WORKING OF DAIRY COOPERATIVES IN BIDAR DISTRICT: INSIGHTS, CHALLENGES, AND RECOMMENDATIONS FOR SUSTAINABLE GROWTH

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ABSTRACT

This study delves into the operations of dairy cooperative societies in Bidar district, shedding light on their critical role in India's dairy industry and their impact on rural livelihoods. With a sample size of 360 members from a population of 5998, the research employs statistical analysis, including Pearson chi-square tests, to investigate various aspects of these societies. Findings reveal high satisfaction levels among members regarding aspects like proper milk sample testing and maintenance of individual accounts. However, significant concerns arise around the effectiveness of election processes, technical support, and animal health services. To address these issues, the study recommends targeted interventions, including enhanced training for animal health services; optimization of the cattle feed supply chain, and improved access to fodder chaffing machines. Furthermore, structured training programs for producers and a reassessment of rates and incentives are proposed. The study also advocates for collaborative strategies to improve milk quality and suggests further research on member preferences concerning milching machines. Measures to streamline complaint resolution processes are deemed crucial. Overall, the implementation of these recommendations promises to fortify the dairy cooperative system in Bidar district, benefiting members and the wider community alike.

***KEYWORDS**: Dairy Cooperative, Cattle & Member Perceptions.*

Introduction

Dairy cooperative societies stand as a cornerstone of India's dairy industry, specializing in milk production and farming. They play a pivotal role in the supply chain, connecting farmers and consumers, and are instrumental in India's position as the world's leading milk producer, contributing to an annual output of 198.40 million tons. These cooperatives significantly impact rural livelihoods, economic empowerment, and nutritional security. This research examines the operations of over 194,000 registered societies with more than 17.22 million member farmers, highlighting their crucial role in India's GDP and as a vital source of livelihood, especially for small and marginal farmers. While facing challenges from urbanization, shifting dietary preferences, and private sector competition, the dairy sector is adapting through policy measures and technological advancements. The study's primary goal is to offer insights and recommendations for strengthening dairy cooperative societies, ensuring their ongoing contribution to rural prosperity and national dairy self-sufficiency. It seeks to address key management issues in both rural and urban economic contexts and develop sustainable strategies for human resource procurement, compensation, evaluation, development, maintenance, integration, and divestment within these cooperatives. The urgency arises from low per capita income, the demand for increased milk availability, and widespread unemployment, prompting initiatives to secure affordable milk supplies for urban consumers and create viable professions for the rural workforce.

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Review of Literature

The literature survey forms a strong foundation for purposeful research, especially in the context of dairy cooperative societies. It highlights the need to identify gaps in current studies. The review encompasses a wide range of sources, focusing on various aspects of cooperative societies, particularly dairy cooperatives in India. Examining 72 research articles provide a detailed understanding of areas like financial performance, member perceptions, challenges, and growth prospects. These studies offer crucial insights into the complexities and significance of dairy cooperatives at regional and national levels. Additionally, analyzing eight doctoral theses delves deeper into governance, sustainability, and operations. However, there is still a research gap regarding dairy cooperative societies in Bidar district. A focused study in this region would not only address this gap but also provide valuable insights for the improvement of dairy cooperatives, potentially benefiting dairy farmers and promoting sustainable agriculture.

Objectives of the Study

The following specific objectives are outlined for this study:

- To understand the perceptions of member milk producers in primary dairy cooperative societies.
- To summarize the findings and extend valuable measures and action programs for the effective functioning of the village milk cooperatives

Research Methodology

The research is based on primary data collected through direct interviews, observations, and structured questionnaires with members of the Milk Producers' Co-operative Societies in Bidar's eight Taluks. A statistically significant sample of 360 members was selected from 5998 using stratified random sampling and Survey Monkey. SPSS was the primary statistical software, and the Pearson chi-square test was widely used to explore relationships between categorical variables. This approach aimed to provide a comprehensive analysis of the performance and functioning of milk producers' cooperative societies in Bidar district.

Hypothesis Testing and Statistical Analysis

The study is underpinned by a set of pivotal hypotheses meticulously crafted to guide our investigation. These hypotheses have been rigorously scrutinized using the Pearson Chi-Square test for compelling insights.

Hypothesis	Types	Description	Tool for Testing
I	Null (H0)	There is no significant relationship between Number of milch animal's rear by the respondents and Perceptions of the respondents towards dairy cooperative societies.	**Pearson Chi-square Test**
	Alternative (H1)	There is a significant relationship between Number of milch animal's rear by the respondents and Perceptions of the respondents towards dairy cooperative societies	

Table 1: Pearson Chi-square Test Calculation

Opinion about Number of Milch animals * Perception towards DCS Cross tabulation							
Count-							
		Perception towards dairy co-operative societies(DCS)					Total
		Strongly Disagree	**Disagree**	**Can't say**	**Agree**	**Strongly Agree**	
Number of milch Animals	Less than 5	9	94	55	23	10	**191**
	05-10	6	58	24	11	9	**108**
	10-15	2	14	14	3	4	**37**
	15-20	0	10	4	0	3	**17**
	Above20	0	1	5	1	0	**7**
	Total	**17**	**177**	**102**	**38**	**26**	**360**

Source: Compiled from primary survey data

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	19.608[a]	16	0.238
Likelihood Ratio	21.661	16	0.154
Linear-by-Linear Association	1.342	1	0.247
N of Valid Cases	360		
a. 12 cells (48.0%) have expected count less than 5. The minimum expected count is .33.			

Interpretation of Hypothesis -1

The Pearson Chi-Square value is 19.608 with 16 degrees of freedom. The corresponding p-value is 0.238. Because the p-value is greater than the significance level of 0.05, there is insufficient evidence to reject the null hypothesis. This implies that there is no statistically significant relationship between the quantity of milch animals currently reared on farms and perception of dairy cooperative societies.

Hypothesis	Types	Description	Tool for Testing
II	Null (H$_0$)	There is no significant relationship between milk produce per day and perceptions of the respondents towards dairy cooperative societies.	**Pearson Chi-square Test**
	Alternative(H$_1$)	There is a significant relationship between milk produce per day and perceptions of the respondents towards dairy cooperative societies.	

Table 2: Pearson Chi-square test calculation

Opinion about Milk produce per day * Perception towards DCS Cross tabulation							
Count-							
		Perception towards dairy co-operative societies(DCS)					Total
		Strongly Disagree	Disagree	Can't say	Agree	Strongly Agree	
Milk produce per day	Less than 10 liters	12	104	51	17	13	**197**
	10-20	4	31	37	14	3	**89**
	20-30	1	28	8	3	6	**46**
	30-40	0	6	3	2	2	**13**
	Above 40	0	8	3	2	2	**15**
	Total	**17**	**177**	**102**	**38**	**26**	**360**

Source: Compiled from primary survey data

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	26.835[a]	16	0.043
Likelihood Ratio	27.651	16	0.035
Linear-by-Linear Association	3.463	1	0.063
N of Valid Cases	360		
a. 12 cells (48.0%) have expected count less than 5. The minimum expected count is .61.			

Interpretation of Hypothesis -2

The above table exhibits that Pearson Chi-Square value is 26.835 with 16 degrees of freedom. The corresponding p-value is 0.043. Because the p-value is less than the significance level of 0.05, there is sufficient evidence to reject the null hypothesis. This implies that there is a statistically significant relationship between daily milk production and perception of dairy cooperative groups.

Hypothesis	Types	Description	Tool for Testing
III	Null (H$_0$)	There is no significant relationship between occupation and perceptions of the respondents towards dairy cooperative societies.	**Pearson Chi-square Test**
	Alternative(H$_1$)	There is a significant relationship between occupation and perceptions of the respondents towards dairy cooperative societies.	

Table 3: Pearson Chi-square Test Calculation

Occupation o the respondents * Perception towards DCS Cross tabulation							
Count-							
		Perception towards dairy co-operative societies(DCS)					Total
		Strongly Disagree	Disagree	Can't say	Agree	Strongly Agree	
Occupation o the respondents	Farmer	12	88	47	17	13	177
	Govt Employee	1	9	9	4	0	23
	Private Job	1	19	4	6	4	34
	Businessmen	0	13	9	3	3	28
	Wage laborer	1	35	19	5	4	64
	other	2	13	14	3	2	34
Total		17	177	102	38	26	360

Source: Compiled from primary survey data

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	19.877[a]	20	0.466
Likelihood Ratio	23.252	20	0.277
Linear-by-Linear Association	0.428	1	0.513
N of Valid Cases	360		
a. 14 cells (46.7%) have expected count less than 5. The minimum expected count is 1.09.			

Interpretation of Hypothesis -3

The above table indicated that Pearson Chi-Square value with 20 degrees of freedom is 19.877. The p-value is 0.466. There is insufficient evidence to reject the null hypothesis because the p-value is substantially higher than the significance level of 0.05. This implies that there is no statistically significant link between occupation and perceptions toward dairy cooperative societies.

Hypothesis	Types	Description	Tool for Testing
IV	Null (H_0)	There is no significant relationship between residential status and perceptions of the respondents towards dairy farming	**Pearson Chi-square Test**
	Alternative(H_1)	There is a significant relationship between residential status and perceptions of the respondents towards dairy farming	

Table 4: Pearson Chi-square test Calculation

Experience in dairy farming * Perception towards DCS Cross tabulation							
Count-							
		Perception towards dairy co-operative societies(DCS)					Total
		Strongly Disagree	Disagree	Can't say	Agree	Strongly Agree	
Experience in dairy farming	Less than 10	3	47	35	9	9	103
	10-20	10	68	34	17	10	139
	20-30	1	15	13	4	2	35
	30-40	3	35	15	6	4	63
	Above 40	0	12	5	2	1	20
Total		17	177	102	38	26	360

Source: Compiled from primary survey data

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	10.078[a]	16	0.863
Likelihood Ratio	10.815	16	0.821
Linear-by-Linear Association	0.888	1	0.346
N of Valid Cases	360		
a. 9 cells (36.0%) have expected count less than 5. The minimum expected count is .94.			

Interpretation of Hypothesis -4

According to the above table, the Pearson Chi-Square value is 10.078 with 16 degrees of freedom. The corresponding p-value is 0.863. There is insufficient evidence to reject the null hypothesis because the p-value is substantially bigger than the significance level of 0.05. This implies that there is no statistically significant relationship between dairy farming experience and perception of dairy cooperative societies.

Table 5: Hypotheses Test Results

Sl.No	Variables	Chi Square Value	P value	Remarks
01	No of cows owned and Dairy cooperative societies	19.608ᵃ	0.238	**Not Significant**
02	Milk production and Dairy cooperative societies	26.835ᵃ	0.043	**Significant**
03	Occupational status and Dairy cooperative societies	19.877ᵃ	0.466	**Not Significant**
04	Experience and Dairy cooperative societies	10.078ᵃ	0.863	**Not Significant**

Source: Compiled from the above test

Findings

The major findings of the research study based on the analysis and interpretation of the research data are as under:

- From the study it is found that majority of respondents (88.61%) either agrees or strongly agree with proper weighting and testing of milk samples.
- From the research, it is clear that 82.94% of the respondents were either satisfied (19.44%) or highly satisfied (62.5%) with the maintenance of individual accounts, suggesting widespread support and a strong belief.
- In the study it is observed that the majority (82.94%) of the respondents are either positive or highly positive with their currect maintenance individual accounts.
- The study indicates that a significant portion (70.28%) of respondents either disagree or strongly disagree with the effectiveness of election and selection processes.
- The study addresses the fact that a significant portion (60%) of respondents strongly disagree with the satisfactory nature of service and technical support provided by dairy cooperative societies.
- The study highlights the significant dissatisfaction (over 88%) among respondents regarding the perceived excellence of services for animal health.
- The present study also revealed that 75% of the respondents expressed dissatisfaction regarding emergency health care services.
- The data indicates a notable dissatisfaction (over 75%) among respondents regarding the quality of services provided during periodic animal health and insemination camps.
- The study reveals that a significant majority (86.38%) of respondents believe that cattle feed is supplied regularly. This high level of satisfaction suggests an effective supply chain.
- The data highlights a significant dissatisfaction (over 53%) among respondents regarding the perceived quality of cattle feed.
- The data indicates a significant dissatisfaction among respondents (over 92%) regarding the supply of fodder chaffing machines. This highlights a critical area that requires immediate attention and improvement.
- The data strongly indicates a concerning lack of frequent training for milk producers, with over 93% of respondents expressing dissatisfaction. This highlights a significant area for improvement to enhance the knowledge and skills of milk producers.
- The data indicates a notable dissatisfaction with the current milk rates and union incentives, with over 75% of respondents expressing discontent.
- The study discloses that there is a lack of consensus among respondents regarding the effectiveness of penalties for low-quality milk. A significant proportion (53.05%) strongly disagree with this approach.

- The majority of respondents (73.6%) express satisfaction with the timely payment system. This indicates that a substantial portion of members find the current payment process effective.
- The research study indicates that a significant portion of respondents (79.2%) either strongly disagree or disagree with the provision of milching machines to milk producers.
- The present investigation reveals that a substantial proportion of respondents (63.6%) either strongly disagrees or disagree with the timely resolution of dairy cooperative complaints.

Suggestions

In light of the findings, a comprehensive set of recommendations emerges to strengthen the dairy cooperative system in the district. These suggestions encompass various aspects, including financial stability, member engagement, infrastructure enhancement, and quality improvement. Prioritize training and resources for animal health services, and seek member feedback for improvement.

- Prioritize training and resources for animal health services, and seek member feedback for improvement.
- Assess cattle feed supply chain and quality control measures to optimize livestock health and productivity.
- Evaluate and enhance supply chain for chaffing machines to facilitate better fodder management.
- Implement structured training program for producers to improve dairy practices and output.
- Reevaluate rates and incentives to better align with milk producers' expectations and needs.
- Engage stakeholders to understand concerns and explore alternative strategies for improving milk quality.
- Conduct surveys to understand member preferences regarding milching machines.
- Analyze existing procedures to address member concerns efficiently; establish feedback mechanisms for improvement.
- Foster cooperation among stakeholders, invest in transportation and storage, and provide training on quality assurance in milk procurement.
- Advocate for government support, provide director training, and modernize technological infrastructure; improve remuneration and working conditions.
- Secure additional capital, provide financial education, negotiate reasonable audit fees, and address membership termination issues for financial stability.
- Invest in employee training, provide necessary facilities, and explore full-time employment options for efficiency and productivity.
- Implement transparent and ethical practices, ensure adequate fodder supply, enhance medical facilities, and enforce measures against harmful practices for overall improvement and sustainability of the dairy cooperative system.

Conclusion

In conclusion, the comprehensive study has revealed significant insights into the functioning of dairy cooperative societies in the Bidar district. The findings indicate a generally positive sentiment towards aspects like the proper weighting and testing of milk samples, as well as the maintenance of individual accounts. However, there are notable areas of concern, particularly in the effectiveness of election and selection processes, technical support, and animal health services. The study underscores the urgent need for targeted interventions to address these issues. Recommendations have been provided to improve training and resources for animal health services, enhance the cattle feed supply chain, and address concerns regarding the supply of fodder chaffing machines. Additionally, structured training programs for producers and a reevaluation of rates and incentives are essential. The study advocates for collaborative approaches to improve milk quality and calls for further research on member preferences regarding milching machines. Moreover, measures to enhance the efficiency of complaint resolution processes are crucial. Overall, the implementation of these recommendations can lead to a more robust and sustainable dairy cooperative system in the Bidar district, benefiting both members and the broader community.

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