Information Source Utilization by Livestock and Poultry Farmers of Uttar Pradesh

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ABSTRACT

The study was conducted during 2020-2021 to assess the information sources utilization pattern of livestock and poultry farmers of Uttar Pradesh. A total of 120 farmers, 40 from each group i.e., dairy, piggery and poultry were selected randomly. Semi-structured personal interview and online survey through google forms were considered together for collection of data keeping in view the COVID-19 second wave. Information source utilization by majority of the respondents was medium. ICT utilization among the respondents was maximum with mean score of 0.63 followed by mass media with mean score of 0.51 and extension agency contact with mean score of 0.498. Education, land holding and experience in farming business were found to be significant contributors in information source utilization. Except age, all the variables such as education, annual income, land holding, experience in farming business and number of trainings undergone were positively correlated with information source utilization of the respondents.

INTRODUCTION

Livestock is an integral part of the Indian agriculture production system and plays a key role in the progress of country's economy. Due to conducive climate, topography, and religious beliefs, animal husbandry sector has played prominent socio-economic role in India. As per the current scenario, India harbours 535.8 million of livestock population and 851.8 million of poultry (20th Livestock Census, DAHD&F, 2019) which depicts that there is 4.64 per cent increase in livestock and 16.8 per cent increase in the population of poultry compared to the last census (2012). The livestock sector contributes 25.6 percent of total agricultural GDP and 4.11 percent of total national GDP (vikaspedia.in). Additionally, around 20.5 million population is directly or indirectly dependent on livestock for their livelihood generation. Though livestock sector is a major contributor of Nation's GDP, its growth is restrained due to multiple factors. Up-to-date and quality information on livestock rearing is essential for the effective management of the livestock which is currently the biggest challenge for the farmers. Farmers access information from multiple sources (Rees et al., 2000). Some of these sources use ICT tools whereas the others are various non-ICT sources. But as per the previous reports, farmers' access to information is found to be extremely poor, delayed and less credible (Bhagat et al., 2004; Kumar & Roy, 2014; Nain et al., 2015). Hence, certain effective media could enable the service to rapidly reach to a wider audience at relatively low cost. Keeping these facts under consideration, the present study was conducted to assess the information source utilization of commercial dairy, pig and poultry farmers of Uttar Pradesh.

METHODOLOGY

The study was conducted in 2020-2021 in the purposively selected state of Uttar Pradesh considering its 1st rank in milk and meat production (20th Livestock Census). The sample of the study were commercial livestock and poultry (broiler) farmers of the area selected. Commercial livestock/ poultry farmer was operationally

defined as a farmer who practices dairy/pig/ poultry farming as a business venture with minimum holding of 10 Livestock Unit (LSU) and earns a substantial part of his overall income through these enterprises. The conversion factor for LSU comprises of bovine (calf=0.4, heifer=0.8, dairy cow=1.0, buffalo= 1.26), Pig (breeding sow=0.5, other pigs=0.3) and poultry (boiler=0.007) (https:// ec.europa.eu/eurostat). A total of 120 respondents, 40 from each group i.e., dairy, piggery and poultry (broiler) farmers were randomly selected for the investigation. Keeping in view the COVID-19 crisis, both semi-structured interview and online survey through google forms were considered for data collection. Some of the responses were collected through personal interview.

Information source utilization by the respondents was assessed under various sub heads such as mass media, ICT tools and extension agency contacts. The respondents were enquired about their pattern of access of various information sources and responses were taken under 3-point continuum viz., Often accessed (3), occasionally accessed (2) and never accessed (1). Mean Rank Score for overall information source utilization was calculated by using the following formula:

$$MRS = \frac{\sum_{i=1}^{n} Total\ Score_i}{k}$$

Where, k= total number of respondents, MRS: Mean Rank Score

Mean Rank Score (MRS) and Mean Score (MS) were estimated to examine the utilization of different categories of information sources. MRS was calculated by adding the scores obtained by individual farmers and dividing them by number of farmers. MS was calculated by adding the scores obtained by individual farmers and then dividing them with the total obtainable score. Mean Percent Score (MPS) was calculated by diving the MS with total mean score of the category of farmers and multiplying by 100. The Mean Rank Scores of information source utilization among three groups of farmers were compared using Kruskal-Wallis H Test in SPSS software version 26.

RESULTS AND DISCUSSION

Table 1 reveals that majority of the respondents (78.30%) had medium level of mass media utilization with MRS of 9.33. among the different groups, poultry farmers showed higher MRS (9.55) followed by dairy and pig farmers, respectively. Mean score for mass media utilization by the total population was found to be 0.51. In case of ICT utilization, majority (65%) had a medium level of utilization. Same trend was seen among various groups of farmers. Pattern of contact with various extension agencies depicts that about 84.20 per cent of the respondents had medium extension agency contact. From the different groups, dairy farmers showed higher extension agency contact with MRS of 10.63 and MS of 0.50 followed by pig farmers (MRS=10.45 & MS=0.49) and poultry farmers (MRS=10.33 & MS=0.49). In overall majority of the farmers (82.50 %) had medium level of information sources utilization with MRS of 27.44 and MS of 0.53. Kruskal-Wallis H test among the three groups of farmers revealed no significant difference in case of information source utilization.

ICT utilization among the respondents was maximum with MS of 0.63 and MPS of 38.65 followed by mass media exposure with MS of 0.51 and MPS of 31.28 and extension agency contact with

Table 1. Levels of information sources utilization

Level	Dairy Farmers (n=40)	Pig Farmers (n=40)	Poultry Farmers (n=40)	Pooled (N=120)	MS$_{Pooled}$	MPS$_{Pooled}$
Mass Media Sources					0.51	31.28
Low (1-6)	5 (12.50)	10 (25.00)	0 (0.00)	15 (12.50)		
Medium (7-12)	26 (65.00)	28 (70.00)	40 (100.0)	94 (78.30)		
High (13-18)	9 (22.50)	2 (5.00)	0 (0.00)	11 (9.20)		
MRS ± SE	9.28±0.42	9.15±0.38	9.55±0.29	9.33±0.21		
Mean Score	0.515	0.463	0.53	0.51		
ICT					0.63	38.65
Low (1-4)	6 (15.00)	0 (0.00)	0 (0.00)	6 (5.00)		
Medium (5-8)	29 (72.50)	24 (60.00)	25 (62.50)	78 (65.00)		
High (9-12)	5 (12.50)	16 (40.00)	15 (37.50)	36 (30.00)		
MRS ± SE	6.65±0.26	8.05±0.28	8.43±0.19	7.65±0.16		
Mean Score	0.554	0.565	0.70	0.63		
Extension agency contact					0.498	30.55
Low (1-7)	6 (15.00)	6 (15.00)	2 (5.00)	14 (11.70)		
Medium (8-14)	32 (80.00)	31 (77.50)	38 (95.00)	101 (84.20)		
High (15-21)	2 (5.00)	3 (7.50)	0 (0.00)	5 (4.19)		
MRS ± SE	10.63±0.36	10.45±0.42	10.33±0.24	10.47±0.20		
Mean Score	0.506	0.497	0.491	0.498		
Overall Information Source Utilization					1.63	100
Low (1-17)	5 (12.50)	1 (2.50)	4 (10.00)	10 (8.33)		
Medium (18-34)	30 (75.00)	35 (87.50)	34 (85.00)	99 (82.50)		
High (35-51)	5 (12.50)	4 (10.00)	2 (5.00)	11 (9.16)		
MRS ± SE	26.38±0.88	27.65±0.87	28.30±0.48	27.44±0.45		
Mean Score	0.51	0.54	0.55	0.53		
Kruskal Wallis H Test= 4.32[NS]						

(Figures in parentheses indicate percentage; MRS: Mean rank Score; SE: Standard Error, MS: Mean Score; MPS: Mean Percent Score)

Table 2. Relationship of information source utilization with independent variables

Independent variables	Dependent variable: - Information source utilization			
	r	r²	B	Sig.
Age	-0.110	0.012	-.068	.074
Education	0.242**	0.058	1.258	.049*
Annual income (Rupees)	0.051	0.002	.008	.958
Land holding (in acre)	0.296**	0.087	.235	.005**
Experience in farming business (Years)	0.185*	0.034	.166	.050*
Total number of trainings	0.046	0.002	-0.13	.973

(r: Correlation coefficient; r^2: Coefficient of Determination; B: Regression Coefficient)

MS of 0.498 and MPS of 30.55. While considering the individual groups, similar results were seen in case of dairy and poultry showing maximum utilization of ICT followed by mass media exposure while in case of pig farmers, ICT utilization was maximum followed by extension agency contacts with MS of 0.565 and 0.497, respectively.

It is evident from Table 2 that education, annual income, land holding, experience in farming business and total number of trainings undergone were positively associated with information source utilization whereas age was negatively associated. This signifies that as age increases, information source utilization decreases, thus making younger age group utilising more information sources. Regression analysis showed that three variables i.e., level of education, land holding and experience in farming business were significant contributors towards information source utilization.

The outcomes of the study are in line with Sachan et al., (2018) who reported that mass media utilization of majority of the dairy farmers was medium. As far as ICT utilization is concerned, the results are in support of the reports of Ndag et al., (2008) who reported that the ICT utilization among majority of respondents from North-central Nigeria was moderate to high. It is also in agreement with the results of Kailash et al., (2017) in which the ICT utilization level of farmers was found to be high. This paves the path towards better adoption of new technologies as suggested by Monikha et al., (2021) that Expert system helped farmers to take decisions to adopt different management practices. As far as extension agency contact is concerned, the results are in agreement with the previous findings of Roy et al., (2015) and Sachan et al., (2018) whereas it was reported that majority of the respondents were having medium level of personal cosmopolite channel usage. The results are also in partial agreement with the study of Shah et al., (2021) who reported that majority of the respondents from two districts (Shopian and Baramulla) had medium level extension agency contact whereas the respondents of Budgam had low level of extension agency contact. In the current study the socio-personal and socio-economic variables were found to be affecting the overall use of information sources. These are consistent with previous research findings which showed the effect of age, education and farm characteristics on ICT adoption (Warren et al., 2000; Ali, 2012; Kusumaningtyas & Suwarto, 2015; Cattaneo et al., 2016; Patra et al., 2020).

CONCLUSION

The study showed that majority of the respondents had medium level information source utilization. ICT utilization was seen to be high among the respondents. The negative association of age with information source utilization of the farmers depicts that young generations were having more information source utilization than the older generation. The positive association of education, experience in farming business and number of trainings undergone explains that those who were have higher education, higher experience in farming and undergone more number if training were seen to be having higher information source utilization. The popularity of ICTs among the farmers and its utilization was higher among the three categories of information sources. Hence, several ICT platforms can be developed to impart quality information and knowledge to livestock and poultry farmers regarding various management practices for effective adoption of those practices. The farmers should be educated and trained to use the ICT tools effectively.

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