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A study on relationship between socioeconomic attributes with knowledge and constraints of fodder production among dairy farmers of Haryana

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Abstract

The study was conducted on 120 dairy farmers randomly selected from the 3 district of Haryana, namely Jind, Charkhi Dadri and Yamunanagar to know about relationship between socioeconomic attributes with knowledge and constraints of fodder production practices among dairy farmers. From each selected district one block was selected randomly and from each block two villages were selected randomly. The data were collected personally through structured interview schedule during 2019-20. The statements of constraints were related with the fodder production and practices i.e. input oriented, marketing, technical and feeding aspects. The list of constraints was comprehensive and prepared by consulting literature, experts and field personals. It was open ended list to add farmers own constraints also. The data were collected by the researcher with the help of pre- tested interview schedule. Appropriate statistical tools were used to analyze the data and same were interpreted to address the objectives. The relationship between independent and dependent variables was found by correlation and regression coefficient. The study further revealed that gender of the respondents negatively and significantly whereas, land holding, mass media exposure, extension contacts, economic motivation, milk production were found to have positive and significant correlation with knowledge level of farmers about green fodder production. This suggests that when the family size increases constraints because this lead to distribution of various resources. Farmers exposed to mass media and have more extension then they get more information about different technology. Knowledge building activities like meetings, discussions, mass media etc. are to be planned and conducted by extension agencies to increase knowledge and thereby adoption of recommended practices.

Keywords: Dairy farming, socio economic, relationship, knowledge, constraints

Introduction

Dairying is an integral part of Indian agriculture and holds significant place in Indian economy. At household level dairying plays an important role in determining the economic condition of 70 million farm families. Indian agriculture has been a mixed farming system integrating crop and dairy as functional and complementary farm enterprise. Dairying is crucial in providing assured employment and nutrition to farm families. It also provides cash income on regular and day to day basis (NSIC, 2013) [7].

Farmers must use scientific dairy husbandry techniques in order to increase production level from dairy farming (Srinivas and Ramesha, 2017) [17]. There is also different cropping pattern of fodder crops in different area in state. However, there are several constraints which vary from from region to region are the biggest barrier for profitable dairy farming. Several variables are affecting the knowledge of fodder production. There are several constraints which affects the fodder production like mass media exposure, land holding, extension contacts, economic motivation, milk production and gender. Farmers with mass media exposure and extension contacts have more knowledge about fodder production this shows that when farmers exposed to mass media and have more extension then they get more information about different technology and this leads to improvement in their knowledge about fodder production practices (Mande *et al.*, 2008) [6].

Gender inequalities in dairy technology adoption and involvement were detrimental, which lowers the likelihood that people will employ newer, more advanced dairy technologies. This indicated that male were relatively better in participation of dairy technologies due to many socio-cultural values and norms. Male farmers are more likely to adopt packages (Taha, 2007) [18] also people with higher economic motivation would restrict to traditional practices (Malik, 2015) [1]. By knowing the constraints faced by dairy farmers the productivity of animal can be improved (Sarita *et al.*, 2017) [11]. Knowledge building activities like meetings, discussions, mass media etc. are to be planned and conducted by extension agencies to increase knowledge and thereby adoption of recommended practices (Chandrasekar *et al.*, 2017) [2]. It was observed that progressive farmer, friends and veterinary officers were mostly contacted extension functionaries. It may be conjectured that people with higher economic motivation are likely to be innovative with better receptivity and scientific orientation. It is very unlikely that people with higher economic motivation would restrict to traditional practices (Sawarkar, 2001) [12]. By identifying these factors that affect fodder production helps in overcoming these constraints, stakeholders can develop targeted interventions, provide access to resources and technical knowledge and promote awareness programs to enhance green fodder production and utilization. Such efforts will contribute to the overall growth and sustainability of the dairy sector while ensuring optimal animal health and productivity. In order to improve dairy husbandry practices, efforts have been made to explore the relationship between various antecedent variables with knowledge and constraints related to green fodder production in urban and peri-urban areas. Thus this study was conducted to know the relationship between socioeconomic attributes with knowledge and constraints of fodder production among dairy farmers of

Haryana that helps dairy farmers in better fodder production for improving the sustainability and profitability of the dairy industry.

2. Materials and Methods

The study was conducted in Haryana state. Out of 22 districts three districts namely Jind, Charkhi Dadri and Yamuna Nagar were selected for the present study. From each selected district one block was selected randomly and from each block two villages were selected randomly (Fig.-1). Therefore, Shahapur and Jivanpur from Jind- II block of Jind, Imlota and Rawaldhi from Dadri-II block of Charkhi Dadri and Begampur and Devdhar from Partap Nagar block of Yamunanagar were selected randomly. A list of farmers from each village was prepared who had experience of dairy farming and fodder cultivation. Twenty respondents were selected from each village by applying simple random technique. Thus from the selected districts total 120 respondents constituted the sample of the study. The respondents were personally interviewed to get first-hand information about knowledge and constraints faced by them about green fodder production by enlisting problems related to i.e. input oriented, marketing, technical and feeding aspects. The data were collected by the researcher with the help of pre tested interview schedule. Appropriate statistical tools were used to analyze the data and same were interpreted to address the objectives. Knowledge level of respondents was taken as dependent variable whereas other factors like Age, Gender, Family size, Education, Land holding, Irrigated area, Herd size, Milk production, Experience in dairy, Family income, Extension contacts, Mass media exposure, Economic motivation. In order to assess the extent of relationship between the selected dependent variable and the independent variables, the data was subjected to Pearson’s correlation and multiple regression analysis.

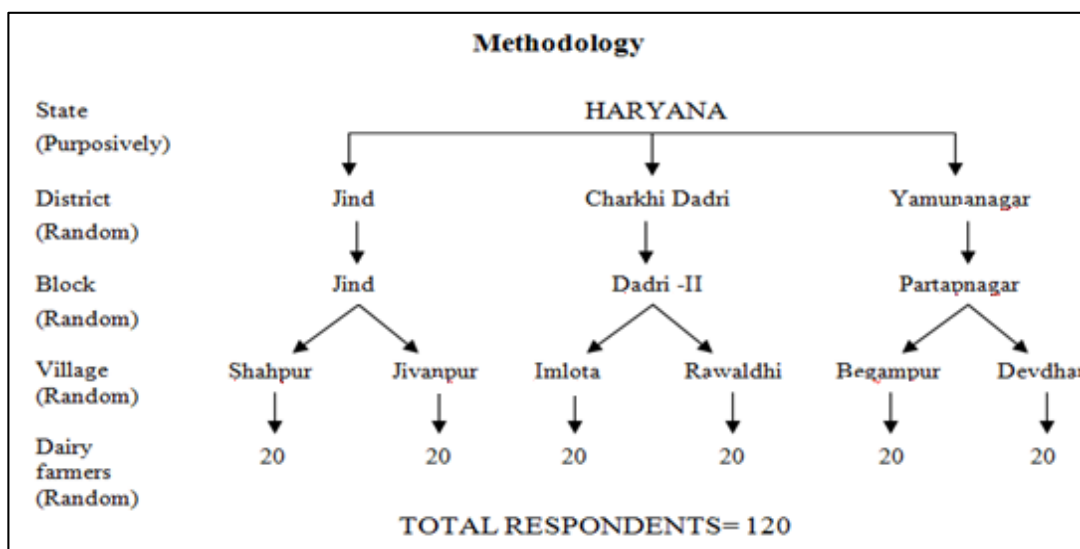


Fig 1: Show Methodology

3. Results and Discussion

3.1 Relationship between antecedent variables and knowledge of farmers in fodder production

The pooled analysis of Data in Table-3.1 indicate that overall knowledge of fodder production have positive and significant relationship with land holding (0.34), milk production ($r = 0.28$), extension contact (0.25), mass media exposure (0.57) and economic motivation (0.61). Farmers with mass media exposure and extension contacts have more knowledge about

fodder production this shows that when farmers exposed to mass media and have more extension then they get more information about different technology and this leads to improvement in their knowledge about fodder production practices. The findings are in line with the Goswami (2010) and Mande *et al.*, (2008) [6]. Dairy farmers with large holding may be having land availability for growing fodders ensuring availability of fodder throughout the year. Knowledge building activities like meetings, discussions, mass media etc.

are to be planned and conducted by extension agencies to increase knowledge and thereby adoption of recommended practices. The findings are in line with the Chandrasekar *et al.*, (2017) [2]. It may be conjectured that people with higher economic motivation are likely to be innovative with better receptivity and scientific orientation. It is very unlikely that people with higher economic motivation would restrict to traditional practices as suggested by finding of Malik, (2015) [1]. On the other hand, it is probably the economic motivation that pushes an individual farmer to try out new things (innovations) and look for improved ways and means. This in turn, means farmers with greater extension contact could acquire knowledge much more easily. This adds strength to our long held belief that an effective extension system goes a long way in increasing the extent of adoption of technologies. Present findings are similar to the findings Malik (2015) [1], Mande *et al.*, (2008) [6], Sharma and Singh (2008) [14], Kumar *et al.*, (2009) [20] and Sharma *et al.*, (2009) [13] and The Variables like age, irrigated area, family income have also shown the negative trends but non-significant. Whereas negative significant relationship with gender at 1 per cent level of significance. This shows middle and old age group of the respondents reflect the withdrawal of youth from dairy farming activities and this might be attributed to absorption of youth in non-farm sector like transport, construction, etc. in and around the study area. Middle and old age group shoulder more family responsibilities. Whereas younger generation is more exposed to diverse occupations and is moving towards cities/towns. The results were in line with the findings of Rathod *et al.* (2011) and Vidya *et al.*, (2009) [20] who reported prominence of old age group in dairying in their study. The coefficient of determination showed that all the 13 variables explained 54.30 per cent variation regarding the knowledge about fodder production practice.

Table 3.1: Relationship between antecedent variables and knowledge of farmers in fodder production

(N=120)

Sr. No.	Variables	Overall knowledge
1	Age	-0.10
2	Gender	-0.59**
3	Family size	0.04
4	Education	0.08
5	Land holding	0.34**
6	Irrigated area	-0.01
7	Herd size	0.09
8	Milk production	0.28**
9	Experience in dairy	0.16
10	Family income	-0.13
11	Extension contacts	0.25**
12	Mass media exposure	0.57**
13	Economic motivation	0.60**

** Significance level = $p < 0.01$

3.2 Contribution of independent variables to the variation in knowledge of fodder production

The data given in Table- 3.2 indicates that out of 13 variables Milk production (2.84), Herd size (3.02), Mass media exposure (3.33) had exhibited significant value of ‘t’ for ‘b’ at 1 per cent level of probability. It shows that Milk production, Herd size, Mass media exposure has positive and significant effect on fodder production. The coefficient of determination (R^2) showed that all the 13 variables explained 54.30 per cent variation regarding the knowledge about fodder production practices.

Table 3.2: Contribution of independent variables to the variation in knowledge of fodder production practices

(N=120)

Sr. No.	Variables	Overall knowledge		
		B	Se	T
1	Age	-0.07	0.14	-0.50
2	Gender	-4.98	1.46	-3.42**
3	Family size	-0.03	1.51	-0.02
4	Education	-0.14	0.58	-0.24
5	Land holding	-1.61	0.95	-1.69
6	Irrigated area	0.34	0.42	0.79
7	Herd size	0.79	0.26	3.02**
8	Milk production	0.18	0.06	2.83**
9	Experience in dairy	0.06	0.14	0.46
10	Family income	0	0.03	-0.13
11	Extension contacts	0.56	0.45	1.23
12	Mass media exposure	1.58	0.47	3.33**
13	Economic motivation	-0.39	0.37	-1.06
Coefficient of determination(R^2) =0.543				

**Significance level = $p < 0.01$

3.3 Relationship between antecedent variables and constraints perceived by farmers in fodder production

The correlation coefficient worked out between antecedent variables of respondents and the constraints faced by respondents in fodder production have been presented in Table-3.3 .It indicated that family size (0.298) had positive and significant relationship at 1 per cent level of significance and any other variable is not significantly correlated with the constrained perceived by farmers in fodder production. This suggests that when the family size increases constraints perceived also increase. This show when members of family increase this lead to distribution of various resources, but the source of income is limited so respondents perceived more constraints as compare to the respondents with small family size. Even the proportion of land allocated for grazing is declining from year to year, as cropping is expanding into marginal lands that used to be for grazing in earlier times. Decline in grazing land, in general, has become one of the most important causes of feed shortage and drop in livestock holding. These finding were similar to Tesfaye *et al.*, (2001) [19].

Whereas mass media exposure have (-0.30) had negative significant relationship at 1 per cent of significance. This suggests that as the farmers exposed to mass media constraints perceived by the farmers decreased. Exposure to mass media like radio, television, newspaper, magazines etc., has helped the farmers in knowing the various benefits. The farmer felt that the mass media enabled them to increase their perceived knowledge in fodder production to increase agricultural production. These finding were similar to Madhu *et al.*, (2020) [5].

Table 3.3: Relationship between antecedent variables and constraints perceived by farmers in fodder production (N=120)

Sr. No.	Variables	Overall constraints
1	Age	-0.017
2	Gender	0.041
3	Family size	0.298**
4	Education	0.092
5	Land holding	-0.109
6	Irrigated area	-0.036
7	Herd size	-0.039
8	Milk production	0.037
9	Experience in dairy farming	-0.046
10	Family income	0.014
11	Extension contacts	0.048
12	Mass media exposure	-0.30**
13	Economic motivation	0.013

** Significance level = $p < 0.01$

4. Conclusion

Overall knowledge of fodder production had positive and significant relationship with landholding, milk production, extension contacts, mass media exposure and economic motivation. Family size was significantly correlated with the constraints and mass media was found negatively significance correlated other variables were non-significantly correlated with the constrained perceived by farmers in fodder production. Since, change in knowledge preceded acceptance and application of an innovation, it was therefore, always important to find out the factors responsible for positive or negative disposition associated with farmer toward fodder production and feeding practices. Research and development efforts, the trend towards quicker and cheaper means of disseminating and sharing information, availability of financial resources, pressures from consumers, non-government organizations, the media and the public in general are contributing towards facilitating the adoption of sustainable farm technologies. Many policies, including those relating to agriculture, environment and research and development are providing a combination of incentives and disincentives to technology adoption. There is a need to manipulate these factors by the extension agencies/NGO through conducting various extension programmes, group discussions, demonstrations, workshops etc. Necessary steps to be taken to improve productivity through scientific interventions are essential. Efforts should be made to update their knowledge level by organizing on farm trials and demonstrations. Extension agencies should gear up to educate the farmers through trainings, demonstrations, field days, exhibitions etc.

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