

## Information Access and Use Pattern of Dairy Farmers of Punjab

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### ABSTRACT

*Livestock sector is contributing significantly to the Indian economy with a gradual rise. But still the productivity of livestock in India is below average and timely availability of required information can play a vital role to increase it. The present study was carried out with the objective to assess information use and access pattern of dairy farmers of Punjab. A special emphasis was laid on the usage of mobile services, information programmes, TV programmes, etc. to access information. An effort was made to ascertain the level of satisfaction with the information literacy competencies and the problems being faced by dairy farmers in accessing and using information related to animal husbandry. Data were collected from farmers during their visit to the Kisan Mela held at the campus of Guru Angad Dev Veterinary and Animal Sciences University (GADVASU), Ludhiana on 20-21 March, 2015 using questionnaire as a tool. Health of animals was found to be the prime motive of seeking information by dairy farmers with more than 90% of the respondents looking for information for this purpose. However, only a fraction of the respondents were fully satisfied with their information literacy competencies.*

**Keywords:** Information use, Information literacy, Animal husbandry, Dairy farmers, Punjab

Livestock is integral to Indian economy employing more than two-third of rural people and contributing 3.92% to the Gross Domestic Product of the nation (National Dairy Development Board, 2014). With the fast growing population, rising income and uplifting styles, the demand for food is continuously increasing. Animals are opulent sources of nutritionally rich foods. Besides, these provide several by-products, like dung as organic manure viz-a-viz domestic fuel, skin for leather, etc. Livestock has a crucial role in sustainable agricultural development and securing food security as these are a natural capital, as this living bank can be easily reproduced. Moreover, the livestock is more equitably distributed among farmers than land. In 2003 marginal farm households (=1.0h hectare of land) who comprised 48% the rural households controlled more than half of country's cattle and buffalo and two-thirds of small animals and poultry as against 24% of land (Planning Commission, 2012). In contrast to the declining share of agriculture to the gross domestic product of the nation, the share of livestock sector in Indian economy is gradually rising. From the angle of equity and livelihood, the livestock farming is considered an integral component in poverty assuagement plans. India has one of the largest animal population in the world. Despite having the richest animal stock, the productivity of livestock in the nation is below average. To get optimum yield, the animals that produce milk need to be healthy, and an effective health care programme should be in place (Food and Agriculture Organisation and International Dairy Federation, 2011). Therefore, to support effective health care programmes, timely transfer of required information is essential. The adequate flow of information to livestock farmers on livestock breeds, farming and feed techniques, etc. are basic to empowerment of the livestock sector.

Punjab is one of the leading milk producing states of

India. The livestock sector contributes 13% to its Net State Domestic Product (Department of Animal Husbandry Punjab, 2015). The animal husbandry has secured the part time viz-a-viz full time employment opportunities to farmers and households in the state at a large scale. The present study will be supportive in designing and developing dairy farming information transfer endeavours by providing inputs on farmers' information access and use pattern.

To assess information seeking behaviour of the dairy farmers in Erode District of Tamilnadu Kavitha et al. (2014) found that majority of the dairy farmers (52.86%) belonged to medium category with respect to level of information seeking behaviour. About 44.29 per cent and 21.43 per cent of dairy farmers indicated extension agent and Veterinary Assistant Surgeon as their source of information, respectively. Mass media (Television, Radio and Newspaper) and fellow farmers were indicated by 14.29 per cent and 5.71 per cent of dairy farmers as their source of information. Medium to high level of information seeking behaviour was seen in the age group of 31 to 40 years and those who had undergone high school and college level of education. Jaisridharet al. (2013) found that about 64.67 per cent of the dairy farmers of Tamil Nadu contacted Farmer's Call Centre (FCC) to obtain information about scientific dairy farming. About 64.67 per cent of the respondents fully utilized scientific dairy farming information received from FCC on the aspects of fodder production, followed by 54.67 per cent of them on feeding. Information on milk marketing through dairy co-operatives was utilized by 38.67 per cent of dairy farmers. About 2/3rd of the respondents had high information utilization. Tekaleet et al. (2013) conducted a study to know the entrepreneurial behaviour of dairy farmers of Nagpur. 46% farmers were educated upto higher secondary and majority of the dairy farmers

(67%) had annual income of Rs. 1-1.5 lacs. It was found that majority of the respondents had high risk orientation and high level co-ordination ability. Majority of the dairy farmers also fell into medium level of decision making ability. More than three fourth of the dairy farmers (76%) had medium level of information seeking behaviour, followed by 20% of the farmers having high level of information seeking behaviour.

Naveed and Anwar (2013) found majority of the Pakistani farmers (97.3%) requiring information on feeding of animals, followed by 82.2% requiring information about vaccinations against viral and bacterial diseases and 71.2% for treatment of sick animals. More than 1/3rd respondents (35.6%) also needed information on pricing of animals and about 16.4% on housing environment. About 94.5% of the respondents relied on friends, neighbours and other farmers in meeting their information needs. Only 28.7% sought information from veterinary doctors. Nearly 3/4th farmers could not access the required information in time. Problems of low education and language barrier were faced by more than 40% and about 1/3rd farmers. About 13.6% of the respondents were highly satisfied and nearly 60% were somewhat satisfied with the sources of information related to animal husbandry. Arusei (2012) found 46% of smallholder dairy farmers in Kenya requiring information on dairy feeds and 34% on breeding.

Bozet al. (2011) found that 86% of dairy farmers in Eastern Mediterranean Region of Turkey watched television every day, 63% listened to radio several times a week. 29% of the respondents used the internet several times a month. About 1/3rd (31%) dairy farmers had contact with private veterinarian once a month and 13% with extension personnel. About half (52.2%) of the dairy farmers were low level adopters of innovation and best management practices. About 1/3rd (34.4%) and 13.1% were found to be medium level and high level adopters of these practices, respectively. Ali (2011) conducted a study to ascertain the use of information and communication technology (ICT) for decision making among livestock farmers in eight districts of Uttar Pradesh viz. Aligarh, Allahabad, Etawah, Bareilly, Hardoi, Pratapgarh, Raibareilly and Shahjahanpur. It was found that ICT users belonged to comparatively higher income groups as compared to nonusers. Education and social category of the farmers were other important socio-demographic factors affecting the adoption of ICT based information system. The users of ICT based information were getting better quality information and were making significantly better decisions on all aspects of livestock farming. Tarbotton and Baynham (2010) conducted a telephonic survey of information needs of Northland farmers. Animal reproduction was found as the most valuable area to get more information by Northland dairy farmers, followed by animal nutrition and animal

health. Nand et al. (2009) in a study to ascertain information seeking behaviour of dairy farmers of Nagpur found that amongst the formal sources of information dairy farmers sought maximum information from Livestock Supervisor followed by Livestock Development Officer. Among informal sources, information was mostly sought from friends and amongst the media television was found to be most popular followed by newspaper. Education, social participation, attitude, cosmopolitanism and extension contact were found to be important factors influencing information seeking behaviour of dairy farmers. Zhao et al. (2009) found policy and market information to be of more use to dairy farmers in Inner Mongolia than information about technologies. About 63% of respondents found television as useful for obtaining information about the dairy business. Village government officials were the second most important channel for dairy related information, followed by neighbours, and milk stations with very little information coming from radios, newspapers and the internet.

The present study has been carried out with following objectives:

1. To assess dairy farmers' purpose of seeking information and identify the sources of information used.
2. To ascertain dairy farmers' level of satisfaction with their information literacy competencies.
3. To measure the usage of animal husbandry related mobile services, information programmes and TV programmes by dairy farmers.

## METHODOLOGY

Data were collected from farmers during their visit to the Kisan Mela held at the campus of Guru Angad Dev Veterinary and Animal Sciences University (GADVASU), Ludhiana on 20-21 March, 2015 using questionnaire as a tool. The questionnaire was developed in local language i.e. Punjabi to enable the farmers to better understand the questions. Questionnaires were personally distributed to 200 farmers having more than 5 dairy animals viz. cow/buffalo for on the spot filling up. However, where required assistance was given to farmers in filling up questionnaires. A total of 151 questionnaires received back were found relevant. The data have been analysed using Microsoft Excel.

## RESULTS AND DISCUSSION

### Demographic details

All the respondents were male and nearly 70% (105) of them belonged to joint families. Nearly 1/3<sup>rd</sup> and 1/4<sup>th</sup> of the dairy farmers belonged to the age group of 26-35 years and 36-45 years, respectively. Around 18.54% respondents belonged to the age group of 46-55 years. About 13.91% were young dairy farmers aging below 25 years. Only 10% of the

respondents aged above 55 years.

More than 1/3<sup>rd</sup> and 1/4<sup>th</sup> of the dairy farmers were matric and senior secondary passed, respectively. Nearly 20% respondents had studied upto middle standard. Around 13.24% respondents were graduate and four were postgraduate, respectively. Six dairy farmers were uneducated.

Respondents were asked about the number of languages known amongst from Punjabi, Hindi, English and Urdu. About 60% of the dairy farmers knew only one language. Around 13.90% respondents were familiar with 2 languages. Nearly 1/4<sup>th</sup> of the dairy farmers said to be familiar with 3 languages and only one with all the four languages asked for.

(Punjabi 150, Hindi 56, E 41, U 2)

### Income

A major share (42.38%) of dairy farmers had an annual income of Rs. 1- 2 lacs from dairy animals (Table 1). About 30% the respondents were earning up to Rs.1 lac annually. Income of 13.25% dairy farmers' ranged between Rs.2-3 lacs. Nearly 04.64% dairy farmers had a handsome annual income of more than Rs.10 lacs including a farmer earning up to Rs.40 lacs per year from dairy farming.

**Table 1**  
**Income level of dairy farmers**

Sr. No.	Annual Income (in INR)	Frequency	%
1.	1 lac or below	45	29.80
2.	1 lac to 2 lac	64	42.38
3.	2 lac to 3 lac	20	13.25
4.	3 lac to 4 lac	5	3.31
5.	4 lac to 5 lac	4	2.65
6.	5 lac to 10 lac	6	3.97
7.	Above 10 lac	7	4.64

### Herd

More than 70% of the dairy farmers had 5 to 10 animals. Around 13.24% respondents own herd of 11-15 animals. 06.62% respondents had 21 to 50 cattle. More than 50 animals were owned by about 5% of the dairy farmers.

### Experience

More than 1/3<sup>rd</sup> i.e. 37% of the dairy farmers were engaged in dairy farming for 6-15 years. Nearly 1/4<sup>th</sup> of the respondents had an experience of 16-25 years. About 20% of the respondents had just entered in this enterprise with 5 years or less experience. Another 20% of the respondents had a good experience i.e. more than 25 years in the field of dairy farming.

### Membership of society / association

Only 17 of the 151 dairy farmers were members of

societies/ association related to the field of dairy farming. The remaining majority (88.74%) had not joined the professional organisations in dairy farming.

### Training

Less than 20% of the respondents had availed training so as to master their skills in dairy farming. Around 09.93% and 06.62% farmers got training from Dairy Development Board (DDB) and GADVASU, respectively. Three of these respondents availed training both from DDB and GADVASU. Only 3 respondents got training from Krishi Vigyan Kendras. All of the farmers who got training found it helpful for dairy farming.

### Facility

All the respondents had mobile phones and 38 of them even owned computer/laptop. More than half of dairy farmers had access to the internet either through mobile phone or computer. However, only 20% of the respondents were using the internet to access information related to dairy farming.

### Purpose

Health of animals was the prime motive of seeking information by dairy farmers with more than 90% of the respondents looking for information for this purpose. Nearly 3/4<sup>th</sup> of dairy farmers needed information related to feed and nutrition of animals. Health and feeding of animals were also found as the prime motives of information seeking amongst Pakistani farmers by Naveed and Anwar (2013). About 2/3<sup>rd</sup> respondents each termed breeding and calf care as the sought after topics. Similar results were found by Tarbotton and Baynham (2010) who found animal reproduction as the most valuable area to get more information by Northland dairy farmers. Nearly half of the farmers were interested in information pertaining to subsidies provided by government. More than 40% respondents each termed animal insurance, new techniques in dairy farming and hygienic milk production as the sought after areas. About 37% dairy farmers were interested in information related to marketing.

### Information resources

Widespread availability of the television network and its affordability has made the television as the most popular information resource with 100% of the dairy farmers being found used to watch television (TV) (Table 2). More than 80% of the respondents were used to contact veterinarians for getting animal husbandry related information. About 2/3<sup>rd</sup> of the dairy farmers were used to read newspaper. These results strongly support the findings of Nandeet al. (2009), who found television to be most popular amongst the media, followed by newspaper and livestock professionals being consulted for maximum information amongst the formal sources of information. Bozet al. (2011) also

found high usage of television as information source among dairy farmers in Turkey. More than 40% farmers were used to read books and magazines for information on dairy farming. About 1/3<sup>rd</sup> of the respondents termed

friends, neighbours and relatives as the information resource. University experts were contacted by every 5<sup>th</sup> farmer.

**Table 2**  
**Information resources of dairy farmers**

Sr. No.	Information resource	Frequency	%
1.	Television	151	100.00
2.	Radio	26	17.22
3.	Newspaper	104	68.87
4.	Books/magazines	62	41.06
5.	Progressive farmers	26	17.22
6.	Friends	52	34.44
7.	University experts	33	21.85
8.	Dairy Development Department	6	3.97
9.	Veterinarians	121	80.13
10.	Agricultural Technology Management Agency	1	0.66
11.	Progressive Dairy Farmers Association /Other organizations/ Clubs	9	5.96
12.	KrishiVigyan Kendra / extension officer	4	2.65

#### Mobile services

Only 10 dairy farmers were found aware of the service of IFFCO Kisan Sanchar Limited (IFFCO-Airtel-IKSL), with the mission to empower farmers and people living in rural India with pertinent and high quality information and services, through affordable communication network, in a sustainable manner (<http://www.iksl.net/>). None of the respondents was aware with the Reuters Market Light (RML).

#### Information programmes

More than 1/3<sup>rd</sup> of the dairy farmers were aware of the Kisan Call Centers (KCC) that provide guidance to farmers in local dialects on all aspects of agriculture and allied subjects. Only 6 dairy farmers were aware of Voice Krishi Vigyan Kendra (vKVK), a platform that connects KVKs with farmers through the internet and mobile technology with the objective to bridge the gap between the farmers and the KVK experts.

#### Animal husbandry related TV Programmes

More than 2/3<sup>rd</sup> of the dairy farmers were found to watch 'MeraPind Mere Khet', a 45 minute program related to agricultural and allied disciplines being telecast on DD Punjabi in vernacular language five days a week. Similarly, 'Krishi Darshan' another program related to agricultural sciences, telecast on DD National at 6:30 AM from Monday to Saturday for 25 minutes was being watched by about 40% of the

respondents.

#### Level of satisfaction

Only 15% of the dairy farmers were fully satisfied with their information literacy competencies with respect to the information related to animal husbandry. About 21.85% and 19.87% respondents were satisfied and averagely satisfied, respectively with their capability. More than 1/4<sup>th</sup> farmers were somewhat satisfied and 24 were not satisfied at all with their information literacy competency.

#### Problems

More than 1/3<sup>rd</sup> of the respondents face problems of incomplete information and untimely access to information (Table 3). Nearly 33.77% of the dairy farmers expressed language as a barrier in accessing information as they could not understand the language published in other than local languages. About 30% respondents termed unavailability of expert as a problem. Every fourth farmer expressed the problem of low education as an obstacle in accessing relevant and reliable information. Untimely access to information, low education and language barrier were also reported as the major problems amongst Pakistani farmers by Naveed and Anwar (2013). Wrong information, lack of awareness about information resources and reliability of information were the other hurdles faced by farmers in getting information related to animal husbandry.

**Table 3**  
**Problems of dairy farmers**

Sr. No.	Problem	Frequency	%
1.	Low education	37	24.50
2.	Incomplete information	54	35.76
3.	Ability to understand language	51	33.77

4.	Reliability of information	8	5.30
5.	Contact with expert	46	30.46
6.	Lack of awareness about information resources	23	15.23
7.	Untimely access to information	53	35.10
8.	Wrong information	33	21.85
9.	Others	0	0.00

### CONCLUSION

The results of the study found that though more than half of dairy farmers had access to the internet either through mobile phone or computer, but only 1/5<sup>th</sup> of them were using it to access information related to dairy farming. Dairy farmers' lack of knowledge about farmer friendly services and programmes like IKSL, RML, KCC, vKVK, etc. demands special attention and calls for their widespread publicity. The major issues that demanded attention were the problems of incomplete information, untimely access to information, inability to understand language and unavailability of experts, which led to the overall low satisfaction level of dairy farmers with their

information literacy competencies. The study concluded that to boost up the access and use of information among dairy farmers extension departments of GADVASU, Krishi Vigyan Kendras (KVKs) and the state government should organize camps at village levels so as to impart latest and up-to-date information to farmers, provide training in using information resources, publish easy to understand literature in regional language i.e. Punjabi and Short Message Service (SMS) on mobile phones so that the vital information is made available to the farmers at their door steps in no time.

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