International Journal of Veterinary Sciences and Animal Husbandry 2025; 10(3): 360-366

ISSN: 2456-2912
NAAS Rating: 4.61
VET 2025; 10(3): 360-366
© 2025 VET
www.veterinarypaper.com
Received: 02-01-2025
Accepted: 04-02-2025

Dr. Arjuna Appa Rao Adari
Assistant Professor, SGA Government Degree College, Yellamanchili, Andhra Pradesh, India

Ravi Babu Surisetti
Ph.d. Scholar, Transdisciplinary Research Hub, Andhra University, Visakhapatnam, Andhra Pradesh, India

Nacharla S.D. Varalakshmi
B.Sc. (Hons) Student, SGA Government Degree College, Yellamanchili, Andhra Pradesh, India

Gonthina Srilakshmi
B.Sc. (Hons) Student, SGA Government Degree College, Yellamanchili, Andhra Pradesh, India

Surerri Gnanswari
B.Sc. (Hons) Student, SGA Government Degree College, Yellamanchili, Andhra Pradesh, India

Corresponding Author:
Ravi Babu Surisetti
Ph.d. Scholar, Transdisciplinary Research Hub, Andhra University, Visakhapatnam, Andhra Pradesh, India

Impact of dairy farming on socio-economic development and rural empowerment in Anakapalli district, Andhra Pradesh

Arjuna Appa Rao Adari, Ravi Babu Surisetti, Nacharla SD Varalakshmi, Gonthina Srilakshmi and Surerri Gnanswari

DOI: https://www.doi.org/10.22271/veterinary.2025.v10.i3f.2160

Abstract
Dairy farming is a key contributor to rural livelihoods, offering economic stability, employment, and nutritional security. This study evaluates its effect on poverty alleviation and socioeconomic development in the Anakapalli District, Andhra Pradesh, focusing on income generation, employment, and gender equity. A mixed-methods approach was employed, integrating surveys and semi-structured interviews with 275 dairy farmers. Stratified random sampling ensured representation across gender, land ownership, and herd size. Quantitative data were analyzed using descriptive statistics and correlation models, while qualitative insights were thematically synthesized. The results indicate that land ownership significantly influences profitability, with land-owning farmers earning an average monthly revenue of ₹ 18,756 compared to ₹ 13,456 for landless farmers. Herd size positively correlates with income ($r = 0.46$ for cows), while gender discrepancies persist, with women facing restricted access to credit and land. Family involvement enhances productivity but, often affecting children's education. Limited financial access remains a major challenge, with only 46% of farmers obtaining credit. This study emphasizes the need for policy interventions to strengthen the role of dairy farming in sustainable rural development, including gender-inclusive financial access, subsidized credit, and cooperative models. By removing these obstacles, dairy farming can maximize its contribution to long-term rural resilience, and socioeconomic equity.

Keywords: Dairy farming, poverty alleviation, socioeconomic development, empowerment, land ownership, gender equity, smallholder farmers

Introduction
India is the world's largest milk producer, with a production of 230.58 million tonnes in 2022-23, reflecting a 3.83% increase from the previous year (Pandey *et al.*, 2024) [16]. Dairy farming provides substantial employment opportunities, particularly for small-scale farmers and landless laborers, contributing to poverty alleviation. As a critical source of income and employment, dairy farming has immense potential to alleviate poverty, enhance socioeconomic equity, and elevate living standards in rural communities (Espinoza-Ortega *et al.*, 2007). However, despite its significance, dairy farming faces systemic challenges, including low milk yields due to the poor genetic potential of local livestock, socioeconomic barriers such as caste-based marginalization, and gender inequities that restrict access to resources (Krishna *et al.*, 2019) [11]. This study examines the role of dairy farming in poverty alleviation and socioeconomic development, focusing on its impact on income generation, employment creation, and empowerment in rural livestock farming communities.
In Andhra Pradesh, dairy farming has emerged as a key driver of rural livelihoods, with recent studies emphasizing adopting sustainable practices to improve productivity and income (Khan *et al.*, 2012) [10]. Smallholder dairy production is a crucial component of the agricultural economy in many developing countries as it provides a steady source of income and nutrition for rural households (Nimbalkar *et al.*, 2021) [15]. However, the sector faces several constraints, including limited access to feed resources, inadequate veterinary services,

and a lack of training for young entrepreneurs (Sharma *et al.*, 2021). (Roopa & Sharma, 2021) [20]. However, despite these innovations, structural challenges persist. The low genetic potential of indigenous cattle breeds results in suboptimal milk production, while socioeconomic disparities, particularly the marginalization of women, limit access to training, technology, and markets (Khurana & Kandpal, 2023). Women, who constitute a significant proportion of the dairy workforce, often face systemic exclusion from decision-making roles and resource allocation, undermining their ability to leverage dairy farming for economic empowerment (Deepanka *et al.*, 2021) [4] (tha *et al.*, 2017)

Nevertheless, dairy farming remains a transformative force in rural economies. Cooperative models have proven effective in providing financial stability and empowering women, as evidenced by studies showing improved household decision-making and social inclusion among women engaged in daily activities (Nath, 2022) (Jagadeesha, B. 2024) [6]. Furthermore, small-scale dairy farming offers critical economic stability, with scientific practices enhancing milk yields and income for rural communities (Thorpe *et al.*, 1993) [22] (Nyongesa *et al.*, 2016). These benefits underscore the need to address existing barriers and optimize the role of dairy farming in fostering inclusive growth.

This study evaluates the role that dairy farming plays in contributing to socioeconomic development and poverty reduction in the Anakapalii District. To identify ways to overcome obstacles like low productivity, resource inequality, and restricted market access and, to enhance the contribution of dairy farming to sustainable rural development. The findings are intended to assist local stakeholders, development organizations, and policymakers in creating focused interventions.

Objectives of the study

To evaluate the role that dairy farming plays in reducing poverty, to assess its socioeconomic advantages, specifically in terms of employment, income generating, and women empowerment, to recommend evidence-based tactics to enhance the role of dairy farming in rural development.

Material and methods

The socioeconomic impact of dairy farming on rural livelihoods in Andhra Pradesh, Anakapalli District, was evaluated using a mixed-methods approach from November to December 2024. The design combined quantitative and qualitative techniques to analyze socioeconomic dynamics, income trends, and demographic data to provide a comprehensive picture of the contribution of dairy farming to rural development. The study area was chosen because of its agricultural prominence and socioeconomic diversity. which makes it a representative setting for analyzing dairy farming methods in rural India

A stratified random sampling method was used to select 275 rural households engaged in dairy farming, ensuring balanced representation across gender, land ownership status, livestock type (cows, buffaloes, or mixed herds), and herd size (small, medium, or large). This stratification facilitated robust comparisons between subgroups such as male and female farmers, landowners, and landless participants. Data collection involved three primary methods: structured surveys and semi-structured interviews. Surveys gathered quantitative data on demographics, farming practices (e.g., livestock ownership and daily milk production), and economic indicators (e.g., monthly income and household expenditure). Semi-structured interviews captured qualitative insights into challenges like resource access, gender roles, and market barriers, (Table 1)

Table 1: Summary Statistics of Farmer Demographics, Dairy Farming, and Income Data

Parameter	Total Samples	Mean ±S.D	Min	25%	50%	75%	Max
Age of the farmer (Years)	275	46.44±11.83	21	38	45	55	85
Education level of the farmer (0=Illiterate, 1=Below 10th, 2=Intermediate, 3=Graduate)	275	0.57±0.76	0	0	0	1	3
No. of family members	275	3.84±1.44	1	3	4	5	11
Land owned by the farmer (0=No, 1=Yes)	275	0.7±0.46	0	0	1	1	1
No. of cows owned	275	1.67±1.73	0	0	1	2	8
No. of buffaloes owned	275	1.4±1.42	0	0	1	2	6
Daily milk supply to dairy (liters)	275	6.25±6.26	1	3	4	8	50
No. of household members involved in dairy	275	2.19±1.18	0	1	2	2.5	8
No. of children	275	1.94±1.27	0	1	2	2	7
Education level of children (0=Illiterate, 1=Below 10th, 2=Intermediate, 3=Graduate)	275	1.41±1.05	0	1	1	2	3
Monthly revenue from dairy (₹)	275	18756.11±18773.83	3000	9000	12000	24000	150000
Net Profit (20% of Total Revenue) (₹)	275	3751.22±3754.77	600	1800	2400	4800	30000
Income from other sources (₹)	275	13756.59±23773.4	0	0	9000	15000	200000
Total income per month (₹)	275	17507.81±24433.78	600	4600	11800	18000	201200

The quantitative analysis utilized descriptive statistics to summarize key variables, correlation analysis (Pearson's Correlation Coefficient (r)) to explore relationships between factors such as milk supply and revenue, and simple regression models to predict income outcomes based on variables such as herd size and land ownership. Comparative analyses were performed to identify significant differences between the subgroups. Qualitative data from interviews underwent thematic analysis, identifying recurring themes, such as gender inequities and operational challenges. Narrative synthesis integrates qualitative findings with quantitative results to enrich interpretation.

Limitations include potential self-reporting bias in survey responses, the inability of the cross-sectional design to account for seasonal income fluctuations, and challenges in verifying non-dairy income sources. Despite these constraints, the mixed-methods approach provided a comprehensive framework to evaluate the socioeconomic impact of dairy farming in the region.

Results: Demographics and Dairy Farming Engagement

The average age of the 275 rural dairy farmers who participated in the study was 46.4 years Of the participants, 41% were female and 59% were male. Despite the continued male dominance in dairy farming, women play a significant role, particularly in small-scale dairy operations and buffalo rearing. (Table-2)

Table 2: Gender-wise Analysis of Farmers: Monthly Revenue, Milk Supply, and Household Involvement

Farmer Gender	Monthly Revenue	Monthly Revenue	Monthly Revenue	Daly Milk Supply	Daly Milk Supply	Daly Milk Supply	Household Participation	Household Participation	Household Participation
	Mean	S.D	Count	Mean	S.D	Count	Mean	S.D	Count
Female	14690.43	86205.55	109	4.37	3.67	107	2.16	1.13	109
Male	18277.96	15361.29	166	28.72	32.15	165	4.94	2.71	166

Land Ownership and Farming Efficiency

One of the most important factors influencing farming success is land ownership. About 70% of farmers (192 out of 275) had land, which enabled them to raise fodder and better care for their animals. The average monthly income of these landowners was ₹18,756, and they made ₹3,751 (20 percent) in net profit. In contrast, landless farmers experience reduced profit margins and increased operating expenses due to their dependence on outside sources of fodder.

Livestock Ownership and Dairy Production

On average, farmers own 1.67 cows and 1.40 buffaloes, contributing to a daily milk supply of 6.25 liters. Herd size directly correlates with income, as farmers with more livestock consistently report higher revenue. In Andhra Pradesh, crossbreed cows yield an average of 10.37 liters of milk daily, leading to higher profitability than indigenous cattle (Reddy *et al.*, 2024) [19]. However, diminishing returns were observed when herd size increased beyond management capacity, indicating that efficient herd management is as crucial as herd expansion. (Fig.1 & Fig.2)

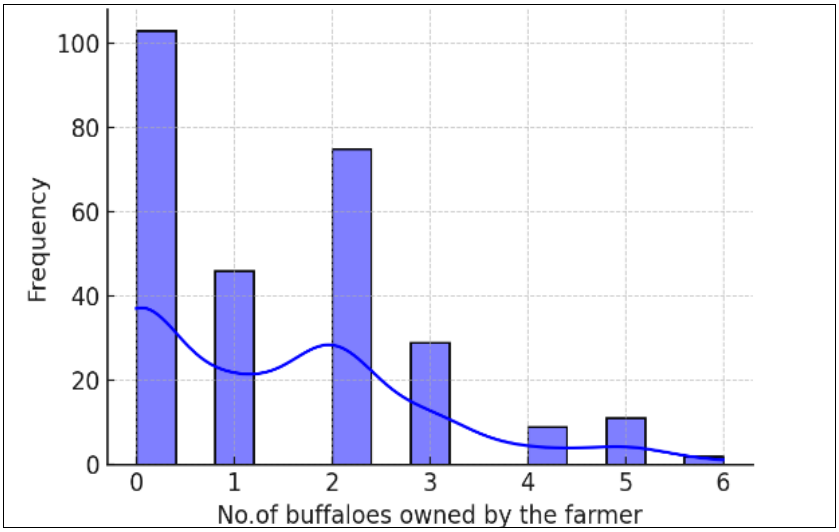

Fig 1: Histogram of No. of buffaloes owned by the farmer

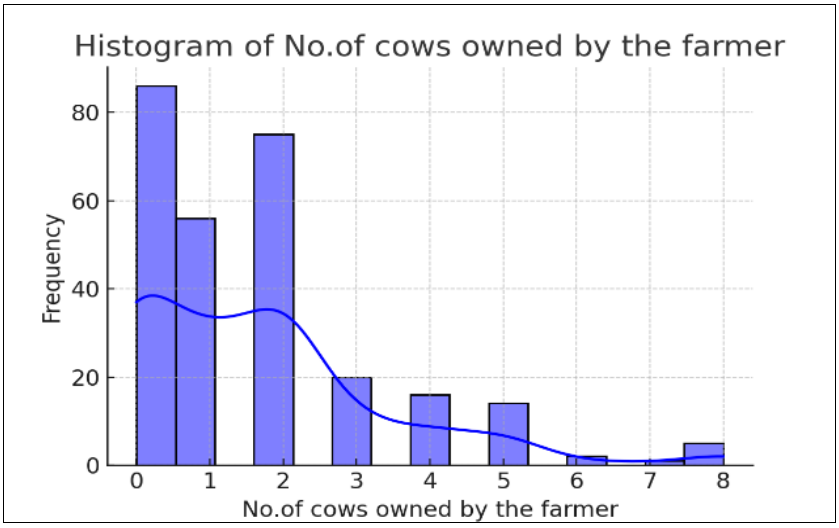

Fig 2: histogram of no. of cows owned by the farmer

Credit Access and Financial Stability
Credit availability remains a challenge, with only 46% of farmers (126 of 275) having access to financial support. Of these, 142 farmers utilized credit, predominantly for operational costs. Credit access was more prevalent among male and land-owning farmers, highlighting the systemic barriers that limit financial support for women and landless dairy farmers.

Household Involvement and Dairy Productivity
An important factor in the effectiveness of dairy farming is family participation. Increased milk production and better livestock management were reported by households with an average of 3-84 people participation in dairy-related activities. By lowering labor costs and enhancing knowledge sharing among families, this collective approach strengthened the value of dairy farming as a family-driven business.

Dairy Farming Experience and Monthly Revenue
A weak positive correlation (r = 0.09) was observed between dairy farming experience and revenue. Although experience contributes to better management practices, it is not the sole determinant of profitability. Factors such as herd size, milk quality, and market conditions play a more significant role in revenue generation. Despite its benefits, dairy farming faces challenges such as low productivity per animal and high feed costs, which account for 71.89% of production expenses (Reddy *et al.*, 2024) [19]. (Fig.3)

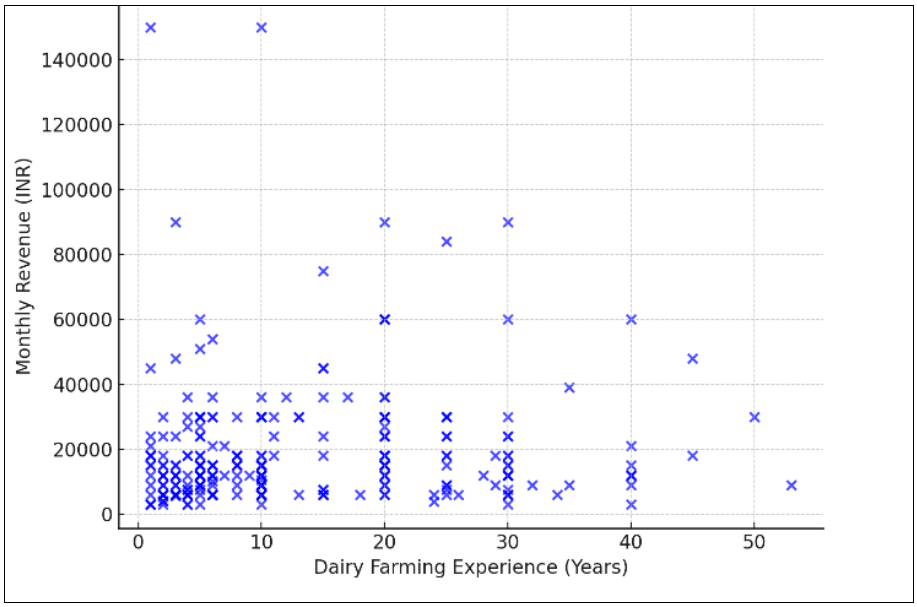

Fig 3: Correlation between Dairy Farming Experience and Monthly Revenue

Livestock Numbers and Revenue
A moderately positive correlation (r = 0.46) was observed between monthly revenue and the number of cows owned, suggesting that herd size has a significant impact on income. Although buffalo milk is more expensive and has a higher fat content, its contribution to overall revenue is marginal, as evidenced by the weaker correlation (r = 0.09) observed for buffalo ownership.

Children's Education and Farmer Income
The correlation coefficient between children's education level and farmer income was weak (r = 0.069), indicating that income alone does not guarantee higher educational attainment. However, higher-income farmers (> ₹20,000 per month) reported their children attaining higher education levels (1.3 on a 0-3 scale), while lower-income farmers (< ₹10,000) had children with lower education levels (0.7 on the same scale).

Land Ownership Impact: Land-owning farmers (70% of the sample) had slightly higher educational attainment levels for their children (1.08) than landless farmers (0.92). This finding suggests that land stability allows for better educational investments.

Livestock Burden on Education: Farmers with larger herds (5+ livestock) reported lower education levels for their children (0.85) due to increased labor demands.

Credit Access and Education: Farmers with credit access had children with slightly higher education levels (1.15) than those without (0.94), implying that financial empowerment improves educational outcomes.

Barriers to Productivity and Education
Despite the economic benefits of dairy farming, the following challenges persist:

Women's Limited Access to Resources: Female farmers face systemic barriers to credit access and land ownership, limiting their ability to expand their operations.

Landless Farmers' Struggles
Higher operational costs and lower profits restrict financial growth.

Children's Education Conflicts
Increased labor demand on larger dairy farms often interferes with educational opportunities for children, especially in lower-income households.

Discussion
The socioeconomic dynamics of dairy farming in rural areas are thoroughly examined in this study, Emphasizing the interactions among land ownership, income generation, family involvement, and educational avenues. The results demonstrate the vital role of dairy farming in improving rural

livelihoods but also expose structural obstacles that limit its full potential. The main conclusions and their ramifications are covered below.

Dairy Farming as a Driver of Economic Stability

The data demonstrate that dairy farming significantly contributes to rural income, with an average monthly revenue of ₹18,756 and a net profit margin of 20%. Land ownership emerges as a pivotal factor, with land-owning farmers reporting higher incomes (₹19,231) compared to landless farmers (₹13,456). This disparity underscores the importance of land access in reducing operational costs, such as fodder and grazing expenses and enhancing profitability. These findings align with those of previous studies that emphasize the role of resource availability in optimizing dairy productivity. Conversely, while dairy farming presents numerous benefits, it also faces challenges such as fluctuating milk prices and high feed costs, which can undermine its potential as a stable income source for rural households (Patel & Patel, 2024) [17] (Gowda & Yogish, 2024) [5].

However, the weak correlation between dairy farming experience and monthly revenue (r = 0.09) suggests that experience alone is insufficient to drive significant income improvements. Instead, factors such as herd size and milk production capacity play a more substantial role. Knowledge of good dairy farming practices is crucial for maximizing productivity. Research shows that while many farmers possess basic knowledge, there is a need for targeted training to improve practices and awareness of government support schemes (Singh *et al.*, 2024) [21]. The moderate correlation between the number of cows owned and revenue (r = 0.46) highlights the importance of herd expansion as a strategy for income growth. By contrast, buffalo ownership shows a weaker relationship with revenue (r = 0.09), possibly because of regional market preferences or higher maintenance costs. These insights underscore the need for targeted interventions, such as access to credit and veterinary services to support herd management and productivity.

Family Involvement and Labor Dynamics

On average, 3-84% of household members participate in daily activities, which lessens reliance on outside labor. Land-owning families benefit from higher milk production and better livestock health, but low-income families find it difficult to allocate resources and frequently pull their children out of school to meet labor demands, particularly in landless households. There is a correlation between greater technical efficiency in dairy farming and increased family participation. Despite obstacles, family farms attain medium-to-high levels of efficiency (Ladeira, 2024) [12].

Gender dynamics in dairy farming further reveal systemic inequities. While women constitute 41% of the surveyed farmers, their average milk production (4.40 liters/day) and income (₹12,358/month) are significantly lower than those of male farmers (7.47 liters/day and ₹20,889/month). This disparity reflects limited access to resources, training, and credit among women, as well as their focus on small-scale operations. Women often face challenges in accessing essential resources, such as land, credit, and training, which hampers their productivity (Jagadeesha, 2024) [6] (Mishra *et al.*, 2024) [13]. Implementing gender-focused policies that improve access to resources and training can significantly empower women in dairy farming (Adefila *et al.*, 2024) [1] (Kasim, 2024). (FIG-4) [7].

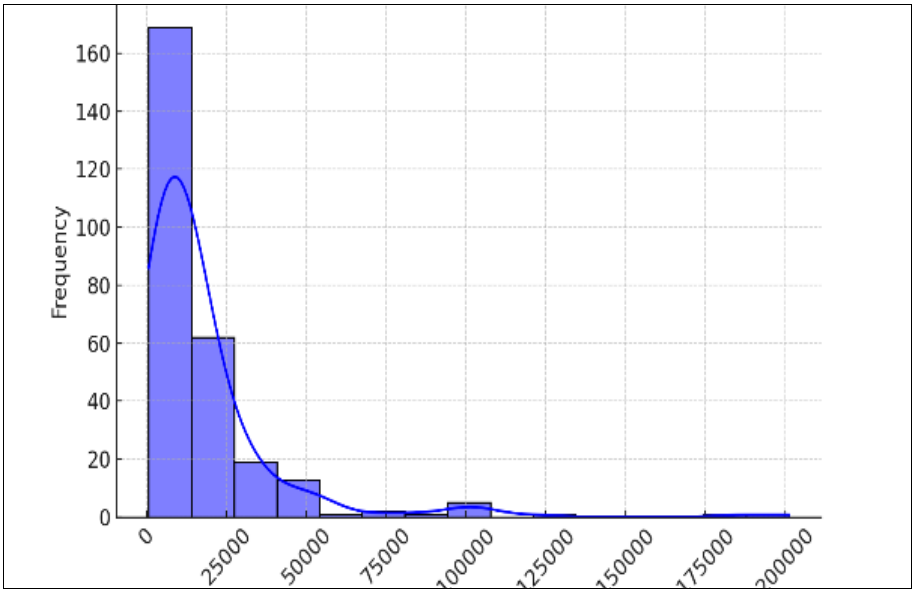

Fig 4: Histogram of total income of the Farmer per Month

Land Ownership and Intergenerational Educational Opportunities

Land ownership plays a transformative role in shaping intergenerational educational outcomes. Land-owning families reported higher incomes and slightly better educational attainment for their children (average score: 1.08) than landless families (0.92). This advantage stems from reduced operational costs, greater financial stability, and access to credit, which enable consistent investment in education. Additionally, family dynamics, including parental involvement and socioeconomic status, are critical factors that influence educational attainment (TP & Bhatnagar, 2024). However, the benefits of land ownership are not universal. Small or fragmented landholdings, debt burdens, and sociocultural norms often dilute its impact, particularly for women and marginalized groups.

The weak correlation between children's education level and farmer income (r = 0.069) suggests that income alone is insufficient to drive educational outcomes. Land ownership correlates with better educational outcomes, as evidenced by the reduced dropout rates following land titling (Chhaochharia *et al.* 2024) [3].

Competing demands, such as labor needs and limited access to advanced schooling, often counteract the benefits of higher income. Addressing these challenges requires holistic interventions, including land reform, subsidized education, and community-based learning programs.

Credit Access and Financial Inclusion

Access to credit is a critical enabler of productivity and income growth in dairy farming. High-income farmers, who are more likely to own land, report greater credit utilization (61%) than low-income farmers (34%). Land ownership provides high-income farmers with collateral and facilitates access to formal credit sources (Rasheed *et al.* 2024) [18]. Credit enables strategic investments in livestock, infrastructure, and education, thus fostering long-term economic stability. Higher education levels among wealthier farmers enhance their understanding of credit options, leading to better utilization (Kaviku *et al.*, 2024) [9]. However, systemic barriers, such as a lack of collateral and risk aversion, constrain credit access for low-income and landless farmers. Low-income farmers often rely on informal credit, which is less stable and may not meet their needs (Ullah *et al.*, 2024) [23]. Targeted financial inclusion programs, such as low-collateral loans and risk-mitigation strategies, could empower these farmers to overcome financial constraints and improve their livelihoods. Credit enables the adoption of advanced technologies, further enhancing farm performance (Kasthuri *et al.*, 2023) [8].

Implications for Policy and Practice

The findings of this study have significant implications for policy and practice. First, interventions aimed at improving dairy productivity should prioritize herd expansion, feed quality, and veterinary care, particularly for landless and low-income farmers. Second. Policies should focus on providing women with equal access to land, credit, and agricultural technology (Adefila *et al.*, 2024) [1]. Third, land reform and credit access programs can unlock the transformative potential of land ownership, enabling consistent investment in education and economic stability. Land reforms significantly increase access to credit (Bogliacino *et al.*, 2023) [2]. Finally, community-based training programs and educational subsidies can bridge the gap between labor demand and educational opportunities, fostering intergenerational progress.

Limitations and Future Research

Although this study provides valuable insights, it has several limitations. The short-term nature of data collection may not capture long-term trends or seasonal variations in dairy productivity. Additionally, the findings are based on a specific population of local Murrah buffalo and crossbred cows which is not generalizable to other breeds or regions. Future research should explore the long-term effects of dairy farming on rural livelihoods, the role of market dynamics in shaping milk prices, and the effects of policy interventions on productivity and income.

Conclusion

In conclusion, dairy farming contributes significantly to generating a steady income and improves rural livelihoods, but structural obstacles like restricted land ownership, credit facilities, and gender disparities prevent it from achieving its full potential. By addressing these issues, rural dairy farmers can become more resilient and inclusive growth by utilizing the transformative potential of dairy farming. Future studies should expand on these results to investigate novel approaches to maximizing socio-economic results and dairy productivity.

Declaration of conflict of interest

The authors declare that there are no known conflicting financial interests or personal relationships

Acknowledgments

We sincerely thank the Principal of SGA Government Degree College, Yellamanchili, and the B.Sc. (Hons.) Zoology students for their invaluable support in data collection. Our heartfelt gratitude also goes to the livestock farmers for their participation and insights, which were crucial to this study.

References

1. Adefila AO, Ajayi OO, Toromade AS, Sam-Bulya NJ. A sociological review of gender equity in agricultural development: global trends and lessons for U.S. policy. Int J Appl Res Soc Sci. 2024;6(11):2658-77. https://doi.org/10.51594/ijarss.v6i11.1694
2. Bogliacino F, Posso C, Villaveces J. Restoring Property rights: The Effects of Land Restitution on access to credit. 2023. https://doi.org/10.31235/osf.io/ch6mk
3. Chhaochharia V, Ghosh S, Vishwasrao S. Property rights and human capital investment. 2024. https://doi.org/10.1016/j.jebo.2023.10.034
4. Deepanka, Singh A, Singh KS, Tiwari M, Rashmi. Decision Making Ability of Women Entrepreneurs Involved in Dairy Farming. Bhartiya Krishi Anusandhan Patrika. 2021;36(1):72-5. doi:10.18805/BKAP258
5. Gowda NM, Yogish SN. An Economic Analysis of Dairy Sector in India with Special Reference to Milk Dairy Co-Operatives in Karnataka. Shanlax Int J Econ. 2024;12(4):55-9. https://doi.org/10.34293/economics.v12i4.8126
6. Jagadeesha B. A Study on Women Economic Empowerment Through Dairy Farming: Issues and Challenges. Shanlax Int J Arts Sci Humanit. 2024;12(S1-Oct):155-9. https://doi.org/10.34293/sijash.v12is1-oct.8299
7. Kasim SS. The Influence of Transforming the Role of Women Farmers on Access to Resources: A Gender Sociology Perspective in Agriculture. J Glob Innov Agric Sci. 2024;:1083-92. https://doi.org/10.22194/jgias/24.1462
8. Kasthuri R, Rajeswari S, Kumarasamy P, Thamilmani R, Sivasubramanian K. Performance of the Agricultural Sector in India Through Farm Credit Accessibility: A Statistical Analysis. In: Springer International Publishing; 2023. p. 797-805. https://doi.org/10.1007/978-3-031-42085-6_69
9. Kaviku AM, Muraya MM, Muchiri JM, Ireri DM. Determinants of microfinance credit uptake and the amount of credit by smallholder dairy cattle farmers in Maara sub-county, Tharaka Nithi County, Kenya. World J Adv Res Rev. 2024;21(3):1953-60. https://doi.org/10.30574/wjarr.2024.21.3.0887
10. Khan M, Peters K, Uddin M. Feeding Strategy For Improving Dairy Cattle Productivity In Small Holder Farm In Bangladesh. Bangladesh J Anim Sci. 2012;38(1-2):67-85. https://doi.org/10.3329/bjas.v38i1-2.9914

11. Krishna S, Bhatnagar M. Role of Family in Educational Attainment and Upward Mobility. 2024. https://doi.org/10.53555/kuey.v30i5.2883
12. Ladeira T. A eficiência técnica da pecuária de leite familiar e seus condicionantes no estado de Minas Gerais. 2024. https://doi.org/10.14393/ufu.te.2024.731
13. Mishra N, Padhy C, Mahanta C, Rath GP, Mallik B, Mishra P. Gender Dynamics and Economic Impacts: The Feminization of Indian Agriculture in India. 2024. https://doi.org/10.9734/ajaees/2024/v42i122626
14. Niketha L, Sankhala KG, Prasad K, Kumar S. Development of an Index to Measure Women Empowerment through Dairy Cooperatives. Int J Curr Microbiol Appl Sci. 2017;6(8):3452-64. https://doi.org/10.20546/ijcmas.2017.608.414
15. Nimbalkar V, Verma HK, Singh J. Dairy Farming Innovations for Productivity Enhancement. IntechOpen; 2022. doi:10.5772/intechopen.101373
16. Pandey S, Mishra S, Jha AK, Pandey HO. An overview of recent dairy schemes revolutionising socio-economic landscape of India. Int J Agric Ext Soc Dev. 2024. https://doi.org/10.33545/26180723.2024.v7.i2d
17. Patel S, Patel P. Profile of farm women involved in dairy occupation and their suggestions to overcome the constraints. Gujarat J Ext Educ. 2024;38(2):111-6. https://doi.org/10.56572/gjoee.2024.38.2.0018
18. Rasheed S, Tabasam N, Anwar J, Jabeen S. Impact of Credit on Agriculture Production in Pakistan: A Review. 2024;1(1):3-13. https://doi.org/10.59324/ejeba.2024.1(1).01
19. Reddy KR, Sen B, Chaudhary UB, Ravishankar U, Singh A. Economic analysis of costs and returns of milk production in Andhra Pradesh. Indian J Dairy Sci. 2024;77(4):379-86. https://doi.org/10.33785/ijds.2024.v77i04.011
20. Sharma S, Singh S, Singh A, Shmi R. Constraints faced by the young entrepreneurs involved in dairying enterprise in semi-arid Dholpur district of Rajasthan. Int J Curr Microbiol Appl Sci. 2021;10:735-41. https://doi.org/10.20546/ijcmas.2021.1001.090
21. Singh AK, Shelar R, Mahesh NS, Singh AK. Assessment of Dairy Farmers' Knowledge Regarding Good Dairy Farming Practices in Uttar Pradesh, India. J Sci Res Rep. 2024;30(11):1009-22. https://doi.org/10.9734/jsrr/2024/v30i112628
22. Thorpe W, Chabari F, Maloo S, Muinga R, Mukhebi A, Mullins G, *et al.* Smallholder dairy cattle production in coastal Kenya: Resource base assessment and constraint identification. In: Gill M, Owen E, Pollott GE, Lawrence TLJ, editors. Animal Production in Developing Countries. BSAP Occas Publ. 1993;(16):167-8.
23. Ullah A, Verner V, Madaki MY, Adams F, Bavorova M. Factors Influencing Informal Credit Access and Utilization among Smallholder Farmers: Insights from Mountainous Regions of Pakistan. Agriculture. 2024;14(10):1764. https://doi.org/10.3390/agriculture14101764

How to Cite This Article
Adari AA, Surisetti RB, Varalakshmi NSD, Srilakshmi G, Gnanswari S. Impact of dairy farming on socio-economic development and rural empowerment in Anakapalli district, Andhra Pradesh. International Journal of Veterinary Sciences and Animal Husbandry. 2025; 10(3): 360-366.

Creative Commons (CC) License
This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-Non Commercial-Share Alike 4.0 International (CC BY-NC-SA 4.0) License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.