



P-ISSN: 2349-8528

E-ISSN: 2321-4902

IJCS 2019; 7(6): 2035-2038

© 2019 IJCS

Received: 19-09-2019

Accepted: 21-10-2019

SY Ingle

Researcher, Student,
Dr. Panjabrao Deshmukh Krishi
Vidyapeeth, Akola,
Maharashtra, India

MA Raut

Agricultural Assistant,
Vasantrao Naik Marathwada
Krishi Vidyapeeth, Parbhani,
Maharashtra, India

BN Hingane

Agricultural Assistant,
Vasantrao Naik Marathwada
Krishi Vidyapeeth, Parbhani,
Maharashtra, India

Dr. NM Kale

Research Guide & Associate
professor, Dept. of Extension
Education, Dr. Panjabrao
Deshmukh Krishi Vidyapeeth,
Akola, Maharashtra, India

The nature and extent of technological gap between the recommended and existing dairy management practices

SY Ingle, MA Raut, BN Hingane and Dr. NM Kale

Abstract

The study entitled “Technological gap in dairy management practices.” was purposively conducted in Akola district of Vidarbha region. The study was conducted in Akola, Barshitakli and Balapur tahsils. The sample constituted 120 dairy farmers drawn from 3 milk collection centres. The exploratory design of social research was used. As regards the dependent variable, majority (86.67%) of the respondents were in the category of ‘medium’ technological gap, while 8.33 per cent were in ‘low’ category and 5.00 per cent were observed in ‘high’ category technological gap. The average technological gaps of respondents were 48.37 per cent which indicated ‘medium’ gap. Thus, it is obvious that on an average, five out of every ten recommended practices were not adopted by the dairy farmers.

Among the selected variables annual income land holding, herd size and type of breed were negatively and highly significantly correlated with the technological gap of dairy farmers. Whereas the variable age, education, family size, cropping pattern, economic motivation, scientific orientation, information seeking behavior, access to animal health facility and knowledge were non significant with technological gap of dairy farmer.

Keywords: Nature, extent, technological gap, dairy management

1. Introduction

In the economy of world, highest milk producing nation i.e. India contributes 6.7 per cent to agricultural GDP in various ways viz., milk, meat, drought power, dung and byproducts. In India several livestock species are reared under crop livestock integrated farming system. Indian dairying is characterized by small, scattered milk production. Dairying has come to be India’s largest self-sustaining rural employment programme. India owns one of the largest livestock populations in the world (485 million). It accounts for 16 per cent cattle population and 57 per cent buffalo population of the world. Livestock are the source of various products like milk, meat, bones horns, skins etc. which can be used to produce a variety of byproducts. Manufactures can be used as a source of nutrient (Anonymous, 2010) [2]. Livestock plays an important role in Indian economy. Animal husbandry output constitutes about 30 per cent of countries agricultural output. Livestock sector provide regular employment to 11 million in principles status and 9 million in subsidiary status (Nitnaware, 2004).

The importance of livestock industry in Indian agricultural economy is quite well known. Livestock contribute to a very large extent to the prosperity of millions of Indians. With the initiation of phased economic development programmes in India in the form of five years plan, development of livestock is now receiving better attention. Livestock industry however, plays very important role in the economy of Indian farmers. Economic growth with social justice is the national commitment. Significant advances have been made and considerable successes have been achieved in food production in country. But, majority of our farm population lives on uneconomic size of land holding and as such continue to below poverty line. Basic question is how to improve their economic conditions to fulfill the national commitment. Dairy farming is most befitting enterprise in this regard. Dairy farming not only provides employment opportunity, but also income generating support to the people for a wealthy society and lifestyle.

Dairy is an integral part of rural agricultural economy. It is a potential source of gainful employment generating additional income to rural poor, dairy farmers, and particularly landless farm labourers, marginal and small farmers who are resource deficit. Dairy has

Corresponding Author:

SY Ingle

Researcher, Student,
Dr. Panjabrao Deshmukh Krishi
Vidyapeeth, Akola,
Maharashtra, India

provided strong support to farmers. In order to encourage more and more people to take up dairy as an enterprise, it is essential that milk production becomes an economic proposition.

1.1 Objectives

- To determine the nature and extent of technological gap between the recommended and existing dairy management practices.

1.2 Methodology

An exploratory design of social research will be useful for present study aims at assessing the technological gap in dairy management practices. The study was conducted in Akola, Balapur and Barshitakli Panchayat Samiti of Akola district of Vidarbha region of Maharashtra State.

A list of dairy farmers was obtained from the respective milk collecting centres. A dairy farmer means a farmer maintaining dairy animals for milch purpose and sell milk to milk collecting centres. Out of each village ten respondents were selected. Thus, a sample of 120 dairy farmers was drawn for study.

Table 1: List of village wise respondents for the study

Sr. No.	Tahsils	Villages	Respondents
1	Barshitakli	Ghota	10
		Kanheri (Sarap)	10
		Alanda	10
		Wijora	10
2	Akola	Loni	10
		Kumbhari	10
		Dongargaon	10
		Anwi (Mirzapur)	10
3	Balapur	Nimkarda (Takli)	10
		Batwadi	10
		Paras	10
		Kalamba (Kasura)	10
		Total	120

2. Results

2.1 Technological gap

2.2.1 Practice wise technological gap

The data with regard to practice wise technological gap of the respondents are presented in Table 2.

Table 2: Distribution of the respondents according to the practice wise technological gap in dairy management practices

Sr. No.	Recommended practices	Technological gap (%)
1. Housing management		
	Pucca housing structure for cattle	64.58
	Disinfectants like phenyl should be sprayed in the byre regularly.	61.83
	Availability of ventilation facility	61.67
	Head to head/tail to tail system	91.67
	Direction of shed(north-south)	74.67
	Availability of electricity	30.83
2. Breeding practices		
	Cross-breeds should be preferred for dairy purpose.	66.25
	After A.I. cow/buffalo placed one day for rest	26.67
	Heifer/cow should be inseminated at 10-12 hrs. after estrus period.	32.50
	Cow/buffalo should be dried at 6 to 8 weeks before calving.	44.17
	The 50 per cent cross-breeds type should be selected.	39.17
3. Milking management		
	The animal washed before milking	62.91
	Hands of the milker should be clean and dry. Wet hand milking may	10.83
	Milking barns should be well ventilated free from flies	37.50
	Milk is kept in cool place to maintain the flavor and keeping quality	46.67
	Full hand milking method should be practiced for milking.	85.83
	Milking should be done gently, quickly and completely.	25.00
4. Calves management		
	Immediately after birth remove any mucous or phlegm from those nose	22.08
	Naval cord of newly born calf should be cut 2 inches from the body and apply tincture iodine on cut portion.	35.83
	Feed colostrum i.e. the first milk of the cow for the first 3 days. The Colostrum is thick and viscous. It contains higher proportions of Vit A	10.83
	The limit of liquid milk feeding is 10% of its body weight with a maximum	72.50
5. Management of pregnant animal		
	Separate shed for pregnant animal	66.67
	Kept in plane area	18.33
	After 7 month additional ration should be given at 1.5 to 2 kg./animal	37.50
	Stop milking before 2 months of delivery of animal	58.33
	Preventive measures should be done to control ectoparasites like ticks, flies, lice and mosquitoes etc.	70.83
6. Feeding management		
	Colostrum should be fed to newly born calf @ 10% of its body weight.	47.08
	Milk and concentrates should be fed to calves @ 10 per cent of body weight and 500 gm respectively upto 3 months age.	81.67
	Feeding of 1 kg bajra, 250 gm. of gul+100 gm coconut+50 gm salt should be given upto 2 to 3 days after delivery.	53.33
	Lactating animals should be fed daily with 15 kg green fodder, 4 kg dry fodder and 2 kg concentrates for body maintenance + 50 per cent concentrates allowance of total milk production.	85.83
	Pregnant cows/buffaloes should be fed with additional allowance of 1.5 to 2 kg concentrates during it's	22.50

	advance pregnancy period.	
7. Animal bio-waste management		
	Use of dung for manure	00.00
	Use of dung for fuel/gas	16.25
	Use for vermicompost	72.50
	Use of waste fodder for preparation manure.	16.67
8. Water management		
	Daily drinking of 30-40 lit. of water to an animal	00.00
	Well prepared water tank for animal near shed	70.83
	Abundant supply of fresh, clean and soft water should be available at a cheap rate.	18.33
	Provide quality water which is as fresh as possible at least twice a day (preferably in the morning and evening).	00.00

From Table 2, it was observed that in respect of housing management majority (91.67%) of technological gap found in head to head/tail to tail system adoption. Followed by 74.67 per cent technological gap found in construction of shed north-south direction, 64.53 percent of technological gap found in construction of pucca house for cattle. Minimum (30.83%) technological gap observed in availability of electricity in animal shed.

In breeding management practices, 66.25 per cent technological gap found in adoption cross-breeds preferred for dairy purpose. 44.17 per cent technological gap found in adoption cow/buffalo dried at 6 to 8 weeks before calving. Less than one third (32.50%) of technological gap found in adoption heifer/cow inseminated at 10-12 hrs. after estrus period and more than one third (39.17%) of technological gap found in adoption of 50 per cent cross-breeds type selected for dairy purpose.

In milking management, maximum (85.83%) technological gap found in adoption of full hand milking method practice for milking. 62.91 per cent and 46.67 per cent technological gap found in adoption of animal washed before milking and kept milk in cool place to maintain the flavor and keeping quality, respectively. More than one third (37.50%) of technological gap found in adoption of well ventilated and free from flies of milking barns.

In calves management 72.50 per cent of technological gap found in adoption of liquid milk feeding @ 10% of calves body weight with a maximum. Minimum (10.83%) of technological gap found in adoption of feeding of colostrums i.e. the first milk of the cow for the first 3 days to calves.

In management of pregnant animal, 70.83 per cent of technological gap found in adoption of preventive measures done to control ectoparasites like ticks, flies, lice and mosquitoes etc. more than two third (66.67%) of technological gap found in adoption of separate shed for pregnant animal and more than half (58.33%) of technological gap found in adoption of 'stop milking before 2 months of delivery of animal'.

In feeding management, maximum (85.83% and 81.67%) of technological gap found in adoption of 'daily feeding of 15 kg green fodder, 4 kg dry fodder and 2 kg concentrates for body maintenance + 50 per cent concentrates allowance of total milk production to lactating animals' and 'milk and concentrates should be fed to calves @ 10 per cent of body weight and 500 gm, respectively upto 3 months age'. More than half (53.33%) of technological gap found in adoption of 'Feeding of 1 kg bajra, 250 gm. of gul+100 gm coconut+50 gm salt should be given upto 2 to 3 days after delivery'.

In animal bio-waste management, 72.50 per cent of technological gap found in adoption of manure for preparation of vermicompost. There was no technological gap found in use of dung for manure purpose.

In water management, 70.83 per cent of technological gap found in adoption of well-prepared water tank for animal to near shed. There was no technological gap found in daily drinking of 30-40 lit. of water to an animal and provide quality water which is as fresh as possible at least twice a day (preferably in the morning and evening).

2.2.2 Overall technological gap

The data in respect of the technological gap regarding all the recommended dairy management practices together are grouped into three categories as shown in Table 3, on the basis of overall technological gap.

Table 3: Distribution of the respondents according to the overall technological gap

Sr. No.	Categories	Frequency(n=120)	Percentage
1	Low (up to 33.33)	10	08.33
2	Medium (33.34 to 66.66)	104	86.67
3	High (above 66.66)	06	05.00
	Total	120	100.00

It is noticed from Table 3. That, majority (86.67%) of the respondents were in the category of 'medium' technological gap, while 8.33 per cent were in 'low' category and 5.00 per cent were observed in 'high' category technological gap. The average technological gaps of respondents were 48.37 per cent which indicated 'medium' gap. Thus, it is obvious that on an average, five out of every ten recommended practices were not adopted by the dairy farmers.

3. Implications

1. The study has brought forward the personal and socio-economic characteristics of the dairy farmers. However, a further probe is suggested to undertake comparative study of the adopters and non-adopters of improved dairy management practices. Such study would help in making the job of extension worker easier and would also save their time.
2. The findings in respect of dairy management practices followed by the dairy farmers revealed that majority of the farmers have adopted the recommended practices partially. It is, therefore, necessary to convince the utility of recommended practices by way of various extension education methods like demonstrations, slide shows, visits to ideal dairy farms etc. In this context, agricultural extension wings need to be strengthened at all the levels.
3. It was found that farmer's could not manage the dairy farms effectively because of some constraints. Unavailability of quality green fodder, unavailability of irrigation facilities, high cost of concentrates. This implies that there is need of collaborating the efforts of all the concerned agencies in solving the problems, so as

to increase the overall status of dairy industry in Vidarbha region.

- The study has also pointed out the personal and socio-economic characteristics that have been significantly contributing in minimizing the technological gap in respect of dairy management practices. The dairy development workers may make use of these findings and help the dairy farmers in managing their dairy enterprise most efficiently.

4. References

- Agarwal SB, CB Singh, SK Jha. Constraints in adoption of cross breeding technology in different regions of India. *Indian Journal of Dairy Science*. 2007; 60(5):360-363.
- Anonymous. Annual report for 2009-2010. *Economics Survey of India*, 2010.
- Avinashilingam NA, Vijay Upayana Sing, Ram kumar. Knowledge level of improved dairy farming practices among tribal households of Nilgiris. *Agriculture Science Digest*. 2007; 27(2):128-130.
- Bordoli JP, SK Laskar, A Haque, NN Bora. Socio-economics characteristics of dairy house holds of Guhati in Assam. *Indian Veterinary Journal*. 2005; 82(4):427-429.
- Chandrakala HT. Extent of knowledge, Adoption and Time Utilization pattern of farm women laborers in Dairy management. An Analysis, M. Sc. (Agri.) Thesis, University of Agricultural Sciences, Bangalore, 1999.
- Chauhan DS, VJ Kamble, PV Opadghan, RC Sawant, RR Kamble. Impact of farmers status on milk production in tribal area of kinwat Tahasil (Marathwada Region). *Indian Journal of Animal Research*. 2004; 38(2):137-140.
- Chauhna A, AK Sharma. Socio-economic profile of Milk Proudcers. A study, Kurukshetra. 1989; 37(4):11-12.
- Dakhore KM, KA Deshmukh, PG Ingole. Training needs of dairy owners as entrepreneur, *Maharashtra Journal Extension Education*. 2002; 12(2):71-73.
- Ghosh S, R Chand. Factors influencing adoption gap in recommended dairy husbandry technology. *Maharashtra Journal of Extension Education*. 2000; 19:125-129.
- Gour AK, AM Patel. Problems faced by dairy farmers in adoption of modern practices of animal husbandry. *Maharashtra Journal of Extension Education*. 2003; 22(2):77-79.
- Jondhale SG, RR Chole. Training needs of dairy farmers. *Maharashtra Journal of Extension Education*. 1989; 8:157-159.
- Khin Mar Oo. Knowledge and adoption of improved dairying practices by women dairy farmers in Dharwad district. M.Sc. Thesis (Unpub.), UAS, Dharwad, 2005.
- Kokate KD, KC Tyagi. Factors influencing the technological gap in health care of animals in a Tribal setting. *Maharashtra Journal of Extension Education*. 1991; 10(2):65-69.
- Mundhwa AB, MM Padheria. A study on profile of dairy entrepreneur women and their problem and suggestions regarding dairy farming. *Gujarat Agricultural University Research Journal*. 1998; 24(1):52-57.
- Nagaraju D, PV Ramaiah, G Sankhala, RM Fulzede. A study on technological gap in improved dairy farming practices among Koyas. *The Andhra Agriculture Journal*. 2002; 49(1 and 2):115-121.
- Nayak HS, SS Bajaj, DR. Raut. Problems of dairy farmers in Ahmadnagar, district of Maharashtra, *Maarashtra J of Ext. Edu*. V, 1986, 107-111.
- Parvathy S, NP Kumari Sharma. Training needs of rural women with regards to self employment avenues in Agriculture, 2000.
- Rahman S, G Kalita, K Sharma. Improved dairy practices adopted by Mizo farmers. *Agricultural Extension Review*, 2005, 15-16.
- Rajanna N, AK Singh, E Srinivas. Training needs and consultancy pattern of dairy farmers of Warangal district. *Maharashtra Journal of Extension Education*. 2003; 22(1):60-62.
- Raju DT, M Pochaiiah, GVK Reddy. Constraints in adoption of crossbred cow. *Indian Journal of Dairy Science*, New Delhi. 1993; XLVI(9):415-419.
- Shreedaya GS, NP Kumari Sharma. Training needs of farmers in vegetable cultivation, *Maharashtra Journal Extension Education*. 2000; 14:93.
- Sinha NN, K Ranganathan. Socio-economic profile by diary co-operatives, *Rural India*. 1989; 52(8):187-189.
- Sohi JS, RL Kherde. A study of adoption behavior of small and marginal farmers in Punjab. *Indian Journal of Extension Education*. 1980; 16(1 and 2):82-86.
- Sunita, Kaushik, Savita Singal. Constraints felt by women members of dairy co-operative societies in rural households of Karnal Districts, *Indian Dairyman*, 1992.