White Spot Disease (WSD)

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Why in News?

White Spot Disease has been detected in shrimp farms in Andhra Pradesh, but the Government of India reports no severe farmer losses and highlights ongoing surveillance, insurance, and biosecurity measures.

- **WSD –** It is a ***highly lethal viral infection*** in ***farmed shrimp,*** leading to rapid mass mortality in aquaculture farms.
- **Caused by –** A virus called ***White Spot Syndrome Virus (WSSV).***
- This is a double-stranded DNA virus of the genus Whispovirus and family Nimaviridae.
- **Hosts –** It primarily affects penaeid shrimp, but also affects other crustaceans like crabs and lobsters.
- **Symptoms –** Affected shrimp exhibit anorexia, lethargy, reddish discolouration and the presence of circular white spots on the carapace and other exoskeletal parts.
- **Transmission –**
  - **Horizontal -** Through contaminated water, pond sediment, zooplankton, and cannibalism.
  - **Vertical -** From infected broodstock to larvae.
- **Global Spread –** It was ***1st reported in Taiwan*** (1992), and later spread across Asia, Latin America, and other shrimp-producing regions.
- **Environmental Factors –** Stress and water temperature play a role - below 27°C (disease outbreaks are more likely) and above 32°C (viral activity decreases significantly).
- **Mortality –** Shrimp may start 2-3 days after infection and reach 80-90 per cent within 5-7 days of the onset of first mortalities.
- **Prevention & Control Measures**
  - **Pond Preparation** - Dry ponds for 3–4 weeks; disinfect intake water with calcium hypochlorite (30 ppm).
  - **Biosecurity** - Use water filters and fencing to block carriers; quarantine broodstock/post larvae; do PCR tests; register farms.
  - **Other best practices** include avoiding overstocking, maintaining water quality (pH 7.5–8.5, DO optimal), and adopting Biofloc Technology (BFT) or Recirculatory Aquaculture Systems (RAS) to reduce disease risk.
- **Some Government initiatives**
  - **Surveillance Framework –** The Department of Fisheries runs the *National Surveillance Programme for Aquatic Animal Diseases* (NSPAAD) under PMMSY,

with an outlay of ₹33.78 crore.
- An Android app, "*Report Fish Disease",* connects farmers, officers, and fish health experts for early detection and reporting.
- **Insurance Support –** Aquaculture crop insurance is integrated under Pradhan Mantri Matsya Kisan Samridhi Sah-Yojana *(PM-MKSSY).*

References

1. PIB | Outbreaks of white spot diseases in Andhra Pradesh
2. CIBA | White Spot Disease

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