



## Kuril Islands



## Key Points

### ▪ Physical Geography:

- Kuril Islands are stretched from the Japanese island of Hokkaido to the southern tip of Russia's Kamchatka Peninsula separating Okhotsk Sea from the North Pacific ocean.
- It consists of 56 islands and minor rocks. The chain is part of the belt of geologic instability circling the Pacific (Ring of Fire) and contains at least 100 volcanoes, of which 35 are still active, and many hot springs.
  - Earthquakes and tidal waves are common phenomena over these islands.

### ▪ Russia-Japan Dispute:

- The Kuril Islands dispute between Japan and Russia is **over the sovereignty of [South Kuril Islands](#)**.
- The South Kuril Islands **comprise Etorofu island, Kunashiri island, Shikotan island and the Habomai island.**

- These islands are claimed by Japan but occupied by Russia as the successor state of the Soviet Union.
- Japan calls the Islands as Northern Territories and Russia as the South Kuril.

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## PM Kisan Samman Sammelan

**For Prelims:** Pradhan Mantri Kisan Samman Nidhi (PM-KISAN, Direct Benefit Transfer (DBT) mode, 'Indian Edge'

**For Mains:** Features of PM KISAN

### Why in News?

Recently, the Prime Minister of India inaugurated the PM Kisan Samman Sammelan 2022 at Indian Agricultural Research Institute in New Delhi.

### What are the Key Highlights of PM Kisan Samman Sammelan?

- PM released the 12<sup>th</sup> installment of **Pradhan Mantri Kisan Samman Nidhi (PM-KISAN)** funds. Rs 16,000 crores were transferred to over 8.5 crore eligible farmers as part of the scheme.
- PM also inaugurated 600 '**Pradhan Mantri Kisan Samruddhi Kendras**' (PMKSK) under the Ministry of Chemicals & Fertilizers. Under this scheme, more than 3.3 lakh retail fertilizer shops in the country will be converted into PMKSK in a phased manner.
  - These Kendras will cater to several farmer needs like providing agri-inputs (fertilizers, seeds, implements); testing facilities for soil, seeds, fertilizers; generating awareness among farmers; providing information regarding various government schemes and ensuring regular capacity building of retailers at block/ district level outlets.
- The PM also launched the '**Pradhan Mantri Bhartiya Jan Urvarak Pariyojana**' - **One Nation, One Fertilizer**.
  - Under this scheme, '**Bharat Urea Bags**' are launched. These will help companies market fertilizers under the single brand name "Bharat
  - An e-magazine on fertilizer, '**Indian Edge**' also launched by the PM. It will provide information on domestic and international fertilizer scenarios, including recent developments, price trends analysis, availability and consumption, success stories of farmers, among others.

### What is PM Kisan?

- **About:**
  - It was launched on 1 Nov 2018 to supplement financial needs of land holding farmers.
- **Financial Benefits:**
  - Financial benefit of Rs **6000/- per year in three equal installments**, every four months is transferred into the bank accounts of farmers' families across the country through **Direct Benefit Transfer (DBT) mode**.
- **Scope of the Scheme:**
  - The scheme was initially meant for **Small and Marginal Farmers (SMFs) having landholding upto 2 hectares** but scope of the scheme was **extended to cover all landholding farmers**.
- **Funding and Implementation:**
  - It is a **Central Sector Scheme** with 100% funding from the Government of India.

- It is being **implemented by the Ministry of Agriculture and Farmers Welfare.**
- **Objectives:**
  - To supplement the financial needs of the Small and Marginal Farmers in procuring various inputs to ensure proper crop health and appropriate yields, commensurate with the anticipated farm income at the end of each crop cycle.
  - To protect them from falling in the clutches of moneylenders for meeting such expenses and ensure their continuance in the farming activities.
- **PM-KISAN Mobile App:** It was developed and designed by the National Informatics Centre in collaboration with the Ministry of Electronics and Information Technology.
- **Exclusion Criteria:** The following categories of beneficiaries of higher economic status shall not be eligible for benefit under the scheme.
  - All Institutional Land holders.
  - Farmer families which belong to one or more of the following categories:
    - Former and present holders of constitutional posts
    - Former and present Ministers/ State Ministers and former/present Members of Lok Sabha/ Rajya Sabha/ State Legislative Assemblies/ State Legislative Councils, former and present Mayors of Municipal Corporations, former and present Chairpersons of District Panchayats.
    - All serving or retired officers and employees of Central/ State Government Ministries /Offices/Departments and its field units Central or State PSEs and Attached offices /Autonomous Institutions under Government as well as regular employees of the Local Bodies (Excluding Multi-Tasking Staff /Class IV/Group D employees)
    - All superannuated/retired pensioners whose monthly pension is Rs.10,000/-or more (Excluding Multi-Tasking Staff / Class IV/Group D employees) of above category
    - All Persons who paid Income Tax in last assessment year
    - Professionals like Doctors, Engineers, Lawyers, Chartered Accountants, and Architects registered with Professional bodies and carrying out profession by undertaking practices.

[Source: PIB](#)

## Global Status of Multi-Hazard Early Warning Systems: Target G

**For Prelims:** Sendai Framework (2015-2030), International Day for Disaster Risk Reduction, Tsunami, Drought, Disaster Management.

**For Mains:** Multi-Hazard Early Warning Systems and its Significance.

### Why in News?

Recently, the [United Nations Office for Disaster Risk Reduction \(UNDRR\)](#) and the [World Meteorological Organization \(WMO\)](#) released a report titled **Global Status of Multi-Hazard Early Warning Systems - Target G**, which warns that half of the countries globally are not protected by **Multi-Hazard Early Warning Systems (MHEWS)**.

- The report has been released to mark the **International Day for Disaster Risk Reduction (13<sup>th</sup> October)**.
- The analysis was made with data from the targets outlined in The [Sendai Framework \(2015-2030\)](#). The framework is a global blueprint for disaster risk reduction and prevention.

- Of the seven targets in the framework, **Target G aims to “substantially increase the availability of and access to multi-hazard early warning systems** and disaster risk information and assessments to the people by 2030.

## What is International Day for Disaster Risk Reduction?

- The International Day for Disaster Risk Reduction was **started in 1989, after a call by the [United Nations General Assembly](#)** for a day to promote a global culture of risk-awareness and disaster reduction.
- In 2015 at the **Third UN World Conference on Disaster Risk Reduction in Sendai, Japan**, the international community was reminded that disasters hit hardest at the local level with the potential to cause loss of life and great social and economic upheaval.

## What are the Early Warning Systems?

- Early warning systems are a proven **means to reduce harm to people and damage to assets ahead of impending hazards**, including [storms](#), [tsunamis](#), [droughts](#), and heatwaves, to name a few.
- Multi-hazard early warning systems address **several hazards that may occur alone, simultaneously, or cascadingly**.
- Many systems only cover one type of hazard - like floods or cyclones.

## What are the Findings?

- **Failure at Investment:**
  - The world is failing to invest in protecting the lives and livelihoods of those on the front line.
  - Those who have done the least to cause the climate crisis are paying the highest price.
  - LDCs (Least developed countries), SIDS (Small Island Developing States), and countries in Africa, require the most investment to increase early warning coverage and adequately protect themselves against disasters.
  - Pakistan is dealing with its worst recorded climate disaster, with nearly 1,700 lives lost. Despite this carnage, the death toll would have been much higher **if not for early warning systems**.
- **Significant Gaps:**
  - Only half of the countries globally have MHEWS.
  - The Number of recorded disasters has increased five-fold, driven in part by human-induced climate change and more extreme weather. This trend is expected to continue.
  - Less than half of the Least Developed Countries and only one-third of Small Island Developing States have a multi-hazard early warning system.
- **Humanity is in the Danger Zone:**
  - As ever-rising greenhouse gas emissions are supercharging extreme weather events across the planet, **climate disasters are hurting countries and economies like never before**.
  - Increasing calamities are costing lives and hundreds of billions of dollars in loss and damage.
  - Three times more people are displaced by climate disasters than war and half of humanity is already in the danger zone.

## What are the Recommendations?

- Called on all countries to invest in early warning systems.
- As climate change causes more frequent, extreme, and unpredictable weather events, investment in **early warning systems that target multiple hazards is more urgent than ever**.
- This is because of the need to warn not only against the initial impact of disasters, but



also **second and third-order effects**. Examples include soil liquefaction following an earthquake or a landslide, and disease outbreaks following heavy rainfall.

## What are India's Efforts in Managing Disaster?

- **Establishment of National Disaster Reaction Force (NDRF):**
  - India has increasingly mitigated and responded to all types of disasters, including with the establishment of its [National Disaster Reaction Force \(NDRF\)](#), the world's largest rapid reaction force dedicated to disaster response.
- **India's Role as a Foreign Disaster Relief:**
  - India's foreign humanitarian assistance has increasingly included its military assets, primarily deploying naval ships or aircraft to deliver relief.
  - In line with its diplomatic policy of "[Neighbourhood First](#)," many of the recipient countries have been in the region of South and Southeast Asia.
- **Contribution to Regional Disaster Preparedness:**
  - Within the context of the [Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation \(BIMSTEC\)](#), India has hosted DM Exercises that allow NDRF to demonstrate for counterparts from partner states the techniques developed to respond to various disasters.
  - Other NDRF and Indian Armed Forces exercises have brought India's first responders into contact with those from states in the [South Asian Association for Regional Cooperation \(SAARC\)](#) and the [Shanghai Cooperation Organisation \(SCO\)](#).
- **Managing Climate Change related Disaster:**
  - India has adopted the [Sendai Framework for Disaster Risk Reduction](#), the [Sustainable Development Goals \(2015-2030\)](#), and the [Paris Agreement](#) on Climate Change, all of which make clear the connections among DRR, Climate Change Adaptation (CCA), and sustainable development.

## UPSC Civil Services Examination Previous Year Question (PYQ)

**Q.** Describe various measures taken in India for Disaster Risk Reduction (DRR) before and after signing 'Sendai Framework for DRR (2015-30)'. How is this framework different from 'Hyogo Framework for Action, 2005'? **(2018)**

**Source:** [DTE](#)

## One Health Concept

**For Prelims:** WHO, UNEP, WHO

**For Mains:** One Health Concept and its Significance

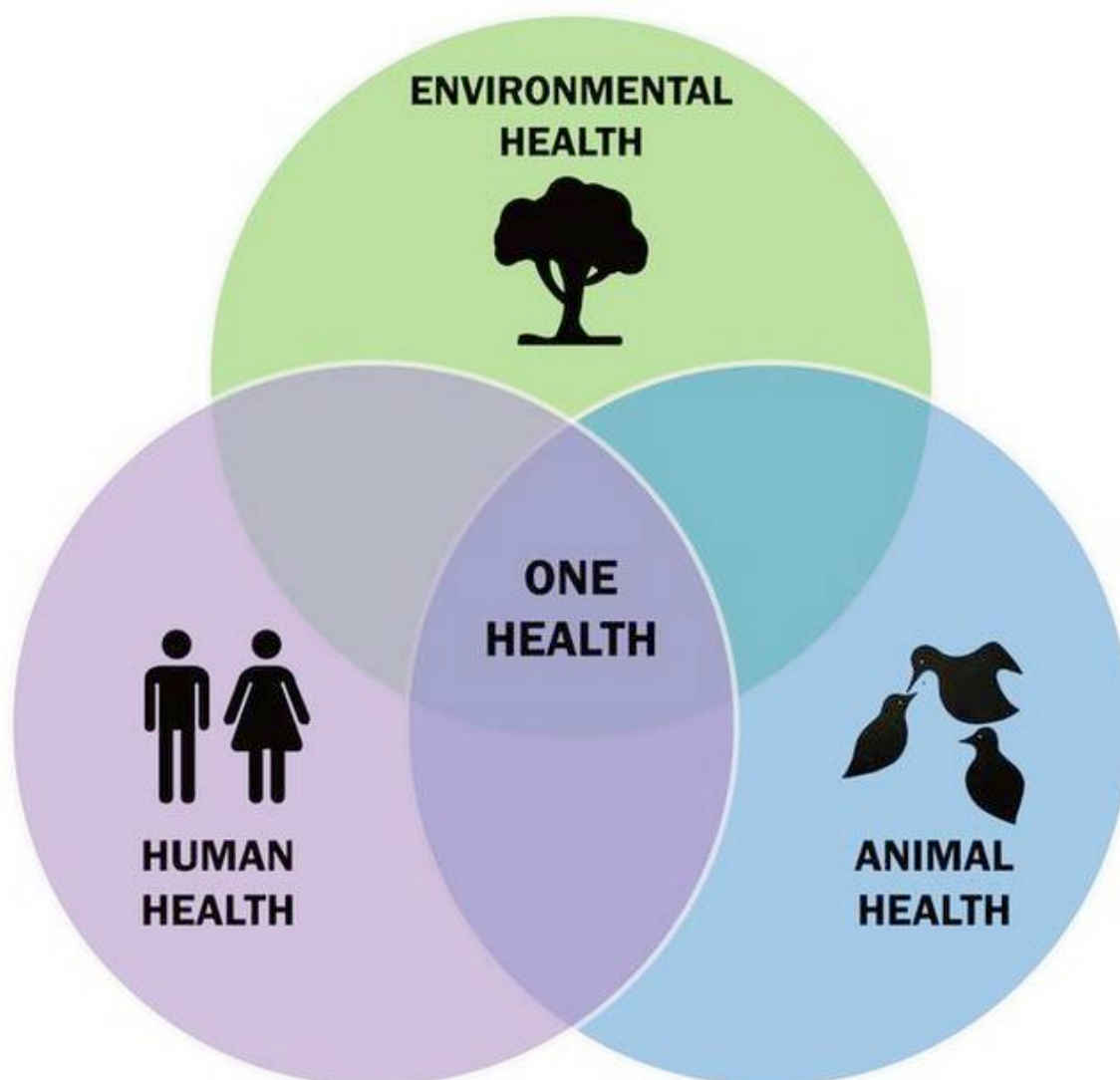
## Why in News?

Recently, a new One Health Joint Plan of Action was launched by the Quadripartite—the [Food and Agriculture Organization \(FAO\)](#), the [United Nations Environment Programme \(UNEP\)](#), the [World Health Organization \(WHO\)](#), and the [World Organisation for Animal Health \(WOAH\)](#), founded as OIE).

- In April 2022 a [pilot project in the state of Uttarakhand](#) was launched to implement the One Health Framework by One Health Support Unit.

## What is One Health Joint Plan of Action?

- **About:**
  - The Action plan developed through a participatory process, provided a set of activities that **aim to strengthen collaboration, communication, capacity building and coordination** equally across all sectors responsible for addressing health concerns at the human-animal-plant-environment interface.
  - The plan is valid from 2022-2026 and is aimed at mitigating the health challenges at global, regional, and country levels.
- **Focus Areas of the Action Plan:**
  - One Health capacity for health systems
  - Emerging and re-emerging zoonotic epidemics
  - [Endemic zoonotic](#)
  - Neglected tropical and **vector-borne diseases**
  - [Antimicrobial resistance](#) and the environment
  - Food safety risks



## What is the One Health Concept?

### ▪ About:

- One Health is an **approach that recognizes that the health of people is closely connected to the health of animals** and our shared environment.
- One Health' vision derives its blueprint from the agreement between the tripartite-plus alliance comprising the [Food and Agriculture Organization of the United Nations \(FAO\)](#), the [World Organisation for Animal Health \(OIE\)](#).
- It's purpose is to **encourage collaborations in research and sharing of knowledge** at multiple levels across various disciplines like human health, animal health, plants, soil, environmental and ecosystem health in ways that improve, protect and defend the health of all species.

## Why has the One Health Concept become more Important?

- **Human Expansion:** Human populations are **growing and expanding into new geographic areas** due to which close contact with animals and their environments provides more opportunities for diseases to pass between animals and people.
  - Of the contagious diseases affecting humans, more than 65% are of zoonotic or animal to man origin.
- **Environmental Disruptions:** Disruptions in environmental conditions and habitats can provide new opportunities for diseases to pass to animals.
- **International Travel & Trade:** The movement of people, animals, and animal products has increased from international travel and trade due to which diseases can spread quickly across borders and around the globe.
- **Viruses in Wildlife:** Scientists have observed that there are more than 1.7 million viruses circulating in wildlife, and many of them are likely to be zoonotic.
  - This implies that unless there is timely detection, India risks facing many more pandemics in times to come.

## Way Forward

- The [Covid-19 pandemic](#) showed the relevance of 'One Health' principles in the governance of infectious diseases, especially efforts to prevent and contain [zoonotic diseases](#) throughout the world.
- India needs to scale up such a model across the country and to establish meaningful research collaborations across the world.
- There is a **need to develop best-practice guidelines for informal market** and slaughterhouse operation (e.g., inspections, disease prevalence assessments), and creating mechanisms to operationalise 'One Health' at every stage down to the village level.
- Awareness generation, and increased investments toward meeting 'One Health' targets is the need of the hour.

[Source: DTE](#)

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## Vision—Developed India: Opportunities and Expectations of MNCs

**For Prelims:** FDI, FPI, Government Initiatives, Make in India, Digitization.

**For Mains:** Vision—Developed India: Opportunities and Expectations of MNCs, Government's Initiatives.

## Why in News?

According to the **EY (Ernst & Young)- [Confederation of Indian Industries \(CII\)](#) report titled 'Vision—Developed India: Opportunities and Expectations of MNCs', India will attract **FDI (Foreign Direct Investment)** worth USD 475 billion in 5 years.**

## What are the Findings of the Report?

### ▪ Overview:

- 71% of **MNCs (Multinational Corporation)** working in India consider the **country an important destination for their global expansion.**
- India has seen a consistent rise in FDI in the last decade, with FY22 receiving USD 84.8 billion, despite the impact of the pandemic and geopolitical developments.
- India is seen as an **emerging manufacturing hub in global value chains**, as a growing consumer market and as a hub for ongoing digital transformation.
- Over 60% of MNCs stated improvement in the business environment in **the last three years.**
- Against the backdrop of growth challenges MNCs consider India **an attractive investment destination and are planning expansion.**

### ▪ Cause of Optimism:

- The commitments for investments in the infrastructure sector offer assurance about **India's serious aspirations for providing best-in-class infrastructure and new opportunities for investments.**
- Optimism on India's growth is led by **strong momentum in domestic consumption, a growing [services sector](#), [digitalization](#), and the government's focus on [manufacturing and infrastructure](#).**
  - The estimated real growth in consumption is the **third highest behind only the US and China**, while the fast-expanding digital economy is expected to reach USD 1 trillion by 2025.

### ▪ Suggestions:

- It is high time India took the leap to the next level of economic development, including early closure of free trade agreements, continued reforms to enhance ease of doing business, faster implementation of infra projects and goods and services tax reforms.

## What is Foreign Direct Investment?

### ▪ About:

- A FDI is an **investment made by a firm or individual in one country into business interests** located in another country.
  - FDI lets an **investor purchase a direct business interest** in a foreign country.
- Investors can make **FDI in a number of ways.**
  - Some common ones include establishing a subsidiary in another country, acquiring or merging with an existing foreign company, or starting a joint venture partnership with a foreign company.
- Apart from being a **critical driver of economic growth, FDI has been a major non-debt financial resource** for the economic development of India.
- It is different from **[Foreign Portfolio Investment](#)** where the foreign entity merely buys stocks and bonds of a company.
  - FPI does **not provide the investor with control over the business.**

### ▪ Routes of FDI:

- Automatic Route:
  - In this, the foreign entity does not require the prior approval of the government or the **RBI ([Reserve Bank of India](#)).**
  - In India FDI up to 100% is allowed in non-critical sectors through the automatic route, not requiring security clearance from the Ministry of Home Affairs (MHA).
    - Prior government approval or security clearance from MHA is required for investments in sensitive sectors such as defence, media,



telecommunication, satellites, private security agencies, civil aviation and mining, besides any investment from Pakistan and Bangladesh.

- **Government Route:**

- In this, the foreign entity has to take the approval of the government.

- [The Foreign Investment Facilitation Portal \(FIFP\)](#) facilitates the single window clearance of applications which are through approval route. It is administered by the [Department for Promotion of Industry and Internal Trade \(DPIIT\)](#), Ministry of Commerce and Industry.

## What is the Status of FDI Inflows in India?

- In 2021, FDI inflows **increased from USD 74,391 million in FY 19-20 to USD 81,973 million in FY 20-21.**
- **Top 5 FDI Sourcing Nation:**
  - **Singapore:** 27.01%
  - **USA:** 17.94%
  - **Mauritius:** 15.98%
  - **Netherland:** 7.86%
  - **Switzerland:** 7.31%
- **Top Sectors:**
  - **Computer Software & Hardware:** 24.60%
  - **Services Sector** (Fin., Banking, Insurance, Non-Fin/Business, Outsourcing, R&D, Courier, Tech. Testing and Analysis, Other): 12.13%
  - **Automobile Industry:** 11.89%
  - **Trading:** 7.72%
  - **Construction (Infrastructure) Activities:** 5.52%
- **Top Destinations:**
  - **Karnataka:** 37.55%
  - **Maharashtra:** 26.26%
  - **Delhi:** 13.93%
  - **Tamil Nadu:** 5.10%
  - **Haryana:** 4.76%
- FDI Equity inflow in **Manufacturing Sectors** have increased by **76% in FY 2021-22** (USD 21.34 billion) compared to previous FY 2020-21 (USD 12.09 billion).

## What has the Government done to boost FDI?

- [New FDI norms](#)
- [Make in India](#)
- [Atmanirbhar Bharat](#)
- [India's footing in global supply chains](#)
- [National technical Textile Mission](#)
- [Production Linked Incentive Scheme](#)
- [Pradhan Mantri Kisan SAMPADA Yojana](#)

## UPSC Civil Services Examination Previous Year Question (PYQ)

### Prelims

#### Q1. Consider the following: (2021)

1. Foreign currency convertible bonds
2. Foreign institutional investment with certain conditions
3. Global depository receipts
4. Non-resident external deposits

**Which of the above can be included in Foreign Direct Investments?**

- (a) 1, 2 and 3
- (b) 3 only
- (c) 2 and 4
- (d) 1 and 4

**Ans: (a)**

**Q2. Which of the following has/have occurred in India after its liberalization of economic policies in 1991? (2017)**

1. Share of agriculture in GDP increased enormously.
2. Share of India's exports in world trade increased.
3. FDI inflows increased.
4. India's foreign exchange reserves increased enormously.

**Select the correct answer using the codes given below:**

- (a) 1 and 4 only
- (b) 2, 3 and 4 only
- (c) 2 and 3 only
- (d) 1, 2, 3 and 4

**Ans: (b)**

**Q3. With reference to Foreign Direct Investment in India, which one of the following is considered its major characteristic? (2020)**

- (a) It is the investment through capital instruments essentially in a listed company.
- (b) It is a largely non-debt creating capital flow.
- (c) It is the investment which involves debt-servicing.
- (d) It is the investment made by foreign institutional investors in the Government securities.

**Ans: (b)**

### **Mains**

**Q1.** Though 100 percent FDI is already allowed in non-news media like a trade publication and general entertainment channel, the Government is mulling over the proposal for increased FDI in news media for quite some time. What difference would an increase in FDI make? Critically evaluate the pros and cons. **(2014)**

**Q2.** Justify the need for FDI for the development of the Indian economy. Why there is gap between MoUs signed and actual FDIs? Suggest remedial steps to be taken for increasing actual FDIs in India. **(2016)**

**[Source: TH](#)**

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# Report by RBI on Big Techs

**For Prelims:** Reserve Bank of India, Big Techs

**For Mains:** Big Techs and associated risks, Indian Economy and issues relating to planning, mobilisation of resources

## Why in News?

According to a new report by [Reserve Bank of India \(RBI\)](#), **large non-financial technology firms, referred to as “big techs,” pose challenges to financial stability** owing to their technological advantages, large user base, wide-spread use by financial institutions and network-effects.

## What are the Big Techs?

- **About:**
  - Big techs include companies such as **Alibaba, Amazon, Facebook, Google, and Tencent.**
  - They **usually hold service licenses through subsidiaries or Joint Ventures** with varying levels of ownership control and jurisdictional regulatory advantages.
- **Increasing Role of Big Techs:**
  - Big techs, given their pervasive **adoption as third-party service providers, generally become the underlying platform** on which a host of services are offered.
    - This **uniquely positions the big techs to easily acquire cross-functional databases** which can be exploited for generating innovative product offerings, making them dominant players in the market.
  - The **pervasiveness of big techs provides them with a large client base** who are entrenched in using their platforms/ products with access to multiple facets of customers' data, generating strong network effects.
  - The **entry of big techs into finance also reflects strong complementarities** between financial services and their core non-financial services.
  - Besides the technological advantages, the **big techs typically also have the financial muscle to withstand the competitive pressures.**
- **Related Steps taken by India:**
  - In India, **efforts have been made for local storage of payment data and to bring critical payment intermediaries** into the formal framework.
  - Initiatives are also underway to **increase the payment acceptance infrastructure and create a [data protection law](#).**

## What are the Risks associated with the Big Tech Sector in Financial Services?

- **Complex Governance Structure:**
  - The complex governance structure of big techs **limits the scope for effective oversight and entity-based regulations.**
    - **Due to the adoption of big techs as third-party service providers,** they have become the underlying platform on which a host of services are offered.
- **Barriers in Creating Level Playing Field:**
  - Big Techs are a **barrier in creating a level playing field to promote innovation in the fintech space.**
- **Data Privacy Issues:**
  - There is a lack of transparency in how tech companies process user data, which has raised serious and pressing privacy concerns.

## What are the Suggestions?

- **Realign Framework to Facilitate a Level Playing Field:**
  - To facilitate fairness in the fintech space, **regulators are realigning their regulatory frameworks** while managing the possible risks posed by bigtechs.
- **Need to Keep up the Pace with Innovations:**
  - With the increasingly complex inter-linkages between financial institutions and tech-companies, the regulatory frameworks **need to keep up the pace with innovations to contain the vulnerabilities** that may arise from the new risk propagation channels.
- **Mindful of the New Linkages:**
  - The regulations in EMDEs (Emerging Markets and Developing Economies) **need to be mindful of the new inter-linkages** that bigtechs might create with the existing financial institutions.

[Source: ET](#)

## Carbon Dating

### Why in News?

Recently, a Varanasi district court has **rejected the plea to conduct carbon-dating of the disputed structure** known to have been found inside the premises of the Gyanvapi Mosque.

### What is Carbon Dating?

- **About:**
  - Carbon dating is a **widely-used method to establish the age of organic materials**, things that were once living.
  - Living things have carbon in them in various forms.
  - The dating method is **based on the fact that Carbon-14 (C-14)** is radioactive, and decays at a well-known rate.
    - C-14 is an **isotope of carbon** with an atomic mass of 14.
    - The **most abundant isotope of carbon in the atmosphere is C-12**.
    - A very small amount of C-14 is also present.
      - The ratio of C-12 to C-14 in the atmosphere is almost static, and is known.
  - The Carbon Dating method **cannot be used to determine the age of non-living things** like rocks, for example.
  - Also, the age of things that are more than 40,000-50,000 years old cannot be arrived at through carbon dating.
    - This is because after 8-10 cycles of half-lives, the amount of C-14 becomes almost very small and is almost undetectable.
- **Uses:**
  - It has **proved to be a versatile technique of dating fossils** and archaeological specimens from 500 to 50,000 years old.
  - The method is **widely used by geologists, anthropologists, archaeologists**, and investigators in related fields.
- **Working of Carbon Dating:**
  - Because plants and animals get their carbon from the atmosphere, they too acquire C-12 and C-14 in roughly the same proportion as is available in the atmosphere.
    - **Plants get their carbon through photosynthesis**; animals get it mainly through food.
  - When they die, their interactions with the atmosphere stops.
  - While C-12 is stable, the radioactive C-14 reduces to one half of itself in about 5,730 years — known as its '**half-life**'.
  - The **changing ratio of C-12 to C-14 in the remains of a plant or animal** after it dies



can be measured and can be used to deduce the approximate time when the organism died.

## What about the Dating Method other than Carbon Dating?

### ▪ Radiometric Dating Methods:

- In this method, decays of other radioactive elements that might be present in the material become the basis for the dating method.
- **Some Types of this Method:**
  - **Potassium-Argon Dating:**
    - The radioactive isotope of potassium decays into argon, and their ratios can give a clue about the age of rocks.
  - **Uranium-Thorium-Lead Dating:**
    - Uranium and thorium have several radioactive isotopes, and all of them decay into the stable lead atom. The ratios of these elements present in the material can be measured and used to make estimates about age.

[Source: IE](#)

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## Dr Dilip Mahalanabis

### Why in News?

Dr Dilip Mahalanabis, who pioneered Oral Rehydration Solution (ORS) treatment as a simple, effective remedy for dehydration has passed away.



### What is ORS?

- ORS, a combination of water, glucose, and salts, is a simple and cost-effective method of preventing dehydration.
- It is an alternative to intravenous rehydration therapy for preventing and treating dehydration from

diarrhea when intravenous therapy is not available or feasible.

- Oral rehydration therapy is calculated by the [World Health Organization \(WHO\)](#) to have saved the lives of **over 60 million persons**.

## Who was Dr. Mahalanabis?

- Born on 12<sup>th</sup> November, 1934 in West Bengal, Dr Mahalanabis studied in **Kolkata and London**, and joined the Johns Hopkins University International Centre for Medical Research and Training in Kolkata in the 1960s, where he carried out research in oral rehydration therapy.
- Dr Mahalanabis was working in overflowing refugee camps during the 1971 Bangladesh Liberation war when he came up with ORS.
- From 1975 to 1979, Dr Mahalanabis worked in cholera control for WHO in Afghanistan, Egypt and Yemen.
- In the mid-1980s and early 1990s, he was a medical officer in the Diarrheal Disease Control Programme of the WHO.
- In 1994, he was elected a foreign member of the Royal Swedish Academy of Sciences.
- In 2002, Dr. Mahalanabis was awarded the first **Pollin Prize in Pediatric Research for their contributions to the discovery and implementation** of oral rehydration therapy.
- In 2006, he was awarded the Prince Mahidol Prize, for his role in the development and application of oral rehydration therapy.

[Source: IE](#)

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## Kamikaze Drone

### Why in News?

Recently, Ukraine's capital region was struck by Iranian-made [kamikaze drones](#).

- These kamikaze drones are not new, and have also been supplied by the US to Ukraine in its [ongoing war with Russia](#).



## What are Kamikaze Drones?

### ▪ About:

- These are **small unmanned aircraft** that are packed with explosives that can be flown directly at a tank or a group of troops that are destroyed **when it hits the target and explodes**.
  - They are called **Switchblade because their bladelike wings spring out on launch**.
- The drones have the **capability of going past traditional defences to strike its targets** and also cost a fraction of what the larger counterparts do.
- These small lethal drones are **difficult to detect on radar**, and they can even be programmed to hit targets without human intervention, based on facial recognition.

### ▪ Countries Possess such Drones:

- Although the Kamikaze might be the most advanced form of this genre of drones, Russia, China, Israel, Iran and Turkey all have some version of it.

## What are its Specifications?

### ▪ Light Weight:

- Weighing just five-and-a-half pounds, including its small warhead, the Switchblade can be taken into battle in a backpack and fly up to 7 miles to hit a target.

### ▪ Can Adjust Blast Radius:

- The Switchblade has a feature that allows the operator to adjust the blast radius. So, it can kill the driver of a vehicle but not a passenger, for example. The weapon can be “waived off” up to two seconds before impact.
  - A blast radius is the distance from the source that will be affected when an explosion occurs.

### ▪ Cameras for Centralised View of Area of Operation:

- The Switchblade also has cameras that show a target seconds before impact.
- The drone cruises at 63 miles per hour and provides “operators with real-time video downlinks for a centralised view of the area of operation”.

## UPSC Civil Services Examination Previous Year Question (PYQ)

Q. Consider the following activities: (2020)

1. Spraying pesticides on a crop field
2. Inspecting the craters of active volcanoes
3. Collecting breath samples from spouting whales for DNA analysis

**At the present level of technology, which of the above activities can be successfully carried out by using drones?**

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

**Ans: (d)**

[Source: IE](#)

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## Nihonshu

### Why in News?

The Embassy of Japan, New Delhi, has filed an application seeking a [Geographical Indication \(GI\) tag](#) for Nihonshu/Japanese sake.

- This is the first time a product from Japan has filed for a tag at the Geographical Indication Registry.

### What is Nihonshu?

- In Japan, Nihonshu is regarded as **a special and valuable beverage made from fermenting rice.**
- People traditionally **drink nihonshu on special occasions**, such as festivals, weddings or funerals, but it is **also consumed on a daily basis.**
- Thus, it is an integral part of the lifestyle and culture in Japan.
- The sake market (almost all are nihonshu) is the second largest brewed liquor (such as beer) market in Japan.





## What is a Geographical Indication (GI) Tag?

### ▪ About:

- Geographical Indication (GI) is an **indication used to identify goods having special characteristics originating from a definite geographical territory.**
- The Geographical Indications of **Goods (Registration and Protection) Act, 1999** seeks to provide for the registration and better protection of geographical indications **relating to goods in India.**
- It is governed and directed by the [WTO Agreement on Trade-Related Aspects of Intellectual Property Rights \(TRIPS\)](#).
  - It was decided and also stated under Articles 1 (2) and 10 of the Paris Convention that the protection of industrial Property and Geographical Indication are elements of Intellectual Property.
- It is primarily an **agricultural, natural or a manufactured product** (handicrafts and industrial goods).

### ▪ Validity:

- This tag is valid for a period of **10 years following which it can be renewed.**

### ▪ Significance:

- Once a product gets this tag, **any person or company cannot sell a similar item under that name.**
- GI registration of a product provides **it legal protection and prevention against unauthorised** use by others.
- GI tag helps in **promoting the exports of the product.**
- It also provides **comfort to customers about the authenticity** of that product.

[Source: TH](#)