P-ISSN: 2618-0723
E-ISSN: 2618-0731

NAAS Rating (2025): 5.04
www.extensionjournal.com

International Journal of Agriculture Extension and Social Development

Volume 8; SP-Issue 9; September 2025; Page No. 12-15

Received: 13-06-2025
Accepted: 17-07-2025

Indexed Journal
Peer Reviewed Journal

Application and field use of Ethnoveterinary medicine (EVM) in livestock health management in Sivaganga district, Tamil Nadu: a community-based study

V Ramakrishnan and L Vimalendran

Assistant Professor Tamil Nadu Veterinary and Animal Sciences University - Krishi Vigyan Kendra Kundrakudi, Sivaganga, Tamil Nadu, India

DOI: https://doi.org/10.33545/26180723.2025.v8.i9Sa.2388

Corresponding Author: V Ramakrishnan

Abstract

Ethnoveterinary Medicine (EVM), deeply rooted in traditional ecological knowledge and community experience, has re-emerged as a vital component of sustainable livestock healthcare in India. This field-based study was undertaken in Sivaganga District, Tamil Nadu, to assess the application, community perception, and effectiveness of EVM practices in rural livestock management. Data were collected from 120 livestock farmers across four major livestock-rearing blocks using structured interviews, focus group discussions, and field observations. Results revealed widespread reliance on locally available herbal remedies to treat common ailments such as mastitis, foot rot, repeat breeding, and gastrointestinal infections. Farmers valued EVM for its affordability, ease of preparation, and minimal side effects. Despite its high acceptance, challenges such as lack of standardized dosages, seasonal unavailability of herbs, and insufficient formal recognition hinder broader adoption. The study underscores the importance of documenting, validating, and integrating EVM within formal veterinary extension systems to reduce drug dependency, mitigate antimicrobial resistance, and promote resilient and culturally relevant livestock care in rural communities.

Keywords: Ethnoveterinary medicine, community livestock care, traditional knowledge, Sivaganga district, sustainable animal health

1. Introduction

Ethnoveterinary medicine (EVM) refers to the sum of all local knowledge, beliefs, skills, and practices related to animal health and care, developed over generations by communities using their cultural and environmental familiarity (Mathias, 2007) [6]. These practices often include the use of medicinal plants, spiritual therapies, and indigenous surgical techniques that cater to the treatment of common ailments in livestock. EVM forms an integral part of rural life, particularly in India, where approximately 70% of the population is directly or indirectly dependent on agriculture and livestock (Nair *et al*., 2020) [7].

The growing concern about antimicrobial resistance (AMR), high cost of commercial veterinary drugs, and reduced accessibility of veterinary services in remote regions has led to renewed global interest in traditional healing practices (WHO, 2015) [14]. Moreover, EVM is considered ecologically sound, economically viable, and socially acceptable, especially among smallholder farmers. In Tamil Nadu, districts like Sivaganga exhibit a robust tradition of ethnoveterinary healing, passed orally from one generation to another and closely tied to community customs and seasonal cycles (Mathialagan, 2020) [5].

Sivaganga District, situated in the southern agro-climatic zone of Tamil Nadu, is predominantly semi-arid and characterized by rain-fed farming and livestock-based livelihoods. The major livestock species reared include cattle, goats, and poultry. With limited veterinary infrastructure and sporadic availability of allopathic medicine, rural farmers in this region often rely on EVM for managing livestock health (TANUVAS, 2023) [13]. Commonly used herbs such as neem (*Azadirachta indica*), tulsi (*Ocimum sanctum*), and turmeric (*Curcuma longa*) are cultivated in home gardens or collected from the wild, making EVM both accessible and sustainable.

This study seeks to document the ethnoveterinary practices employed by rural communities in Sivaganga, assess their perceived effectiveness, and examine the potential for integrating these systems into formal animal healthcare frameworks. By doing so, the study contributes to the broader discourse on sustainable livestock development and community empowerment through indigenous knowledge systems.

2. Methodology

2.1 Study Area

The research was conducted in Sivaganga District of Tamil Nadu, a region known for its mixed farming and traditional animal husbandry practices. Four livestock-intensive blocks—Manamadurai, Ilayangudi, Kalayarkoil, and Tirupuvanam—were selected due to their significant dependence on livestock and prevalence of indigenous veterinary knowledge among local farming communities.

2.2 Sample Selection

A purposive sampling technique was employed to select a total of 120 livestock farmers (30 from each block). The selection criteria included farmers with a history of using

ethnoveterinary practices, participation in local livestock-related programs, and willingness to share traditional knowledge. Local extension workers and community leaders assisted in identifying knowledgeable individuals.

2.3 Data Collection Methods

mixed-method approach was followed to gather both qualitative and quantitative data.

- **Structured Interviews:** A pre-tested semi-structured questionnaire was used to collect demographic information, types of livestock owned, common ailments, specific EVM remedies used, frequency of use, and source of knowledge.
- **Focus Group Discussions (FGDs):** FGDs were conducted with self-help group members, elder farmers, and women livestock keepers to validate individual responses and gather collective community insights.
- **Direct Field Observations:** The research team visited farms and observed live demonstrations of herbal medicine preparation and administration. Observations also included plant identification, housing conditions, and animal health status.

2.4 Data Analysis

The collected data were systematically coded and entered into Microsoft Excel for quantitative analysis. Descriptive statistics such as frequencies and percentages were used to summarize responses. Thematic analysis was employed for qualitative data derived from FGDs and observations. Common themes such as perceived effectiveness, trust in traditional knowledge, and constraints in practice were extracted and interpreted contextually. Photographic evidence and geotagged observations were used to support qualitative findings.

3. Results and Discussion

3.1 Commonly Used Ethnoveterinary Remedies

Livestock Ailment	EVM Practice	Plant Source	Application Mode
Mastitis	Turmeric and Aloe vera paste	*Curcuma longa*, *Aloe vera*	Topical
Foot rot	Neem oil and lime mixture	*Azadirachta indica*, lime	Smearing on hoof
Repeat breeding	Ashwagandha root decoction	*Withania somnifera*	Oral drenching
Internal parasites	Betel leaf and arecanut bolus	*Piper betle*, *Areca catechu*	Oral administration
Wound healing	Coconut oil + tulsi + turmeric	*Cocos nucifera*, *Ocimum sanctum*, *Curcuma longa*	External application
Diarrhoea	Kuppaimeni leaf extract	*Acalypha indica*	Oral drenching
Fever and cold	Pepper and dry ginger decoction	*Piper nigrum*, *Zingiber officinale*	Oral drenching
Bloat	Garlic and castor oil mixture	*Allium sativum*, *Ricinus communis*	Oral administration
Skin infection	Notchi leaf juice	*Vitex negundo*	Topical application
Tick infestation	Tobacco leaf decoction	*Nicotiana tabacum*	Spraying/topical
Eye infection	Gooseberry leaf and turmeric paste	*Phyllanthus emblica*, *Curcuma longa*	Application around eyes
Retention of placenta	Papaya latex and cumin seed mixture	*Carica papaya*, *Cuminum cyminum*	Oral drenching
Loss of appetite	Curry leaf juice with salt	*Murraya koenigii*	Oral drenching
Hematuria	Banana stem extract with palm jaggery	*Musa paradisiaca*	Oral drenching

In terms of usage frequency, neem, turmeric, aloe vera, betel leaf, and garlic emerged as the five most commonly cited medicinal plants by respondents across all blocks. These were predominantly used due to their multipurpose applicability, ease of access, and proven efficacy in treating a range of ailments.

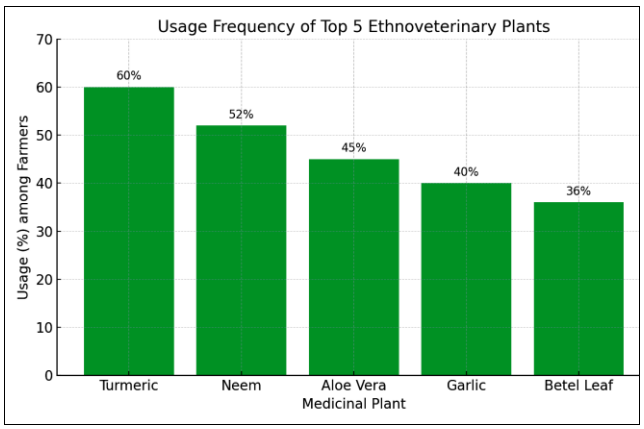

Fig 1: Usage frequency of the top 5 ethnoveterinary plants among farmers in Sivaganga District, Tamil Nadu (based on FGD responses).

Figure 1 shows the usage frequency of the top five ethnoveterinary medicinal plants among farmers as recorded during FGDs. Turmeric was used in over 60% of cases, primarily for mastitis and wounds, followed by neem (52%), aloe vera (45%), garlic (40%), and betel leaf (36%).

3.2 Comparative Table of Traditional vs. Allopathic Treatment Preference

Treatment Type	Preferred For	Perceived Strengths	Perceived Limitations
Ethnoveterinary (EVM)	Chronic, mild, recurring ailments	Cost-effective, locally available, fewer side effects	Slow action, lack of standard dosage
Allopathy	Emergency, infectious diseases	Quick relief, standardized dosage	Expensive, fear of residues, side effects

This comparative insight from farmers indicates that both systems are valued, but EVM is deeply trusted for day-to-day management due to affordability and availability. Respondents often followed a hybrid approach, using herbal remedies first and resorting to veterinary clinics only if symptoms worsened.

3.3 Source of Knowledge and Transmission

Source of EVM Knowledge	Percentage of Respondents (%)
Family elders and ancestors	74%
KVK/NGO trainings and demos	18%
Self-help group members	8%

These findings confirm that ethnoveterinary knowledge in Sivaganga is still predominantly transferred through oral tradition. The increasing role of institutional training suggests a positive trend toward formalizing and revitalizing EVM practices.

3.4 Community Perception and Effectiveness

Community Response Area	Observation
Overall effectiveness rating	85% considered EVM effective or highly effective
Gender-specific perception	Higher reliance among women-headed households
Treatment preference	Preferred for chronic/minor ailments; allopathy chosen for emergencies
Safety perception	EVM perceived safer, especially for young/lactating animals
Major concerns	Lack of dosage precision; variability in treatment outcomes

Respondents widely appreciated the accessibility, affordability, and cultural alignment of EVM. While limitations exist in treating acute or complex diseases, farmers consistently endorsed EVM as the first line of treatment, reserving allopathy for escalated cases.

3.5 Block-wise Case Observations

- **Kalayarkoil Block:** A progressive goat farmer regularly uses neem, garlic, and castor oil decoction for deworming. He reported a 60-70% recovery rate in goats within five days of administration.
- **Manamadurai Block:** Women in SHGs prepared turmeric-tulsi paste as an antiseptic for wounds in poultry and calves. These remedies were reported as successful in reducing infection rate post-castration.
- **Ilayangudi Block:** Elderly cattle herders used papaya latex mixed with cumin seeds to successfully expel retained placenta in cows within 12-24 hours post-calving.
- **Tirupuvanam Block:** Farmers administered kuppaimeni leaf juice for calf diarrhoea, particularly effective during the monsoon season.

3.6 Comparison with Previous Studies:

Findings align with studies by Yadav and Rawat (2021) [15] who reported similar practices in Uttar Pradesh and Rajasthan. Singh and Vats (2020) [10] emphasized the growing role of women in EVM practices due to cultural proximity and caregiving roles. Likewise, Sharma and Joshi (2020) stressed the need for validation and recognition of EVM in veterinary education.

These parallels underscore the widespread use of EVM across rural India, reinforcing the validity of Sivaganga's practices and indicating potential scalability. The need for a community-driven, yet scientifically supported, integrative livestock health framework is clear.

Further discussion on institutionalization of EVM, policy advocacy, and extension support can help bridge traditional knowledge with scientific rigor, paving the way for sustainable livestock development across rural regions.

3.7 Constraints Faced

Constraint Area	Description
Plant availability	Scarcity of certain herbs like *Aristolochia indica* and *Adhatoda vasica* in dry season
Dosage and standardization	No fixed dosage; variation in preparation methods among farmers
Youth interest	Younger generation less inclined to practice due to modern influences
Institutional support	Absence of formal veterinary recognition or inclusion in extension service curricula

These findings call for scientific validation of key EVM practices, creation of standardized herbal formulations, and capacity-building initiatives through public-private collaboration. Institutional support from universities like TANUVAS and policy acknowledgment by the Department of Animal Husbandry would greatly enhance sustainability.

4. Conclusion

The field evidence from Sivaganga District reveals that ethnoveterinary practices continue to play a critical role in sustainable livestock health management, especially among small and marginal farmers. The reliance on traditional herbs and practices for treating common livestock ailments highlights the cultural strength and ecological soundness of EVM. However, the transition from oral tradition to evidence-based practice is essential for its integration into formal veterinary systems.

This study recommends:

- Scientific documentation and validation of widely used herbal remedies
- Standardization of dosage and preparation protocols
- Training of youth and SHG women on EVM principles
- Recognition of EVM in veterinary policy and curricula

Such integrative efforts can reduce veterinary care costs, mitigate antimicrobial resistance, enhance rural resilience, and promote culturally rooted sustainable livestock practices.

References

1. FAO. Indigenous Veterinary Medicine for Sustainable Livestock Health. Rome: Food and Agriculture Organization of the United Nations; 2019.
2. Ghosh S, Pal S. Bridging the Gap: Linking Indigenous Veterinary Knowledge with Extension Approaches. Agric Ext Rev. 2022;34(4):17-22.
3. Government of Tamil Nadu. District Livestock Census - Sivaganga. Department of Animal Husbandry, Chennai; 2023.
4. Kalesan M, Ramakrishnan V. Revival of Ethnoveterinary Remedies through Farmer Field Schools. J Livestock Innov. 2022;6(1):11-8.
5. Mathialagan P. Traditional Livestock Healing Practices in Tamil Nadu. Indian Vet J. 2020;97(4):35-40.
6. Mathias E. Ethnoveterinary Medicine: Harnessing Its Potential. Nature Resources. 2007;43(1):3-10.
7. Nair R, Kumari M, Sharma A. Ethnoveterinary Medicine: An Overview of Indian Perspectives. Asian J Anim Vet Adv. 2020;15(4):101-8.

8. Patel MK, Chauhan JB. Herbal Ethnoveterinary Remedies: Documentation and Usage Pattern in Gujarat. Indian J Tradit Knowledge. 2021;20(1):144-51.
9. Sharma A, Joshi RK. Validation of Herbal Remedies for Common Livestock Ailments: A Step Towards Integrative Veterinary Care. J Anim Health Res. 2020;9(1):26-33.
10. Singh B, Vats P. Integration of Ethnoveterinary Practices into Primary Livestock Health Services. Vet World. 2020;13(2):347-53.
11. Singh RK, Bhardwaj M. Documenting Ethnoveterinary Practices in Rural India: A Sustainable Approach. Int J Livestock Res. 2021;11(5):1-8.
12. Sundararajan M, Ramasamy K. Role of Indigenous Knowledge in Rural Livestock Healthcare: Evidence from Tamil Nadu. Indian J Ext Educ. 2018;54(2):94-9.
13. TANUVAS. Ethnoveterinary Training Reports and Field Demonstrations. Internal Technical Document, KVK Kundrakudi; 2024.
14. WHO. Global Action Plan on Antimicrobial Resistance. Geneva: World Health Organization; 2015.
15. Yadav S, Rawat RS. Role of Traditional Veterinary Practices in Rural India. J Ethnopharmacol. 2021;273:113979.