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Original article

Strategic Livestock Management During Natural Calamities: Safeguarding the Backbone of Rural Economies

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Livestock rearing constitutes a critical pillar of rural economies, contributing significantly to food security, nutrition, and income stability. However, natural calamities—including floods, droughts, cyclones, and earthquakes—pose severe threats to livestock populations, jeopardizing the livelihoods of rural households. This article presents a comprehensive analysis of strategic livestock management during natural disasters, highlighting key objectives, preparedness measures, and intervention strategies. Drawing on recent guidelines and research, it emphasizes the need for community-based preparedness, effective veterinary services, feed and water security, and financial support mechanisms. Case examples from India further illustrate the practical implementation of these strategies. The article concludes by underscoring the importance of building long-term livestock resilience to protect and restore rural livelihoods in the face of recurrent natural hazards.

Keywords: Livestock disaster management, Rural livelihoods, Natural calamities, Veterinary services, Fodder banks, Livestock insurance, Community-based resilience

INTRODUCTION AND BACKGROUND

Livestock rearing plays a pivotal role in sustaining rural livelihoods, especially in countries like India, where agriculture and animal husbandry are deeply interwoven. Natural calamities—such as floods, droughts, cyclones, and earthquakes—pose serious threats to livestock, jeopardizing food security, nutrition, and socio-economic stability. As livestock assets are integral to rural households, especially among marginalized communities, effective management during these disasters is crucial for minimizing losses and ensuring quick recovery.

Objectives of Strategic Livestock Management During Natural Calamities

The key objectives are:

- To reduce livestock mortality and morbidity during disasters.

- To ensure the continuous availability of feed, water, and shelter for animals.
- To prevent disease outbreaks and ensure access to timely veterinary care.
- To secure and restore rural livelihoods by safeguarding livestock assets.
- To strengthen long-term resilience in rural communities against recurring disasters.

(Adapted from: FAO, 2013; NDMA, 2015)

Key Strategies and Approaches

a) Preparedness and Risk Reduction

- Conduct risk mapping of vulnerable livestock populations and disaster-prone areas.
- Develop and regularly update livestock disaster contingency plans at local, district, and state levels.
- Capacity building and training programs for farmers, para-vets, and veterinary staff in emergency management.
- Establish livestock information systems to track animal populations and resources.

(Reference: FAO, 2013 – Livestock Emergency Guidelines and Standards (LEGS))

b) Ensuring Feed and Water Security

- Establish fodder banks and promote silage/hay making practices.
- Promote the use of crop residues and alternative feed resources during lean periods.
- Develop emergency water storage and supply systems specifically for livestock.
- Advocate for balanced feeding practices to reduce vulnerability.

(Reference: NDMA, 2015 – National Disaster Management Guidelines: Management of Animals in Disasters)

c) Shelter and Safe Evacuation Measures

- Construct disaster-resilient permanent animal shelters with proper drainage and ventilation.
- Identify and prepare temporary livestock shelters (e.g., schools, community halls) during emergencies.
- Create safe evacuation routes and relocation plans for animals to minimize stress and injuries.

(Reference: Dutta et al., 2021 – “Livestock Management in Disaster Situations”, Indian Journal of Animal Sciences)

d) Animal Health and Veterinary Services

- Maintain a stockpile of veterinary medicines, vaccines, and first-aid kits in disaster-prone areas.
- Deploy rapid veterinary response teams and mobile veterinary clinics during disasters.

- Conduct regular vaccination and deworming campaigns ahead of disaster seasons.
- Implement quarantine measures in post-disaster scenarios to prevent disease outbreaks.

(References: FAO, 2013; NDMA, 2015)

e) Financial Support and Livelihood Rehabilitation

- Promote livestock insurance to provide financial safety nets against disaster-related losses.
- Offer compensation packages, subsidies, and financial aid to affected livestock owners.
- Encourage the formation of livestock cooperatives and self-help groups to pool resources and improve resilience.

(Reference: GoI, 2022 – Livestock Insurance Scheme, Department of Animal Husbandry & Dairying)

4. Example -: India's Response During Assam Floods, 2020

During the 2020 Assam floods, over 4.5 million animals were affected (ASDMA, 2020). The state government and various agencies swiftly established animal relief camps, distributed emergency fodder, and deployed mobile veterinary units to provide immediate treatment and vaccination. These coordinated efforts prevented large-scale animal deaths and helped families retain their primary livelihood assets.

5. Challenges in Implementation

- Despite well-documented strategies, several challenges remain:
- Logistical hurdles in delivering emergency feed and medicines to remote areas.
- Limited community awareness about livestock disaster preparedness.
- Inadequate funding for livestock-specific interventions in disaster management plans.
- Poor coordination among multiple agencies involved.
- Addressing these gaps requires policy prioritization, cross-sectoral collaboration, and community engagement.

6. CONCLUSION

Livestock is not just an economic asset—it's the backbone of rural security and nutrition. Strategic livestock management during natural calamities is therefore essential for minimizing socio-economic disruptions and ensuring long-term rural sustainability. By strengthening early warning systems, building fodder reserves, ensuring robust veterinary care, and integrating community participation, we can safeguard livestock and, in turn, the livelihoods of millions.

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