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Constraint Analysis and Suggestion of Respondents Regarding Dairy Management Practices in Semi-Urban and Rural Areas

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

India needs to increase milk production which can be possible by narrowing down the gap between the existing technology and their adoption. Ensuring domestic demand and enduring top most position in the world, India needs to produce 300-400 million tones of milk by 2050 (Vision 2050, 2015). The dairy is a business which provides the continuous source of income to the occupants and in case of landless person who are economically week, livestock farming is a better option. The

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research was based on a survey done in 2022-23 to analyzing constraint and suggestion of respondents regarding dairy management practices in semi-urban and rural areas of Fatehpur district in Uttar Pradesh. 15 respondents from each selected semi-urban and rural villages were randomly selected to constitute 120 samples (60 semi-urban + 60 rural). The perceived constraints have been studies under different aspects like: personal constraints, economical constraints, technological constraints and marketing constraints. The semi-urban respondents has perceived most serious type constraints viz., lack of poor economic condition of farmers, dysfunctional of animal insurance schemes, A.I. and BAIF centers are away from the village, lack of remunerative milk prices. Whereas rural respondents has perceived most serious type constraints viz., lack of interest of other family members, veterinary medicines are very costly for treatment of sick animals, A.I. and BAIF centers are away from the village, poor transportation also affects adversity in proper disposal of milk products. Suggestions as perceived by semi-urban respondents *viz*., 'educational programmes regarding cattle breeds improvement for higher milk production should be initiated' was ranked first whether in case of rural dairy farmers 'government must provide marketing facilities at village level for selling the milk and milk products' was ranked first.

Keywords: Constraint; dairy; management; rural; semi-urban and suggestion.

1. INTRODUCTION

The scarcity of land in urban areas makes peri-urban dairy farms zero grazing type and farms are protected by a fence which restricts free movement of dairy animals (Tumutegyereize et al., 2019). An easily accessible market is one of the major advantages of these farms to increase their sale and making a profit (Bohra et al., 2004). Peri-urban dairy farms have a low performance in shelter management, nutrition and animal health management practices, space constraint, unawareness about planned systemic breeding practices, unavailability of green fodder, and unavailability of refrigerated storage, constraints in dung disposal and timely vaccination of animals (Acharya *et. al*., 2022). The livestock sector has a good growth potential. However, further growth of the sector is mainly dependent upon availability of fodder and breed improvement. One of the major challenges is huge shortage of fodder, more so during drought situations and in summer. Therefore there is ample need to encourage dairy farmers especially youth to actively participate in awareness programmes for getting better knowledge about utilization of government schemes (Ramset et al., 2022). The best dairy farmer is to engage themselves in gainful employment by entrepreneurial skills and becoming independent entrepreneurs. Cattle rearing are considered to be an important tool of socio-economic transformation to rural people, especially lower class people. on the part of semi-urban farmers and rural dairy farmers. Indian dairy sector has undergone several changes since the advent of the white revolution and becoming a world front-runner in terms of milk production and the dairy sector is providing employment opportunities to a massive population (Aski & Hirevenkanagoudar, 2010; Das, et al., 2020; Mandi et al., 2022). In this respect, ensuring domestic demand and enduring top most position in the world, India needs to produce 300-400 million tonnes of milk by 2050 (Vision 2050, 2015). For achieving this target a sustainable balance between dairy management practices, sustainable livelihood and environmental practices is need of the hour (Alvez et al., 2013). The present research paper is focused on 'analyzing constraint and suggestion of respondents regarding dairy management practices in semi-urban and rural areas'. The dairy is a part of system which provides the continuous source of income to the occupants. In case of landless person who are economically week, livestock farming is a better choice (Chakurkar et al., 2008).

2. METHODOLOGY

The research was based on a survey done in 2022-23 in order to 'analyzing constraint and suggestion of respondents regarding dairy management practices in semi-urban and rural areas of district Fatehpur of Uttar Pradesh that was selected randomly under descriptive reaearch design'. The process of area and respondents selection were as; At the first stage the list of all the semi-urban villages situated near the pacca road within 5 K.M. from Nagar Palika boundary of district headquarter were selected then four semi-urban villages namely; Bilanda, Gajipur, Ashothar and Haswa has selected randomly from the Fatehpur district of Uttar Pradesh state were selected purposively for

the study. In the same manner, four villages namely Chhichni, Ramwa, Ekari and Fatehpur city situated beyond 05 kilometers from Nagar Palika boundary of the same district and state were selected purposively for the study. At last stage of sampling, 15 respondents from each selected semi-urban and rural villages were selected randomly to constitute 120 samples (60 semi-urban + 60 rural) respondents were dairy farmer. Data were collected by researcher through an interview schedule method by open ended response of respondents. An appropriate statistics measures percentage & rank order has been used to draw inferences.

3. RESULTS AND DISCUSSION

Constraints

1. To compare of perceived constraints about dairy farming practices among semi-urban and rural dairy farmers.

The perceived constraints have been studies under different aspects like: Personal constraints, economical constraints, technological constraints and marketing constraints:

A. Personal Constraints:

The Table 1 indicates the personal constraints in case of semi-urban dairy areas 'lack of poor economic condition' ranked first followed by 'lack of interest of other family member' ranked second and 'the women do not come out from the houses for taking care the animals' ranked third and so on as for each constraints in descending order. Whether in case of rural dairy areas 'lack of interest of other family member' ranked first followed by 'the women do not come out from the houses for taking care the animals' was ranked second and 'lack of poor economic condition of farmers' ranked third and so on as for each constraints in descending order. The score values for each constraints indicate the seriousness which had considerable contribution and towards low adoption.

B. Economical constraints:

The Table 2 indicates the economical constraints in case of semi-urban dairy farmers *viz*., 'Dysfunctional of animal insurance schemes' was ranked first followed by 'improved milch cattle are costly to purchase' was ranked second and 'the inputs (concentrates and minerals etc.) are very costly to maintain animal health' was ranked third and so on as for each constraints in descending order. Whether in case of rural dairy farmers 'veterinary medicines are very costly for treatment of sick milch cattle' was ranked first followed by 'improved milch cattle are costly to purchase' was ranked second and 'poor purchasing power of the dairy farmers' was ranked third and so on as for each constraints in descending order.

C. Technological Constraints:

The Table 3 indicates the technological constraints in case of semi-urban dairy farmers *viz*., 'AI and BAIF centers are away from the village which causes failure in timely AI for cattle breed improvement' was ranked first followed by 'lack of contact of veterinary personnel' was ranked second and 'improved breed are not available in nearby market' was ranked third and so on as for each constraints in descending order. Whether in case of rural dairy farmers 'AI and BAIF centers are away from the village which causes failure in timely AI for cattle breed improvement' was ranked first followed by 'lack of knowledge about cattle breed improvement for higher milk production' was ranked second and 'lack of contact of veterinary personnel' was ranked third and so on as for each constraints in descending order.

D. Marketing Constraints:

The Table 4 indicates the technological constraints in case of semi-urban dairy farmers *viz*., 'lack of remunerative price milk' was ranked first followed by 'perishable nature of milk compel to the farmers for selling their milk at any lower cost 'was ranked second and 'dominance of intermediaries in dairy market' was ranked third. Whether in case of rural dairy farmers 'poor transportation also affects adversity in proper disposal of the milk and milk product' was ranked first followed by 'dominance of intermediaries in dairy market' was ranked second and 'lack of proper marketing channels' was ranked third and so on as for each constraints in descending order. Constraints have been studies under different aspects have been supported by Reddy et al. 2003,; Kalra et al. 2008 and Chakurkar et al. 2008.

Table 1. Distribution of respondents according to their personal perceived constraints (n=120)

S.No.	Personal Constraints	Respondents					
		Semi-urban Areas			Rural Areas		
		Number	%	Rank order	Number	%	Rank order
1.	Lack of interest of other family members.	31	51.66	II	40	66.66	I
2.	The women do not come out from the houses for taking care the animals.	20	33.33	III	32	53.33	II
3.	Youngsters do not support in dairying.	19	31.66	IV	25	41.66	IV
4.	Lack of poor economic condition of farmers.	40	66.66	I	30	50.00	III
5.	Lack of space for preparing shed.	18	30.00	V	20	33.33	V
6.	Lack of scientific knowledge about dairy farming technology.	15	25.00	VI	18	30.00	VI

Table 2. Distribution of respondents according to their personal perceived economical constraints (n=120)

S.No.	Economical Constraints	Respondents					
		Semi-urban Areas			Rural Areas		
		Number	%	Rank order	Number	%	Rank order
1.	Poor purchasing power of the dairy farmers.	20	33.33	V	22	36.66	III
2.	Improved milch cattle are costly to purchase.	26	43.33	II	25	41.66	II
3.	Veterinary medicines are very costly for treatment of sick animals.	18	30.00	IV	30	50.00	I
4.	The inputs (concentrates and minerals etc.) are very costly to maintain animal health.	22	36.66	III	15	30.00	V
5.	Lack of support for dairy enterprises from government side.	15	25.00	VI	19	31.66	IV
6.	Dysfunctional of animal insurance schemes.	28	46.66	I	10	16.66	VI

Table 3. Distribution of respondents according to their personal perceived technological constraints (n=120)

S.No.	Technological Constraints	Respondents					
		Semi-urban Areas			Rural Areas		
		Number	%	Rank order	Number	%	Rank order
1.	Lack of knowledge about cattle breed improvement for higher milk production.	20	33.33	IV	35	58.33	II
2.	Improved breed are not available in nearby market	25	41.66	III	30	50.00	IV
3.	Lack of contact of veterinary personnels.	27	45.00	II	32	53.33	III
4.	A.I. and BAIF centers are away from the village which causes failure in timely AI for cattle breed improvement.	45	75.00	I	38	63.33	I
5.	More mortality of calves due to unavailability of timely treatment.	18	30.00	V	22	36.66	V

Table 4. Distribution of respondents according to their personal perceived marketing constraints (n=120)

S.No.	Marketing Constraints	Respondents					
		Semi-urban Areas			Rural Areas		
		Number	%	Rank order	Number	%	Rank order
1.	Lack of remunerative price of milk.	38	63.33	I	25	41.66	V
2.	Lack of proper marketing channels.	15	25.00	V	34	56.66	III
3.	Poor transportation also affects adversity in proper disposal of milk and milk products.	11	18.33	VI	40	66.66	I
4.	Dominance of intermediaries in dairy marketing.	20	33.33	III	35	58.33	II
5.	Lack of cooperative milk collection network.	19	31.33	IV	27	45.00	IV
6.	Perishable nature of milk compel to the farmers for selling their milk at any lower cost.	22	36.66	II	16	26.66	VII
7.	Lack of storage facilities for milk and milk products.	10	16.66	VII	22	36.66	VI
8.	Monopoly of intermediaries in price fixation of milk and milk products.	07	11.66	VIII	10	16.66	VIII

Table 5. Distribution of respondents according to their personal perceived suggestion (n=120)

S. No.	Suggestions	Respondents					
		Semi-urban Areas			Rural Areas		
		Number	%	Rank order	Number	%	Rank order
1.	Government must provide marketing facilities at village level for selling the milk and milk products.	23	38.33	VIII	40	66.66	I
2.	Animal health clinic should be established nearest to village.	19	31.66	X	35	58.33	III
3.	Remunerative prices for milk and milk products should be insured.	25	41.66	VII a	15	25.00	X c
4.	Government must provide sufficient credit facilities for purchasing animals.	15	18.00	XII a	20	33.33	VIII
5.	Improved breeds should be made available in nearby markets.	32	53.33	III	21	35.00	VII
6.	Educational Programmes regarding cattle breeds improvement for higher milk production should be initiated.	45	75.00	I	27	45.00	IV
7.	Vaccination at proper intervals should be done through AHC centers.	27	45.00	VI	22	36.66	VI
8	Collection of milk from door step should be initiated with milk cooperatives.	16	26.66	XI	10	16.66	XII
9.	Social campaigns regarding vaccination should be conducted in village.	34	56.66	II	26	43.33	V
10.	Government insurance scheme for animals should be provided easily.	12	20.00	XIV	16	26.66	IX
11.	Veterinary doctor should approach the village frequently.	20	33.33	IX	37	61.66	II
12.	Government with dairy farmers should fix prices of animal.	28	46.66	V	15	25.00	X a
13.	Proper marketing channels should be involved by the government so that monopoly of intermediaries can be minimized.	30	50.00	IV	12	20.00	XI a
14.	Incentives should be given to cooperative movement.	15	25.00	XII b	12	20.00	XI b
15.	Storage facilities for milk & milk products should be provided at village level.	14	23.33	XIII	15	25.00	X b
16.	More AI & BIAF centers should be opened for easy approach.	25	41.66	VII b	20	33.33	VIIIb

Suggestions:

2. To compare of perceived suggestions about dairy farming practices among semi-urban and rural dairy farmers.

The Table 5 envisages the suggestion to overcome the constraints as perceived by semi-urban dairy farmers about dairy farming practices in rank orders *viz*., 'educational programmes regarding cattle breeds improvement for higher milk production should be initiated' was ranked first followed by 'social campaigns regarding vaccination should be conducted in village' ranked second and 'Improved breeds should be made available in nearby markets' ranked third and so on so forth respectively. Whether in case of rural dairy farmers 'government must provide marketing facilities at village level for selling the milk and milk products' was ranked first followed by 'veterinary doctor should approach the village frequently' ranked second and 'animal health clinic should be established nearest to village' ranked third and so on so forth respectively; similar finding has been reported by Kumar et al*.,* 2006. Constraints could be eliminated by supply of good dairy animals by the cooperative societies and the local livestock breeders, supply of superior drought resistant fodder seed, chaff cutters and fertilizers by different government and non government developmental agencies and prompt payment for milk by the processing agencies (Reddy et al*.* 2003).

4. CONCLUSION

It was reported from the research that the constraints and suggestion perceived by both type respondents (semi-urban and rural dairy farmer) are quite different on the basis of expressed seriousness in score value and rank order are not in same order, which showed a gap (dairy management practices) among semi-urban and rural dairy therefore respondents now it is required to carry out awareness and training programmes in semi-urban and rural areas regarding improved/exotic cattle breed, nutrition, health care, Artificial insemination/ and veterinary doctor approach. Black and Panchayat levels officials have to motivate to youth to form a milk and milk product collection center in each village panchayat from where the cooperative societies may collect the milk. It is emphasizing that the Krishi Vigyan Kenda, Animal Husbandry Department, ATMA, etc. have to organized holistic awareness and training programmes from dairy management practices to milk disposal process.

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc) and text-to-image generators have been used during writing or editing of this manuscript.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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