

Recommendations on
International Satellite Symposium of Indian Virological Society (IVS) held at Guwahati
on 16.02.2023

An International Satellite Symposium on “*Transboundary and Emerging infectious Zoonotic diseases of Livestock including Wildlife: Perspective and preparedness*” was organized by the Department of Veterinary Microbiology, College of Veterinary Science, Assam Agricultural University, Khanapara, Guwahati, Assam, India under the aegis of Indian Virological Society on 16th February, 2023. The meeting was attended by academicians, researchers, policy makers, industry personnels, entrepreneurs and farmers. The recommendations emerged out of the deliberations and discussions on various Sub-Themes, Technology showcasing, and plenary sessions are:

Recommendation(s) for Sub-Theme 1:

Title: Molecular Epidemiology of Trans-boundary and Emerging Zoonotic Diseases

- Epidemiological data on the emerging, trans-boundary and zoonotic diseases of livestock needs to be developed with focus to identify the disease hotspots and associated risk factors. Emphasis should be on farm biosecurity strengthening at large and small scale farmer’s level. Awareness amongst farmers and skilled man power to adopt better strategies for prevention and control of such diseases.
- Complete genome based molecular characterization of the emerging, transboundary, zoonotic and endemic viruses must be conducted at regular interval so that important mutations, genotypic shift and virulence patterns/factors of the viruses could be well understood to formulate need-based diagnostics and vaccines based on the circulating strains.

Recommendation(s) for Sub-Theme 2:

Title: Risk assessment and early warning systems for TADs / EIDs

- There should be extensive survey to generate knowledge aptitude and practice (KAP) data, risk associated base line data for EIDs/TADs so as to formulate robust early warning and decision support systems (DSS) against emerging and trans-boundary diseases for the stakeholders/farmers.
- Artificial intelligence and IoT based methods for disease mapping, outbreak prediction and disease diagnosis should be developed in the country.
- A farmers’ friendly mobile App should be developed for disease reporting, for disease surveillance and to receive disease advisory to take immediate action on the outbreak.
- Utmost priority should be given to strengthen the existing disease reporting systems. Similar to the World Animal Health Information System (WAHIS) of the World Organization for Animal Health, a national disease reporting system for all trans-boundary and emerging infectious diseases should be developed.

Recommendation(s) for Sub-Theme 3:

Title : Role of lower mammal and livestock at wildlife-human-livestock interface in spill over of EIDs.

- Extensive study should be carried out on spill over of Emerging Zoonotic pathogens at wildlife-domestic animals-human interface using lower mammal as sentinel animal.

Recommendation(s) for Sub-Theme 4:

Title: Zoning and compartmentalization as a tool for improved resilience to control TADs.

- A village-specific and farm-specific practical bio-exclusion and bi-containment SOPs need to be developed against EIDs/TADs for organised and backyard farming system separately.
- A workable guideline following the WOAHP principles and adapted to local needs should be framed for Zoning and Compartmentalization of ASF and other trans-boundary diseases so as to continue livestock business in the affected regions of India.

Recommendation(s) for Sub-Theme 5:

Title: Developing One Health Nipah virus vaccine for pig and Human.

- The recombinant vaccine comprising the surface proteins of NIPAH virus has a potential to be used as a vaccine candidate but it should be looked carefully for recombinant adenovirus specific immune response.

Recommendation(s) from Technology Showcasing:


Title: Farmers-Academia- Industry interaction

- To develop need based vaccines and diagnostics for the benefit of stakeholders, the collaboration and communication between Academic institutes (Researchers) and Industry must be built up from the initial phase of product/technology development.
- New vaccination strategies or SOPs need to be developed for the available vaccines to be used as emergency vaccine during outbreaks in collaboration of Industry and Academia.
- A combined/simultaneous vaccination strategy (RP+FMD; FMD+HS; PPR+GPox; DPV+Riemerella) with dose, duration, route should be worked out in collaboration with Industry and Academia.

Recommendation(s) from Plenary Session:

- Development of point-of-care diagnostics should be given priority for EIDs/TADs and endemic diseases of livestock.
- Workable SOPs on Bio-security measures to be adopted in organized as well as backyard farming systems by the farmers and their awareness for proper implementation should be worked out.

- Strong and organised disease reporting and data sharing mechanism should be build-up from farmers-level to the highest authority.
- There should be a strong and regular communication of the state Veterinary & Animal Husbandry Department with the central Animal Husbandry & Dairying Department.
- Cross border risk assessment of the incursion of TADs/EIDs from neighbouring countries must be conducted. There should be disease diagnostic facility at international boundary in NER states.
- Measures to be taken for Capacity building of veterinary services on disease epidemiology, diagnosis and control programs. Up gradation of laboratory facilities upto BSL2+ must be undertaken particularly in northeast India. Generation of diagnostic lab on wheel for hilly border areas to cover international livestock migratory roots. Creation of regional bioinformatics infrastructure and repository for bio samples is also recommended.



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