



African Swine Fever in India

For Prelims: African Swine Fever, Classical Swine Fever, ICAR, IVRI, WOAAH, Vaccination

For Mains: Effects of Swine Fever on Economics of Animal Rearing, Role of World Organisation for Animal Health

Why in News?

Recently, **African Swine Fever** has been confirmed for the first time, at a private pig farm in **in Kerala**, after **more than 15 pigs** on the farm had died due to the **disease in the last ten days**.

What is African Swine Fever?

- **About:**

- It is a **highly contagious and fatal animal disease** that infects and leads to an acute form of **hemorrhagic fever in domestic and wild pigs**.

- **Other manifestations of the disease include:**
 - High fever
 - Depression
 - Anorexia
 - Loss of appetite
 - Hemorrhages in the skin
 - Vomiting and diarrhoea among others.
- It was **first detected in Africa** in the 1920s.
 - Historically, outbreaks have been reported in **Africa and parts of Europe, South America, and the Caribbean.**
 - However, since 2007, the disease has been reported in multiple countries across **Africa, Asia and Europe**, in both **domestic and wild pigs.**
- The mortality is close to 95% - 100% and since the fever has no cure, **the only way to stop its spread is by culling the animals.**
- ASF is **not a threat to human beings** since it **only spreads from animals to other animals.**
- ASF is a disease listed in the [World Organisation for Animal Health \(OIE\)'s Terrestrial Animal Health Code.](#)
- **Clinical Signs:**
 - The clinical signs of ASF may occur in **chronic, sub-acute or acute form.**
 - In the acute form pigs develop a **high temperature** (40.5 degrees C or 105 degrees F), then **become dull and go off their food.**
 - **Other symptoms can vary but will include some or all of the following:**
 - Vomiting
 - Diarrhoea (sometimes bloody)
 - Reddening or darkening of the skin, particularly ears and snout
 - Gummed up eyes
 - Laboured breathing and coughing
 - Abortion, still births and weak litters
 - Weakness and unwillingness to stand
- **Transmission:**
 - **Direct contact** with infected pigs, faeces or body fluids.
 - **Indirect contact** via fomites such as equipment, vehicles or people who work with pigs between pig farms with ineffective biosecurity.
 - **Pigs eating** infected pig meat or meat products.
 - **Biological vectors** - ticks of the species **Ornithodoros.**

What is Classical Swine Fever?

- **CSF**, also known as **Hog Cholera**, is an important disease of pigs.
- It is one of the most **economically-damaging pandemic viral diseases** of pigs in the world.
- It is caused by a virus of the genus **Pestivirus of the family Flaviviridae**, which is closely related to the viruses that cause **bovine viral diarrhoea in cattle** and **border disease in sheep.**
- Mortality rate of Classical Swine Fever is 100%.
- Recently, the [Indian Council of Agricultural Research ICAR-Indian Veterinary Research Institute IVRI](#) developed a Cell Culture **CSF Vaccine** (live attenuated) using the **Lapinized Vaccine Virus** from foreign strain.
 - The new vaccine has been found to **induce protective immunity** from day 14 of the Vaccination till 18 Months.

What is the World Organisation for Animal Health?

- WOAHA was formerly called the **“Office International des Epizooties”.**
- OIE is an **intergovernmental organisation** responsible for **improving animal health worldwide.**
- It has **182 Member Countries.**
 - **India** is one of the member countries.
- OIE develops **normative documents relating to rules that Member Countries can use to**

protect themselves from the introduction of diseases and pathogens.

- One of them is the **Terrestrial Animal Health Code**.
- OIE standards are recognised by the [World Trade Organization](#) as reference **international sanitary rules**.
- It is headquartered in **Paris, France**.

UPSC Civil Services Examination, Previous Year Questions (PYQs)

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)

Explanation:

- H1N1 virus is related to Swine Flu.
- The World Health Organization declared the flu caused by H1N1 to be a global pandemic in 2009.
- Symptoms of Swine Flu include fever, cough, sore throat, chills, weakness and body aches.
- The swine influenza genome has 8 different regions which are segmented and encode 11 different proteins:
 - Envelope proteins Hemagglutinin (HA) and Neuraminidase (NA).
 - Viral RNA polymerases which include PB2, PB1, PB1-F2, PA, and PB.
 - Matrix proteins M1 and M2.
 - Nonstructural proteins NS1 and NS2, which are crucial for efficient pathogenesis and viral replication.
- **Therefore, option (d) is the correct answer.**

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