Veterinarians: the key workforce during floods

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Livestock sector, a significant and growing agriculture subsector of the Indian economy, contributes around 30.87% of agricultural and allied sector gross value added (GVA) and 6.17% of total GVA. It also provides employment to around 8.8% of Indian population. India is extremely vulnerable to floods – both due to natural or man-made factors, including topography, geo-climatic conditions, monsoons, silted river systems, highly erodable mountains, deforestation, population expansion, industrialization, rapid urbanization and consequent environmental degradation. Over 40 million hectares of land (about 12% total) are prone to floods, and 5700 km of the 7516 km-long coastline are prone to cyclones and tsunami in India. Livestock in particular remained highly exposed to all types of natural disasters but is more severely affected during floods.

Recent flash floods during the August-September 2025 were seen in many parts of northern India, particularly in Punjab, Himachal Pradesh, Jammu and Kashmir and Uttrakhand, causing widespread fatalities (in both human and livestock), massive landslides and devastation, widespread waterlogging, collapse of infrastructure, extensive loss of livestock and widespread damage to crops. Punjab was the worst affected and alone has suffered significant livestock losses, estimated to be over 2.5 lakh livestock and 5.88 lakh poultry birds, affected due to waterlogging, damage to shelter and fodder shortages.The devastating impacts of floods were observed not only during the actual flood event but continued after the water receded. For example, the number of snake bite cases in humans and animals had increased in flood affected villages in Punjab.

The aftermath of floods poses significant health risks for zoonotic, vector borne and communicable disease outbreaks such as leptospirosis, Scrub typhus, malaria, dengue, Salmonellosis and Haemorrhagic septicaemia, respectively, due to factors like contaminated and stagnant water, increased vector populations like mosquitoes and damage to sanitation systems. Veterinarians, an essential work force, can play a crucial role during floods by providing emergency animal care (treatment of injured/sick animals), assisting with animal rescue, setting up and managing animal shelters, and preventing disease outbreaks (through disease surveillance, safe carcass disposal and vaccination against epidemic diseases). Veterinarians have their role in pre-disaster, disaster and post-disaster phases that have become a recurring phenomenon during recent times.

Pre-disaster preparedness

1. The department of Animal Husbandry, Dairying and Fisheries (DADF), GOI on the basis of Indian meteorological department, suggests anticipatory steps before any disaster to ensure availability of feed, fodder, drinking water, medicines and vaccination cover for livestock and poultry.

2. Identification of vulnerable/at risk livestock farms through regular monitoring and continuous surveillance of contagious disease, using epidemiological tools such as geographic information tools (GIS) and risk mapping.

3. Identification and establishment of safe sites for cattle camps with basic necessities such as feed, water, and medicines etc., as well as identification of sites for safe disposal of carcasses during disasters including floods.
4. Advance deworming and vaccination of animals against important contagious and economically important disease such as Haemorrhagic Septicaemia, Foot and Mouth Disease, Anthrax etc.
5. State milk cooperatives, along with state Animal Husbandry Department advised to retain a minimum of 10-day reserve in the form of milk powder and white butter to tackle any type of emergency in disaster-prone areas.
6. Krishi Vigyan Kendra's (KVKs), Pashu Palan Kendra's (Animal Husbandry Centers), community-managed fodder banks and cooperative societies store sufficient quantities of feed and fodder for livestock in the pre-disaster preparedness phase with facilities for their transportation.
7. A veterinary disaster response team with appropriate training and well equipped with desired logistics to handle livestock during any type of disaster situations.

Disaster phase

1. The National disaster response force (NDRF), the Veterinary Wing of Central para-military forces (CPMFs), and Remount veterinary corps of India Army (RVC) shall assist State Animal husbandry department (AHD) in livestock rescue and management during floods.
2. Ensure availability of safe drinking water, feed and fodder, and medicines to the rescued animals and birds.
3. Ensure safe supply of milk and milk products.
4. Treatment of injured/ sick animals and poultry.
5. Maintenance of sanitation i.e. disinfection of premises of cattle camps, carcass must not come in contact with healthy animals, disinfection and treatment of drinking water etc.
6. Deworming and vaccination of animals against epidemics during floods such as Foot and Mouth disease, Hemorrhagic septicemia, Black Quarter, Anthrax, Enterotoxaemia, Babesiosis, Mastitis, Brucellosis, Fascioliasis, Coli bacillosis, coccidiosis, fowl pox etc. Some important duties performed by field veterinarians during disaster situations are summarised in table 1.

Table 1. Important tasks to be performed by veterinary health services during disasters

1. Disinfection and disinfestations of affected premises 2. Capture and care of stray animals 3. Housing and feeding 4. Health care of animals	5.Disposal of animal waste and dead carcasses 6. Intervention in the case of epizootics 7. Storage and preservation of food of animal origin 8. Training and up-dating personnel

Post-Disaster phase (rehabilitation phase)

Table 2: Some common diseases encountered post disasters

Cattle/ buffalo/sheep/goat	Pigs	Poultry	Miscellaneous including zoonoses (multi-species)
PPR, FMD, HS, CBPP, anthrax, malignant edema, tetanus (Lockjaw), botulism, foot rot and mastitis, PPR, CCPP, pasteurellosis, flea, scabies and mite infestation,	Classical swine fever, foot and mouth disease (FMD), Japanese encephalitis.	Avian Influenza and Newcastle disease, brooders pneumonia.	Rabies, leptospirosis, E. coli, plague, campylobacteriosis, ringworm, internal parasites (Toxocara, Ancylostoma, Giardia), external parasites (fleas, scabies, mites, ticks)

1. Disease surveillance and monitoring i.e. active surveillance about any disease occurrence in livestock in flood/disaster affected areas and developing effective communication channels to tackle such situations (Table 2).
2. Disposal of carcasses i.e. proper disposal of carcasses in consultation with local bodies and central pollution control board.
1. Proper disposal of animal waste, as improper disposal can enhance pest or vector problems.
2. Restocking/ repopulation of Livestock/ Animals after the flood waters recede.
3. Providing appropriate animal health care and managing animal assets.
4. Community support and rebuilding livelihoods.

Suggested readings

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