

CURRENT AFFAIRS

WEEKLY

ECONOMY

- ⑦ Carcinogen Aflatoxin detected in FSSAI milk survey samples
- ⑦ Maharatna, Navratna and Miniratna CPSEs
- ⑦ Reviving exports

ENVIRONMENT

- ⑦ Anthrax scare in reserve after death of buffaloes

GEOGRAPHY

- ⑦ Stormquake
- ⑦ Top five largest Ramsar sites in India

GOVERNANCE/ENVIRONMENT

- ⑦ JalJeevan Mission

INTERNATIONAL RELATIONS

- ⑦ Inter-Parliamentary Union

SCIENCE & TECHNOLOGY

- ⑦ BHIM 2.0
- ⑦ TechSagar

MISCELLANEOUS

- ⑦ Bhashan Char Island
- ⑦ The Silver Ants- World's Fastest Ants
- ⑦ First all-woman space walk

PRELIMS

WEEK - 5
OCTOBER, 2019

MAINS

ECONOMY

- ⑦ DIGITAL PAYMENTS - Trends, Issues and Opportunities in India
- ⑦ Startup Ecosystem in India
- ⑦ Using experimental methods for evidence-based policy making

HISTORY

- ⑦ Sardar Vallabhbhai Patel

SOCIAL ISSUE

- ⑦ Falling Child Sex Ratio: Death before Birth

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— **Disclaimer** —

The current affairs articles are segregated from prelims and mains perspective, such separation is maintained in terms of structure of articles. Mains articles have more focus on analysis and prelims articles have more focus on facts.

However, this doesn't mean that Mains articles don't cover facts and PT articles can't have analysis. You are suggested to read all of them for all stages of examination.

CURRENT AFFAIRS ANALYST

WEEK-5 (OCTOBER, 2019)

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SECTION: A
(MAINS)

CURRENT AFFAIRS

DIGITAL PAYMENTS - TRENDS, ISSUES AND OPPORTUNITIES IN INDIA

CONTEXT

- According to a survey conducted by ACI Worldwide and YouGov 42% Indians prefer digital payments over cash during shopping.

◎ BACKGROUND:

- According to NITI AYOJ, the digital payments market in India is all set to grow to \$1 trillion by 2023 led by growth in mobile payments, which are slated to rise from \$10 billion in 2017-18 to \$190 billion by 2023.
- In the light of such a tremendous growth of digital payments, the regulations and security of the users' data has become a challenge for the government.
- Accordingly, a committee on Digital Payments was constituted by Department of Economic Affairs, Ministry of Finance in August 2016 under the Chairmanship of **Ratan P. Watal** to recommend medium term measures of promotion of Digital Payments Ecosystem in the country. The Committee submitted its final report to Hon'ble Finance Minister in December 2016.
- On the basis of recommendations a group of stakeholders from different Departments of Government of India and RBI was constituted in NITI Aayog under the chairmanship **Ratan P. Watal** to facilitate the work relating to development of a metric for Digital Payments which was the most important recommendation of Watal committee. This group prepared a document on the measurement issues of Digital Payments. Accordingly, a booklet titled "Digital Payments: Trends, Issues and Challenges" was released in July 2017.

Digital Payment - Definition

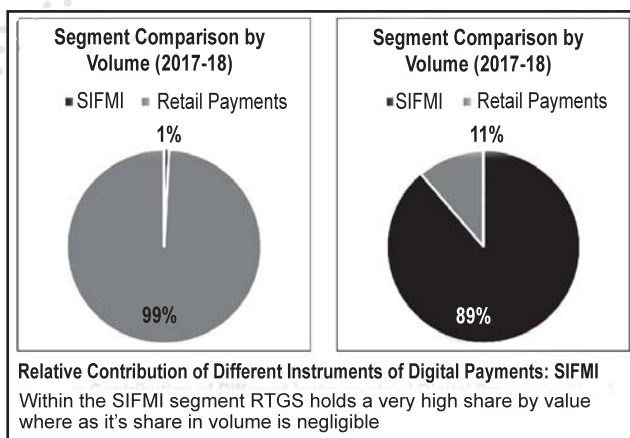
The Payment and Settlement Act, 2007 has defined Digital Payments as any "electronic funds transfer" that is any transfer of funds which is initiated by a person by way of instruction, authorization or order to a bank to debit or credit an account maintained with that bank through electronic means and includes point of sale transfers; automated teller machine transactions, direct deposits or withdrawal of funds, transfers initiated by telephone, internet and, card payment.

◎ ANALYSIS:

Segments of Digital Payment Systems

The payment system has two main segments.

- Systemically Important Financial Market Infrastructure (SIFMIs): It is defined as a multilateral system among participating institutions, including the operator of the system, used for the purposes of clearing, settling, or recording payments, securities, derivatives, or other financial transactions.
- Retail Payments: Under the Retail Payments segment which has a large user base, there are three broad categories of instruments. They are (1) Paper Clearing, (2) Retail Electronic Clearing, (3) and Card Payments.
- SIFMI has a very low share in the overall Digital Payments transactions whereas in terms of value it has a significant share i.e. 89%.



Growth Trends in India (2017-18)

- Digital Payments have registered robust growth in 2017-18 both in volume and value terms.
- In volume terms the growth during the year 2017-18 was much higher than the trend growth rate during the last five years (2011-16)
- Growth in Total Retail Payments in value terms has been three times higher than the trend rate of the last five years.

- The UPI and IMPS Segment in volume of transactions registered a spectacular growth during 2017-18. UPI, despite being new product in the payment segment has shown great adoption rate among consumer and merchants
- Total Card Payments continued its growth momentum and exceeded the trend growth rate of the last five years both in volume and value terms

Policy Initiatives to promote Digital Payments

- In the Union Budget 2017-18, major policy announcements were made by the Hon'ble Finance Minister for promoting Digital Payments.
- Ministry of Finance has taken a major initiative in drafting a Bill for amendment of Payment and Settlement Systems Act, 2007, as envisaged in the Report of the Committee on Digital Payments 2016
- RBI has taken four major policy initiatives.
 - National Electronic Funds Transfer (NEFT) system – Settlement at half-hourly intervals
 - Master Directions on Prepaid Payment Instruments (PPIs)
 - Rationalisation of Merchant Discount Rate
 - Storage of Payment System Data

Emerging Global Trends

As per the report of **Capgemini**, a global leader in consulting, technology services and digital transformation, on 'Trends in Payments 2018', the Top 5 trends in Digital Payments across the world are as follows:

- Alternate payment channels such as contactless and wearables gain acceptance
- Banks and FinTech's explore distributed ledger technology to transform cross-border payments.
- Instant payments processing likely to become the 'new normal' for corporate treasurers, industry at large.
- As global cyber-attacks rise, regulators focus on data-privacy law compliance.
- Infrastructure rationalization is likely as payments intermediaries come together or evolve.

Challenges in India

- The costs associated with online payment through RTGS and NEFT systems have also created a hindrance. These methods are not only expensive but also time-consuming at a time when there are a number of technologies available that offer real-time fund transfer.
- India is far from creating a robust digital payment ecosystem. There are several structural challenges that are hindering the growth of digital payments in the country and the biggest among them is the cyber-security.
- Digital inequality in India is also a challenge for deeper penetration of digital payments.

Opportunities

- According to NITI AYOJ, **the digital payments market in India is all set to grow to \$1 trillion by 2023** led by growth in mobile payments, which are slated to rise from \$10 billion in 2017-18 to \$190 billion by 2023.
- Digital Payments offer unique opportunities. The Global trends indicate heightened customer expectations for value-added services, increased competition due to the emergence of FinTechs, new technologies, and an ever-changing regulatory landscape
- These emerging global trends are expected to impact the Indian Digital Payments ecosystem and provide impetus to the growth of Digital Payments.

Way Forward

- Measurement of Digital Payments is extremely important to monitor progress. The different components of Digital Payments have to be comprehensively studied with respect to global best practices and the list of indicators which are universally acceptable and relevant in the current context may be considered by RBI.
- A handbook of statistics may be prepared giving time series data on Digital Payments based on these standardized indicators which could be followed for all data collection and reporting agencies. This would bring uniformity and will reflect the growth in Digital Payments more accurately.



Practice Question

- Discuss the trends, challenges and opportunities of Digital Payments in India?

Context

According to a survey conducted by ACI Worldwide and YouGov, 42% Indians prefer digital payments over cash during shopping

THE DAWN OF
DIGITAL PAYMENTS
Trends, Issues and Opportunities in India

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On the basis of recommendations of Ratan P. Watal Committee, to facilitate the work relating to development of a metric for digital payments, a booklet titled 'Digital Payments: Trends, Issues and Challenges' was released.

In terms of volume

the growth during the year 2017-18 was much higher than the trend growth rate during the preceding five years (2011-16)

The Trends**Growth in Total Retail Payments in value terms**

it has been three times higher than the trend rate of the preceding five years

Policy Initiatives to promote Digital Payments

In the Union Budget 2017-18, major policy announcements were made by the FM for promoting Digital Payments

initiatives by RBI

Fin. Ministry has drafted a Bill for amendment of Payment and Settlement Systems Act, 2007, as envisaged in the Report of the Committee on Digital Payments 2016

National Electronic Funds Transfer (NEFT) system – Settlement at half-hourly intervals

Storage of Payment System Data

Rationalisation of Merchant Discount Rate

Master Directions on Prepaid Payment Instruments (PPIs)

Structural Issues

There are several structural challenges that are hindering the growth of digital payments in the country and the biggest among them is the **cyber-security**

Issues**The costs associated with RTGS and NEFT**

These methods are not only expensive but also time-consuming at a time when there are a number of technologies available that offer real-time fund transfer

Digital inequality

Digital inequality in India is also a challenge for deeper penetration of digital payments

Opportunities**A deluge of growth expected**

According to NITI AYOOG, the digital payments market in India is all set to grow to \$1 trillion by 2023 led by growth in mobile payments, which are slated to rise from \$10 billion in 2017-18 to \$190 billion by 2023

Digital Payments offer unique opportunities

The Global trends indicate heightened customer expectations for value-added services, increased competition due to the emergence of FinTechs, new technologies, and an ever-changing regulatory landscape

These emerging global trends are expected to impact the Indian Digital Payments ecosystem and provide impetus to the growth of Digital Payments

Way Forward

Measurement of Digital Payments is extremely important to monitor progress



The different components of Digital Payments have to be comprehensively studied w.r.t. global best practices and the list of indicators which are universally acceptable and relevant in the current context may be considered by RBI

A handbook of statistics may be prepared giving time series data on Digital Payments based on these standardized indicators which could be followed for all data collection and reporting agencies



This would bring uniformity and will reflect the growth in Digital Payments more accurately

STARTUP ECOSYSTEM IN INDIA

CONTEXT

- In India, the number of startups has increased fast. Hence, it is important to understand the growth drivers, challenges, pillars of support and road ahead, for these startups.

◎ BACKGROUND:

- 'Startups' are understood as "entities, which are in the **early stages of setting up their operations**, and work towards **innovation, development, deployment, and commercialisation** of new products, processes, or services driven by technology or intellectual property".
- The number of Startups in India and worldwide is **on the rise**, and they are now being widely recognised as important **engines for growth and jobs generation**.
- In 2018, startups accounted for **2.64 percent of the total jobs** created in India that year.
- The Indian startup ecosystem has evolved dynamically over the last two decades. In the **2000s**, the ecosystem was still **immature due to limited number of investors** and support organisations, such as incubators and accelerators.
- In the last ten years, the number of startups increased fast and **more support has become available in all dimensions**. In 2018, there were at least **210 incubators and accelerators** in India, which corresponds to an **11-percent increase** as compared to 2017.

Fact/terms related to startups:

- 'Fintech' startups work in the field of emerging financial services technologies. **Mumbai** is home to many fintech startups.
- A '**unicorn**' is a startup that reached a **valuation of at least \$1 billion**.
- The **first Indian unicorn was InMobi**, an advertising technology startup based in Bangalore.
- The **US\$10-billion One97 Communications**, which is the parent organisation of Paytm and Paytm Mall, is **currently the highest valued Indian startup**.
- **Bangalore** has emerged as India's **primary startup hub**. Reason being, presence of many engineering colleges and renowned academic institutes. The ready-made talent pool provides a **locational advantage** to many Bangalore-based MNCs and R&D centers.

- **Bangalore, Mumbai and NCR** are all included in the list of '**Elite Global Startup Hubs**'.
- The top group of six "**Superstar Hubs**", comprise of San Francisco Bay Area, New York, Beijing, Los Angeles, Boston and London.
- '**Incubators**' accept startups without a prior fixed-time horizon, and raise funds by taking rent. While '**accelerators**' usually accept startups for fixed-term, cohort-based programs, sometimes in exchange for equity.
- '**Angel capital investors**' are typically high net-worth individuals from traditional business backgrounds, who seek to diversify their portfolio.

◎ ANALYSIS:

Opportunities and Growth Drivers for startups

- With a GDP growth of 7.0 percent in 2018 and world's second highest **population**, India is one of the **fastest-growing large economies**. Therefore, the Indian market offers an abundance of **opportunities for startups**.
- As the Indian economy continues to grow, **incomes and purchasing power are increasing steadily**. Half of the country's **population is below the age of 25** and carries **material ambitions**.
- India's huge **diversity in culture, language, ethnicity and religion** offers great potential for growth of **regional startups**, which can meet **local needs**.
- Given the scale of India and its **resource constraints, low-cost, high-impact solutions** are required. **Technology startups** play a crucial role in accomplishing this, because of their **potential for scalability and exponential growth**.
- Over the last few decades, **technological change** has reduced the cost of building **digital products**, and has provided **access to consumer markets**; for example, the large scale broadband penetration in India.
- **Increased political will and government support** through programmes like 'Aadhaar enrollment', 'digital India' and 'Startup India', is creating a **new**

social infrastructure. This will promote **financial inclusion**, and offer an environment for growth of start-ups.

- Due to increasing uncertainty and fast-moving business environment, large companies face **pressures to innovate** ever more rapidly. For this, they rely on '**open-innovation**'; where they are **reaching out to startups to increase their own innovativeness**. They enter into exchange and strategic partnerships with startups, offering them corporate-specific resources. These engagements can be **mutually beneficial**.
- Most startup founders in India have strong **intrinsic motivations driven by passion**, problem solving, and desire to make a difference in society. Some founders have become India's "**startup heroes**", contributing to a current image of entrepreneurship as "cool" and "glamorous", thereby **increasing social acceptability of entrepreneurial careers**.

Challenges faced by startups

- Founders lack business knowledge: Many Indian founders have a technical background and lack business knowledge.
- Lack of resources: For running a startup, a significant amount of working capital is required, but finding the right investor and raising funds is often difficult.
- Limited scalability of regional startups: Small startups are often limited to certain regions, making it hard to scale their products to customers across the country.
- Entrepreneurial drain: Startups with successful pan-India solutions venture into markets abroad; for instance, the United States, where the user base has a much higher ability to pay.
- Disconnection between founders and consumers: Most startup founders come from well-off backgrounds in urban metro cities, while the customers of the mass market come from low-income backgrounds in villages. This creates in startups an insufficient understanding of the customers and their needs.
- Market access barriers: Indian markets are difficult to penetrate and largely dominated by large firms who are more capable of dealing with bureaucratic regulations.
- Low willingness to pay: Despite increasing incomes, the Indian customer base continues to be price-sensitive, and has low willingness to pay for products and services. Often customers expect discounts, or buy cheaper versions with low quality. Thus, startups find it difficult to find market for their new innovative products.
- Untimely payment collections: For those startups which do not charge customers through means of digital payment, collecting and ensuring timely payment can be another issue.
- Non-lucrative career option: Hiring Qualified Employees is often difficult for startups. For many job-seekers, joining a startup as an employee is not an attractive career option. There is risk of failure; most employees prefer more stable, reputed and high-paying jobs.
- Poor skills and high training costs: Many job applicants are not sufficiently skilled. Hiring fresh graduates require high training costs. While qualified specialists often move abroad for jobs. And Indian startups are yet to attract international talent.
- Complex regulatory environment: Though the government has introduced policies that aim to ease the business environment for startups, the regulatory environment is still complex, difficult and unpredictable. World Bank Ease of Doing Business index ranks India 77th of 190 countries; the country is 137th of 190 countries in the World Bank Starting a Business Ranking index. Closing down a business is equally difficult.
- Unfriendly tax policy: The tax policy and its enforcement are considered unfriendly for startups. They are required to file their taxes regularly, even if they do not yet generate any revenue.
- Flawed valuations: Most tech startups today, unlike traditional core-sector companies, do not have enough consistent cash flows to cater to the cost of operations and investment needs. Their valuations mostly rely not on free cash flows, but rather on assumptions of growth.
- Debt traps: Amid uncertainty of free cash flows, founders bank on future rounds of fundraising (debt or equity) to meet their financial liabilities. This leads to more fundraising to repay the debt, leading to a "debt trap".

Ways to strengthen startup ecosystem in India

- Startups do not exist in silos, but are part of the broader economy. **Policy reforms, improving general economic conditions**, as well as **investments in digital and physical infrastructure** (for instance, internet connectivity, roads and public transportation, power and electricity), can benefit startup ecosystem in India.
- Implementation of existing startup policies and removing inefficiencies** within the bureaucracy will ease doing business for startups.
- Nowadays investors tend to fund rather mature startups which already have some market validation. There is need **to help the younger and new startups**.

- When startups go for more rounds of fund-raising (borrowings) to meet financial liabilities, they must first do an **internal assessment** if they are ready for 'debt-traps'.
- Though funds can be raised used initial public offerings (IPOs), as it adds visibility and credibility to startups. But there is first a need to **establish their readiness for IPOs**.
- **Governmental approaches** like setting up a **seed fund and giving grants** to startups can be effective initiatives.
- More startups should be **acquired and nurtured by large, established companies**.
- Most support organizations and startup ecosystems are geographically concentrated in metro cities. Support must be extended to **entrepreneurs in smaller tier 2, 3 and 4 cities**.
- To overcome the disconnection between startup founders and mass customers, especially in rural India, there needs to be **more field research and greater exposure to people on-site**.
- Startups must **widen their hiring net** and be prepared to **train first-hires**. Fostering a **good work culture** can be helpful to attract and retain talent.
- Moreover, eradicating the male-dominated "bro-culture" will also help **attract qualified women** and foster a more inclusive and innovative environment.
- Through **innovation and scalable technology**, startups can generate **impactful solutions**, and thereby act as **vehicles for socio-economic development and transformation**.



Practice Question

- What are the challenges faced by Indian Startup ecosystem? Briefly suggest ways to overcome them.

Startup Ecosystem in India

Start-up ecosystem regained momentum after the slowdown in 2016 & 2017

In 2018, startups accounted for 2.64 percent of the total jobs created in India

7200-7700

Tech Start-ups
(2013-2018)12-15%
Growth
in Total start-up poolIndia continues to be 3rd largest Start-up ecosystem in the world

8 Unicorns added in 2018, the most in a single calendar year



50% Growth in Advanced Tech Start-ups

Bengaluru ranks among top 3 cities globally for launch of tech Start-ups²

	USA	China	India	UK	Germany
Total number of Unicorns	126	77	18	15	6
Unicorns in 2018	25	20	8	2	4
Avg. Time to Unicorn (Years)	6-8	4-6	5-7	8-10	6-8



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Some terminology

A 'unicorn' is a startup that reached a valuation of at least \$1 billion

'Incubators' accept startups without a prior fixed-time horizon, and raise funds by taking rent

'Accelerators' usually accept startups for fixed-term, cohort-based programs, sometimes in exchange for equity

'Angel capital investors' have high net worth, who seek to diversify their portfolio

Opportunities and Growth Drivers for startups

Given the scale of India and its resource constraints, low-cost, high-impact solutions are required. Technology startups play a crucial role in accomplishing this

As the Indian economy continues to grow, incomes and purchasing power are increasing steadily. Half of the country's population is below the age of 25 and carries material ambitions

Increased political will and government support through programmes like 'Aadhaar enrollment', 'digital India' and 'Startup India', is creating a new social infrastructure

Non-lucrative career option

Hiring Qualified Employees is often difficult for startups. For many job-seekers, joining a startup as an employee is not an attractive career option. There is risk of failure; most employees prefer more stable, reputed and high-paying jobs

Low willingness to pay

Despite increasing incomes, the Indian customer base continues to be price-sensitive, and has low willingness to pay for products and services. Thus, startups find it difficult to find market for their new innovative products

Lack of resources

For running a startup, a significant amount of working capital is required, but finding the right investor and raising funds is often difficult

However, the startups also face several challenges in India

Market access barriers

Indian markets are difficult to penetrate and largely dominated by large firms who are more capable of dealing with bureaucratic regulations

Complex regulatory environment

Though the government has introduced policies that aim to ease the business environment for startups, the regulatory environment is still complex, difficult and unpredictable

Poor skills and high training costs

Many job applicants are not sufficiently skilled. Hiring fresh graduates require high training costs. While qualified specialists often move abroad for jobs. And Indian startups are yet to attract international talent

Policy reforms, improving general economic conditions, as well as investments in digital and physical infrastructure (for instance, internet connectivity, roads and public transportation, power and electricity)

Implementation of existing startup policies and removing inefficiencies within the bureaucracy

Some ways to strengthen startup ecosystem in India

Governmental approaches like setting up a seed fund and giving grants to startups can be effective initiatives

Startups must widen their hiring net and be prepared to train first-hires. Fostering a good work culture can be helpful to attract and retain talent

Most support organizations and startup ecosystems are geographically concentrated in metro cities. Support must be extended to entrepreneurs in smaller tier 2, 3 and 4 cities

Eradicating the male-dominated "bro-culture" will also help attract qualified women and foster a more inclusive and innovative environment

USING EXPERIMENTAL METHODS FOR EVIDENCE-BASED POLICY MAKING

CONTEXT

- Abhijit Banerjee, Esther Duflo and Michael Kremer win 2019 Nobel Economics Prize for study on poverty.

◎ BACKGROUND

- Nobel Economists have redeveloped the field of **development economics** using **new experimental methods** that put researchers in direct contact with the poor.
- There are three big shifts in their field of work:**
 - First, development challenges are now viewed through an appropriate lens, the lives of the poor (rather than large statistical models), with a special focus on how **incentives, information and constraints** shape actual choices.
 - Second, their **use of Randomized Control Trials (RCTs)** has lent credibility to poverty research and helped solve old **riddles of causality**.
 - Third, their expertise has led to the formulation of policies that go by **evidence, not assumptions**.

What is a randomized controlled trial?

- A randomised controlled trial is an experiment that is designed to isolate the influence that a certain intervention or variable has, on an outcome or event.
- The use of RCT as a research tool was largely limited to fields such as biomedical sciences.

Why is randomized controlled trial so popular?

- At any point in time, there are multiple factors that work in tandem to influence various social events. This problem is overcome through the use of **randomly picked samples**.
- RCTs try to **eliminate regional and other biases** by selecting two groups within the same area. And since all random samples are subject to the same array of "confounding" factors, they are essentially identical to one another.
- Two groups** of people are selected at random – **one that get the benefits and one that don't** – to see just how well the action/intervention works.
- Using these random samples, researchers can **then conduct experiments to find out the impact** of individual variables on the final event.

◎ ANALYSIS

How is RCT used in the field of development economics?

- Simply put, the idea is **to understand the impact of interventions to achieve desirable outcomes**. Or, why does a particular scheme/intervention work, while the other does not?
- There are four parts to this story which the new experimental method attempts to answer:
 - First, there is need to **identify the causes** of issue (here, poverty),
 - Second have the **necessary interventions** in place which can address the issue
 - Third, carry out **field experiments** which work so that those which don't can be abandoned.
 - The last is the **cost-benefit analysis** to evaluate efficacy. Accordingly, those interventions which work can be persevered.

Examples where controlled experiments were successfully used

- Case of Immunisation in Rajasthan, India**
 - Despite offering free immunisation, women were not bringing their children into government clinics to avail the facility.
 - Research team started **distributing dal packets** to women who came to get shots for their children.
 - Soon, word spread and immunization rates soared.
- Case of de-worming drive in Kenya**
 - Researchers found that parents in low-income countries are much less likely to give their children de-worming pills when the medication is heavily subsidized, than when it is **available for free**.
 - Benefits of de-worming were staggering, way beyond the costs of such an intervention.
- Case of Remedial Tutoring in India**
 - The reason was that most government schools have classrooms with children of different abilities – some have Maths skills of Class 2, some 3 and some 6 – so the class teacher doesn't know quite where to pitch the lesson.

- RCT established that **providing remedial tuitions** for individual students improved overall test scores dramatically.
- Case of public goods provision in local governments with women leaders.
 - Researchers had no idea about the direction of causality between, progressive villages with better provision of public goods and villages with women leaders.
 - By studying a massive data-set from West Bengal and Rajasthan, they proved that the provision of local public goods, like water supply, improves in statistically significant ways in villages **where women are elected to lead**.

What are the lacunas in Indian policy making and how can experimental research fill in the gaps?

- Gaps in Indian policy making
 - Recently, the government has undertaken bold steps in policy-making but it has done **it too quickly without enough homework**.
 - Schemes and new ideas are often not put on the table for **public debate**.
 - **Innovations of previous governments** are often not continued. They must be acknowledged and scaled up.
 - **Lessons are from past mistakes are not learnt**. A good example is the Banking Correspondent Model (BCM), which is the right complement to Jan DhanYojana.
 - It is **problematic to** announce the scheme first **and see the fallout later**, like it happened in case of demonetization and implementation of GST.
 - There is a tendency to set monetary or financial targets, which are achieved without being too effective in **delivering outcomes**.
- Application to policy making
 - In India we have an array of problems where experimental research can be carried out—health, family planning, education, credit, agriculture, social security and so on.
 - Once the problem is identified, we need to **carry out experiments** to see how possible solutions may work, and **integrate them** effectively.
 - NitiAayog can take the thesis of these awardees as a template for **evaluating all the programmes** of the government.
 - Such an evaluation will help to **sieve out programmes that have not worked**. The same funds can be routed to others which have worked, or alternatively new programmes can

be constructed.

- It is important to make **every-rupee expenditure with a definite cost-benefit analysis** in place.
- Issue of **corruption** must be seriously addressed in order to make policies effective.
- Since randomised trials require a **lot of work on the ground**, adequate mechanisms and structure must be put in place.
- A new generation of RCTs are going **beyond programme evaluation** and can help seek answers to **how individuals react** to changes in prices, contracts, and new information in the context of specific markets such as land or credit.
- In light of the new approach, **role of income transfers can be re-looked at**, when strategising anti-poverty measures.

What are some criticisms of randomized controlled trials?

- Solutions may not be universally applicable; they **may not work in other geographies**; nor is it clear why a particular solution works.
- Some argue that an obsession to trace the causal links of one phenomenon to another is a **confusing and futile exercise**.
- Field trials tend to **miss the big structural changes** that influence the political economy of a country.
- Some of the solutions are intuitive, and can also be **achieved even without the use of RCT**.
- RCT-type of experiment **does not always give a clear answer** on preferable policy option.
- Some critiques contend that RCT is **more suited for research in the physical sciences** than social science.

Conclusion

- Despite all criticism, the potential of successfully using **experimental methods** in development economics; and consequently policy-making, cannot be ignored. Laying micro-foundations is important to understand the big picture. The **need for evidence-based policies** stems from the fact that, smaller and more precise, questions are often best answered via carefully designed experiments among the people who are most affected. **This is overall a case for an inclusive strategy to revive growth**.



Practice Question

- Briefly described Randomized Control trial in Context of Experimental Economics. How can it be used to fill in the gaps in Indian policy making?

Using experimental methods for evidence-based policy making

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Context

Abhijit Banerjee, Esther Duflo and Michael Kremer won 2019 Nobel Prize for study on poverty

These Nobel Economists have redeveloped the field of development economics using new experimental methods that put researchers in direct contact with the poor. There are three big shifts in their field of work:

2) their use of Randomized Control Trials (RCTs) has lent credibility to poverty research and helped solve old riddles of causality

1) development challenges are now viewed through the lives of the poor (rather than large statistical models), with a special focus on how incentives, information and constraints shape actual choices

3) their expertise has led to the formulation of policies that go by evidence, not assumptions

How is RCT used in the field of development economics?

the idea is to understand the impact of interventions to achieve desirable outcomes or why does a particular scheme/intervention work, while the other does not

There are **four parts** to this story which the new experimental method attempts to answer

First

there is need to **identify the causes** of issue (here, poverty)

Second

have the **necessary interventions** in place which can address the issue

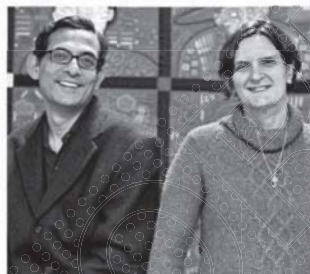
Such an evaluation will help to **sieve out programmes that have not worked**. The same funds can be routed to others which have worked, or alternatively new programmes can be constructed

Once the problem is identified, **experiments** need to be carried out to see how possible solutions may work, and **integrate them** effectively

In India we have an array of problems where experimental research can be carried out like health, family planning, education, etc

KEY STUDIES IN INDIA

MIT's Abdul Latif Jameel Poverty Action Lab, or J-PAL, was co-founded in 2003 by Esther Duflo, Abhijit Banerjee and Sendhil Mullainathan. It has since conducted over 900 trials, including many in India, to test policy effectiveness. Some of the more well-known studies in India include:



Smokeless chulhas/ improved biomass cookstoves may not help reduce indoor air pollution | Duflo's study in Odisha found that villagers given such stoves stopped using them after some time

Remedial tutoring in schools may help improve learning | Testing Pratham's Balsakhi programme in Mumbai and Vadodara, researchers found it to be a cost-effective way to improve test scores

Incentives can increase immunisation | Researchers in Rajasthan found regular vaccination camps along with an incentive — a bag of lentils — increased the likelihood of immunisation more than six times

Third

carry out **field experiments** which work so that those which don't can be abandoned

Lastly

is the **cost-benefit analysis** to evaluate efficacy. Accordingly, those interventions which work can be persevered

Issue of **corruption** must be seriously addressed in order to make policies effective

In light of the new approach, **role of income transfers can be re-looked at**, when strategising anti-poverty measures

Since randomised trials require a **lot of work on the ground**, adequate mechanisms and structure must be put in place

Niti Aayog can take the thesis of these awardees as a template for **evaluating all the programmes** of the govt

points to keep in mind while using RCT

There are various gaps in Indian policy making

For e.g., some bold steps have been seen to be implemented **without enough homework**, schemes and new ideas are often not put on the table for **public debate** and Lessons from **past mistakes** are not learnt

Here, the policy makers could learn a thing or two from the methods outlined above

RCT like other economic models and principles is not without criticisms like solutions may not be universally applicable; field trials tend to **miss the big structural changes** that influence the political economy of a country and it **does not always give a clear answer** on preferable policy option

Despite all criticism, the potential of successfully using **experimental methods** in development economics; and consequently policy-making, cannot be ignored

Laying micro-foundations is important to understand the big picture. The **need for evidence-based policies** stems from the fact that, smaller and more precise, questions are often best answered via carefully designed experiments among the people who are most affected. **This is overall a case for an inclusive strategy to revive growth**

SARDAR VALLABHBHAI PATEL

CONTEXT

- As part of Sardar Vallabhai Patel's 144th birth anniversary celebrations, the Centre has directed police and central forces across the country to display portraits of the country's first Home Minister along with his message in their offices, to inspire people with his thoughts and also The National Unity Day is celebrated annually on October 31.

◎ BACKGROUND

- Vallabhbhai Jhaverbhai Patel was born in Nadiad, Gujarat.
- The family was an agriculturist one of the LewaPatidar Community, and could in terms of economic status be described as lower middle-class. It was poor and had no tradition of education.
- Even as a young boy Vallabhbhai displayed qualities of organization and leadership that marked him out for his future role.
- Vallabhbhai must have inherited these attributes from his father who, it is said, had fought in the Mutiny under the Rani of Jhansi and was subsequently taken prisoner by Malhar Rao Holkar.

- He subsequently organised peasants from Kheda, Borsad, and Bardoli in Gujarat in non-violent civil disobedience against the British Raj, becoming one of the most influential leaders in Gujarat.

◎ ANALYSIS

Role in Indian National Movement

- In 1917, Sardar Vallabhbhai was elected as the Secretary of the Gujarat Sabha, the Gujarat wing of the Indian National Congress.
- In 1918, he led a massive "No Tax Campaign" that urged the farmers not to pay taxes after the British insisted on tax after the floods in Kaira.
- His effort to bring together the farmers of his area brought him the title of 'Sardar'.
- He actively supported the non-cooperation Movement launched by Gandhi.
- Sardar Vallabhbhai Patel was among the leaders imprisoned for participating in the famous Salt Satyagraha movement initiated by Mahatma Gandhi.
- He led the Satyagraha movement across Gujarat when Gandhi was under imprisonment, upon request from the congress members.
- Sardar Patel was freed in 1931, following an agreement signed between Mahatma Gandhi and Lord Irwin, the then Viceroy of India. The treaty was popularly known as the Gandhi-Irwin Pact.
- In the 1942 Quit India Movement, Patel continued his unwavering support to Gandhi when several contemporary leaders criticized the latter's decision. He continued travelling throughout the country propagating the agenda of the movement in a series of heart-felt speeches.

Contributions to Post-independence India

- After India achieved independence, Patel became the first Home Minister and also the Deputy Prime Minister.



- Patel played a very crucial role in post-independence India by successfully integrating around 562 princely states under the Indian Dominion.
- He was successful in integrating all of them barring Jammu and Kashmir, Junagarh and Hyderabad. The India that we see today was a result of the efforts put in by Sardar Vallabhbhai Patel.
- He was the key force in establishing the Indian Administrative Service and the Indian Police Service.
- He took personal interest in initiating a restoration endeavour of the Somnath Temple in Saurashtra, Gujarat.
- Patel dealt ruthlessly with the Pakistan's efforts to invade Kashmir in September 1947.
- He organised multiple refugee camps in Punjab and Delhi, and later in West Bengal.

Influence of Gandhi

- Gandhi had profound effect on Patel's politics and thoughts.
- He pledged unwavering support to the Mahatma and stood by his principles all through his life.
- While leaders including Jawaharlal Nehru, Chakravarti Rajagopalachari and Maulana Azad criticized Mahatma Gandhi's idea that the civil disobedience movement would compel the British to leave the nation, Patel extended his support to Gandhi.
- Despite the unwillingness of the Congress High Command, Mahatma Gandhi and Sardar Vallabhbhai Patel strongly forced the All India Congress Committee to ratify the civil disobedience movement and launch it without delaying further.
- Upon Gandhi's request he gave up his candidacy for the post of the Prime Minister of India.

Accession of the states

- **Junagadh:** Junagadh, a state on the southwestern end of Gujarat, the Arabian Sea stood between it and Pakistan, and over 80% of its population professed Hinduism. The Nawab of Junagadh Mahabhat Khan acceded to Pakistan. They announced the accession on August 15 1947, when Pakistan

had come into being. When Pakistan confirmed the acceptance of the accession in September, the Government of India expressed outraged that Muhammad Ali Jinnah would accept the accession of Junagadh despite his argument that Hindus and Muslims could not live as one nation. Eventually, Patel ordered the forcible annexation of Junagadh's three principalities. Junagadh's court, facing financial collapse and no possibility of resisting Indian forces. A plebiscite convened in December, with approximately 99% of the people choosing India over Pakistan.

- **Kashmir:** Maharaja Hari Singh, a Hindu, equally hesitant about acceding to India, felt his mostly Muslim subjects would not like joining a Hindu-majority nation — or Pakistan — an eventuality which he would personally prefer to avoid. Patel had feared that the U.N.'s involvement would stall the process and allow Pakistan to reinforce its presence in Kashmir. Additionally, the outcome of a plebiscite remained highly uncertain. In 1957, Kashmir officially integrated into the Union, but with special provisions made for it in the Constitution's Article 370. The northwestern portion remaining under control of the Pakistan army remains today as Pakistan-administered Kashmir.
- **Hyderabad:** Hyderabad constituted a state that stretched over 82,000 square miles in the center of India. Without Hyderabad, a large gap would exist in the centre of the united nation envisioned by Indian nationalists and the Indian public. Patel believed that Hyderabad looked to Pakistan for support, and could pose a constant threat to India's security in the future. Patel argued Hyderabad essential for India's unity, but he agreed with Lord Mountbatten to refrain from using force. Prime Minister Nehru after some contentious debate, and under Operation Polo, sent the Army to invade Hyderabad. Indian troops fought Hyderabad's troops and Razakars and defeated them.

◎ CONCLUSION

India, in its present form would not have existed without the vision, tact & pragmatism of Sardar Vallabhbhai Patel. He is truly the Bismarck & the 'Iron Man' of modern India. Pandit Jawaharlal Nehru truly said that, "History will call Sardar Patel, the builder & consolidator of the new India".

FALLING CHILD SEX RATIO : A SERIOUS CONCERN FOR INDIA

CONTEXT

- The child sex ratio is continuously falling in India which is a matter of national concern.

◎ BACKGROUND:

- India's child sex ratio has further declined to **896 in 2015-17 from 898 in 2014-16 and 900 in 2013-15, according to Sample Registration Survey (SRS)**. Child sex ratio is defined as the **number of females per thousand males in the age group 0–6 years in a human population**. Sex Ratio is a tool to determine gender equity of the population.
- The **child sex ratio was 914 in decade 2001-2011. In decade 1991-2001**, the child sex ratio was **927** and it has dropped by 13 points in the decade 2001-2011. Interestingly, in **1961**, the ratio was **976 girls** for every 1,000 boys in this age-group. **This means that over the last 50 years, the sex ratio has fallen by 63 points.**
- **Declining child sex ratio is a silent emergency.** But the crisis is real, and its persistence has profound and frightening implications for society and the future of humankind.

◎ ANALYSIS:

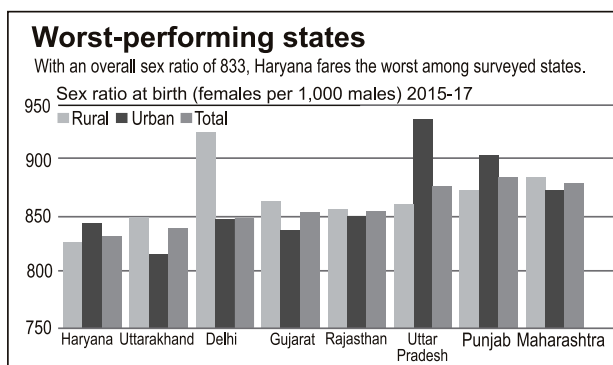
What are the causes of falling child sex ratio in India?

- **Female Foeticide:** The rapid spread and use of ultrasound as well as amniocentesis for sex determination are playing vital role in female foetus-induced abortions which is called as **High-tech sexism by Amartya Sen**.
- **Female Infanticide:** In India there is still preference for male child and in some areas of the country the female infanticide is still common. At least **117 million girls around the world demographically go "missing" due to sex-selective abortions according to United Nations Populations fund.**
- **Education** – Due to illiteracy, people are unaware about the power and role of women in today's era. The role of education has a great influence on the sex ratio scenario of India. Child marriages are a common part of the Indian society. Most of the girls are prone to the issue of child marriage at a very early age. This makes them to stay away from the education and are compelled to take the responsibilities of the household.

- **Poverty** – Poverty is one of the factors which is responsible for the declining sex ratio. States like Tamil Nadu have a high sex ratio but the poverty rate is low. There are states wherein due to poverty, a lot of girls are denied of nutritious food. This deprives the women and girl child from a living a healthy life.
- **Social status of women** – In most parts of India, women are merely considered as an object. People are worried about the dowry issue with the birth of a girl child. Due to financial problem, most of the families in rural areas prefer male child over female.
- **Lack of empowerment of women** – There is a lack of empowerment of women especially in the rural areas. Women do not enjoy opportunities as men do. Due to lack of education, women are unable to establish their roles in many places. The state of Uttar Pradesh has become like a grave for girls.
- **Male domination** – Majority of the places in India follow the patriarchal system. In India, males are considered to be the only bread earners. The methods of sex determination and female foeticide are adopted which is main reason of declining number of females especially in North India.
- **Infant and Maternal Mortality** – Infant mortality rate is the number of death of babies before the age of one. Due to female foeticide, the sex ratio declines terribly. Maternal mortality also contributes to the declining sex ratio as most of the women die during the childbirth due to improper care and less facilities.
- **Impact of Population Policies:** Under family planning policies, families want one or two children and generally prefer male child over female child. It is also true in case of China which had adopted one-child policy for long and has huge male population now.

Why the declining child sex ratio in India is a cause for worry?

- **It will bring down country's reproductive potential by lowering net reproduction rate.**
- The rapidly declining sex-ratios are turning into a **demographic nightmare of frightening proportions.**



- Low sex ratio at birth (SRBs) starting from the Seventies have led to **large numbers of "surplus men" today in countries like India and China.**
- There are concerns that **skewed sex ratios lead to more violence against men and women, as well as human-trafficking.**
- Marriage becomes problem for some males:** In India, some villages in Haryana and Punjab have such poor sex ratios that **men marrying brides from other States. This is often accompanied by the exploitation of these brides.**
- Household chores of females such as child rearing, housekeeping and other works remain as serious problems.**

Why does rural India fare better?

- A large section of Indian society prefers a male child, the affluent more so.
- People in urban areas are better positioned to exploit the system as they have access to more and better medical facilities. So, they often resort to neonatal tests, although these are banned in India. This allows them to abort a girl child.
- Traditionally, societies in West Bengal and the North-East are matriarchal.

Steps taken by Government

Due to the declining sex ratio, the government has introduced certain schemes to tackle the issue.

- Beti Bachao, Beti Padhao** – It celebrates the girl child and enables her education with 100% assistance from the central government at the district level. It aims to improve the sex ratio at birth in select gender-critical districts by two points in a year, among other targets.
- Sukanya Samriddhi Account** – The initiative aims at opening a new account for the girl child. The account can be operated by her after the age of 10. The account can be opened in a post office or a public sector bank.
- The Girl Child Protection Scheme** – The scheme

is aimed at preventing the gender discrimination by protecting the rights of the girl child. It also tries to eliminate the negative attitudes and practices against the girl child.

- Aapki Beti, Humari Beti** – Haryana has the lowest sex ratio in India. To cope up with this issue, the Haryana government launched this scheme. A sum of Rs 21,000 would be deposited by the state government in the account of every new born girl. The scheme would be implemented in both rural and urban areas. It would target the girl child of Scheduled Caste and Below Poverty Line (BPL) families.
- PCPNDT Act:** The Indian government has passed Pre-Conception and Pre-natal Diagnostic Techniques (Regulation and Prevention of Misuse) (PCPNDT) Act in 2004 to ban and punish prenatal sex screening and female foeticide. It is currently illegal in India to determine or disclose sex of the foetus to anyone. However, there are concerns that PCPNDT Act has been poorly enforced by authorities.

How to Address the Declining Child Sex ratio?

- Ensure effective implementation of the law:** Proper registration of ultrasound centers is the need of an hour. In clinics with multiple machines (some of which are sealed), the numbers on registration certificates do not match the numbers on the machines. It is this kind of sloppy implementation of the law that allows medical practitioners to continue their malpractice.
- Stringent punishments for doctors who disclose the sex of a foetus:** Current punishment under the legislation is sealing the machine and a fine of a few thousand rupees. However, if this occurs, the licence of the doctor should be revoked and together with other aspects of the punishment will serve as a deterrent to others.
- Control over MNCs that sell machines to doctors:** There is an urgent requirement to monitor the way ultrasound machines are sold. The company must be made accountable for whom they sell the machines to and how many are being purchased. Such records be maintained in the public domain.
- Promoting two-girl families:** It is one of the immediate ways in which the issue of second-child sex-selection can be addressed. The government should fund the education (including higher education) and other expenses of children in families where both children are girls.
- Locating gender as a human rights issue:** There is need to present girls as more loving, kinder, more capable, a safer investment, etc. and the campaign on promoting girl-children needs to be

avoided because it creates unnecessary pressure on women and girls to cater to an increasingly impossible model of girlhood/womanhood. The argument could instead be located in the principle of fairness and justice -- two values that the middle class is increasingly standing up for in the country.

- ◉ **Civil society action:** Gender activists argue that the very foundation on which we understand gender is flawed. The gender inequality structures and frames all aspects of life is something that must be recognised, accepted and worked on consciously by all social activists, no matter what their core area of focus is.
- ◉ **Monitoring mechanisms:** Regular and systematic monitoring of doctors and activities in clinics must be undertaken. Reports must be shared in the public domain. There is no excuse for aborting a foetus because it is female.

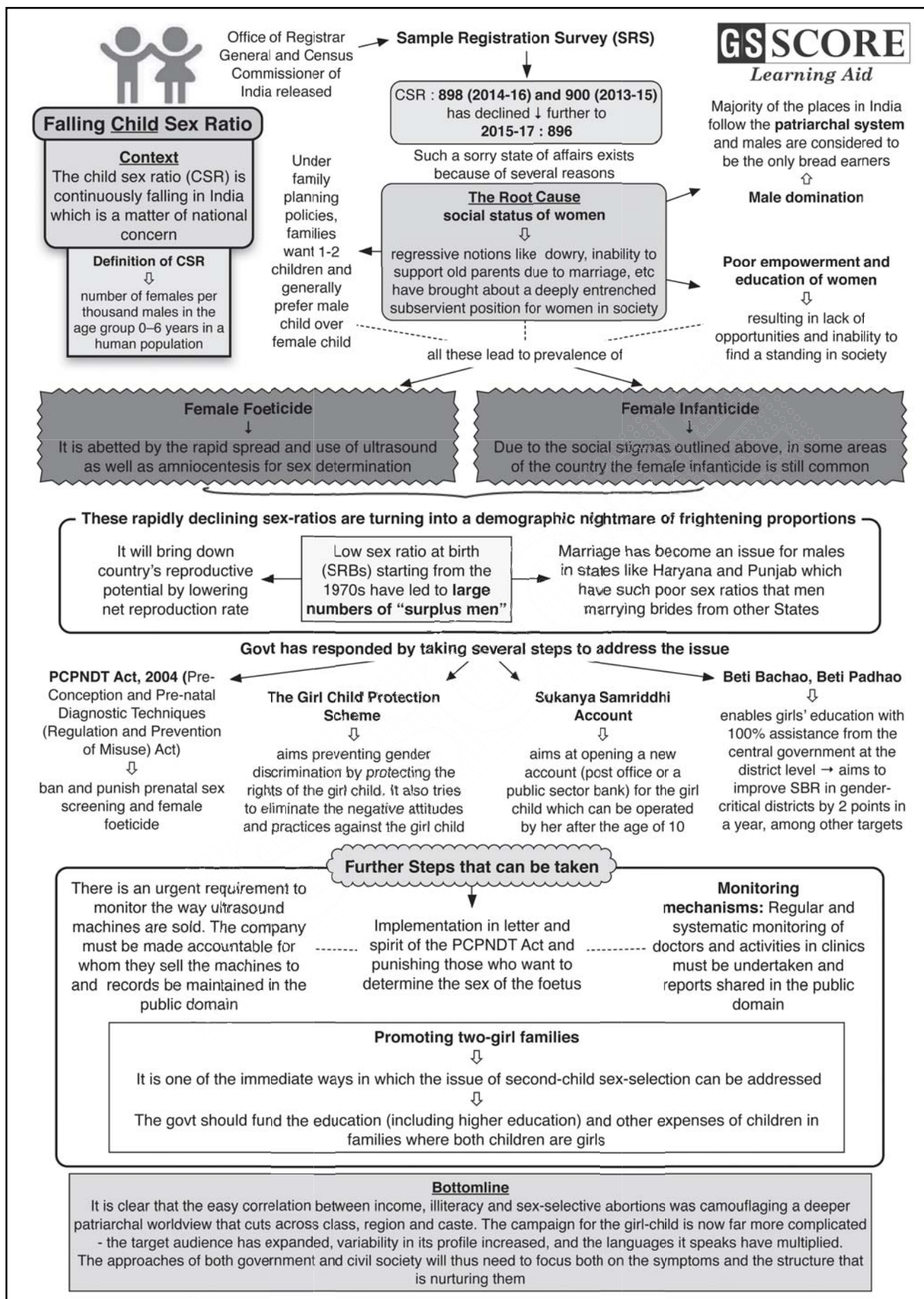
◎ CONCLUSION

- ◉ It is clear that the easy correlation between income, illiteracy and sex-selective abortions was camouflaging a deeper patriarchal worldview that cuts across class, region and caste. The campaign for the girl-child is now far more complicated -- the target audience has expanded, variability in its profile increased, and the languages it speaks have multiplied. Most disconcertingly, the discourses of rights and modernity are twisted to fit into the patriarchal framework and therefore become counterproductive.
- ◉ The approaches of both government and civil society will thus need to focus both on the symptoms and the structure that is nurturing them.



Practice Question

- ◉ Why declining child sex ratio is a major concern for India? Discuss the steps taken the Government to address the issue.



SECTION: B
(PRELIMS)

CURRENT AFFAIRS

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CARCINOGEN AFLATOXIN DETECTED IN FSSAI MILK SURVEY SAMPLES

◎ CONTEXT

- Traces of Aflatoxin M1 (AFM1), a deadly carcinogen, were found in some of the milk samples tested as part of a national survey by the Food Safety and Standards Authority of India (FSSAI).

◎ ABOUT

- Aflatoxins are toxins produced by certain fungi which are generally found in agricultural crops like maize, peanuts, cotton seed and others. They are carcinogenic in nature, which means they can cause cancer.
- The highest rates of aflatoxin contamination were found in Delhi, Tamil Nadu and Kerala.

Highlights of the report

- The carcinogen was found to be more prevalent in processed rather than raw milk.
- Consumption of food containing aflatoxin concentrations of one milligram/kilogram or higher has been suspected to cause aflatoxicosis, the prognosis of which consists of acute liver failure, jaundice, lethargy and nausea, eventually leading to death, according to a World Health Organization (WHO)
- According to FSSAI standards, the permissible limit of aflatoxins in milk is 0.5 µg/kg.
- The exposure to AFM1 from milk is 46 nanogram per kilogram (ng/day) on average, but children bear higher exposure of 3.5 ng/kg bodyweight per day (bw/day) compared to adults, at 0.8 ng/kg bw/day. This causes stunting among children.
- Maltodextrin, a food additive, was also found. Although it is not lethal, its presence increases the levels of fat and Solids-not-Fat (SNF). Maltodextrin and Sugar were mainly found in processed milk.

Regulatory mechanism to address this issue

- The problem is mainly associated with commercial farmers who store feed.
- The substance (aflatoxin) is naturally produced by certain types of moulds that grow in the stored feed.
- While the farmers need to be trained in good storage practices, plant owners cannot just disown these small and medium dairy farmers who they source their supplies from. They will have to help in creating a safe ecosystem.
- Also, authorities should create a feed regulatory mechanism that will help change the situation in due course of time..

MAHARATNA, NAVRATNA AND MINIRATNA CPSES

◎ CONTEXT

- The government accorded 'Maharatna' status to state-owned Hindustan Petroleum and Power Grid Corporation, thus giving them greater operational and financial autonomy.

◎ ABOUT

Maharatna Scheme:

- Maharatna Scheme was introduced for Central Public Sector Enterprises (CPSEs), with effect from 19th May, 2010, in order to empower mega CPSEs to expand their operations and emerge as global giants.

- The objective of the scheme is to delegate enhanced powers to the Boards of identified large-sized Navratna CPSEs so as to facilitate expansion of their operations, both in domestic as well as global markets.

Criteria for grant of Maharatnastatus :-

- The CPSEs fulfilling the following criteria are eligible to be considered for grant of Maharatna status.
- Having Navratna status.
- Listed on Indian stock exchange with minimum prescribed public shareholding under SEBI regulations.
- Average annual turnover of more than Rs. 25,000 crore, during the last 3 years.
- Average annual net worth of more than Rs. 15,000 crore, during the last 3 years.
- Average annual net profit after tax of more than Rs. 5,000 crore, during the last 3 years.
- Should have significant global presence/international operations.

Maharatna CPECs:

- Bharat Heavy Electricals Limited.
- Bharat Petroleum Corporation Limited.
- Coal India Limited.
- GAIL (India) Limited.
- Hindustan Petroleum Corporation Limited.
- Indian Oil Corporation Limited.
- NTPC Limited.
- Oil & Natural Gas Corporation Limited.
- Power Grid Corporation of India Limited.
- Steel Authority of India Limited.

Benefits of granting Maharatna Status to central public sector enterprisesCPSEs:

- The grant of Maharatna status to the PSUs will impart enhanced powers to their Boards to take financial decisions.
- The Boards of Maharatna central public sector enterprises (CPSEs) can make equity investments to undertake financial joint ventures and wholly owned subsidiaries and undertake mergers and acquisitions in India and abroad, subject to a ceiling of 15 per cent of the net worth of the concerned CPSE, limited to Rs 5,000 crore in one project.
- The Boards can also structure and implement schemes relating to personnel and human resource management and training. They can also enter into technology joint ventures or other strategic alliances, among others.
- The holding companies of a 'Maharatna' PSU are also empowered to transfer assets, float fresh equity and divest shareholding in subsidiaries, subject to the condition that the delegation will only be in respect of the subsidiaries set up by the holding company.

Criteria for grant of Navratnastatus :-

- The Miniratna Category – I and Schedule 'A' CPSEs, which have obtained 'excellent' or 'very good' rating under the Memorandum of Understanding system in three of the last five years, and have composite score of 60 or above in the following six selected performance parameters:
 - Net profit to net worth.
 - Manpower cost to total cost of production/services.
 - Profit before depreciation, interest and taxes to capital employed.
 - Profit before interest and taxes to turnover.
 - Earning per share.
 - Inter-sectoral performance.

Criteria for grant of Miniratna status :

- The CPSEs which have made profits in the last three years continuously and have positive net worth are eligible to be considered for grant of Miniratna status.
- As on October 2019 there are 10 Maharatna, 14 Navaratna and 73 Miniratna CPSEs.

About Hindustan Petroleum Corporation Limited:

- HPCL had originally been incorporated as a company under the Indian Companies Act 1913.
- It is listed on the Bombay Stock exchange (BSE) and National Stock Exchange (NSE), India.
- HPCL owns & operates 2 major refineries producing a wide variety of petroleum fuels & specialties, one in Mumbai (West Coast) and the other in Visakhapatnam, (East Coast).
- HPCL also owns and operates the largest Lube Refinery in the country producing Lube Base Oils of international standards, with a capacity of 428 TMT.
- HPCL has the second largest share of product pipelines in India.

About Power Grid Corporation of India Limited:

- It is a "Maharatna" Central Public Sector Enterprise.
- It is Central Transmission Utility (CTU) of India.
- Power Grid Corporation of India Limited is India's largest Electric Power Transmission Utility.
- It undertakes transmission of electricity through Inter-State Transmission System (ISTS); discharges all functions of planning co-ordination relating to ISTS with all concerned authorities; ensures development of an efficient, co-ordinated and economical system of inter-state transmission lines for smooth flow of electricity from generating stations to the load centers.

REVIVING EXPORTS

◎ CONTEXT

- Exports during this fiscal have fallen 2.5% to \$159.6 billion, especially labour-intensive exports. It is important to assess the foreign trade situation in India, especially in the backdrop of slowdown in the economy.

◎ ABOUT

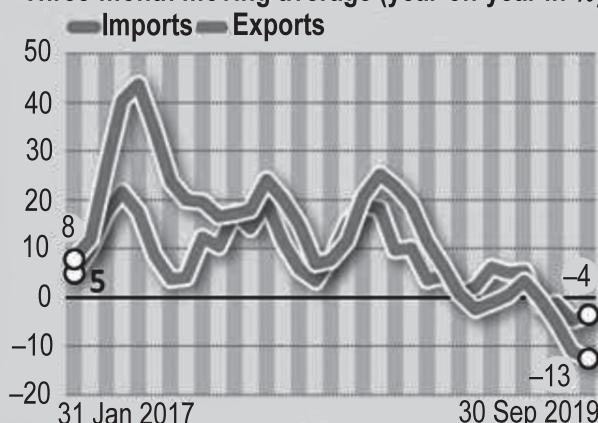
- One of the leading matters of concern for India's macroeconomic performance is declining exports.
- September 2019 trade deficit was at a seven-month low as exports declined 6.5%. Exports, imports witness the steepest fall in three years
- Labour-intensive exports (like agriculture and allied products, leather and leather products), which create employment in large numbers, have been falling.
- Exports from textiles and ready-made garment sectors can help a country's transition from "developing" to "developed"—all the more so because they create employment for women.
- While textile/ready-made garment exports haven't been performing adequately, labour force participation rate of women has fallen dramatically over the years.
- India's merchandise exports have also registered a fall.
- Engineering goods are by far India's largest exports. While engineering goods exports have fallen, electronic goods exports have increased (42.3%).

Broad-based demand slump

India's exports and imports have continued to register poor growth.



Three-month moving average (year-on-year in %)



- Lately the trade balance improved slightly, but it's mostly because of falling imports rather than growing exports.
- World Bank in its World Development Report (WDR) 2020 estimated that the share of intermediate goods in global merchandise trade was as high as 50%. But India's access to Global Value Chains (GVCs)—about 16%—is not enough.
- Five Indian states — Maharashtra, Gujarat, Karnataka, Tamil Nadu and Telangana — accounted for 70% of India's total exports in FY 2018.

Terms related to the external sector:

- **Balance of trade (BoT)/trade balance;** measures a flow of exports and imports over a given period of time.

Trade deficit; is the amount by which the cost of a country's imports exceeds the value of its exports ($Ex < Im$).

- **Global Value Chains (GVCs);** iPhone is a good example to understand GVCs. The US prepares the iPhone design, Taiwan and South Korea produce critical inputs such as processors. Final assembly takes place in China from where they are marketed all over.
- **Relationship between BoT and GDP;** BoT is a key component of a country's GDP formula. Foreign trade accounted for 48.8% of India's GDP in 2017. GDP increases when there is a trade surplus ($Ex > Im$), it decreases when there is a trade deficit.

Causes for declining exports

- Structural factors like low technological adaptability, and absence of technology intensive foreign investment, are curtailing India's exports.
- The slowdown of engineering goods is the result of such structural factors.
- Undervalued currency policies adopted by competitors (like China) amidst relatively strong rupee, makes it difficult to retain export competitiveness.
- In the context of rising anti-globalization sentiments in the West, countries are adopting micro policies to limit their imports.
- Trade is now intensively conducted through Regional Trade Blocs or FTAs where countries exchange trade benefits on mutual understanding. This has led to discrimination against countries like India which are not members of any powerful trade blocs.
- Export of India depends upon income in other countries. Slow economic growth in rest of the world also reduces India's exports.
- The implementation and refund delays under GST may have also caused working capital constraints for firms, which in turn might have hurt their exports.

- There is limited diversification of India's export basket, with the top 10 principal commodity exports accounting for as much as 78 per cent of total merchandise exports.

Consequences of declining exports

- Trade deficit worsens as export income decreases and import costs increase. A \$671 million trade deficit in FY01 swelled to \$63 billion in FY18.
- With shrinking trade deficit, India's slowdown battle has got prolonged.
- India imports the bulk of the fuel it consumes in various forms. A weaker rupee makes petrol and diesel expensive. Governments also earn a lot of taxes from petrol and diesel and are not in a position to cut these taxes. It's really a choice between stronger labour-intensive exports and cheaper petrol and diesel.
- Though India has benefitted from the import of cheap intermediate and capital goods from China. However, the rising trade deficit with China is unsustainable.
- When market conditions for principle export commodities worsen, it has a major impact on overall export performance. For example, four of India's lead exports (Engineering goods, Gems and jewellery, chemicals and readymade garments) registered negative or near zero growth rates during 2015-16.

How exports can be revived?

- A weaker rupee would help Indian exporters compete on the price front by helping them earn more in rupee terms—thus allowing them to cut prices to stay competitive
- Government is coming up with Foreign Trade Policy 2020-25. If norms for import of raw materials and capital goods for exporters are relaxed, it can be a boost for exports.
- Higher export rewards to products with geographic indication (GI) tag such will add teeth to the Make in India scheme, and boost exports.
- Rationalising government schemes to encourage more local sourcing of inputs of export products.
- There is a high correlation between a state's Gross State Domestic Product (GSDP) per capita and its share of total exports. Measures to boost GSDP will also help revive exports.
- RCEP can be used as an opportunity to add value in GVCs. A single percentage point increase in GVC boosts per capita income levels by more than 1%, and more than 0.2% income gain from standard trade. Benefits of GVC go a long way:
 - Helped poor countries grow faster
 - Create new jobs, reduce poverty and inequality
 - All these can have long term consequences in improving trade
- Improving access to credit and reducing cost of credit, especially for merchant exporters.
- Interest equalization support to all agricultural exports.
- Increasing budgetary support for marketing and exports related infrastructure.
- Creating a single point interface for customs clearance of import and export goods.
- Simplifying various export incentive schemes:
 - Advance Authorisation Scheme (AAS)
 - Export Promotion Capital Goods (EPCG)
 - Service Exports from India Scheme (SEIS)
 - Merchandise Exports from India Scheme (MEIS)

ANTHRAX CAUSE OF DEATH OF BUFFALOES

◎ CONTEXT

- Veterinarians have confirmed anthrax as the cause of death of two Asiatic water buffaloes in central Assam's Pobitora Wildlife Sanctuary, which has the highest concentration of one-horned rhinos in the world and is often called 'Mini Kaziranga' due to similar landscape and vegetation

◎ ABOUT

- Anthrax is a serious infectious disease caused by gram-positive, rod-shaped bacteria known as *Bacillus anthracis*.
- Anthrax is a serious infectious disease caused by gram-positive, rod-shaped bacteria known as *Bacillus anthracis*.
- Although it is rare, people can get sick with anthrax if they come in contact with infected animals or contaminated animal products.
- It can occur in four forms: skin, lungs, intestinal, and injection.
- The symptoms of anthrax depend on the type of infection and can take anywhere from 1 day to more than 2 months to appear. All types of anthrax have the potential, if untreated, to spread throughout the body and cause severe illness and even death.

Symptoms

- A group of small blisters or bumps that may itch
- Swelling can occur around the sore
- A painless skin sore (ulcer) with a black center that appears after the small blisters or bumps. Most often the sore will be on the face, neck, arms, or hands.

Types of Anthrax

1. **Cutaneous:** Most common form of anthrax infection, and is considered to be the least dangerous. Infection usually develops from 1 to 7 days after exposure.
2. **Inhalation:** Inhalation anthrax is considered to be the most deadly form of anthrax. Infection usually develops within a week after exposure, but it can take up to 2 months
3. **Gastrointestinal:** Gastrointestinal anthrax has rarely been reported. Infection usually develops from 1 to 7 days after exposure.
4. **Injection:** This type of infection has never been reported.

Who Is At Risk

Anyone who has come in contact with anthrax spores could be at risk of getting sick. Most people will never be exposed to anthrax. However there are activities that can put some people at greater risk of exposure than others.

- People Who Handle Animal Products
- Veterinarians
- Livestock producers
- Travelers
- Laboratory Professionals
- Mail handlers, military personnel, and response workers who may be exposed during a bioterror event involving anthrax spores

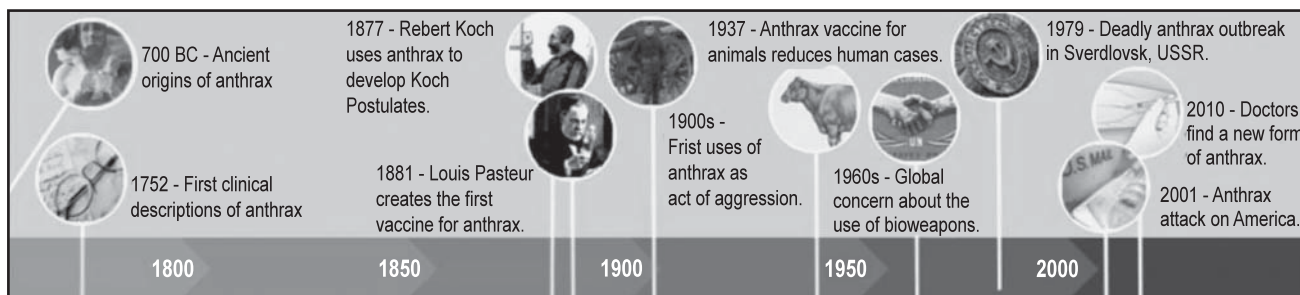
Prevention

- Antibiotics can prevent anthrax from developing in people who have been exposed but have not developed symptoms.
- Ciprofloxacin and doxycycline are two of the antibiotics that could be used to prevent anthrax.

- People who have been exposed to anthrax must take antibiotics for 60 days. This will protect them from any anthrax spores in their body when the spores are activated.

A History of Anthrax

- Anthrax is thought to have originated in Egypt and Mesopotamia.
- Anthrax may have caused what was known as the fifth plague, described as a sickness affecting horses, cattle, sheep, camels and oxen.
- Ancient Greece and Rome were also well acquainted with anthrax.



Pobitora Wildlife Sanctuary

- Pobitora Wildlife Sanctuary is a wildlife sanctuary on the southern bank of the Brahmaputra in Morigaon district in Assam.
- It is landlocked by Assamese villages from every side of it with the traditional Assamese culture.
- It was declared in 1987, providing grassland and wetland habitat for the Indian rhinoceros.

STORMQUAKE

◎ CONTEXT

- Scientists have discovered an earthquake-like event “stormquake” that can happen during a hurricane or other powerful ocean storms.

◎ ABOUT

• What is a stormquake?

- It is a new geophysical phenomenon entirely unknown to science - a hybrid entity where powerful storms such as hurricanes trigger seismic episodes that can rumble for hours or even days.
- Storms trigger giant waves in the sea, which cause another type of wave. These secondary waves then interact with the seafloor only in certain places and that causes the shaking.
- Stormquakes are limited to places along the edge of continental shelves or on ocean banks.
- Stormquakes frequently occur in the Maritimes and Labrador Sea in the North American margin.

- **“Earth’s hum”:** It is a phenomenon in which the constant sloshing of ocean waves produces seismic signals at frequencies of about once every few minutes.
- **Microseisms:** These are high-frequency signals created by ocean waves which occur every five seconds.
- **Seismic noise** is a band of signals generated in the ocean that occur once every 20 to 50 seconds or so or at a frequency of between 0.02 and 0.05 hertz.

When is a stormquake generated?

- To be a stormquake the source of the seismic data had to meet several criteria:

- It had to occur during a stormy day.
- It should not to be a part of known earthquake event and belong to a swarm of similar quakes on the same day.
- Stormquakes are confined to certain regions along the coast where seafloor topography has small raised regions called **ocean banks**.

Examples of stormquake:

- Hurricane Bill, a storm that formed 10 years ago in the Atlantic Ocean. Bill strengthened into a Category 4 hurricane before weakening to a tropical storm and hitting Newfoundland. This storm caused "numerous seismic events" off the northeast U.S. and Canadian coasts. As Bill approached several stormquakes located offshore New England and Nova Scotia were detected and caused continent-wide ground motions that lasted for about 30 hours.
- Hurricane Ike (2008) and Hurricane Irene (2011) which led to stormquake activity in the Gulf of Mexico, while Irene caused seismic events off the coast of southern Florida.

TOP FIVE LARGEST RAMSAR SITES IN INDIA

◎ ABOUT

Following are the top five largest Ramsar sites in India:

Sr. No.	Ramsar site	State	Designation year	Area (in sq. km.)
1.	Sunderbans Wetland	West Bengal	2019	4230
2.	VembanadKol Wetland	Kerala	2002	1512.5
3.	Chilka Lake	Odisha	1981	1165
4.	Kolleru Lake	Andhra Pradesh	2002	901
5.	Bhitarkanika Mangroves	Odisha	2002	650

• Sunderbans Wetland:

- Sundarban Wetland is located within the largest mangrove forest in the world, the Sunderbans that encompasses hundreds of islands and a maze of rivers, rivulets and creeks, in the delta of the Rivers Ganges and Brahmaputra on the Bay of Bengal in India and Bangladesh.
- The Indian Sundarban, covering the south-westernmost part of the delta, constitutes over 60% of the country's total mangrove forest area and includes 90% of Indian mangrove species.
- The Sundarban Tiger Reserve is situated within the Site and part of it has been declared a "critical tiger habitat" under national law and also a "Tiger Conservation Landscape" of global importance.
- The Sunderbans are the only mangrove habitat which supports a significant population of tigers, and they have unique aquatic hunting skills.
- The Site is also home to a large number of rare and globally threatened species such as the critically endangered northern river terrapin (Batagurbaska), the endangered Irrawaddy dolphin (Orcaellabrevirostris), and the vulnerable fishing cat (Prionailurusviverrinus).
- Two of the world's four horseshoe crab species and eight of India's 12 species of kingfisher are also found here. The uniqueness of the habitat and its biodiversity, and

the many tangible and intangible, local, regional and global services they provide, makes the Site's protection and management a conservation priority.

- **VembanadKol Wetland:**

- It is the largest brackish, humid tropical wetland ecosystem on the southwest coast of India, fed by 10 rivers and typical of large estuarine systems on the western coast, renowned for its clams and supporting the third largest waterfowl population in India during the winter months.
- Over 90 species of resident birds and 50 species of migratory birds are found in the Kol area. Flood protection for thickly-populated coastal areas of three districts of Kerala is considered a major benefit, groundwater recharge helps to supply well water for the region, and the value of the system for the local transport of people and trade is considerable.

- **Chilka Lake:**

- It is a brackish lake separated from the Bay of Bengal by a long sandy ridge and subject to sea water exchange, resulting in extreme seasonal fluctuations in salinity in different sections of the lake. Saline areas support aquatic algae.
- The site is an important area for breeding, wintering and staging for 33 species of waterbirds.
- It also supports 118 species of fish, including commercially important species. Significant numbers of people are dependent upon the lake's resources.
- Placed on the Montreux Record in 1993 due to problems caused by siltation and sedimentation which was choking the mouth of the lake; removed from the Record in 2002 following rehabilitation efforts for which the Chilika Development Authority received the Ramsar Wetland Conservation Award for 2002.

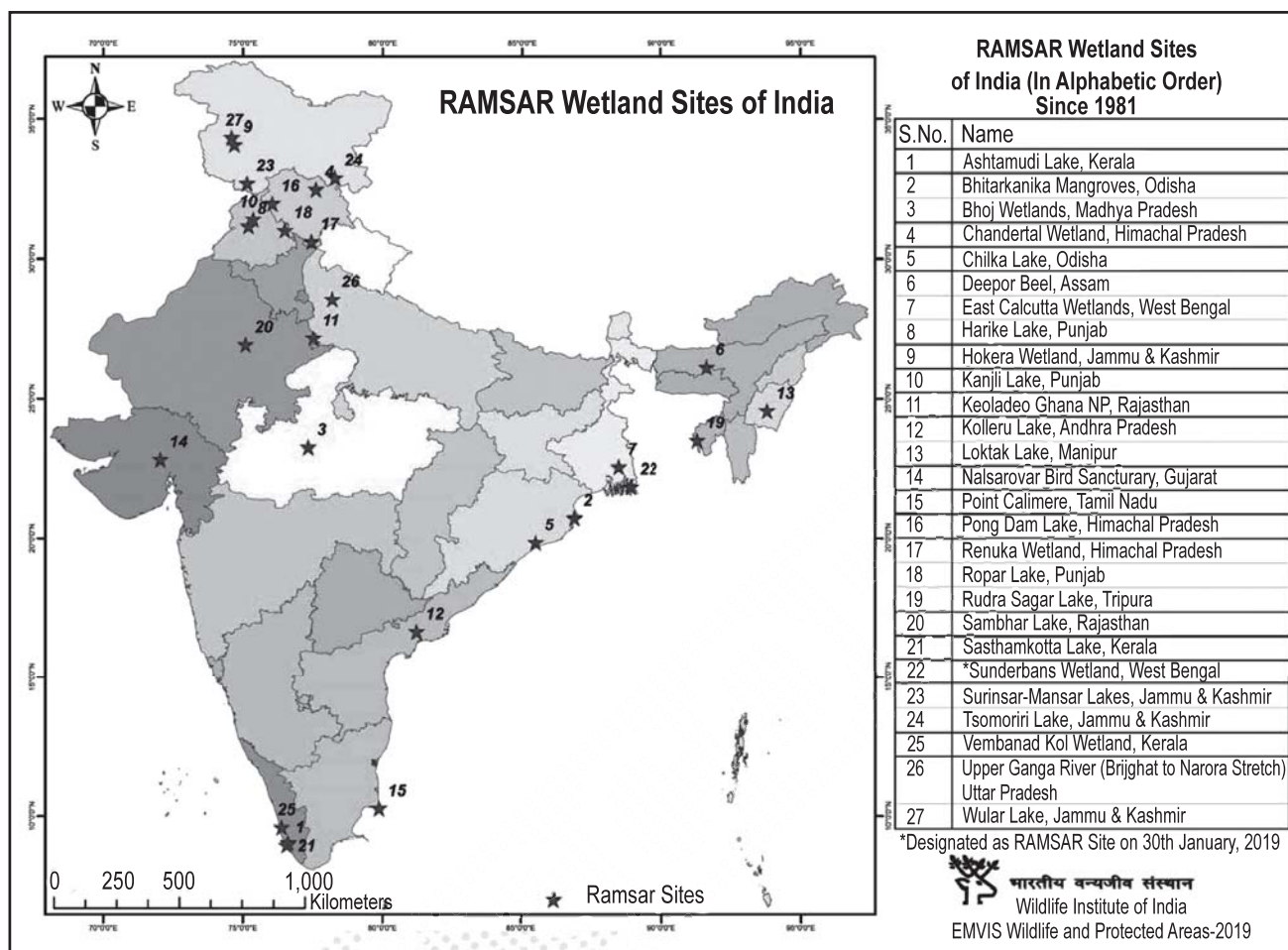
- **Kolleru Lake:**

- It is a natural eutrophic lake, situated between the two major river basins of the Godavari and the Krishna, fed by two seasonal rivers and a number of drains and channels, which functions as a natural flood balancing reservoir between the deltas of the two rivers.
- It provides habitat for a number of resident and migratory birds, including declining numbers of the vulnerable Grey Pelican (*Pelecanus philippensis*), and sustains culture and capture fisheries, agriculture and related occupations of the people in the area.
- Damage and losses due to flooding in monsoon seasons and partial drying out during summers, the results of inadequate management planning and action, are the areas for improvement.

- **Bhitarkanika Mangroves:**

- It is one of the finest remaining patches of mangrove forests along the Indian coast.
- 25 years of continued conservation measures have made the site one of the best known wildlife sanctuaries.
- The site's Gahirmatha beach is said to host the largest known Olive Ridley sea turtle nesting beach in the world, with half a million nesting annually, and the site has the highest density of saltwater crocodile in the country, with nearly 700 *Crocodylus porosus*.
- It is a major breeding and wintering place for many resident and migratory waterbirds and is the east coast's major nursery for brackish water and estuarine fish fauna.
- Like many mangrove areas, the dense coastal forests provide vital protection for millions of people from devastating cyclones and tidal surges - of India's 58 recorded species of mangroves, 55 species are found in Bhitarkanika, a wider mangrove diversity than in the Sundarbans!

- Traditionally, sustainable harvesting of food, medicines, tannins, fuel wood, and construction materials, and particularly honey and fish, has been the rule, but population pressures and encroachment may threaten that equilibrium.



JALJEEVAN MISSION

◎ CONTEXT

- Government launched JalJeevan Mission to deal with water conservation in an integrated manner.

◎ ABOUT

- India has 180 million rural households. About 33 million have access to piped water; a little over 145 million don't.
- The **JalJeevan Mission (JJM)** aims to provide tap water to all of these households by 2024.
- This means **4.5 times more houses have to be linked to piped-water** in the coming five years than has been done in the past 72 years.
- The mission constitutes one of GoI's **biggest infrastructure outlays** (including expenditures on cement, pipes, pumps, equipment, construction, wages, conservation, revival of water bodies, skill building, institution creation — everything).
- JJM attempts an **integrated approach** to water-related issues. Following ministries were merged to create **Ministry of Jal Shakti**:
 - Ministry of water resources, river development and Ganga rejuvenation

- Ministry of drinking water and sanitation
- There is an attempt to inculcate a responsible and responsive relationship with water as gauged by phases like '**value of water**', and '**water footprint**' of human and economic activity.
- **Jal Shakti Abhiyan(JSA)** is an intensive **water conservation campaign** to empower local communities, in cooperation with state and GoI agencies.
- The campaign focuses on **integrated demand and supply-side management** of water at the local level in the 256 water-stressed districts in India.
- Top 5 districts as ranked by JSA; kapada (Andhra)>Sangareddy (Telangana)>Thanjavur (TN)>Banaskantha (Gujarat)>Thootukudi (TN).

Why do we need a JJM?

- In 1951, per-capita water availability in India was just over 5,000 cu m per year. In 2011, it was 1,545 cu m. The figure has almost certainly come down since.
- **Should it drop below 1,000 cu m per year**, India will formally become a **water-scarce country** for the first time in its 5,000-year history.
- India has access to **only 4% of the world's fresh water resources**, even while housing 18% of its population.
- **Encroachment of water bodies** is a major issue. In Delhi alone, NGT reported roughly 155 water bodies that were encroached.
- According to a 2014 reply to a Right to Information (RTI) query, water-starved Bundelkhand shared a similar story where 4,020 ponds reportedly disappeared in a decade.
- India is the **largest extractor of groundwater**; it extracts nearly **25% of the world's groundwater**, according to UNESCO.
- Moreover, India suffers from **geogenic pollution** (elements naturally present in the geology) of **arsenic, fluoride, iron and nitrate**.
- **Inequality of water availability** is also an issue. Water scarcity problem requires does not require management of the situation, but a **permanent solution**.
- **30% of Himalayan springs have dried** up, 50% have reduced discharge and most they have become seasonal.

How will JJM work?

- Government's rural e-governance initiative — **Common Service Centres (CSCs)** — are **nodal** centers to provide clean and safe drinking water in villages.
- It will rope in **village-level entrepreneurs (VLEs)** to set up **water filtration plants** in 1 lakh villages in the country.
- Through their rural entrepreneurs, CSC will set up these plants in villages depending upon the **mineral contamination profile**.
- CSC entered into a **MoU with the Bhabha Atomic Research Centre (BARC)** for installing water filtration plants in villages.
- Consultation process to make mandatory **compliance of the BIS quality standard for tap water**.
- **Satellite backed sensors** monitor ground water level on real time basis.
- **Gram panchayats and local bodies** will decide **water usage charges** for supply of potable piped water under the JJM.
- JSA requires **every city to rejuvenate at least 1 water body**

CSCs were formed as part of the government's **National e-Governance Plan (NeGP)**. They are **ICT-enabled front-end service delivery points** for villages providing the government, financial, social and private sector services in agriculture, health, education, entertainment, FMCG products, banking, insurance, pension, utility payments, etc.

Way forward

- While an enlightened water policy needs infrastructure, but more than that it requires institutions with local and village ownership. Both JJM and JSA are designed for village-level ownership.
- Intrinsic to JJM is **rejuvenation of rivers**, as well as other local water sources.
- Augmenting water availability is the sum of several efforts: **conservation and revival; recycle and reuse** of water (including grey water); **rainwater harvesting; judicious use of water for farming** (an expansion of 'per drop, more crop'); **efficient use of water in industry; in situ treatment of waste**, rather than transporting it long distances using copious quantities of water.
- **Labelling products or pushing industry to benchmark** optimal use of water can also be included.
- The **water-guzzling sugarcane industry** — with a value chain that sucks in subsidies at various stages — can be relooked into.
- Digital sensors could also facilitate **remote monitoring of household water supply and quality**, and **eliminate tedious meter readings**.
- JJM could **tie up with the skill development ministry** to train village women to measure turbidity and quality of water.
- **Stringent administrative action** needs to be taken to prevent and remove encroachment near water bodies.
- Out of the total 135 litres per capita per day (LPCD) water supplied in urban areas, 85 LPCD goes back in form of **sewage, which could be reused** if planned efficiently.
- **Using MGNREGA** for water conservation.
- It takes time for actual percolation of water down to the confined aquifer. Hence, preventing excessive extraction of groundwater. In this regard, following bills/policies can go a long way- Model Bill for the Conservation, Protection, Regulation and Management of Groundwater, 2016 and National Water Framework Bill, 2016, National Water Policy (2012).

INTER-PARLIAMENTARY UNION

◎ CONTEXT

- Recently, Indian Delegation Attacks Pakistan for Raising Kashmir Issue at Inter-Parliamentary Union

◎ ABOUT

- IPU had its **141 Assembly in October 2019 in Serbia**.
- IPU is **global inter-parliamentary institution**.
- It was established **in 1889** and was the first permanent forum for political multilateral negotiations.
- It is **headquartered in Geneva, Switzerland**.
- Its initial objective was **arbitration of conflicts**.
- It played important **role in setting up Permanent Court of Arbitration in The Hague**.
- Over time, its mission has evolved towards **promotion of democracy and inter-parliamentary dialogue**.

- It has worked for establishment of institutions at inter-governmental level, including UN.
- Initially, IPU was for individual parliamentarians, but has since transformed into international organization of parliaments of sovereign states.
- The national parliaments of **178 countries** are its members and 12 regional parliamentary assemblies are its associate members.
- The **IPU has permanent observer status at UNGA.**
- Slogan of IPU is "For democracy. For everyone."

Structure of IPU

- IPU has a four-fold structure:
- Assembly (political organ),
- the Governing Council (governing organ),
- the Executive Committee
- the Secretariat (separated tasks, management organ and executive organ),
- The IPU President (political head of the organization and ex officio President of the Governing Council).

Significance

- The Inter-Parliamentary Union (IPU) is the world organization of Parliaments. It is the "focal point for worldwide parliamentary dialogue" and works "for peace and co-operation among peoples and for the firm establishment of representative institutions".
- Between the two World Wars, the IPU intensified its work in the field of peaceful settlement of international disputes, the reduction of armaments and international security, and the development of the rules of warfare, but also dealt with support for the League of Nations, the further codification and development of international law, the promotion and improvement of the representative system, the protection of national minorities, colonial problems, economic questions, social and humanitarian policy, and intellectual relations.

BHIM 2.0

◎ CONTEXT

- The Ministry of Electronics and Information Technology launched BHIM 2.0.

◎ ABOUT

What is BHIM?

- Bharat Interface for Money (BHIM) is a payment app that lets user make simple, easy and quick transactions using Unified Payments Interface (UPI).
- User can direct bank payments to anyone on UPI using their UPI ID or scanning their QR with the BHIM app.
- One can also request money through the app from a UPI ID.
- Pioneered and developed by National Payments Corporation of India (NPCI), BHIM has been conceived and launched by the Hon'ble Prime Minister of India, Narendra Modi on 30th December 2016 to bring in Financial Inclusion to the nation and a digitally empowered society.

Features of BHIM:

- **Send Money:** Money can be sent by entering Virtual Payment Address (UPI ID), Account number and QR Scan.
- **Request Money:** Money can be collected by entering Virtual Payment Address (UPI ID). Additionally through BHIM App, one can also transfer money using Mobile No. (Mobile No should be registered with BHIM or *99# and account should be linked).

- **Scan & Pay:** Easy payment by scanning the QR code through Scan & Pay.
- **Profile:** You can view the static QR code and Payment addresses linked to your account. You can also share the QR code through various messenger applications like WhatsApp, Email etc. available on phone and can also download the QR code.
- **Bank Account:** BHIM provides switching between multiple bank accounts linked with BHIM App.
- **Language:** Currently BHIM is available in **13 languages, i.e., Hindi, English, Tamil, Telugu, Malayalam, Bengali, Odia, Kannada, Gujarati, Marathi, Assamese and Bengali.**

What is UPI?

- Unified Payments Interface (UPI) is a system that powers multiple bank accounts into a single mobile application (of any participating bank), merging several banking features, seamless fund routing & merchant payments into one hood.
- It also caters to the "Peer to Peer" collect request which can be scheduled and paid as per requirement and convenience.

Features and benefits of BHIM 2.0:

- **Linking of overdraft account:** In addition to current and savings accounts, customers can link their overdraft account to UPI. Customers will be able to transact instantly and all benefits associated with overdraft account shall be made available to the users. UPI 2.0 will serve as an additional digital channel to access the overdraft account.
- **Signed intent and QR:** With this option, while making payment using the intent or through scanning QR, the user will get additional security in the form of signed QR / intent. With the signed QR, issues related to tampering QR as well as having non-verified entities are reduced.

National Payments Corporation of India (NPCI):

- **NPCI is an umbrella organisation for operating retail payments and settlement systems in India.**
- **It is an initiative of Reserve Bank of India (RBI) and Indian Banks' Association (IBA) under the provisions of the Payment and Settlement Systems Act, 2007, for creating a robust Payment and Settlement Infrastructure in India.**
- Considering the utility nature of the objects of NPCI, it has been incorporated as a **"Not for Profit Company under the provisions of Section 25 of Companies Act 1956 (now Section 8 of Companies Act 2013),** with an intention to provide infrastructure to entire banking system in India for physical as well as electronic payment and settlement systems.
- The Company is focused on bringing innovations in the retail payment systems through the use of technology for achieving greater efficiency in operations and widening the reach of payment systems.

Promoter Banks:

- NPCI's ten **core promoter banks are State Bank of India, Punjab National Bank, Canara Bank, Bank of Baroda, Union Bank of India, Bank of India, ICICI Bank, HDFC Bank, Citibank N. A. and HSBC.** In 2016 the shareholding was broad-based to 56 member banks to include more banks representing all sectors.

- **One-time mandate:** UPI mandate could be used in a scenario where money is to be transferred later by providing commitment at present. UPI 2.0 mandates are created with one-time block functionality for transactions. Customers can pre-authorise a transaction and pay at a later date. It works seamlessly for merchants as well as for individual users. Mandates can be created and executed instantly. On the date of actual purchase, the amount will be deducted and received by the merchant/individual user.
- BHIM 2.0 supports **three additional languages — Konkani, Bhojpuri and Haryanvi** — over and above the existing 13

TECHSAGAR

◎ CONTEXT

- The National Cyber Security Coordinator's office in partnership with Data Security Council (DSCI) of India launched TechSagar – a platform to discover India's technological capability through a portal.

◎ ABOUT

- **TechSagar – India's Cybertech Repository was conceptualized by Government of India in partnership with Data Security Council of India.**
- TechSagar is a consolidated and comprehensive repository of India's Cybertech capabilities and provides actionable insights about capabilities of the Indian Industry, Academia & Research; across 25 technology areas like IoT, AI/ML, Block Chain, Cloud & Virtualisation, Robotics & Automation, AR/VR, Wireless & Networking, and more.
- It allows targeted search, granular navigation and drilldown methods using more than 3000 niche capabilities.
- As of now, the repository features 4000+ entities from Industry, Academia & Research including large enterprises and start-ups providing a country level view of India's Cyber competencies. In addition to entities, the repository also provides information about over 5000 products & solutions and 3500 + services from start-ups and large enterprises.
- The repository facilitates several opportunities to collaborate, connect and innovate, and also endeavours to provide direction for a strategic cyber roadmap of the country in R&D, industry development, and strengthening the preparedness of National Security.
- TechSagar is a dynamic platform and shall be frequently updated with new entities and information to maintain its relevancy and usefulness.
- As India aspires to become a 'Trillion-Dollar Digital' economy, the repository will facilitate new opportunities for businesses and academia to collaborate, connect and innovate.
- TechSagar will help combat the growing threat from cybercrime.

About Data Security Council of India (DSCI):

- Data Security Council of India (DSCI) is a not-for-profit, industry body on data protection in India, setup by NASSCOM®, committed to making the cyberspace safe, secure and trusted by establishing best practices, standards and initiatives in cyber security and privacy.
- To further its objectives, DSCI engages with governments and their agencies, regulators, industry sectors, industry associations and think tanks for policy advocacy, thought leadership, capacity building and outreach activities.
- To strengthen thought leadership in cyber security and privacy, DSCI develops best practices and frameworks, publishes studies, surveys and papers. It builds capacity in security, privacy and cyber forensics through training and certification program for professionals and law enforcement agencies and engages stakeholders through various outreach initiatives including events, awards, chapters, consultations and membership programs.
- DSCI also endeavours to increase India's share in the global security product and services market through global trade development initiatives. These aim to strengthen the security and privacy culture in India.

MISCELLANEOUS

CURRENT AFFAIRS

BHASHAN CHAR ISLAND

◎ ABOUT

- Bangladesh has built the relocation camp at Bhashan Char with a capacity to accommodate about 1 lakh people to take the pressure off the overcrowded border camps.
- The Rohingya refugees living in Bangladesh camps have agreed to move to Bhashan Char Island in the Bay of Bengal.
- The island is also known as Thengar Char Island.
- The Bhashan Char is an uninhabited island around 30 kilometre east of Hatiya island in the South East Bangladesh.
- Bhashan Char island was formed about two decades ago on the mouth of river Meghna.
- Though the Bangladesh government has built a three-metre-high embankment along its perimeter to keep out tidal surges during cyclones but the island falls in an ecologically fragile area prone to floods, erosion and cyclone.

THE SILVER ANTS- WORLD'S FASTEST ANTS

◎ ABOUT

- Saharan silver ant has joined the list of world record-breaking animals, as researchers from the University of Ulm in Germany have found it is able to run at speeds of 855mm/s, 108 times its own body length per second.
- The high speed help the Saharan ant to survive across the hot desert
- Surface temperatures in Sahara desert can exceed 60 degrees Celsius but the silver ant is only able to tolerate a body temperature of up to 53 degrees Celsius, so it must minimise the total time spent in the hot, dry desert environment. Shady spots to rest and recoup are few and far between, so the ant needs to return to its underground nest regularly to cool down between foraging expeditions.



FIRST ALL-WOMAN SPACE WALK

◎ ABOUT

- NASA astronauts Jessica Meir and Christina Koch made history when they ventured outside International Space Station (ISS) for first ever all women spacewalk. It was the first time in more than half a century of space exploration that two women astronauts walked in space together.
- Christina Koch had already carried out four spacewalks but it was the first such mission for Jessica Meir, who became the 15th woman to walk in space.
- They spent seven hours outside ISS replacing a failed power control unit and made their way to a location called Port 6 truss structure to replace battery charge-discharge unit (BCDU).

- NASA was hoping to have an all-female spacewalk in March 2019 but it was then canceled after astronaut Anne McClain discovered that spacesuit she was to wear did not fit properly, due to which astronaut Nick Hague went in her place.

- *First woman to spacewalk*– Russian *Svetlana Savitskaya* on 25 July 1984. She went outside USSR's Salyut 7 space station for 3 hours, 35 minutes.
- *First person (in history) to spacewalk*– Soviet cosmonaut *Alexei Leonov*.

