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RESEARCH ARTICLE

Information utilization pattern among male and female dairy farmers of Punjab

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Abstract: The current research was carried out in rural Punjab to study gender desegregated information seeking and utilization behaviour as well as their role in the dairy venture. By using pretested interview schedule, the data were collected from 160 dairy farmers from three socio-cultural zones of Punjab. Gender desegregated role performance showed that male dairy farmers were more responsible for animal health care, feeding and breeding while female dairy farmers were majorly responsible for dairy finance and shed cleaning. Dairy farmers relied more upon the personal cosmopolite sources for the information followed by localite sources and impersonal cosmopolite channels. Male dairy farmer significantly sought more information from DDB, *Pashu Palan Mela*, State Extension Officer, PAU/KVK experts and progressive farmers as compared to females who significantly sought information more from family/relatives. In the utilization of information, female dairy farmers were ahead of their male counterparts as they significantly utilize more information sought from progressive farmers, family/relatives, localite organisations and co-operative societies. It is eye opening to note that though women sought less information, whatever they sought they utilize. Results offer food for thought to effectively transfer technologies, ideas, practices to grass root level. It is suggested to ensure equal participation of female in various extension programs so that new ideas are readily accepted and utilised by farm families. So, it can be concluded that if new technologies or innovations are transferred effectively to women then the technologies will be more readily acceptable among farm families.

Keywords: Gender desegregated; Dairy; Information seeking; Information utilization

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Introduction

Dairying is an integral part of the diversified farming systems that have sustained Indian agriculture for centuries by providing farmers with a solid economic backbone. Dairy sector has a key role in delivering health benefits, supplementing family incomes, and creating employment opportunities for small-marginal farmers and women in rural and transitional areas (Shiva et al. 2019). The rural women play a significant role in dairy farming and are involved in practices like feeding, breeding, management and health care. In India, 75 million women work in the dairy industry, compared to 15 million men (Thakur and Chander 2006). However, the vital and significant role played by women in dairy has not received the recognition it deserves, and they continue to be invisible labourers (Chayal et al. 2009) while most of the males had land ownership, livestock and credit. These prevalent patriarchal gender differences are also found among different communication sources (Bhuyan and Ponnusamy 2017). The participation of women in extension programs is usually lower as compared to male counterparts. Women face numbers of constraints in accessing information sources as compared to the male dairy farmers. Looking into their high participation in dairy, it's of utmost importance that benefits of extension programmes reach the female as well. The strategies to overcome these constraints can be worked out if extension functionaries get recent updated information about the information seeking and utilization behaviour of male and female dairy farmers. This compels us to compare the information seeking and utilization behaviour of the male and female dairy farmers. This paper presents the gender desegregated information seeking and utilization behaviour, along with their role in dairy farming.

Materials and Methods

The study was conducted in three socio-cultural zones of Punjab. One district from each of the socio-cultural zone i.e. Ludhiana, Gurdaspur and Hoshiarpur were selected from Malwa, Majha and Doaba, respectively. As Malwa is bigger in area so two blocks from Malwa i.e. 'Raikot' and 'Doraha' and one block each from Majha and Doaba i.e. i.e. 'Batala' and 'Hoshiarpur' were selected. Thus, total four blocks were selected for the present study. Forty rural dairy farm families from each block who possessed at least

4 milch animals were selected by using snowball sampling technique. From each of the selected family, the head of the dairy venture either male or female was considered as respondent. Thus, 160 dairy farmers comprised the sample for study. Out of which 116 families had male head of dairy while rest 44 families had female head. Data were collected personally using interview schedule prepared for the purpose. It comprised of their dairy profile, role in dairy farming besides information sources and frequency of utilization. Information sources were exhaustively listed under different heading namely personal cosmopolite sources, personal cosmopolite channels, impersonal cosmopolite channels, localite sources and localite channels. Frequency of seeking information from different information sources was measured on a three-point continuum as 'always', 'sometimes' and 'never' with score 2,1 and 0 respectively. To find the extent of utilization of information, the sources from which information was sought were included in the interview schedule and respondents were asked how frequently they utilize the information. The frequency of information utilization was measured on the three point continuum 'fully', 'partially' and 'not at all' with scores 2, 1 and 0 respectively. The arithmetic mean for information seeking and utilization score for different sources and practices were computed and t-test was used to analyse the gender difference.

Results and Discussion

Table 1 represents the dairy profile of the respondents is discussed. It is evident that most of the farmers (96.3%) had comparatively small herd size (4-9 milch animals). Result is in line with Wani et al. (2016). Data shows that, few farmers (3.1%) had 10-15 milch animals and negligible number of farmers (0.6%) had large herd size of 16-21 animals. Gender comparison shows that majority of dairy households of both the male (95.7%) and female dairy farmers (97.7%) had small herd size whereas, very few of males (3.4%) and females (2.3%) had medium herd size. None of the female respondents possessed large herd size against of 0.9 per cent of male respondents. There was no significant gender difference in possession of milch animals.

Further the Table 1 depicts the average milk production of respondent's dairy farm. Data revealed that majority of dairy farmers (78.8%) had daily milk production between 12-48 litres. Some of the respondents (19.4%) had the milk production of 49-85 litres, while only few farmers (1.9%) had milk production of 86-120 litres per day. Gender wise comparison depicts that majority of female (88.6%) as well as male dairy farmers (75.0%) also had milk production between 12-48 litres per day. Double males (22.4%) than female (11.4%) had average milk production

Table 1: Gender difference in dairy profile of dairy farmers n=160

Characteristics	Total			
	M(116) f(%)	F(44) f(%)	Z - Test	Overall f(%)
Herd- Size (Number)				
Small (4-9)	111(95.7)	43(97.7)	0.54	154(96.3)
Medium(10-15)	4(3.4)	1(2.3)	0.70	5(3.1)
Large (16-21)	1(0.9)	-	0.53	1(0.6)
Daily Milk Production (litres/day)				
12-48	87(75.0)	39(88.6)	0.06	126(78.8)
49-85	26(22.4)	5(11.4)	0.11	31(19.4)
86-120	3(2.6)	-	0.28	3(1.9)
Daily Milk Sale (litres/day)				
10-43	82(70.7)	38(86.4)	2.04*	120(75.0)
44-77	31(26.7)	6(13.6)	0.08	37(23.1)
78-110	3(2.6)	-	0.28	3(1.9)

*p<0.05

Table: 2 Gender disaggregated role performance in dairy farm practices

Dairy Practices	Male f (%)	Female f (%)	Z Test f (%)
Feeding	119(74.4)	99(61.9)	2.39
Breeding	130(81.3)	90(56.3)	4.82**
Animal Health care	123(76.9)	102(63.8)	0.10
Finance	109(68.1)	132(82.5)	2.98**
Shed/ House Cleaning	85(53.1)	101(63.1)	1.81
Milk sale & produce records	104(65.0)	119(74.4%)	1.82

*Multiple response, **p<0.01

of 49-85 litres while only male dairy farmers (2.6%) had milk production between 86-120 litres.

The data further represents the average sale of milk by the respondents. Three fourth of dairy farmers (75%) had milk sale between 10-43 litres per day. Gender wise also, majority of both female (86.4%) as well as male dairy farmers (70.7%) had milk sale between 10-43 litres. There was significant gender difference at five per cent level of significance. Some of the dairy farmers (23.1%) daily sold 44-47 litres of milk where males (26.7%) were ahead of females (13.6%). Only few dairy farmers (1.9%) sold 78-110 litres of milk all of them were male.

So, the result shows that comparatively milk production of male headed dairy farms was more than female headed farms.

Table 2 presents the gender desegregated performance in various dairy farm activities. According to the data, in the task of feeding animals, most of the households cited male (74.4%) member as more participative than female (61.9%). For breeding of animals also, participation of males (81.3%) was significantly higher as compared to females (56.3%). For animal health care, male dairy farmers (76.9%) were more participative than females (63.8%) however it was not statistically significant. These results are in line with study of Khare and Singh (2019) where men were found to be dominant in feeding and breeding of animals. It is interesting to find that finance related to dairy is handled by females (82.5%) in majority of houses as compared to males (68.1%) and result was significant at one per cent level of significance. The task of shed-house cleaning is majorly performed by females (63.1%) than by males (53.1%). Similarly, milk sale and produce records were maintained majorly by females (74.4%) than males (65.0%).

Overall it can be concluded that, though male dairy farmers were more responsible for animal health care, feeding and breeding, female dairy farmers were majorly responsible for dairy finance, shed cleaning and milk produce records. In some activities performance of male was more while in others participation of female was more which shows that in dairy participation of woman is equal to male or it is a gender neutral occupation.

Table 3 represents data pertaining to use of personal cosmopolite sources by the respondents for dairy information. Interestingly, the overall mean for information seeking as well as utilization for both male and female was 2.23 which shows that dairy farmers sometimes sought and partially utilized the information gained from personal cosmopolite sources. Among all the sources, veterinary officers were most approachable as dairy farmers always (2.88) sought and fully utilized ($\bar{x}$ = 2.57) the information from them. Their availability in the village/locality itself can be reason for this. The results are in line with Khuman et al. (2014)

Table 3: Gender comparison of respondents for use of personal cosmopolite sources n=160

Sources	Information seeking				Information Utilization			
	M	F	t- test	Overall	M	F	t-test	Overall
Dairy Development Board experts	1.51	1.25	2.27*	1.44	2.13	2.33	0.32	2.16
Experts at Pashu Palan Mela/ animal welfare camp	2.10	1.68	3.38**	1.99	2.09	2.11	0.32	2.09
Kisan call centres	1.15	1.11	0.51	1.14	2.00	2.00	0.23	2.00
State extension officer	1.79	1.50	2.04*	1.71	2.49	2.31	1.00	2.45
PAU/KVK experts	1.70	1.43	2.15*	1.63	2.10	2.07	1.06	2.10
Vet officer/medical agent	2.89	2.86	0.47	2.88	2.58	2.55	0.50	2.57
$\bar{x}$	2.23	2.23	-	2.23	2.23	2.23		2.23

*p<0.05, **p<0.01, Mean range: 1- 3

Table 4: Gender comparison of respondents for use of impersonal cosmopolite channels

Channels	Information seeking				Information utilization			
	M	F	t-test	Overall	M	F	t-test	Overall
Television	1.97	2.05	0.68	1.99	1.99	2.10	1.88	2.02
Radio	1.22	1.27	0.71	1.23	1.95	2.00	0.76	1.97
Newspaper	1.75	1.86	0.89	1.78	2.01	2.07	0.89	2.03
Magazines	1.64	1.55	0.74	1.61	2.08	2.11	0.37	2.08
Internet	2.36	2.48	0.88	2.39	2.11	2.13	0.27	2.12
$\bar{x}$	1.68	1.76	0.98	1.70	2.02	2.07	-	2.03

*p<0.05, Mean range: 1- 3

where veterinary officers are found to be most approachable by dairy farmers in Asam. All of the rest personal cosmopolite sources were sometimes sought and partially utilized i.e. *Pashu Palan Mela* ($\bar{x}$ = 1.99, 2.09), State Extension Officer (= 1.71, 2.45) and PAU/KVK (= 1.63, 2.10) by dairy farmers. Dairy development board (= 1.44) and Kisan call centres (= 1.14) were never sought for information by dairy farmers, though respondents who visited partially utilized with respective mean score of 2.16 and 2.00.

Male dairy farmers significantly sought more information from DDB, *Pashu Palan Mela*, State Extension Officer and PAU/KVK experts as compared to females. The results are in line with Ganesan (2004), Nande et al. (2009), Sharma and Aparna (2021). No significant gender difference was observed in utilizing the information from personal cosmopolite sources.

Overall it can be concluded that dairy farmers relied more upon veterinary officers and the information gained from them. The results are in line with the findings of Sharma and Aparna (2021).

Table 4 shows the data pertaining to impersonal cosmopolite sources used by respondents. Overall mean score indicates that dairy farmers sometimes seek (= 1.70) and partially (= 2.03) utilize the information gained information from impersonal cosmopolite sources. Among all the sources, internet (= 2.39, 2.21) was sought as well as utilized most frequently. Information gained from rest of the sources i.e television (= 1.99, 2.02), newspaper (= 1.78, 2.03) and magazines (=1.61, 2.08) was sometimes sought and partially utilized. The radio (= 1.23) was never sought by dairy farmers for getting the information though dairy farmers who listens radio partially utilized the information with mean score of 1.97. The results are align with Aldosari et al. (2017), Saikia and Mittal (2022) and Raza et al. (2019) where internet was found to be used the most while contrary to Punitha et al. (2013) and Singh N et al. (2015) who reported television as most preferred channel whereas Chauhan and Kansal (2014) reported that extent of utilization of newspaper was higher among dairy farmers of Punjab. This can be concluded that in recent years internet has replaced T.V and Newspaper as a source of information.

The reason being that internet services can be explored anytime anywhere using handheld device i.e Mobile phones. Singh et al. (2015) and Saroj & Mittal (2016) recommended that mobile phones could be a suitable medium to reaching out to the users as

Table 5: Gender comparison of respondents for use of localite sources n=160

Sources	Information seeking				Information utilization			
	M	F	t-test	Overall	M	F	t-test	Overall
Progressive Dairy Farmers	1.54	1.25	2.80**	1.46	1.98	2.22	2.55*	2.01
Local leader/ Sarpanch	1.89	1.66	1.90	1.83	2.04	2.00	0.72	2.03
Friends	2.46	2.61	1.73	2.50	2.28	2.14	1.88	2.24
Family / Relatives	2.66	2.89	2.87**	2.72	2.38	2.59	2.37*	2.44
Neighbours	2.28	2.50	1.76	2.34	2.09	2.17	1.06	2.11
$\bar{x}$	1.98	1.99	0.08	1.98	2.15	2.22	-	2.17

*p<0.05, **p<0.01, Mean range: 1- 3

Table 6: Gender comparison of respondents for information seeking and utilization for use localite channels n=160

Channels	Information seeking				Information utilization			
	M	F	t-test	Overall	M	F	t-test	Overall
Local organization / Club	1.05	1.07	0.40	1.06	1.83	2.00	2.55*	1.89
Dairy Co-operative	1.91	1.66	1.80	1.84	2.18	2.29	1.88	2.20
Local/Amul/Verka society	1.41	1.41	0.04	1.41	1.98	2.00	2.37*	1.98
$\bar{x}$	1.46	1.38	1.33	1.44	2.00	2.10	-	2.02

*p<0.05, Mean range: 1- 3

Table 7: Comparison of different sources/ channels of information seeking and utilization n=160

Sources/ Channels	Information seeking	Information utilization	Rank
Personal cosmopolite sources	2.23	2.23	I
Localite sources	1.98	2.17	II
Impersonal cosmopolite channels	1.70	2.03	III
Localite channels	1.44	2.02	IV
$\bar{x}$	1.84	2.11	

Mean range 1-3

everyone can access information from anywhere anytime. Though, there is need to create awareness among masses to differentiate between authentic and non-authentic information shared via different social networking sites.

All the impersonal cosmopolite sources were sometimes sought, there was no significant difference between female (= 1.76) and male (= 1.68).

Data in Table 5 shows that localite sources were sometimes (= 1.98) sought and partially (= 2.17) utilized by dairy farmers. Negligible difference was found in the overall mean score of female (= 1.99) and male (= 1.98). It is evident that among localite sources, family/relatives (= 2.72, 2.44) were always approached and most utilized by the dairy farmers followed by friends (= 2.50, 2.24). Similar findings were observed by Meena and Chauhan (2005) where family members were found to be most utilized among localite sources. Information was sometimes sought and partially utilized from the neighbours (= 2.34, 2.11) and local leaders (= 1.83, 2.01) were sometimes sought by dairy farmers.

Gender difference show that male (= 1.54) dairy farmers sought information significantly more (t = 2.80) from progressive farmers than females (= 1.25) while whosoever sought, females utilize the information significantly more (t = 2.55*) than their male counterparts. From family/relatives, female dairy farmers significantly sought (t = 2.87) as well as utilized (t = 2.37) more information as compared to their male counterparts. So it can be concluded that male dairy farmers prefer seeking information from progressive farmers while female prefer getting information from family or relatives. This can be because females are confined to four walls of the house. The findings are in line with findings of Sharma and Aparna (2021).

Overall it can be interpreted from the Table that though localite sources were partially utilised, female were significantly ahead of male dairy farmers in utilising information sought from progressive dairy farmers as well as family or relatives.

Table 6 depicts that localite channels were rarely (= 1.44) approached by the dairy farmers, however who approached these channels, partially utilized (= 2.02) the information gained from them. There was gender difference in utilization of the information sought from local organization/club (t = 2.55) and local Amul/ Verka society (t = 2.37) where female respondents were significantly ahead of male dairy farmers.

Table 7 depicts the preference of dairy farmers for sources of information seeking as well as utilization. Personal cosmopolite sources came out to the most preferred one, followed by localite sources, impersonal cosmopolite channels and localite channels. The results are partially supported by the studies of Singh et al. (2014), Karthikeyan et al. (2018) and Kharmudai et al. (2018). Overall mean for information seeking was 1.84 which means dairy farmers sometimes sought the information while overall mean for information utilization shows the partially utilize the information (= 2.11).

Conclusion

In performing various dairy farm activities, male dairy farmers were found to be more participative in the task of breeding, feeding and animal health care while in cleaning of shed house, handling finance and milk produce records females were more participative. Dairy farmers more relied upon the personal cosmopolite sources/ channels for the information followed by localite sources and impersonal cosmopolite channels. Male dairy farmer significantly sought more information from DDB, *Pashu Palan Mela*, State Extension Officer, PAU/KVK experts and progressive farmers as compared to females while from family/relatives female dairy farmers significantly sought and utilize more information as compared to male dairy farmers. This is obvious as they are more introvert. In the utilization of information, female dairy farmers were ahead of their male counterparts as they significantly utilize more information sought from progressive farmers, family/ relatives, localite organisations and co-operative societies. It shows that whatever they seek, they utilise the information. Therefore, it is inferred from the findings that if new technologies or innovations are to be transferred effectively to farm families then care should be taken that women also equally participate in various extension programs so that technologies may be more readily accepted among farm families.

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