



## Dengue

[Source: DTE](#)

### Why in news?

Recently, Dengue cases have surged significantly in some states like **Uttar Pradesh, West Bengal, and Tamil Nadu.**

### What is Dengue?

- **About:**
  - Dengue is a self-limiting febrile illness with symptoms ranging from asymptomatic to severe.
  - Dengue is a mosquito-borne tropical disease caused by the dengue virus (Genus Flavivirus), transmitted by several species of female mosquito within the genus Aedes, principally **Aedes aegypti**.
    - This mosquito also transmits [chikungunya](#) and [Zika infection](#).
- **Serotypes of Dengue:**
  - There are 4 distinct, but closely related, serotypes (separate groups within a species of microorganisms that all share a similar characteristic) of the virus that cause dengue (DEN-1, DEN-2, DEN-3 and DEN-4).
- **Symptoms:**
  - Sudden high fever, severe headaches, pain behind the eyes, severe bone, joint, and muscle pain, etc.
- **Dengue Vaccine:**
  - The dengue vaccine CYD-TDV or Dengvaxia was approved by the US Food & Drug Administration in 2019, the first dengue vaccine to get the regulatory nod in the US.
    - **Dengvaxia** is basically **a live, attenuated dengue virus** which has to be administered in people of ages 9 to 16 who have laboratory-confirmed previous dengue infection and who live in endemic areas.
  - Researchers at [India's National Centre for Biological Sciences](#), in collaboration with nine other institutions in India, Africa, and the US, have developed India's **first and only DNA vaccine** candidate for dengue fever.
    - In preliminary trials on mice, the candidate generated a robust immune response and improved survival rates after exposure to the disease.
- **Controlling Dengue Using Bacteria:**
  - Researchers from the World Mosquito Program have **used mosquitoes infected with Wolbachia bacteria to successfully control dengue, leading to a 77% reduction in incidence in Indonesia.**

### What is DNA Vaccine?

- A DNA vaccine is a type of vaccine that uses a small piece of DNA that codes for a specific antigen (a molecule that triggers an immune response) from a pathogen, such as a virus or bacterium, to stimulate an immune response.
- The DNA is injected directly into the body's cells, where it instructs the cells to produce the antigen.
  - The immune system then recognizes the antigen as foreign and mounts an immune

response against it, which helps to develop immunity to the pathogen.

- DNA vaccines are third-generation vaccines.
- The ZyCoV-D is the world's first and India's indigenously developed DNA based vaccine for **Covid-19**.

## UPSC Civil Services Examination, Previous Year Questions (PYQs)

### Prelims

#### Q.1 Consider the following statements: (2017)

1. In tropical regions, Zika virus disease is transmitted by the same mosquito that transmits dengue.
2. Sexual transmission of Zika virus disease is possible.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Ans: (c)

#### Q.2 'Wolbachia method' is sometimes talked about with reference to which one of the following? (2023)

- (a) Controlling the viral diseases spread by mosquitoes
- (b) Converting crop residues into packing material
- (c) Producing biodegradable plastics
- (d) Producing biochar from thermo-chemical conversion of biomass

Ans: (a)

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## International Migration Outlook 2023

**For Prelims:** [International Migration Outlook 2023](#), [Organisation for Economic Co-operation and Development \(OECD\)](#), [Latin America](#), [Climate-Induced Displacement](#)

**For Mains:** Similarity and interrelationship of migration to OECD countries with internal or intra-state displacement and migration in India, Demography.

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

**Why in News?**

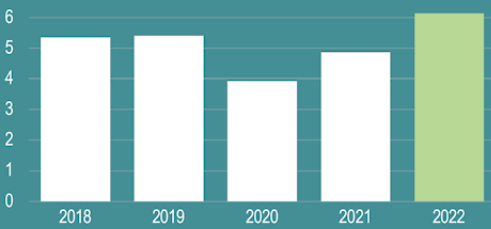
Recently, [International Migration Outlook 2023](#), a report on international migration patterns was released by the [Organisation for Economic Co-operation and Development \(OECD\)](#) to analyze the migration trends worldwide.

## What are the Highlights of the Report?

- **India Leads in Migration to OECD Countries:**
  - In 2021 and 2022, India became the primary source of migration to OECD countries, surpassing China. India consistently topped the list **with 0.41 million new migrants in both years, while China had 0.23 million new migrants**, followed by Romania with approximately 200,000 new migrants.
- **Climate-Induced Displacement and Policy Responses:**
  - The report sheds light on the **increasing focus on policy responses to [climate-induced displacement](#) in recent years**. Few OECD countries have explicit policies to address this issue.
  - Notably, **Colombia began discussing a pioneering bill in April 2023**, aiming to recognize and support climate-displaced individuals, with a broad definition and provisions for housing, healthcare, education, and a national register.
- **Record Refugee Inflows and Worker Migration:**
  - The **OECD region experienced record refugee inflows due to the [Russia-Ukraine war](#)**, with over 10 million people becoming internally displaced or refugees. Worker migration saw significant increases from India, Uzbekistan, and Turkey, making them prominent source countries following Ukraine.
- **Recent Trends in International Migration:**
  - All top four destination countries (**The United States, Germany, the United Kingdom and Spain**) registered large year-on-year increases, between 21% and 35%. The increase was smaller in Canada (8%) the fifth destination country.
  - The United States **alone accounted for 1.05 million new permanent-type migrants**, and the other four countries for between 440 000 and 650 000 each.
- **Permanent-Type Migration by Main Categories:**
  - In 2022, **family migration** remained the primary category of entry for new permanent-type migrants, **representing 40%** of all permanent-type migration, a relatively stable share over time.
  - The share of **labour migration** has increased over time. While in 2022, **labour migration represented 21% of permanent-type migration, it accounted for only 16% in 2019**.
  - Conversely, the share of **free movement migration** (within the [EU-EFTA](#) and between Australia and New Zealand) has decreased since 2020. It accounted for **21% of permanent-type migration in 2022, compared with 28% in 2019**.

## Migration to OECD countries is at a record high

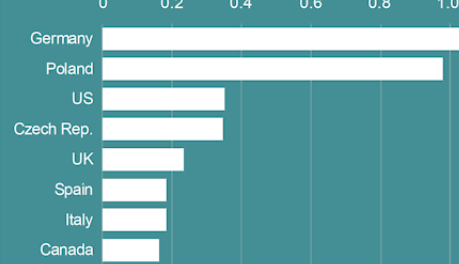
Permanent migration to the OECD, 2018-22, in millions



With more than 6 million new permanent immigrants (not including Ukrainian refugees), permanent-type migration to OECD countries reached a record level in 2022.

## The Ukrainian refugee crisis is the largest displacement in Europe since WWII

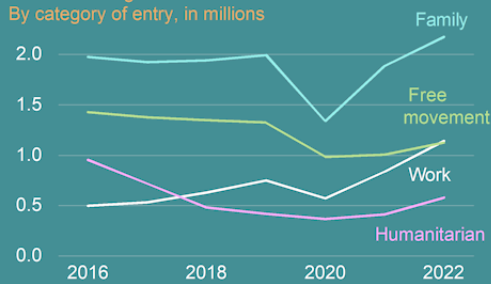
Total number of refugees from Ukraine, June 2023, millions



OECD countries have provided refuge to about 5 million people fleeing Ukraine.

## Increase in labour migration in response to labour shortages in many countries

Permanent migration to the OECD  
By category of entry, in millions



Labour migration comprised 21% of all migration in 2022, a rise of 36% since 2021. Family migration also increased by 15%.

## Migrant employment rates are at the highest levels in over two decades

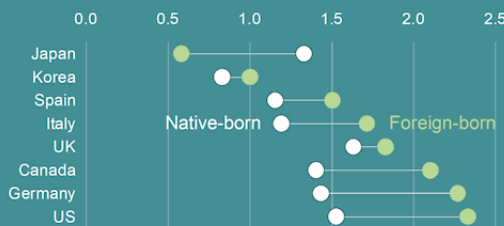
Migrant employment rates are at their highest ever levels in more than half of OECD countries and the gap with the native-born is also narrowing.

Employment rates, 2022

	Foreign-born	Native-born
New Zealand	82.7	78.3
Australia	77.2	77.6
UK	75.8	75.5
Canada	75.2	75.8
US	72.6	69.4
Korea	67.8	69.3
EU 27	66.8	70.3

## Migrant fertility has little effect on overall population levels in majority of countries

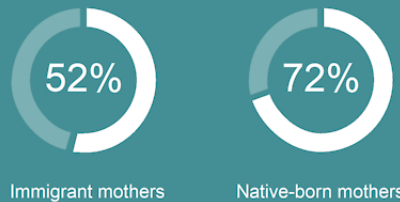
Total Fertility Rate (TFR), 2020 or latest year available



The fertility rate among migrant women is higher than among native-born women in most OECD countries, but below the replacement rate (2.1) in two-thirds of them.

## Immigrant mothers face greater challenges compared to native-born mothers

Employment rates across OECD countries, 2021



Across OECD countries, the gap in employment rates between immigrant and native-born mothers is 20 percentage points.

## What is OECD?

### ▪ About:

- The OECD is an **intergovernmental economic organisation**, founded to stimulate economic progress and world trade.
- Most OECD members are high-income economies with a very high **Human Development Index (HDI)** and are regarded as developed countries.

### ▪ Foundation:

- It was founded in 1961 with its **Headquarters at Paris, France and total membership is 38 countries.**
- The most recent countries to join the OECD were Colombia, in April 2020, and Costa Rica, in May 2021.
- **India is not a member, but a key economic partner.**

### ▪ Reports and Indices by OECD:

- Government at a Glance
- OECD Better Life Index.

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

### **Mains:**

**Q.** "Refugees should not be turned back to the country where they would face persecution or human right violation". Examine the statement with reference to the ethical dimension being violated by the nation claiming to be democratic with open society. **(2021)**

**Q.** Rehabilitation of human settlements is one of the important environmental impacts which always attracts controversy while planning major projects. Discuss the measures suggested for mitigation of this impact while proposing major developmental projects. **(2016)**

**Q.** Discuss the changes in the trends of labour migration within and outside India in the last four decades. **(2015)**

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## India's Food Export Rejections in the United States

**For Prelims:** India's Major Food Exports to US, Salmonella, [World Trade Organization](#), Sanitary and Phytosanitary (SPS) Agreement, [Food Safety and Standards Authority of India](#), [Codex Alimentarius](#)

**For Mains:** Major Provisions of SPS Agreement, Measures to Improve Food Safety and Quality Standards in India, Agricultural Marketing.

**Source: IE**

### **Why in News?**

The **United States Food and Drug Administration (FDA)** has recently disclosed data on food imports over the past four years. Among the nations engaged in [food exports](#) to the US, **India, Mexico, and China** have experienced the **highest incidence of refusals**.

- The data highlights the **hurdles faced by Indian food exporters in the American market**. High refusal rates continue to be a pressing issue.

### **What are the Key Aspects Related to India's Food Export Rejections in the United States?**

- **Refusal Statistics: India, Mexico, and China:**
  - Between **October 2019 and September 2023**, India, Mexico, and China experienced significant refusals of **food export shipments to America**.
  - India's refusal rate, which measures the percentage of shipments refused out of all food export shipments, **was 0.15%**.
    - In comparison, **China's refusal rate was 0.022%**, and **Mexico's was 0.025%**.
    - India's rate is substantially higher, signaling a **higher incidence of refusal relative to the total exports**.



### ▪ **Majors Factors Behind Refusals:**

- The products consisted in whole or in part of a **filthy, putrid, or decomposed substance** or be otherwise unfit for food.
- The products **contained Salmonella**, a bacteria that causes severe stomach infections.
- The products used an **unapproved new drug**, an unsafe food additive, or a prohibited substance.
- The products were **misbranded in terms of nutritional labels**, ingredients information, or health claims.

### ▪ **Long-Term Trends in India's Refusals:**

- In the last decade, India's food export refusals have seen a downward trend in absolute terms. From a peak of 1,591 refusals in 2015, it decreased to 1,033 refusals in 2023.
  - Despite these refusals, **India's food exports** to the US stood at **USD 1.45 billion in FY23**, representing a **16% increase from the previous fiscal year**. Key exports included basmati rice, natural honey, guar gum, and cereal preparations etc.

## **What is the International Measure Backing the Food Import Refusal By the United States?**

### ▪ **About:**

- The [World Trade Organization \(WTO\)](#)'s **Sanitary and Phytosanitary (SPS) Agreement** ensures that **traded products between WTO members do not spread pests and diseases**, and that **food products do not contain harmful substances or pathogens**.
- The **"SPS Agreement"** entered into force with the establishment of the WTO on **1 January 1995**.
  - WTO has 164 member nations (including India and the United States).

### ▪ **Major Provisions:**

- Members have the **right to implement sanitary and phytosanitary measures for the protection of human, animal, or plant life and health**, provided such measures align with this Agreement.
- Measures should be based on scientific principles and supported by scientific evidence, except as provided in **Article 5(7) of the Agreement**.
- Measures should also **not discriminate unfairly between Members** and should not serve as a disguised restriction on international trade.
- Members must **accept equivalent sanitary and phytosanitary measures from other Members, even if they differ**.
  - The exporting Member must prove that its measures meet the importing Member's required level of protection.
  - Access for inspection and testing should be provided upon request.

## **How India can Improve its Food Safety and Quality Standards?**

- **Strict Inspection and Quality Control:** Strengthening the role and capacity of the [Food Safety and Standards Authority of India \(FSSAI\)](#), the apex food regulator in the country, to **monitor, inspect, and certify food products** for domestic and export markets.
  - **Enhanced Testing Protocols:** Developing and enforcing **comprehensive testing protocols** for food products to identify contaminants, pathogens, and adulterants.
    - Investing in advanced laboratory equipment for **more accurate and rapid testing**.
  - **Supply Chain Transparency:** Utilizing [blockchain technology](#) to create transparent and traceable supply chains, enabling **rapid identification of the source of contamination or quality issues**.
  - **Global Standards Adherence:** Adopting international best practices and standards for food safety and quality management, such as **Hazard Analysis and Critical Control Points (HACCP)**, **Good Hygienic Practices (GHP)**, and [Codex Alimentarius](#).
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# DNA and Face Matching Systems At Police Stations

[Source: TH](#)

## Why in News?

Over a year after Parliament passed the [Criminal Procedure Identification Act \(CrPI\), 2022](#); the Centre is preparing to introduce '[DNA and Face Matching](#)' systems in 1,300 police stations nationwide, despite the Act's provisions not yet being fully implemented.

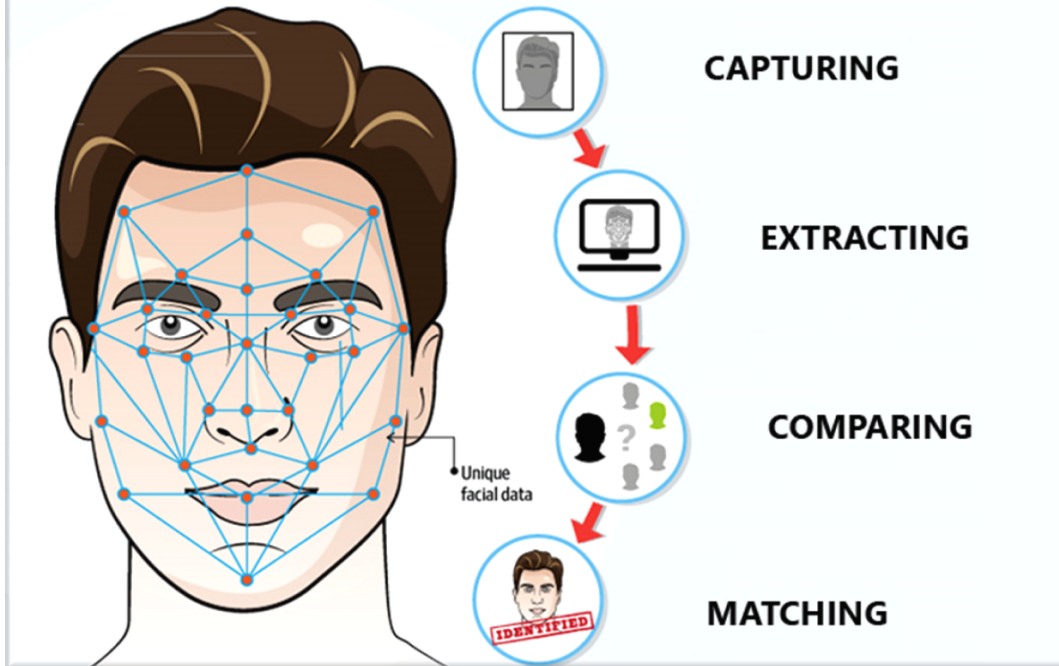
## What is the Context of 'DNA and Face Matching Systems' Under CrPI Act, 2022 ?

- **Introduction to the Act and Rules:**
  - In 2022, the Indian Parliament passed CrPI Act that grants police and **central investigating agencies the authority to collect, store, and analyze physical and biological samples**, which even include retina and iris scans, of arrested individuals.
  - This legislative move **aimed to enhance law enforcement capabilities and ushered in a new era in criminal identification** and data management.
- **Rollout of the Act and Rules:**
  - The **responsibility for implementing the Act** and establishing the Standard Operating Procedure (SOP) for the measurement collection process **was entrusted to the [National Crime Records Bureau \(NCRB\)](#)**, a central organization.
  - The NCRB played a pivotal role in guiding police officials on the proper protocol for recording these measurements.
- **Expanding Measures and Committees for Implementation:**
  - The Act and rules did not directly mention DNA sample collection and face matching procedures, but the **NCRB conveyed plans** to implement these measures in discussions with **State police officials**.
  - Additionally, the Ministry of Home Affairs formed a **Domain Committee comprising State police and central law enforcement** representatives for recording DNA data.
- **Challenges and Controversies Surrounding the Act:**
  - Critics **decried the legislation as "unconstitutional" and an intrusion on privacy**.
  - In addition to the controversy, practical challenges emerged, including the need for training and resources in various states, **with concerns over funding and operating costs**.
    - Moreover, the NCRB emphasized the **importance of technologically, legally, and forensically sound tools and systems**, along with robust safeguards to prevent misuse of the collected data. This context underscores the complexity and significance of the Act and its associated rules.

## What is the 'DNA and Face Matching Systems' Technology?

- **Face Matching System:**
  - Face Matching System is an **algorithm-based technology which creates a digital map of the face** by identifying and mapping an individual's facial features, which it then matches against the database to which it has access.
  - In the [Automated Facial Recognition System \(AFRS\)](#), the large database (containing photos and videos of peoples' faces) is used to match and identify the person.
  - Image of an unidentified person, taken from CCTV footage, is compared to the existing database using [Artificial Intelligence](#) technology, for pattern-finding and matching.

## Biometrics Face Recognition - How does it Work?



### ▪ DNA Matching Systems:

- DNA matching systems, also known as **DNA profiling or DNA fingerprinting**, are techniques used to compare and identify individuals based on their unique genetic characteristics.
- These systems **analyze specific regions of an individual's DNA**, which are highly variable among people, to create a unique genetic profile for each individual.
- DNA matching is commonly used in criminal investigations to link suspects to crime scenes or victims. DNA evidence found at a crime scene, **such as blood, hair, or bodily fluids, can be compared to the DNA profiles of potential suspects.**

## UPSC Civil Services Examination, Previous Year Questions (PYQs)

### Prelims

**Q. The identity platform 'Aadhaar' provides open "Application Programming Interfaces (APIs)". What does it imply? (2018)**

1. It can be integrated into any electronic device.
2. Online authentication using iris is possible.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans: (c)**

**Q. In addition to fingerprint scanning, which of the following can be used in the biometric identification of a person? (2014)**



1. Iris scanning
2. Retinal scanning
3. Voice recognition

Select the correct answer using the code given below:

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

Ans: (d)

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## Avian Influenza

[Source: TH](#)

### Why in News?

A recent study has shed light on significant shifts in the **ecology and evolution of highly pathogenic avian H5 influenza viruses**, revealing a change in their global distribution.

- These viruses have been of growing concern due to their potential impact on both avian and mammalian populations, including humans.

### What are the Major Findings of the Study?

- While the epicenter of these viruses was originally **confined to Asia**, the study's findings suggest that this **epicenter has now expanded to include new regions in Africa and Europe**.
- The **two H5 strains originating from African and European bird populations** were found to have evolved through **genetic reassortment with low pathogenic viral variants** as they spread.
  - This genetic reassortment is a critical factor driving the evolution and diversification of these viruses.
- The study underlined that the increasing persistence of avian influenza in wild bird populations is a **catalyst for the evolution and spread of new viral strains**.
  - Wild birds play a crucial role in transmitting and amplifying these viruses, contributing to their ongoing evolution.

### What is Genetic Reassortment?

- Genetic reassortment is a type of **genetic recombination that occurs when genes from two organisms are mixed to create a new genetic sequence**. This new sequence is called a recombinant.
- It can **increase genetic diversity during the evolution of seasonal viruses**. It can also lead to novel and potentially deadly viruses.

### What is Avian Influenza?

- **About:**
  - Avian influenza, **often referred to as bird flu**, is a highly contagious viral infection that primarily affects **birds**, particularly **wild birds and domestic poultry**.
  - In 1996, highly **pathogenic avian influenza H5N1 virus** was first identified in domestic waterfowl in Southern China. The virus is named **A/goose/Guangdong/1/1996**.
- **Transmission to Humans and Related Symptoms:**
  - Human cases of **H5N1** avian influenza occur occasionally, but it is difficult to transmit the infection from person to person. As per [World Health Organisation\(WHO\)](#), when people do become infected, **the mortality rate is about 60%**.
    - It can range from **mild flu-like symptoms**, including **fever, cough, and muscle aches**, to severe respiratory issues like **pneumonia, difficulty breathing, and even cognitive problems** such as altered mental status and seizures.
- **Avian Influenza and India:**
  - **Initial Outbreak:**
    - The initial outbreak of **Highly Pathogenic Avian Influenza (HPAI) H5N1 in India occurred in 2006 in Navapur, Maharashtra**, and was followed by annual outbreaks.
    - **H5N8 was first observed in India in November 2016**, mainly affecting wild birds across five states, with **Kerala reporting the most cases**.
    - The disease has been reported in **24 states and union territories**, resulting in the culling of over 9 million birds to control its spread.
  - **Related Initiative:**
    - India's approach to controlling Highly Pathogenic Avian Influenza (HPAI) follows a **"detect and cull"** policy as outlined in the **National Action Plan for Prevention, Control, and Containment of Avian Influenza (revised - 2021)**
- **Treatment:**
  - Antivirals have demonstrated effectiveness in the **treatment of avian influenza virus infections** in humans, lowering severity and the risk of death.

## What are the Types of Influenza Virus?

Types	A Subtypes	HPAI vs LPAI
<b>Influenza A</b> (Infects a wide range of animals including birds)	Avian (Can infect humans) H5N1 H7N3 H7N7 H7N9 H9N2 H10N8  Swine (Can infect humans) H1N1 H1N2 H3N2	HPAI H5N1 LPAI H5N1 HPAI H5N8 LPAI H5N8  Subtypes can be classified as high path or low path based on the ability of the specific virus strain to kill chickens in the lab setting.
<b>Influenza B</b> (Mainly infects humans)		
<b>Influenza C</b> (Infects humans and pigs but more rare than types A and B)		
<b>Influenza D</b> (Infects cattle)	Most common human H1N1 H3N2	

## Note

HPAI stands for Highly Pathogenic Avian Influenza and LPAI stands for Low Pathogenic Avian Influenza

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

Q. H1N1 virus is sometimes mentioned in the news with reference to which one of the following diseases? (2015)

- (a) AIDS
- (b) Bird flu
- (c) Dengue
- (d) Swine flu

Ans: (d)

## Impact of Disasters on Agriculture and Food Security: FAO

**For Prelims:** Impact of Disasters on Agriculture and Food Security, [Food and Agriculture Organization](#), [Extreme Disaster](#), [Climate Change](#), Food Security, [Rain-Fed agriculture](#).

**For Mains:** Impact of Disasters on Agriculture and Food Security, Poverty and developmental issues, Issues relating to poverty and hunger.

[Source: TH](#)

### Why in News?

Recently, the [Food and Agriculture Organization \(FAO\)](#) has released a report titled '**The Impact of Disaster on Agriculture and Food Security**' stating that the frequency of [Extreme Disaster](#) events has risen significantly over the past 50 years.

- The report estimated losses caused by disasters on agricultural production over the past three decades and delves into the diverse threats and impacts affecting the **crops, livestock, forestry, and fisheries and aquaculture subsectors**.
- It analyzed the complex interplay of underlying risks, such as [Climate Change](#), Pandemics, Epidemics and Armed conflicts, and how they drive disaster risk in agriculture and [Agrifood systems](#) at large.

### What are the Key Highlights of the Report?

- **Magnitude of Agricultural Losses:**
  - Over the last 30 years, an estimated USD 3.8 trillion worth of crops and livestock production has been **lost due to disaster events**.
  - This translates to an average annual loss of USD 123 billion, which is approximately 5% of the global agricultural [Gross Domestic Product \(GDP\)](#).
    - Agriculture is one of the most highly exposed and vulnerable sectors in the context of disaster risk, given its **profound dependence on natural resources** and climate conditions.
    - Recurrent disasters have the **potential to erode gains in food security and undermine the sustainability** of agrifood systems.

- **Impact on Different Countries:**

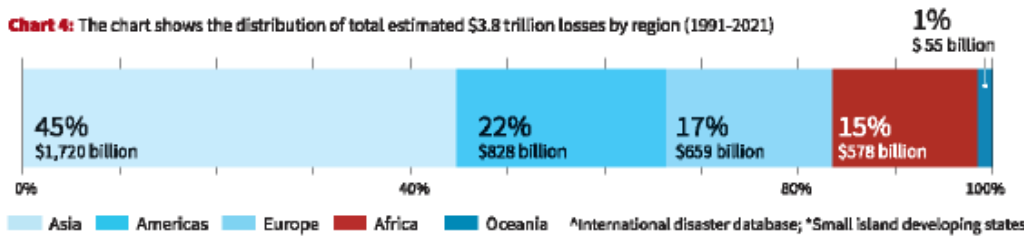
- Disasters have the **highest relative impact on lower and lower middle-income countries**, where they can cause losses of up to 15 % of their total agricultural GDP.
- Small Island Developing States (SIDS) also experience **significant losses, amounting to nearly 7%** of their agricultural GDP.

- **Losses by Product Groups:**

- There are increasing trends in losses related to **major agricultural products**.
- Cereals are the **most affected**, followed by **fruits and vegetables** and sugar crops, with average losses of millions of tonnes each year.
- Meats, dairy products, and eggs also show substantial losses.

- **Regional Differences:**

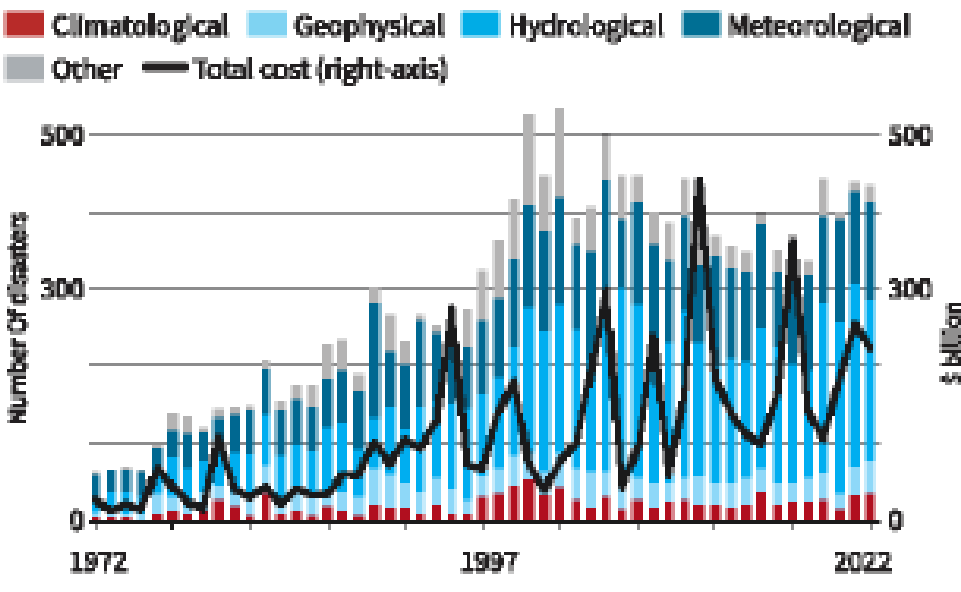
- Asia experiences the largest share of total economic losses, followed by Africa, Europe, and the Americas.
- However, in Asia, these losses account for a smaller percentage of agricultural added value compared to Africa.



- **Increasing Frequency of Disasters:**

- Disaster events have been on the rise, increasing from **100 per year in the 1970s to around 400 events** per year worldwide in the past two decades.
- These events are becoming more frequent, intense, and complex, with expected worsening impacts due to climate-induced disasters.

**Chart 1:** The chart shows the number of disasters by EM-DAT<sup>A</sup> grouping and total economic losses in \$ billion



- **Impact on Vulnerable Groups:**

- Small-scale farmers, particularly those practicing **Rain-Fed agriculture**, are the most vulnerable to disaster impacts.
- Supporting the adoption of farm-level disaster risk reduction practices can help reduce losses and enhance resilience.
- Investment in farm-level disaster risk reduction good practices can perform on average **2.2**

times better than previously applied practices.

## What are the Recommendations?

- Proactive and timely interventions, such as anticipatory actions in response to forecasted hazards, can significantly reduce disaster risks in agriculture.
- For every USD 1 invested in anticipatory action, rural families can gain up to USD 7 in benefits and avoided agricultural losses.
- The report outlines **three key priorities for addressing the impact of disasters** on agriculture:
  - Improving data and information on disaster impacts, developing multi-sectoral and multi-hazard disaster risk reduction approaches, and enhancing investments in resilience to reduce disaster risk in agriculture and improve livelihoods.

## What is the Food and Agriculture Organization?

- **About:**
  - FAO is a specialised agency of the [United Nations](#) that leads international efforts to defeat hunger.
    - [World Food Day](#) is celebrated every year **around the world on 16<sup>th</sup> October**. The day is celebrated to mark the anniversary of the founding of the FAO in 1945.
  - It is one of the UN food aid **organisations based in Rome (Italy)**. Its sister bodies are the [World Food Programme](#) and the International Fund for Agricultural Development (IFAD).
- **Initiatives Taken:**
  - [Globally Important Agricultural Heritage Systems \(GIAHS\)](#).
  - Monitors the [Desert Locust](#) situation throughout the world.
  - The [Codex Alimentarius Commission or CAC](#) is the body responsible for all matters regarding the implementation of the Joint FAO/WHO Food Standards Programme.
  - The [International Treaty on Plant Genetic Resources for Food and Agriculture](#) was adopted by the Thirty-First Session of the Conference of the FAO in 2001.
- **Flagship Publications:**
  - The State of World Fisheries and Aquaculture (SOFIA).
  - The State of the World's Forests (SOFO).
  - [The State of Food Security and Nutrition in the World \(SOFI\)](#).
  - The State of Food and Agriculture (SOFA).
  - The State of Agricultural Commodity Markets (SOCO).

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

**Q. The FAO accords the status of 'Globally Important Agricultural Heritage System (GIAHS)' to traditional agricultural systems. What is the overall goal of this initiative? (2016)**

1. To provide modern technology, training in modern farming methods and financial support to local communities of identified GIAHS so as to greatly enhance their agricultural productivity.
2. To identify and safeguard eco-friendly traditional farm practices and their associated landscapes, agricultural biodiversity and knowledge systems of the local communities.
3. To provide Geographical Indication status to all the varieties of agricultural produce in such identified GIAHS.

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

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



(d) 1, 2 and 3

Ans: (b)

## Medical College Seats and New Regulations in India

[Source: IE](#)

### Why in News?

Recently, the [National Medical Commission \(NMC\)](#) has issued guidelines putting a hold on **new medical colleges** and expansion of existing colleges in states with **more than 100 medical education seats per million population**.

- Earlier, [NMC also issued new guidelines on professional conduct for doctors](#), which mandate them to prescribe only generic drugs instead of specific brands.

### What is the Scenario of Medical Colleges in States?

- **States with Excess Medical College Seats:**
  - At least 13 states and Union Territories in India have more than **100 seats per million population**, rendering them ineligible for capacity expansion.
    - Tamil Nadu has the highest number of medical college seats (11,225), followed by Karnataka (11,020), and Maharashtra (10,295).
- **States with Deficient Medical College Seats:**
  - There is an acute shortage of medical college seats in relation to population in **Meghalaya, Bihar, and Jharkhand**, where the deficit is more than 75%.
    - Meghalaya, with a population of approximately 33.5 lakh, has only 50 medical college seats.
    - Bihar and Jharkhand, with populations of 12.7 crore and 3.9 crore, have 2,565 and 980 medical college seats, respectively.
    - Uttar Pradesh, the most populous state, has 9,253 seats, **with a 61% deficit**.

### What are the NMC Guidelines?

- In August 2023, the NMC issued regulations that set **population-to-seats ratios** for medical colleges.
- States with more than 100 medical education seats **per million population are restricted from expanding their medical education** capacity.
- The NMC argues that these guidelines are **intended to bring down regional disparities** and ensure effective quality medical education.
- The NMC's regulations will apply to new medical colleges and seat expansions starting from the 2024-25 academic session.
- The regulations do not require **states with excess seats to shut down colleges** or reduce existing seats.

### What is the National Medical Commission (NMC) ?

- The NMC has been constituted by an act of Parliament known as [National Medical Commission Act, 2019](#).
- The NMC acts as India's top regulator of medical education and practice.
- Committed to upholding the highest standards in healthcare education, NMC ensures the delivery

of quality medical education and training across the nation.

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