG loans

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#### Why in News

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The Union Ministry of Rural Development (MoRD) has asked states to monitor the status of **Non Performing Assets (NPAs)** district-wise and take corrective measures to recover overdue/outstanding dues from **Self-Help Groups (SHGs)**.

- The issue was raised in the review meeting of the **Deendayal Antyodaya Yojana-National Rural Livelihoods Mission**.
- A **Non Performing Asset (NPA)** is a loan or advance for which the principal or interest payment remained overdue for a period of 90 days.

#### Deendayal Antyodaya Yojana - National Livelihoods Mission

- It was launched by the **Ministry of Rural Development (MoRD)**, Government of India in 2011.
- NRLM set out with an agenda to cover 7 Crore rural poor households, across 600 districts, 6000 blocks, 2.5 lakh Gram Panchayats and 6 lakh villages in the country through **SHGs and federated institutions** and support them for livelihoods collectives in a period of 8-10 years.
- The Mission aims at creating **efficient and effective institutional platforms for the rural poor** enabling them to **increase household income through sustainable livelihood enhancements and improved access to financial services**.

#### Key Points

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- **SHG Loans as NPAs:**

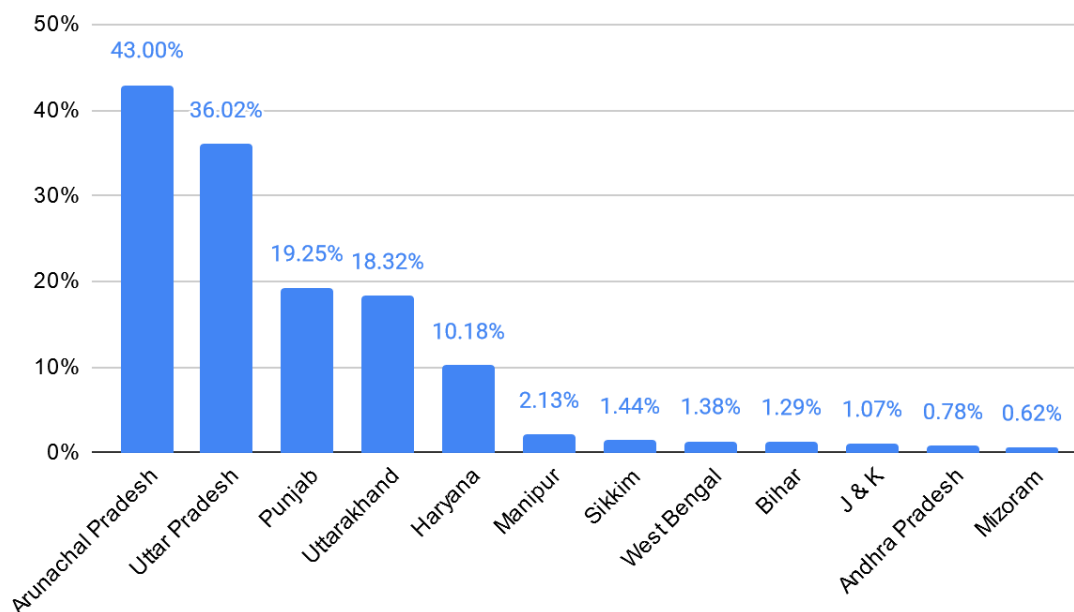
- About Rs. 91,130 crore have been given to about 54.57 lakh SHGs across the country by the end of March 2020 as loans.

Around **2.37%** or **Rs. 2,168 crore** of this total outstanding bank loans turned out to be **NPAs**.

- The proportion of NPAs in bank loans given to SHGs has **significantly increased** over the last decade from **2.90% in 2008 to 6.12% in 2018**.
- There has been a rise of **0.19%** in overall NPAs in SHG loans in 2019-20 compared to financial year 2018-19.

- **State Wise Distribution:**

State-Wise NPA % in SHGs (as of March 2020)



- **Uttar Pradesh**, which has 71,907 SHGs, reported that 36.02% of the loans taken by the groups were NPAs at the end of March 2020, as compared to 22.16% in 2018-19.
- In **Arunachal Pradesh**, the NPA proportion stood at an alarming 43%, though the number of SHGs there is just **209**.

- **Directions:** The **State Rural Livelihood Missions (SRLMs)** were directed by the MoRD to monitor the status of NPA district wise and take immediate corrective actions wherever instances of NPA or overdues were found.

A mechanism under which representatives drawn from SHGs monitored loans had proved critical in ensuring timely repayment and therefore, it should be **institutionalised in all bank branches**.

- **Reasons:** In 2019, the **National Institute of Rural Development and Panchayati Raj (NIRDPR)** has conducted a research study on NPAs by SHGs.
  - It found that **poor economic conditions, non-cooperation, lack-of training, expenses towards marriages and social ceremonies, and medical emergencies** are the main reasons for non-payment of loans by SHGs.
  - **Expectations of loan waiver from the government** was also found to be a major reason for the poor financial health of SHGs.
  - The **role played by banks** in handholding, timely opening accounts, monitoring and follow-up was not as per the expectation.

## Initiatives by Central Government to promote SHGs

### National Institute of Rural Development and Panchayati Raj

- It is an **autonomous** organisation under the **Union Ministry of Rural Development**.
- It is a premier national centre of excellence in **rural development and Panchayati Raj**.
- It has been recognized internationally as one of the **UN-ESCAP Centres of Excellence**.
- It builds **capacities of rural development functionaries**, elected representatives of Panchayati Raj Institutions, bankers, Non-Governmental Organizations and other stakeholders through interrelated activities of training, research and consultancy.
- The Institute is located in **Hyderabad (Telangana)**.

## Suggestions

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- **Training SHGs and providing them market linkages** for the products/services so that they use the funds for income generating activity and have no problem in paying back the loan amount should be done by the government. In addition, providing group health and life insurance clubbed with loans at low cost will help as members spend a significant portion of the loan on events like ill-health, ceremonies etc.
- It needs to be ensured that **grading of SHGs** needs to be done properly and loans should be issued only if it is found suitable for lending. **Follow-ups and constant monitoring** is a must.
- **Quantum of loan should be high** as it is a major limiting factor, one-time lending not only impedes the process of business expansion but also wastes the money lent so far. Banks need to be sensitized to **lend multiple doses of credit, for well performing SHGs**.

## Way Forward

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- Though NPAs by SHGs are a major concern, it must **not deter the government from supporting SHGs**. Post **lockdown**, there is an imperative need for economic revival and reconstruction. Each SHG loan sanctioned or enhanced, will either facilitate spending or investment- the twin engines for driving an economy.
- Women members of SHGs across the country from **NRLM have also contributed** to contain the spread of **Covid-19**.

**Source: IE**

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## Adjusted Gross Revenue to be Paid in 10 Years

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### Why in News

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Recently, the **Supreme Court of India** allowed **telecom companies (telcos)** 10 years' time to pay their **Adjusted Gross Revenue (AGR)** dues to the government.

### Adjusted Gross Revenue

AGR is a **fee-sharing mechanism** between the government and the telcos who shifted to the '**revenue-sharing fee**' model in 1999, from the '**fixed license fee**' model.

In this course, telcos are supposed to **share a percentage** of AGR with the government.

### Key Points

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- **Background:**

- The telecom sector was liberalised under the **National Telecom Policy, 1994** after which licenses were issued to companies in return for a fixed license fee.
- To provide relief from the steep fixed license fee, the **government in 1999** gave an option to the licensees to migrate to the **revenue sharing fee model**.
  - Under this, mobile telephone operators were required to share a percentage of their AGR with the government as **annual license fee (LF)** and **spectrum usage charges (SUC)**.
  - License agreements between the Department of Telecommunications (DoT) and the telecom companies define the gross revenues of the latter.
- The definition of AGR has been under litigation for 14 years. In 2005, **Cellular Operators Association of India (COAI)** challenged the government's definition for AGR calculation.
- However, DoT argued that AGR includes **all revenues from both telecom and non-telecom services**.
- The companies claimed that **AGR should comprise just the revenue accrued from core services** and not dividend, interest income or profit on the sale of any investment or fixed assets.
- In 2015, the **Telecom Disputes Settlement and Appellate Tribunal (TDSAT)** stayed the case in favour of telecom companies and held that AGR includes all receipts except capital receipts and revenue from non-core sources such as rent, profit on the sale of fixed assets, dividend, interest and miscellaneous income.
- However, setting aside TDSAT's order, the Supreme Court upheld the definition of AGR as stipulated by the DoT in October 2019.
  - As per the government definition, AGR includes rental receipts, dividend income and income from any other-activity arising out of the telecom licence the company has.
  - Later on, the Court rejected a 20-year payment timeline proposed by the central government and supported by telecom companies. Instead it has given 10 years' time to repay the AGR dues.

- **Directions Issued by Court:**

- The telecom operators would **make the payment of 10% of the total dues** as demanded by the Department of Telecom by 31<sup>st</sup> March 2021.
- The **yearly instalments would commence from 1<sup>st</sup> April 2021 up to 31<sup>st</sup> March 2031**. The instalments would be paid by **31<sup>st</sup> March every year**.
- In the event of any default in making payment of annual instalments, **interest would be levied** as per the agreement **along with penalty and interest on penalty** automatically without reference to court.

Besides, it would be **punishable for contempt of court**.

- Compliance with the court order should be reported by the telcos and the telecom department every year on 7<sup>th</sup> April.
- The sale of spectrum by telcos facing insolvency proceedings shall be decided by the **National Company Law Tribunal (NCLT)**.

- **Issues Involved:**

- The definition of AGR has been such a contentious issue because it has **huge financial implications for both telcos and the government**.
  - It was estimated, after the SC's 2019 judgment, that the telecom operators owe the government about Rs. 92,000 crore in back charges, interest and penalties on license fee alone.
  - The October 2019 judgment had pushed many telcos on the verge of bankruptcy.
- While the **government has been deprived of the extra revenue**, the financial implications for telecom companies — who now have to pay overdue amounts piled up for years — are serious too.

Especially at the current juncture, when profits for telcos are under pressure from severe competition and the falling average revenue per user.

## **Way Forward**

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- To enhance the growth of the telecom sector, improve the quality of service, and generate resources for the telcos, a **new infrastructural policy** is the need of the hour.
- The government needs to provide an **enabling environment** for telecom operators. In order to achieve that, a long-term vision plan must be made accordingly.
- **Enhanced accessibility of the broadband services** will enable the digital empowerment of India, hence adequate steps must be taken by the government to strengthen the overall telecom sector.

**Source: TH**

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# Eighth East Asia Summit Economic Ministers' Meeting

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## Why in News

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Recently, the **8<sup>th</sup> East Asia Summit Economic Ministers' Meeting (EAS-EMM)** was held **virtually** and attended by **10 ASEAN members and eight other nations**, including India, the USA, and China.

- The meeting **highlighted the importance of strengthening regional supply chains to make them resilient** in times of heightened challenges posed by the **Covid-19 pandemic** and to **spur economic growth**.
- Recently, Japan has mooted the **Supply Chain Resilience Initiative (SCRI)** as a trilateral approach to trade, with India and Australia as the key-partners.

## Key Points

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- **Features of the Joint Statement:**
  - Any **trade-restrictive emergency measures** put in place to address the impact of Covid-19 must be **targeted, proportionate, transparent, temporary, consistent with the World Trade Organisation (WTO) rules and do not create unnecessary barriers to trade or disruption of global and regional supply chains**.
  - Support for the **necessary reforms in the WTO** and pledge to continue to work together to **realise a free, fair, transparent, non-discriminatory, predictable, and stable trade environment**.
  - **Facilitating the essential movement of people across borders**, without undermining each country's efforts to prevent the spread of the virus and to stabilise the trade and investment.
  - **Commitment to facilitate supply chain connectivity**, including for essential goods such as medical supplies, medicines, including vaccines, food, commodities and other essential supplies and services in the region.
  - **Harness the opportunities of the digital economy** to overcome the challenges posed by restricted movement.
- **India's Stand:**

India highlighted its **Atmanirbhar Bharat Abhiyan** which is about **upscaling the growth of Indian industry, its skills and capabilities to make them resilient and less vulnerable to shocks and integrating Indian industries with the global supply chains**.

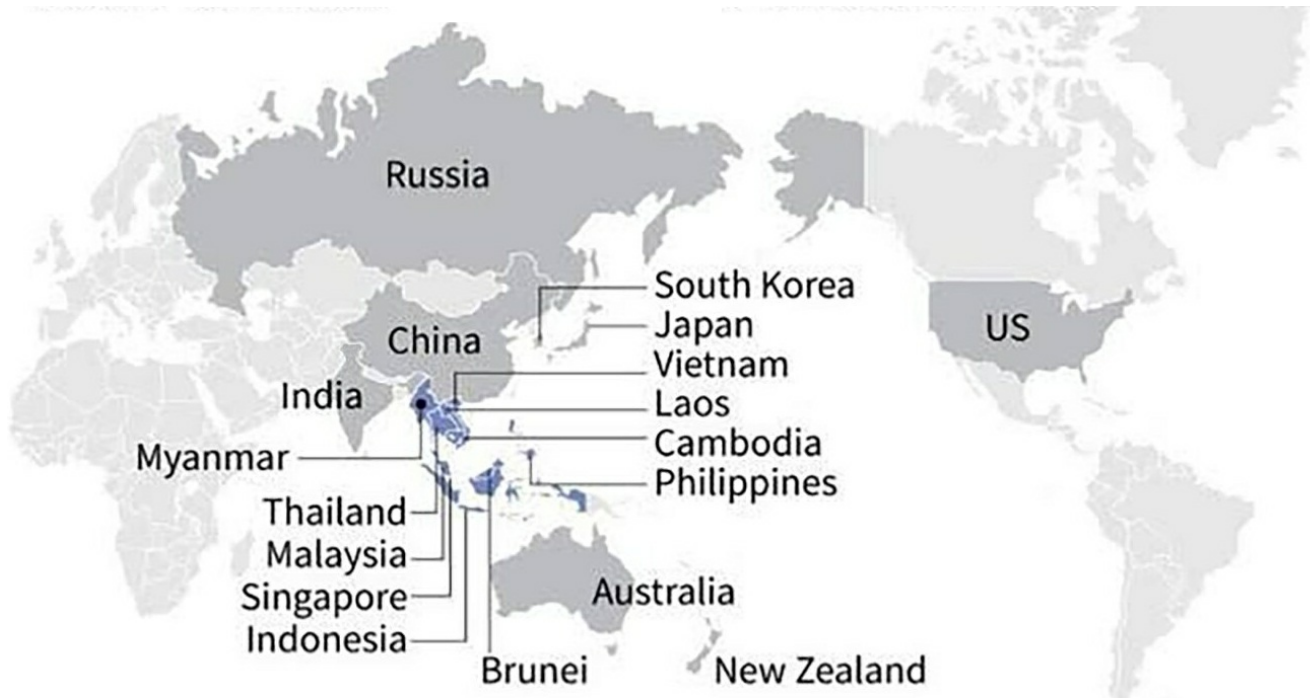
- **Significance of the Meeting:**

- The meeting comes at a **critical juncture** when the pandemic has not just **posed an unprecedented health crisis** but also caused a **sharp contraction in economic activities**, disrupting trade and investments.
- The **International Monetary Fund** (IMF) has predicted a 4.9% contraction for the 2020 global **Gross Domestic Product** (GDP), warning that the Covid-19 outbreak has plunged the global economy into its worst recession since the **Great Depression in the 1930s**.
- In April, the WTO also warned that **global trade volume growth could crash** by 13-32% in 2020.

## East Asia Summit

- Established in **2005**, it is a **forum of 18 regional leaders for strategic dialogue and cooperation** on the key political, security, and economic challenges facing the **Indo-Pacific region**.
- **Genesis:**
  - The concept of an East Asia Grouping was **first promoted in 1991 by the then Malaysian Prime Minister, Mahathir bin Mohamad**.
  - **India is one of the founding members** of the East Asia Summit.
- **Membership:**
  - It comprises the **ten member states of the ASEAN** which are Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam, **along with 8 other countries namely** Australia, China, Japan, India, New Zealand, the Republic of Korea, Russia and the USA.
  - It is an **ASEAN-centred forum** so it can **only be chaired by an ASEAN member**.





**Source: TH**

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## **Compatibility of the Contempt of Court with International Standards**

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### **Why in News**

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The **International Commission of Jurists (ICJ)** has urged for a review of criminal contempt laws in India, expressing its concerns over the Supreme Court's decision to convict **Advocate Prashant Bhushan for criminal contempt.**

### **Key points**

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- **The Supreme Court's Decision:**

- The Court found Prashant Bhushan guilty of 'scandalizing the court' on a suo-motu consideration of his two tweets. It has fined him with Rs. 1.
- It held that tweets on its "role" in the "last six years" and a photograph of the Chief Justice of India on a motorbike undermines its dignity and the office of the Chief Justice of India (CJI) in the public eye.

- **Contempt of Court:**

- **Constitutional Provisions: Article 129 and 215 of the**

- **Constitution** of India empowers the Supreme Court (SC) and High Court respectively to punish people for their respective contempt.

- Article 142 of the Indian Constitution also empowers the SC to punish for its contempt. However, **what is contempt of court per se has not been defined** by the Indian Constitution.

- **Statutory Provisions:** The **Contempt of Court Act, 1971** elaborately deals with the concept of contempt of court.

- The Act divides contempt into civil and criminal contempt.

- **International Commission of Jurists' Views:**
  - For the ICJ, the conviction appears to be inconsistent with international standards on freedom of expression and the role of lawyers.
  - **The Universal Declaration of Human Rights:** The judgement goes against the general protection of free speech and expression in the **Universal Declaration of Human Rights**.
    - The Declaration was proclaimed by the United Nations General Assembly in 1948. For the first time, fundamental human rights were made universally applicable and protected.
    - It states that 'All human beings are born free and equal in dignity and rights. They are endowed with reason and conscience and should act towards one another in a spirit of brotherhood.'
  - **The International Covenant on Civil & Political Rights:** The judgement is inconsistent with the freedom of expression law guaranteed by the **International Covenant on Civil and Political Rights**.
    - The ICCPR is a key international human rights treaty, providing a range of protections for civil and political rights.
    - The Covenant compels governments to take administrative, judicial, and legislative measures in order to protect the rights enshrined in the treaty and to provide an effective remedy.
    - The Covenant was adopted by the UN General Assembly in 1966 and came into force in 1976. 173 countries including **India have ratified** the Covenant.
  - **The United Nations' Basic Principles on the Role of Lawyers:** The judgement goes against the principles enshrined under the UN Basic Principles on the Role of Lawyers.
    - **Principle 23:** Lawyers "shall have the right to take part in public discussion of matters concerning the law, the administration of justice and the promotion and protection of human rights".
    - These Principles were adopted by the 8<sup>th</sup> United Nations Congress on the Prevention of Crime and the Treatment of Offenders, Cuba in 1990.
- The **Bar Association of India** also highlighted that "the exercise of contempt jurisdiction by the Court in this manner has potential for more self-harm than the avowed purpose of safeguarding the prestige of the institution".

## **International Commission of Jurists**

- Since **1952**, the International Commission of Jurists (ICJ) has performed a unique and prominent role as a **Non Governmental Organization (NGO)** defending human rights and the rule of law worldwide.
- It is headquartered in **Geneva, Switzerland**.

## Way Forward

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- The contempt of court should not be allowed to be used as a means to prevent criticisms and in the **era of social media**, besides the need to revisit the law on criminal contempt, even the test for contempt needs to be evaluated.
- In contemporary times, it is more important that courts are seen to be concerned about **accountability** rather than threats of contempt action, and processes are **transparent**.
- On criminal contempt, India can learn from Britain which abolished the offence of scandalizing the judiciary as a form of contempt of court in 2013.
- The **Law Commission of India** held that there is a need to retain the provision regarding the contempt of courts. However, it also recommended the definition of contempt in the Contempt of Court Act should be restricted to civil contempt, i.e., **willful disobedience of judgments of the court**.

## Source TH

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## Manufacturing Improved: PMI

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### Why in News

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As per the latest Purchasing Managers' Index (PMI) data, India's manufacturing sector activity has started to show signs of growth in August, driven mainly by pick-up in production along with improvement in customer demand.

### Purchasing Managers' Index

- Purchasing Managers' Index (PMI) is an indicator of business activity - both in the **manufacturing** and **services sectors**.
- It is calculated separately for the manufacturing and services sectors and then a composite index is also constructed.
- The PMI summarizes whether market conditions as viewed by purchasing managers are expanding, neutral, or contracting.
- The purpose of the PMI is to provide information about current and future business conditions to company decision makers, analysts, and investors.
  - The PMI is a number from **0 to 100**.
  - PMI **above 50** represents an expansion when compared to the previous month;
  - PMI **under 50** represents a contraction, and
  - A **reading at 50** indicates no change.
- The PMI is usually released at the start of every month. It is, therefore, considered a good leading indicator of economic activity.

- The Index (PMI) is compiled by **IHS Markit** for more than 40 economies worldwide. IHS Markit is a global leader in information, analytics and solutions for the major industries and markets that drive economies worldwide.

## Key Points

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- **PMI Data:**
  - The **Purchasing Managers' Index (PMI)** rose from **46 in July to 52 in August**.

In PMI parlance, a value **above 50 means expansion**, while a score below that denotes contraction.
  - **In April**, the index had slipped into contraction mode, after remaining in the growth territory for 32 consecutive months.
- **Positive Highlights:**
  - **New business** received by Indian manufacturers **expanded at the fastest pace since February**.
  - **Higher levels of production** supported a **modest rise in the number of purchases** during August.
  - **Goods and Services Tax Collection: GST** collections in August stood at—88% of the August 2019-20 level.

Collections in July were marginally higher but at 85.6% of the year earlier.
  - **Infrastructure:** The contraction in India's infrastructure sector **slowed to 9.6%** in July compared with 12.9% shrinkage in June.
  - **Mobility: The Google Mobility index**, which measures visits to different locations such as retail shops, workplaces, parks and transport hubs, **showed a 2% rise in trends** for places such as supermarkets, food warehouses, farmers' markets, speciality food shops and pharmacies.
  - **E-way bills**, another widely followed indicator of business activity, reached **99.8% of last year's level in August**.
  - **Petrol consumption:** Petrol consumption **rose by about 2%** in the first fortnight of August from the corresponding period in July.
- **Reasons:** The pick-up in demand from domestic markets gave rise to upturns in production and input buying.
  - Gradually, unlocking after lockdown has increased the pace of mobilization of economic resources.
  - Exports are also on marginal improvement. When compared to imports, the rate of export demand is on the higher side due to strict slash on imports.

- **Concerns:**
  - **Unemployment:** Despite an expansion in new orders, **job shedding** continued in the Indian manufacturing sector.
 

The relocation of employees following Covid-19 pandemic is linked to the reduction in staffing numbers.
  - **Inflation:** Reports of higher raw material costs due to supplier shortages and transportation delays stemming from the Covid-19 pandemic, resulted in rising input prices during August.
  - **Exports:** The decline in foreign exports weighed slightly on overall new orders as firms cited subdued demand conditions from abroad.

## Suggestions

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- **Focusing on Atmanirbhar Bharat:** The government announced an economic stimulus package of Rs. 20 lakh crore and big-bang systemic reforms under the **Atmanirbhar Bharat Abhiyan** (self-reliant India). The intended objective of this plan is two-fold.
  - First, **interim measures** such as liquidity infusion and direct cash transfers for the poor will work as shock absorbers for those in acute stress.
  - The second, **long-term reforms** in growth-critical sectors to make them globally competitive and attractive.
- **Increasing the MGNREGA Funding and Expanding to Urban Areas:** The **Mahatma Gandhi National Rural Employment Guarantee Act 2005 (MGNREGA)** programme has proved to be a bedrock of support in the normal times and during times of difficulty (like Covid-19) and it will be a good idea to expand the scheme to urban areas.
- **Transfer of Cash Benefits:** Money in the hands of people can provide an immediate sense of security and confidence, which is the cornerstone to restoring economic normalcy.
 

It will raise the consumption and demand of the economy and can bring back the virtuous cycle of demand and supply in play.
- **Issues with the Banking System:** Covid-19 assistance measures undertaken by the Reserve Bank of India (RBI) and the government such as interest rate reductions, credit guarantee and liquidity enhancement schemes are welcome steps.
  - Although banks have largely failed to take initiatives as they are not confident of lending.
  - The RBI should consider a Single One Time Window for restructuring business loans, as required, by all banks.

- **Tax Incentivization:** Big business houses and **MSME sector** should be supported by the government through tax incentivization to reopen their operations. This will energize consumer demand and boost the functioning of the vendor or ancillary industry in the MSME sector (which has huge potential for job creation).
- **Calibrating Make in India:** The ongoing distrust on Chinese manufacturing amid USA-China spat can be very well garnered by India. Making India a global trading hub – devise an incentive regime for companies setting up global trading operations from India.
- **Promoting Sunrise Sectors:** It should also encourage sunrise sectors as part of re-imagining Indian economy such as battery manufacturing (storage systems)/ solar panel manufacturing. The government can also consider giving impetus to “Deep Tech”-leveraged businesses - blockchain, robotics, AI, machine learning, etc.
- **Auto-sector Reforms:** The auto industry which contributes significantly to GDP (nearly 9%) deserves special treatment. In addition to reducing GST rate, old vehicle scrap policy with tax incentives for creating a demand for new vehicles may be formulated.
- **Labour Law Reforms:** Focus should be given to strictly enforce discipline within the factory premises and demand higher productivity. The moves by U.P., M.P. and Gujarat are welcome signals.
  - labour laws must be motivated by concerns of sustainability. Minimum wages, a written job contract that specifies terms and conditions of working, social security provisions etc. increase costs in the short run but augment economic optimisation in the long run by enhancing the productivity of the workforce.
  - The government has come out with **four labour codes** as long term reforms.
  - The government should provide health insurance for migrant labourers as experimented by certain States.

## Source TH

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## Special Frontier Force: Vikas Battalion

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### Why in News

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The Special Frontier Force (SFF) unit, referred to as Vikas Battalion, had been said to be instrumental in preventing **Chinese occupation on the Line of Actual Control** (LAC) in Ladakh.

### Key Points

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- **History:** SFF was established on 14<sup>th</sup> November 1962 in the immediate aftermath of the **1962 Sino-India war.**
  - After the 1962 war, the **Central Intelligence agency (CIA) and Intelligence Bureau (IB)** decided to train a 5,000-strong force of Tibetans for possible missions against China.
  - The CIA had been involved in a covert programme to train Tibetan guerrillas to fight the Chinese forces in Tibet since the 1950s.
    - The Central Intelligence Agency is a civilian foreign intelligence service of the federal government of the United States of America.
    - During the 1950s, CIA and IB established Mustang Base in Mustang in Nepal, which trained Tibetans in guerilla warfare. The Mustang rebels brought the 14<sup>th</sup> Dalai Lama to India during the **1959 Tibetan Uprising.**
  - The recruits initially consisted of Tibetan refugees hailing from the Khampa community (now it has a mixture of **Tibetans** and **Gorkhas**).
  - It was previously named **Establishment-22** as it was raised by **Major General Sujan Singh Uban**, an Artillery officer who had commanded 22 Mountain Regiment.
- **About:** SFF falls under the purview of the **Cabinet Secretariat** where it is headed by an **Inspector General** who is an Army officer of the rank of Major General.
  - The units that comprise the SFF are known as **Vikas battalions.**
  - They are **highly trained special forces personnel** who can undertake a variety of tasks which would normally be performed by any special forces unit.
  - **Women soldiers**, too, form a part of SFF units and perform specialised tasks.
- **Link with Army:** The SFF units are **not part of the Army** but they function **under operational control of the Army.**
  - The units have their **own rank structures** which have equivalent status with Army ranks.
  - They have their **own training establishment** where the recruits to SFF are imparted special forces training.
- **Major Operations:** **Operation Eagle** (1971 war with Pakistan), **Operation Bluestar** (clearing Amritsar's Golden Temple in 1984), **Operation Meghdoot** (securing the **Siachen glacier** in 1984) and **Operation Vijay** (war with Pakistan at Kargil in 1999) and many counter-insurgency operations in the country.
  - **Operation Eagle:** In 1971, the SFF operated in the **Chittagong hill tracts in East Pakistan** (later Bangladesh) to neutralise Pakistan Army positions and help the Indian Army advance ahead.



- **Criticism:** Special Frontier Force was involved in a **joint operation with the CIA in 1965** to place a **nuclear-powered device on Mount Nanda Devi (Uttarakhand) to monitor China's nuclear weapons tests**. However, the mission had to be abandoned and the nuclear-powered device was lost on the mountain.

The **loss of the nuclear-powered sensor** was reported by Indian media outlets in 1978, prompting a response from the then Prime Minister on Indian involvement in the mission.

**Source: IE**

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## **Early Migration of Butterflies**

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### **Why in News**

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The **annual migration of butterflies** from the hill ranges of the **Eastern Ghats towards the Western Ghats** has been observed **earlier** in 2020, being witnessed in the months of July and August.

Usually, these butterflies **breed during the southwest monsoon season on the eastern areas** of South India and their **progeny migrate back to the western ghats in October- November**.

### **Key Points**

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- **Early Migration:**
  - The migration started early **after a gap of eight years**.
  - The Eastern Ghats complex of the Yercaud hills (Shevaroy hills), Pachamalai, Kolli hills, Kalvarayan are **major originating places** for the migrating species.
  - The **movement** was observed **towards** the western ghats hill ranges, **Nilgiris**, the **Anamalai Tiger Reserve**, and **Palani hills in Tamil Nadu** and **Parambikulam Tiger Reserve in Kerala**.
  - **Four species of milkweed butterflies** belonging to the **Danainae subfamily** are mainly involved in the migration — the Dark Blue Tiger, Blue Tiger, Common Crow and the Double-branded (commonly known as tigers and crows).
- **Possible Reasons for Early Migration:** Change in rainfall pattern, a considerable increase in the number of sunny days and a population outburst of butterflies.

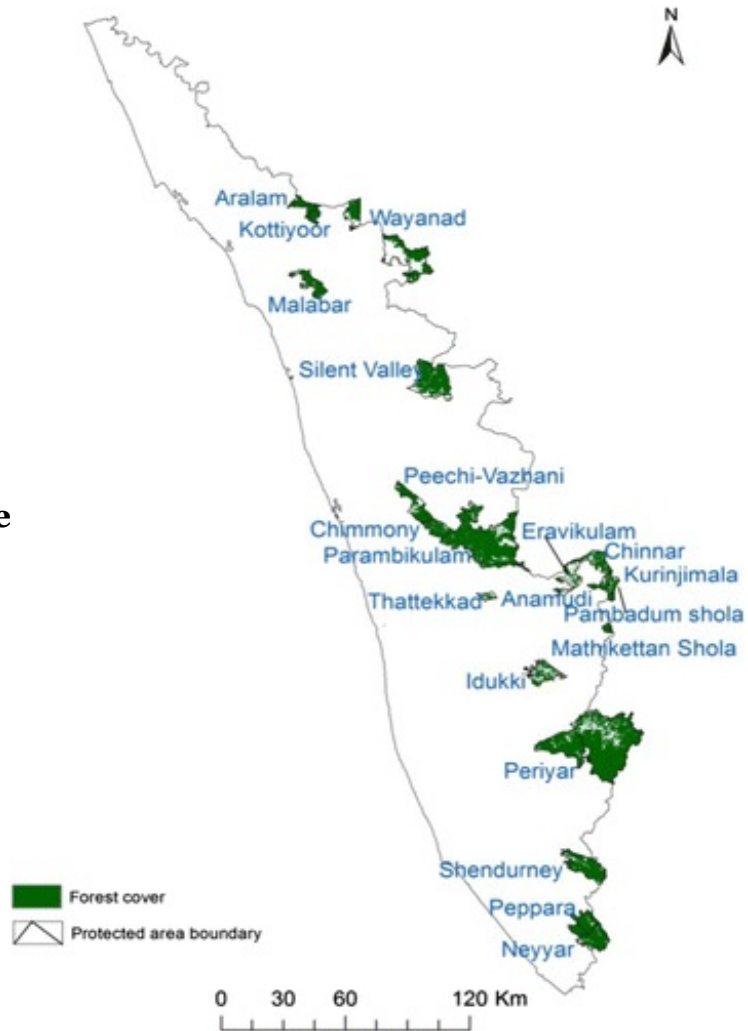
- **Project to Study Migration:**

The **Ferns Nature Conservation Society (FNCS)** initiated a **citizen science project in 2018** to study the migration ecology of milkweed butterflies in south India, with the support of the Forest and Wildlife Department.

## **Butterflies**

- Butterflies are **insects from the order Lepidoptera of phylum Arthropoda** which also includes moths.
- Adult butterflies have large, often brightly coloured wings, and conspicuous, fluttering flight.
- **Significance:**
  - **Rich Biodiversity:** Abundance of butterflies in any area represents the rich biodiversity.
  - **Indicator Species:** The butterfly acts as an indicator species.  
An indicator species provides information on the overall condition of the ecosystem and of other species in that ecosystem. They reflect the quality and changes in environmental conditions as well as aspects of community composition.
  - **Pollinator:** It acts as a pollinator by helping in pollination and conserving several species of plants.

## Parambikulam Tiger Reserve



- Parambikulam Tiger Reserve is a well protected ecological portion in the **Nelliampathy - Anamalai landscape** of the Southern Western Ghats in India.
- It is located in the **Palakkad District of Kerala**.
- It was **declared as Tiger Reserve during 2008-09**.
- The reserve is **credited with the first scientifically managed teak plantation in the world** which was later merged with the forest land.
- It has the **world's largest and oldest teak tree**. Named "**Kannimara**" (corrupt version of Irish name Connemara), the tree is believed to be 350 years old and has a height of 40m and girth of 6.4m.
- **Fauna** includes Tigers, Grey-headed Fishing Eagle, the Peninsular Bay Owl, the Nilgiri Wood Pigeon, the Black-capped Kingfisher, the Great Black Woodpecker and the Lesser Grey-headed Fish Eagle.

**Source: TH**

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**Spot Robot**

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## Why in News

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Recently, researchers from Boston Dynamics, of **Massachusetts Institute of Technology** (MIT - USA) have developed a robot, called '**Spot**'.

They have planned to use it for patients with **Covid-19** symptoms.



## Key Points

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- **Features:**
  - The robot is controlled by a **handheld device**.
  - It can **walk** on four legs, similarly to a dog, **climbs stairs** and can **traverse rough terrain** with ease and **small enough to be used indoors**.
  - It can **measure skin temperature, breathing rate, pulse rate, and blood oxygen saturation** in healthy patients, **from 2 metres away**.  
It has **four cameras** — one infrared, three monochrome.

- **Working:**
  - **Body Temperature:** The infrared camera measures skin temperature on the face.  
An algorithm then correlates the facial skin temperature with core body temperature.
  - **Breathing Rate:** When a patient wearing a mask breathes, their breath changes the temperature of the mask.  
The infrared camera measures this temperature change, enabling researchers to calculate the breathing rate.
  - **Pulse Rate & Oxygen Level:** When haemoglobin binds to oxygen and flows through blood vessels, it results in slight changes in colour.
    - These changes are measured with the help of the three monochrome cameras, which filter lights of three different wavelengths.
    - Using these measurements, the algorithm calculates pulse rate and blood oxygen saturation.
- **Benefit:**
  - The robot can be deployed in areas where suspected cases of Covid-19 assemble. Healthcare workers can avoid exposing themselves to risk, by manoeuvring the robot to wherever patients are sitting.
  - The robot can also carry a tablet that allows doctors to ask patients about their symptoms without being in the same room.

**Source: IE**

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## **Indra 2020 to be held in Andaman Sea**

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### **Why In News**

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**India and Russia** are scheduled to hold **Indra 2020** in the **Andaman Sea**, close to the **Strait of Malacca** instead of the **Indian Ocean Region (IOR)**.

- The Strait of Malacca **connects Indian Ocean to the South China Sea** and is 900 km in length and is also a **prominent trade route between East Asia and West Asia-Europe**.
- IOR is under **high operational alert by the Indian Navy** due to the ongoing **standoff with China in Ladakh**.



## Key Points

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- The **Indra series of exercises began in 2003** and was conducted as a **bilateral naval exercise** alternately between the two countries.
  - However, the **first joint Tri-Services Exercise was conducted in 2017**.
  - **Indra 2020** will be the **first bilateral naval exercise** since all such engagements were **suspended due to Covid-19 pandemic**.
- Its timing coincides with **Indian Defence Minister's visit to Russia** for the **Shanghai Cooperation Organisation (SCO) Defence Ministers Meet**.
- Andaman Sea was also the location where frontline warships of the **Indian Navy conducted a Passage Exercise (PASSEX)** with the USA Navy's **USS Nimitz carrier strike group** in July this year.

- **China Factor:**

- Recently, **India has withdrawn from the Kavkaz-2020 multinational exercise in Russia** due to the restrictions posed by the pandemic. However, the **participation of Chinese troops in the same** exercise is apparently the main reason.
- Indian Navy is keeping a **close watch on the movement of Chinese Naval ships in the IOR** because their presence in the IOR has gone up considerably over the years in the name of Anti-Piracy patrols.
  - In **2017**, China opened its first overseas **military base in Djibouti** in the **Horn of Africa**.
  - Given its strategic location, **India has embarked on a major infrastructure expansion plan** on the **Andaman and Nicobar island chain**.

**Source: TH**

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