



# CURRENT AFFAIRS



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## “RISING BIRD-FLU CASES IN ALAPPUZHA”

THIS ARTICLE COVERS “DAILY CURRENT AFFAIRS” AND THE TOPIC DETAILS OF “RISING BIRD-FLU CASES IN ALAPPUZHA” THIS TOPIC IS RELEVANT TO THE “SCIENCE & TECHNOLOGY” SECTION OF THE UPSC—CSE EXAM.

### WHY IN THE NEWS?

With the serious bird flu situation in the Alappuzha district, the outbreak has spread extensively throughout the region. More than one lakh birds, primarily ducks and chickens, have been culled due to the disease. Additionally, cases of bird flu have been confirmed in other avian species, such as pigeons, crows, herons, and peahens, in Alappuzha and the neighbouring districts of Pathanamthitta and Kottayam.

### BIRD FLU:

- Bird flu / Avian flu is a viral infection primarily affecting poultry and certain wild bird species. Various virus strains have circulated among over 100 bird species for an extended period with minimal impact.

### CONCERNS:

- Periodically, strains of bird flu can jump from wild birds to poultry farms, where they thrive in crowded conditions. This can lead to the emergence of highly pathogenic forms, causing significant illness and death among birds.

### H5N1 BIRD FLU:

- H5N1 ( subtype of influenza A virus ) causes severe respiratory disease in birds, known as avian influenza or bird flu.

### KEY CHARACTERISTICS:

- Influenza A viruses are categorised by subtypes based on their surface proteins, including 18 hemagglutinin and 11 neuraminidase subtypes (e.g., H1N1, H3N2).

### HUMAN IMPACT:

- Human cases of H5N1 avian influenza are sporadic, with a mortality rate of approximately 60%, though human-to-human transmission is rare.

## **ORIGIN AND SPREAD:**

- The current strain of H5N1 originated from a 1996 outbreak on a goose farm in Guangdong, China. It spread globally, reaching Europe in 2020, Africa, Asia, North America in late 2021, South America in fall 2022, and mainland Antarctica in February 2024.

## **FACTORS CONTRIBUTING TO SPREAD:**

- The exact factors behind large-scale bird flu outbreaks remain unclear, but climate change may play a role. Rising global temperatures alter bird behaviour, increasing interaction between species and potentially facilitating virus transmission.

## **HUMAN TRANSMISSION:**

- Human infections generally occur through close contact with infected birds or contaminated environments. Human-to-human transmission is rare but could pose significant public health risks if the virus mutates to become easily transmissible while retaining its severe disease-causing capability.

## **HOW TO CURB BIRD FLU?**

- **Pasteurization Inactivates Bird Flu Virus in Dairy Products:** The search results indicate that pasteurisation is effective at inactivating the Highly Pathogenic H5N1 Avian Influenza (H5N1 HPAI) virus in milk and other dairy products. FDA and USDA studies have found that standard pasteurisation can inactivate the H5N1 HPAI virus in milk. Retail sampling also found all 297 dairy product samples negative for viable H5N1 HPAI virus. This provides assurance that the commercial milk supply is safe from the bird flu virus.
- **Strengthening Biosecurity for Poultry Farms:** The search results highlight the importance of biosecurity measures for poultry farms to curb the spread of bird flu. Poultry industry groups are urging backyard chicken owners to implement strict biosecurity protocols, such as housing birds to separate them from wild birds, disinfecting equipment, and closely monitoring flocks for signs of illness. Mandatory biosecurity measures have also been implemented in affected regions.
- **Gene Editing to Create Flu-Resistant Chickens:** Researchers use gene editing techniques like CRISPR to create chickens partially resistant to bird flu. By editing a gene called ANP32A, which flu viruses hijack to replicate, they could produce chickens that remained uninfected or had much lower virus levels when exposed to the H5N1 virus. While more research is needed, this approach shows promise in limiting bird flu transmission.
- **Increased Surveillance and Testing:** The search results indicate that increased surveillance and testing of poultry flocks, including backyard chickens, is crucial to curbing the spread of bird flu. The FDA urges states to implement more rigorous testing of dairy herds involved in raw milk production and report findings to regulatory agencies. Mandatory testing and reporting requirements have also been implemented in affected regions.

## **THE KEY PREVENTABLE MEASURES THAT CAN HELP REDUCE THE SPREAD OF BIRD FLU:**

- **Reduce Direct Contact with Infected Birds and Animals:**

1. Reduce direct contact with sick or dead wild birds, poultry, and other animals. Observe them only from a distance.
2. If you must have direct/close contact, wear recommended personal protective equipment (PPE), such as gloves, masks, and goggles.
3. Do not touch surfaces or materials contaminated with saliva, mucous, or faeces from infected birds or animals.
4. Do not consume raw or unprocessed milk products, especially from animals with confirmed or suspected avian influenza infection.

- **Strengthen Biosecurity on Poultry Farms**

1. House birds to separate them from wild birds and implement strict biosecurity protocols.
2. Disinfect equipment and closely monitor flocks for signs of illness.
3. Mandatory biosecurity measures have been implemented in affected regions.

- **Avoid Risky Behaviors When Traveling**

1. If possible, avoid visiting poultry farms, bird markets, or other places with live poultry. If you must, wear PPE.
2. Do not visit dairy farms with sick cows unless you are wearing PPE.
3. Do not eat raw or uncooked poultry products. Wash hands after handling uncooked poultry.

- **Improve Surveillance and Testing**

1. Increase surveillance and testing of poultry flocks, including backyard chickens, to detect outbreaks early.
2. Mandate reporting of suspected cases to regulatory agencies.
3. Test dairy herds involved in raw milk production and report findings.

**PRELIMS BASED QUESTION:**

**Q. Bird/Avian flu is spread by:**

1. Protozoa
2. Fungi
3. Virus
4. Bacteria

**ANSWER: C**

**MAINS BASED QUESTION:**

**Q. Discuss why Kerala state witnessed the continuous upsurge of bird flu despite several steps taken by the authorities.**

## **30TH ANNIVERSARY OF INTERNATIONAL SEABED AUTHORITY**

( This article is related to the section ‘ Governance and Polity, International Relations, Important International Institutions and Organizations ’ under General Studies Paper – 2 of UPSC Civil Services Mains Exam and ‘ United Nations Convention on the Law of the Sea (UNCLOS), International Seabed Authority (ISA), Marine Scientific Research , United Nations Convention on the Law of the Sea ’ under UPSC Preliminary Exam. It also includes suggestions from the PLUTUS IAS Team. This article is related to ‘ 30th Anniversary of International Seabed Authority ’ under ‘ Daily Current Affairs’.)

**WHY IN THE NEWS ?**



- Recently the International Seabed Authority (ISA), an agency working under the United Nations Convention on the Law of the Sea (UNCLOS), celebrated its 30th anniversary.
- This agency was established to oversee the exploration and use of non-living marine resources in international waters.



## INTERNATIONAL MARITIME AUTHORITY (ISA) :



# UNCLOS

**Name: United Nations Convention on the Law of the Sea  
(Also called the Law of the Sea Treaty)**

**Opened for signature: 1982**

**Entered into force: 1994**

**Sector: Guidelines for the use of the world's oceans and marine resources**

**Has India ratified UNCLOS? Yes**

- International Maritime Authority (ISA) It is an autonomous international organization formed in 1982 under the United Nations Convention on the Law of the Sea (UNCLOS) and the 1994 Agreement on the Implementation of Part XI of UNCLOS.
- Its headquarters are located in Kingston, Jamaica.
- The International Maritime Authority (ISA) comprises a total of 168 member states including India and the European Union.
- About 54% of the total area of the world's oceans comes under its jurisdiction.
- International Maritime Authority (ISA) which organizes, controls and regulates all activities related to mineral resources on the seabed.
- This area lies beyond the boundaries of national jurisdiction.
- The principal objectives of the International Maritime Authority (ISA) include protecting and regulating the marine environment from the harmful effects of activities occurring on the high seas.

### UNDER THIS IT PERFORMS THE FOLLOWING FUNCTIONS :

1. To regulate all exploration activities and deep sea mineral exploitation operations.
2. To ensure protection of the marine environment from the harmful effects of activities related to the deep seabed.
3. related to the sea To encourage marine scientific research |

4. This organization plays an important role in exploiting deep sea minerals, protecting biodiversity, and protecting the marine environment.
5. Its decisions can also have an impact on the economy through rules such as reducing the sulfur content of fuels.

#### **RELATIONS BETWEEN INDIA AND INTERNATIONAL SEABED AUTHORITY (ISA) :**



- As part of the collaboration between India and the International Seabed Authority (ISA), on 18 January 2024, India submitted two applications for exploration in the international seabed of the Indian Ocean. **Which are as follows –**

#### **INDIA'S LAND EXPLORATION IN INTERNATIONAL WATERS :**

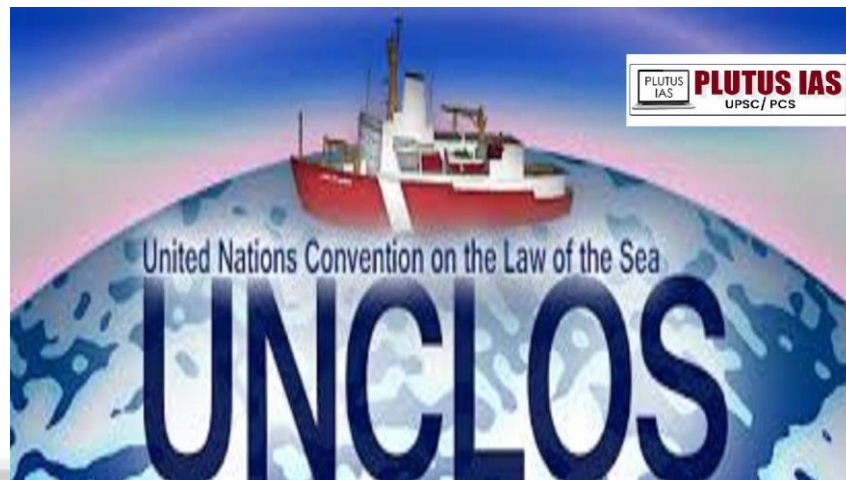
1. **Indian Ocean Ridge (Carlsberg Ridge) :** Here India has submitted an application for exploration of polymetallic sulphide.
2. **Central Indian Ocean (Afanasiy-Nikitin Seamount) :** India has applied for exploration of cobalt-rich ferromanganese layers here.

#### **Currently, India has two contracts for exploration in the Indian Ocean :**

- **Polymetallic nodules in the central Indian Ocean basin and ridge.**
- **Polymetallic sulphide.**

Exploration is important in the development of mineral resources, but we must also consider it along with the environmental impact and benefits associated with it.

## UNITED NATIONS CONVENTION ON THE LAW OF THE SEA (UNCLOS) :



- The ‘Law of the Sea Convention’, formally known as the United Nations Convention on the Law of the Sea (UNCLOS), was adopted in the year 1982 to establish the limits of jurisdiction over oceanic areas.
- In this convention, a distance of 12 nautical miles from the baseline is defined as the territorial sea limit and a distance of 200 nautical miles is defined as the exclusive economic zone limit.
- Under the ‘Law of the Sea Treaty’ there is a provision for transfer of technology and wealth from developed countries to underdeveloped countries.
- It is also expected to implement rules and laws to control marine pollution.
- India signed the United Nations Convention on the Law of the Sea (UNCLOS) in 1982.
- Three new institutions have been established under the United Nations Convention on the Law of the Sea (UNCLOS). Which are as follows –
  1. **International Tribunal on the Law of the Sea** : It is an independent judicial body established to adjudicate disputes arising in the context of UNCLOS.
  2. **International Seabed Authority** : It is a United Nations body established to regulate the exploration and exploitation of non-living resources of the oceans.
  3. **Commission relating to the limits of the continental shelf** : It concerns the implementation of the United Nations Convention on the Law of the Sea (the Convention) regarding the establishment of the outer limits of the continental shelf beyond 200 nautical miles.

Source – The Hindu and PIB.

### PRACTICE QUESTIONS FOR PRELIMINARY EXAM :

**Q.1. Consider the following statements regarding the International Maritime Authority. (UPSC-2018)**

1. It exploits deep sea minerals, protects biodiversity and protects the marine environment.

2. Its headquarters are located in Kingston, Jamaica.
3. The Law of the Sea Convention was adopted in 1982 to establish the boundaries of ocean zones.
4. India signed the United Nations Convention on the Law of the Sea (UNCLOS) in 1982.

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

- A. Only 1, 2 and 3.
- B. Only 2, 3 and 4.
- C. None of these.
- D. All of the above.

**Answer – D**

**PRACTICE QUESTIONS FOR MAIN EXAM :**

**Q.1. Explain the major provisions of the United Nations Convention on the Law of the Sea and discuss how the International Seabed Authority plays an important role in controlling mineral exploitation in the sea, protecting biodiversity and safeguarding the marine environment ? ( UPSC CSE – 2019 Word Limit – 250 Marks – 15 )**

**Vishal Yadav**



**PLUTUS IAS**  
UPSC/PCS

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