



Analysis of Constraints Encountered by Goat Farmers in Jodhpur District of Western Rajasthan: A case Study

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Received: 24 April, 2026

Revised: 19 May, 2026

Accepted: 24 May, 2026

ABSTRACT

The livestock economy plays an important role in the socio-economic fabric of Western Rajasthan, a region characterized by arid climate, low rainfall and fragile agricultural eco-systems and it emerges as resilient and sustainable livelihood option for rural households. Within animal husbandry, goat farming is a good source of money and animal protein because it required comparatively low initial capital and fetches high price in market. The present study aimed to find out the constraints faced in adaptation and production of goat farming at commercial level in Jodhpur district of Rajasthan. The Kisan Kaushal Vikas Kendra (KKVK), One of the centers of Agriculture University, Jodhpur (Rajasthan) organized four self-paid capacity building programs on commercial goat farming during 2024-2025. A sample of 120 respondents belonging to Jodhpur districts were purposive selected among the total trainees (172) in four training programs covering the representation of all ten blocks of Jodhpur district of Rajasthan. The results of the study revealed that a number of interlinked constraints were faced in adoption of goat farming and the most severe being shortage of grazing land coupled with shortage of green fodder, poor veterinary and extension services, lack of credit and inadequate knowledge of scientific breeding management practices. The major emphasized in training to encourage the goat farmer to follow the recommended practices of goat farming and enhance their income by adopting strategic and systemic extension and advisory interventions and to overcome the constraints and would go a long way. Thus, paving a way of sustainable goat husbandry for doubling of farmers' income and also to achieve maximum benefits in arid eco-system.

HIGHLIGHTS

- Regular training of goat farmers significantly improve their technical knowledge.
- Enhanced technical knowledge of goat farmers paving a way of sustainable goat husbandry.

Keywords: Arid climate, Constraints, Garrett's Ranking Technique, Goat farmers, Jodhpur

In India, livestock farming is crucial to rural communities' ability to make a living, especially for small and marginal farmers contribute 80 percent of rural households and this sector is considered as engine of social & economic growth and about 35% of the income comes from animal husbandry. Contribution of animal husbandry sector to the GDP of the Rajasthan has been estimated to be around 9.16 per cent. The livestock economy in Western Rajasthan occupies a central position in region's socio-economic and harsh ecological conditions and has emerged not

merely as a supplementary activity but as a primary and reliable source of livelihood. It serves as a critical risk management strategy, enabling rural households to cope with climatic shocks. Farmers' empowerment has emerged as a cornerstone of India's agricultural strategy and the strengthening the knowledge of farmers is essential for

How to cite this article: Lavania, P., Verma, M.P., Jain, L.K., Kumar, A. and Pagaria, P. (2026). Analysis of Constraints Encountered by Goat Farmers in Jodhpur District of Western Rajasthan: A case Study. *J. Anim. Res.*, 16(03): 139-143.

Source of Support: None; **Conflict of Interest:** None





inclusive and sustainable growth. A goat rearing business that is seen to be ideal for farmers with little resources since it requires little initial investment, little land, and may be run by family members, particularly women. Goat farming plays an important role in livelihood security and economic sustenance of rural people by providing regular employment and income generation and also provides security against unexpected risk in agriculture. Recognizing this, Government of India has placed skill development and training at the center of its rural development agenda. These initiatives seek to ensure that farmers are not just cultivators but also innovators, decision makers, and active contributors to the agri-value chain. Special attention has been given to the rural youth for emerging opportunities in agriculture and allied subject (Lavania *et al.*, 2026). Development of livestock sector has a significant beneficial impact in generating employment and reducing poverty in rural areas. Rajasthan has multiple policies in place to facilitate animal husbandry in state like; Bhamasha Pashu Bima Yojana, Livestock Development Policy 2010, Pashudhan Niti, Free Medicines Program etc. (Kumar *et al.*, 2018).

Kisan Kaushal Vikas Kendra (KKVK) functioning in Agriculture University, Jodhpur, imparting skill-based training to need based communities at off farm and on-farm sectors for youth covering nine districts out of 41 districts of Rajasthan. Specialized goat training programmes are desirable to farmers as they are often eager to improve their knowledge and practices and to have their knowledge affirmed by professionals. The present study was carried out in purposively in participants belonging to Jodhpur district of Rajasthan to analyse the constraints perceived by goat keepers. A sample size of 120 respondents was purposively selected among all the four trainings participants (172) for present study using Garrett ranking analysis for constraints encountered by goat farmers.

MATERIALS AND METHODS

Kisan Kaushal Vikas Kendra, (KKVK), Jodhpur organized four self-paid training Programmes of 07 days on commercial/scientific goat farming for goat farmers and other stakeholders to enable them to add their knowledge and skills what they already have during 2024-25. Apart from training programmes, kendra also organizes sponsored training programmes on the demand of state government,

NGOs and other organizations. These programmes are designed according to trainees' requirement and focus on goat breeding and reproduction, feed and feeding, health care, value addition, economics and marketing constraints. After completion of this programme, trainees improve their goat rearing practices and take initiatives to start goat farming at commercial level. In this context, a purposive sample of 120 respondents were selected among the total trainees of 172 in four training programs representing of all 10 blocks of Jodhpur district of Rajasthan.

A schedule was prepared enlisting different probable constraints in four major areas *viz*, breeding and reproduction constraints, feed and feeding constraints, healthcare and veterinary services constraints and marketing and miscellaneous constraints. Participants were asked to rank the constraints from 1 to 8 under each head according to the severity of the constraint encountered by them. Rank 1st showed most severe while 8th represent the least affected of particular constraints. Garrett's ranking technique provides the change of orders of constraints and advantages into numerical scores. The prime advantage of this technique over simple frequency distribution is that the constraints are arranged based on their severity from the point of view of respondents. Hence, the same number of respondents on two or more constraints may have been given different rank. Garrett's formula for converting ranks into percent is as below: The assigned ranks given by the trainee's participants were counted into per cent position value by using the following formula given by Garret and Woodworth (1969).

$$\text{Percent position} = 100 (R_{ij} - 0.50) / N_j$$

Where R_{ij} = Rank given by the i^{th} factor by the j^{th} individual

N_j = Total rank given by 120 respondents = 08

RESULTS AND DISCUSSION

Breeding and reproduction constraints

The results of the breeding and reproduction constraints were encountered by participants are presented in (Table 1) revealed that the highest mean score (69.92) was observed to non availability of improved male germ plasm and ranked 1st followed by non-availability females in field with a mean score of 68.21. The non-availability

of improved male and females together in field clearly indicated dilution of pure breed animals in the field and ultimately leads to poor productivity of animals and further this situation main rider to new stock holders who showed interest to procure the animals for start in goat farming. Similar findings were observed that non-availability of improved breeding buck was the major constraints faced by the far women in goat farming in Erode district in Tamil Nadu (Rajkumar and Kavithaa, 2014). The other constraints were lack of knowledge in detecting heat, puberty age, kidding interval (KI) of animal, age of first kidding, lack of knowledge about service period and AI services and were ranked 3rd, 4th, 5th, 6th, 7th and 8th respectively. The results of present study more or less similar findings were reported by Saikia *et al.* (2019) in their study on constraints analysis of small scale pig farming in Dhemaji District of Assam and Salvi *et al.* (2025) in their study constraints faced by goat keepers in Rajsamand district of Rajasthan.

Table 1: Breeding and Reproduction constraints

Sl. No.	Particular	Mean Score	Rank
1	Lack of knowledge of about puberty age	69.92	4 th
2	Lack of knowledge about in detecting heat	65.21	3 rd
3	Kidding Interval (KI) of animal	50.14	5 th
4	Age of first kidding (AFK)	45.54	6 th
5	Lack of availability of improved buck	71.28	1 st
6	Lack of knowledge about service period in goats	42.23	7 th
7	Non availability of improved breed animals	68.21	2 nd
8	Lack of knowledge of AI services	30.21	8 th

Feed and feeding constraints

The data presented in (Table 2) visualize the feeding constraints causing concern to goat keepers. It was revealed that feeding constraints are among the most significant constraints for goat keepers, directly leading to lower milk yields, slower growth rates, and reduced reproductive performance. The most severe issues often revolve around the shrinking grazing resources with highest means score of 82.10 and ranked first. The findings are in line with the results obtained by Singh *et al.* (2018) who reported that the majority of goat farmers (95.6%) and sheep farmers (92.6%) identified lack of grazing land

as the main issue. Non availability of commercial balance concentrate feed (70.11) and lack of knowledge regarding green fodder feeding (67.13) are other major constraints. The results of the present investigation are in consonance with Gamit *et al.* (2020), who reported that the majority of respondents identified the lack of availability of green fodder (75.83%) as the most important feeding constraint faced by goat keepers. The other constraints likewise importance of flushing ranked 4th, lack of knowledge about feed supplements ranked 5th and lack of knowledge about creep feeding to kids ranked 6th. The results are in line with the observation of Sabapara *et al.* (2014).

Table 2: Feed and feeding constraints

Sl. No.	Particular	Mean Score	Rank
1	Shrinking Grazing Resources	82.10	1 st
2	Non availability of commercial balance concentrate feed	70.11	2 nd
3	Lack of Knowledge regarding green fodder Feeding	67.13	3 rd
4	Lack of Knowledge about Feeding of dry goat	40.45	8 th
5	Lack of Knowledge regarding mineral mixture	56.14	7 th
6	Importance of flushing	60.56	4 th
7	Lack of knowledge about feed supplements	55.12	5 th
8	Lack of knowledge about creep feeding to kids	50.21	6 th

Health and veterinary services constraints

Results of present investigation clearly showed that higher mortality and morbidity among the animals due to the couple of constraints but primarily due to time being availability of veterinary or para veterinary staff members. Therefore, the inadequate veterinary services in the village are ranked as the first most serious constraint, with means score of 85.65. Similar findings were reported by Halpati *et al.* (2023), who reported that the primary health constraints were the lack of health services. Second most important is high mortality in neo-natal kids before weaning means score (79.23) followed by lack of knowledge about important diseases of goat (75.54), lack of knowledge about prophylactic measurement (69.56),

non-availability of medicines at village level (65.12) and lack of knowledge of parasitic problems in animals means score (45.64). These findings are agreement with Gill *et al.* (2020) in the Pratapgarh district of Rajasthan.

Table 3: Health and veterinary services constraints

Sl. No.	Particular	Mean Score	Rank
1	Inadequate veterinary services availability	85.65	1 st
2	Lack of knowledge about important disease of goats	75.54	3 rd
3	Non availability of medicines at village level	65.12	5 th
4	High mortality in neo natal kids before weaning	79.23	2 nd
5	Lack of knowledge about prophylactic measurement	69.56	4 th
6	Lack of knowledge about bio security of goat farm	38.12	8 th
7	Lack of knowledge about importance of colostrum feeding	50.14	7 th
8	Lack of knowledge of parasitic problems in animal	45.64	6 th

Marketing and miscellaneous constraints

Table 4: Marketing & miscellaneous constraints

Sl. No.	Particular	Mean Score	Rank
1	Lack of formal market facility	71.56	2 nd
2	Monopoly of Intermediaries during selling of animals	78.12	1 st
3	Lack of knowledge of government initiatives	55.17	7 th
4	Weighing facility of live animals at farmers level	62.17	4 th
5	Traditional system of rearing of animals	68.14	3 rd
6	Seasonal demands of animals	58.84	6 th
7	Lack of credit facility	60.12	5 th
8	Lack of extension support	51.21	8 th

The data presented in Table 4 visualize the marketing and miscellaneous constraints causing concern to goat keepers. Results of present study revealed that the monopoly of intermediaries during selling of animals ranked top priority with a means score of 78.12 followed by lack of formal

market facility (71.56), traditional system of rearing of animals (68.14) and weighing facility of live animals at farmers level (62.17) are line of constraints by an impartial majority of the respondents. These findings are supported by the Saikia *et al.* (2019) on small scale pig farming in Dhemaji District of Assam. Further, lack of credit facility (60.12), seasonal demands of animals (58.84), lack of knowledge of government initiatives (55.17) and lack of extension support (51.21) are other constraints. Islam *et al.* (2016) also reported that lack of operating and inadequate access to credit facility is the major constraint faced by the pig farmers in Sivsagar district of Assam.

Overall constraints encountered by the participants

To get an overview of constraints perceived by the goat owners, the overall scope for each category was pooled and results have been presented in Table 5. Results of present investigation in Jodhpur district of Rajasthan revealed that goat farming in Western Rajasthan faces a specific hierarchy of constraints, generally ranked by severity from resource scarcity to marketing inefficiencies. The most critical challenges are the shortage of feed and feeding, followed by inadequate health services and marketing and breeding issues where as Sabapara *et al.* (2014) reported that the marketing was first and main constraint (85.30 %) followed by feeding,healthcare, breeding and housing and Bagri *et al.* (2022) reported that feeding, health care, breeding and marketing constraints of goat owners. Similar findings were also reported by Paliya (2026) that livestock sector in the region is confronted with multiple challenges including fodder scarcity, water shortage,inadequate veterinary infrastructure and inefficient market system continue to affect productivity and profitability. Despite these constraints, substantial opportunities for the development and transformation of the livestock economy.

Table 5: Overall distributions of respondents on the basis of their constraints level faced by the respondents (n=120)

Sl. No.	Practices	Mean Score	Rank
1	Breeding and reproduction	52.12	4 th
2	Feed and Feeding	84.12	1 st
3	Healthcare and Veterinary	78.54	2 nd
4	Marketing & Miscellaneous	66.21	3 rd

CONCLUSION

The findings lead to conclude the present study that a number of constraints were found in adoption of goat farming in western Rajasthan and several were interlinked and with the most severe being shortage of grazing land couple with shortage of green fodder, poor veterinary and extension services, lack of credit and inadequate knowledge of scientific breeding management practices. Goat husbandry holds immense potential to drive rural development and economic resilience. With the appropriate policy interventions, institutional support and sustainable management practices, the sector can overcome its existing challenges and emerges as a dynamic and robust component of the regional economy. Ensuring a balanced approach that integrates traditional knowledge with modern techniques will be key to achieving long-term sustainability. The combination of training, institutional support, veterinary services, and community participation played a crucial role in enhancing livestock productivity and strengthening rural livelihoods. Ultimately, these measures will enhance goat farming and boost goat farming income. Thus, paving a way of sustainable livestock production for doubling of farmers' in arid eco-system.

GENERATIVE AI DECLARATION

The author(s) confirm that there was no use of artificial intelligence (AI)-assisted technology for assisting in the writing or editing of the manuscript, and no images were manipulated using AI. The authors developed and verified all scientific content, data analysis, interpretation of results, and conclusions. The authors take full responsibility for the accuracy, integrity, and originality of the work presented, and no AI tool was listed as an author.

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