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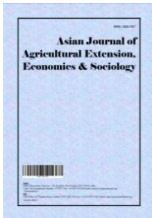
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Assessing the Attitude of Farmers towards Improved Fodder Production Technologies in Jhansi District of Bundelkhand Region

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

The present study was carried out in 2020 with the aim of assessing farmer's attitude towards improved fodder production technology in Jhansi district of Bundelkhand region. An ex post Facto research design was used in the present study. Three villages from Babina block were selected purposively for investigation of farmer's attitude towards various fodder based technological intervention. From each village, 20 farmers were purposively selected. Thus, a total of 60 farmers were selected for the present study. The results revealed that majority of the respondents belonged in middle age category (58.33%), more than one third had middle class education (36.67%), medium family size (53.34%), semi-medium land holding (41.67%), percentage of the respondents involved in dairy+crop farming (100%), medium herd size (53.33%), medium experience in dairy farming (51.67%) and medium annual income i.e. Rupees 155000 to 350000 (53.34%). The results revealed that majority of the participants who had high, moderate and low attitude towards improved fodder production technologies were 16.67, 23.33 and 15.00% respectively. It was concluded that,

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there was an inclination of positive response and concern for improved fodder technologies among respondents and vast majority of the respondents (85.00 %) had a moderately to highly favorable attitude.

Keywords: *Attitude; Bundelkhand region; fodder crops; IFPT; Jhansi.*

1. INTRODUCTION

Adoption of any new technology is a very intricate and dynamic process. It's determined by many factors such as perceived attributes of the technologies, respondent's circumstances and conditions. The adopter perception model suggests that the perceived attributes of innovations, prevalent condition and adoption behavior of farmers had significant effect on adoption process [1,2]. Thus, adoption of technologies depends on farmers' judgment or evaluation of the value of the agricultural technology to them. Farmer's evaluation depends on many factors; some of them are personal, others reflecting on simplicity in adoption, utility, efficiency, economy and relative advantage of the technology. Farmers will reject an agricultural technology that is not relevant to their felt needs, not suited to their environmental condition and one that may hinder the other activities that are considered to be important for them. These subjective attributes or characteristics have shown significant impact on technology adoption decisions [3,4,5]. Before intervention of any improved fodder production technologies; (i.e. Sorghum, BN hybrid, Berseem and Oat) it's necessary to examine farmers view point, attitude and perception about these intervention. Because farmers' attitude have significant effect on adoption of improved fodder production technologies and therefore; it is very important to define the kind of fodder suitable to Jhansi district of Bundelkhand region and examine whether those introduced to the farmers were suitable to them. Keeping above factor in mind; the present study was conducted to find out the attitude of farmers towards improved fodder production technologies. This study improves on the approach of analyzing farmers' attitude in technology adoption process; thus on the basis of it, new and innovative fodder production technologies introduced.

2. MATERIALS AND METHODS

The study was carried out in Babina block, Jhansi district of Bundelkhand region. Three villages namely Rajapur, Amarpur and Imiliya were selected purposively as ICAR-IGFRI,

Jhansi introduced fodder demonstrations program for enhancing farmer's income through multiple technological interventions related to fodder production, conservation and utilization aspect. From each village, 20 farmers were selected on the basis of purposive sampling methods. Thus, the study sample comprised of 60 farmers from three villages spread over Babina block of the Jhansi district. To measure attitude of farmers, an attitude scale was developed by following Likert Method of Summated Rating scale) on improved fodder production technologies [6]. Statement related to attitude of farmers towards improved fodder production technologies was gathered using Likert type scale questions. All the questions were rated on a 5-point Likert type scale ranging from strongly agree, agree, neutral, disagree and strongly disagree. Both positive and negative statements were used in attitude scale. For negative statements score were assigned as 1=strongly agree, 2=agree, 3=undecided, 4=disagree, 5=strongly disagree agree. Items must be reverse-coded so that higher values indicate more positive attitude of respondents towards new fodder production technologies. For positive statements score were assigned as 5=strongly agree, 4=agree, 3=undecided, 2=disagree, 1=strongly disagree. On the basis of attitude score obtained, farmers were categorized into three categories which was least favorable, moderately favorable and highly favorable attitude towards improved fodder production technologies. The attitude scale has typically been used in studies to assess the attitude of farmers towards improved fodder production technologies. Appropriate statistical tools like frequency, percentage etc. were used and data were analyzed by using Microsoft Office Excel Worksheet to draw meaningful conclusion.

3. RESULTS AND DISCUSSION

The results revealed that (Table 1) majority of the respondents (58.33%) belonged to middle age category, about one third (36.67%) of the respondents had middle education, about half of the respondents (53.34%) were having medium family size, 100 percentage of the respondents were engaged in dairy along with crop

farming. About one third of the respondents (41.67 %) were having semi medium land holdings, half of the respondents (53.34%) were in medium income category (155000 to 350000 rupees), half of the respondents (53.33%) were having medium herd size (4 to 7 animals), half of the respondents (51.67%) had medium experience (7 to 12 years) in dairy farming, cent percent of the possessed and used mobile phone for obtaining information and majority (95%) of the respondents considered Indian Grassland and Fodder Research Institute Scientist as the most important source of information to update the knowledge on fodder production technologies

followed by Krishi Vigyan Kendra's Scientist (88.33%). This is because livestock farming appeared as major sources of income in rural areas and most of the respondents growing fodder also kept animals so that at least they could produce dairy products for consumption and marketing to earn money. The majority of farmers had low land holdings, which is common in India and other developing countries. The findings were in conformity with the study of Verma et al. [7], Tomar et al. [8] and Panchbhai et al. [9] while contrary to the study of Verma et al., [10] that majority of the respondents (50.88%) belonged to young age category.

Table 1. Distribution of respondents on the basis of socio-demographic profile (n=60)

Sl. No.	Variables	Category	Frequency	%
1.	Age	Young (up to 35 years)	6	10.00
		Middle (36 to 50 years)	35	58.33
		Old (more than 50 years)	19	31.67
2.	Education	Primary	9	15.00
		Middle	22	36.67
		Secondary	11	18.33
		Higher secondary	10	16.67
		Graduate and above	8	13.33
3.	Family Size	Small (<5)	17	28.33
		Medium (5 to 7)	32	53.34
		Large (>7)	11	18.33
4.	Landholding	Marginal (<1 ha)	5	8.33
		Small (1 ha to 2 ha)	15	25.00
		Semi medium (2 ha to 4 ha)	25	41.67
		Medium (4 ha to 10 ha)	9	15.00
		Large (> 10 ha)	6	10.00
5.	Occupation	Dairy + Crop farming	60	100
		Dairy + Crop farming+ Service	8	13.33
		Dairy + Crop farming+ Business	7	11.67
6.	Herd Size	Small (<4 animals)	15	25.00
		Medium (4 to 7 animals)	32	53.33
		Large (>7 animals)	13	21.67
7.	Experience in dairy farming	Low experience (<7 years)	11	18.33
		Medium experience (7 to 12 years)	31	51.67
		High experience (>12 years)	18	30.00
8.	Annual Income	Low (<155000 rupees)	11	18.33
		Medium (155000 to 350000 rupees)	32	53.34
		High (>350000 rupees)	17	28.33
9.	ICT tools possession and utilization	Radio	29	48.33
		Mobile	60	100
		Television	37	61.67
		Computer	7	11.67
10.	Source of Information	IGFRI Scientist	57	95.00
		KVK Scientist	53	88.33
		Veterinary officers	27	45.00
		Extension Worker of line department	37	61.67
		Mass Media	33	55.00
		Friends & Relatives	21	35.00

KVK=Krishi Vigyan Kendra, IGFRI=Indian Grassland and Fodder Research Institute

3.1 Attitude of Farmers Towards Improved Fodder Production Technologies

The results revealed that (Table 2) majority of the respondents had positive attitude about improved fodder production technologies'. Respondents strongly responded in favor of almost all the positive statements, like: (7) Better yield than local variety; (6) Quality of improved fodder crop are better than local variety; (1) I prefer improved variety than local variety of fodder crops; (17) There is huge difference in productivity of improved and local variety; (8) They have good storage or silage making quality; (11) Easier to market seed produced from improved fodder technologies than local variety; (12) Better in taste than local variety; (16) Improved technologies makes farmers feel socially relevant; (18) They are usually less time taking; (5) Adoption of improved fodder technologies require regular contact with extension workers; (14) Improved fodder technologies compatible with my environment; (15) Improved fodder

technologies are less exhaustive i.e. 71.67, 68.33, 61.67, 58.33, 55.00, 53.33, 46.67, 41.67, 40.00, 28.33, 26.67 and 25.00 percent, respectively. The outcome of the study supported by the study of Sarwar et al. [11] and Younas and Yaqoob, [12] that maize, berseem and sorghum were the most important and preferred fodder crops and most of the farmers grew fodder for their own livestock.

While respondents strongly negatively responded (Table 2) in favour of almost all the negative statements, like: (20) It requires more capital outlay; (4) Improved fodder variety are too complex in the process of adoption; (9) Improved fodder production technologies are more expensive than local variety; (19) Inputs of new fodder technologies are usually unavailable; (3) It is usually for the rich farmers only; (10) Have high labor requirement; (2) Improved technologies are only for the educated farmers; (13) They are not culturally suitable i.e. 51.67, 48.33, 48.33, 46.67, 45.00, 41.67, 38.33 and 18.33 percent, respectively.

Table 2. Distribution of respondents on the basis of their scale value (n=60)

Sl. No.	Attitude statements	SA	A	U	DA	SDA
1.	I prefer improved variety than local variety of fodder crops	37 (61.67)	17 (28.33)	2 (3.33)	3 (5.00)	1 (1.67)
2.	Improved technologies are only for the educated farmers	5 (8.33)	3 (5.00)	1 (1.67)	28 (46.67)	23 (38.33)
3.	It is usually for the rich farmers only	2 (3.33)	3 (5.00)	4 (6.67)	24 (40.00)	27 (45.00)
4.	Improved fodder variety are too complex in the process of adoption	1 (1.67)	2 (3.33)	3 (5.00)	25 (41.67)	29 (48.33)
5.	Adoption of improved fodder technologies require regular contact with extension workers	17 (28.33)	33 (55.00)	2 (3.33)	5 (8.33)	3 (5.00)
6.	Quality of improved fodder crop are better than local variety	41 (68.33)	15 (25.00)	0 (0.00)	3 (5.00)	1 (1.67)
7.	Better yield than local variety	43 (71.67)	13 (21.67)	1 (1.67)	2 (3.33)	1 (1.67)
8.	They have good storage or silage making quality	33 (55.00)	21 (35.00)	3 (5.00)	1 (1.67)	2 (3.33)
9.	Improved fodder production technologies are more expensive than local variety	7 (11.67)	4 (6.67)	1 (1.67)	19 (31.67)	29 (48.33)
10.	Have high labour requirement	6 (10.00)	7 (11.67)	1 (1.67)	21 (35.00)	25 (41.67)
11.	Easier to market seed produced from improved fodder technologies than local variety	32 (53.33)	18 (30.00)	3 (5.00)	5 (8.33)	2 (3.33)
12.	Better in taste than local variety	28 (46.67)	25 (41.67)	1 (1.67)	2 (3.33)	4 (6.67)
13.	They are not culturally suitable	9 (15.00)	18 (30.00)	7 (11.67)	15 (25.00)	11 (18.33)

Sl. No.	Attitude statements	SA	A	U	DA	SDA
14.	Improved fodder technologies compatible with my environment	16 (26.67)	27 (45.00)	3 (5.00)	6 (10.00)	8 (13.33)
15.	Improved new fodder technologies are less exhaustive	15 (25.00)	32 (53.33)	4 (6.67)	3 (5.00)	6 (10.00)
16.	Improved technologies makes farmers feel socially relevant	25 (41.67)	26 (43.33)	1 (1.67)	3 (5.00)	5 (8.33)
17.	There is huge difference in productivity of improved and local variety	35 (58.33)	17 (28.33)	0 (0.00)	2 (3.33)	6 (10.00)
18.	They are usually less time taking	24 (40.00)	28 (46.67)	1 (1.67)	3 (5.00)	4 (6.67)
19.	Inputs of improved fodder technologies are usually unavailable	4 (6.67)	5 (8.33)	2 (3.33)	21 (35.00)	28 (46.67)
20.	It requires more capital outlay	3 (5.00)	6 (10.00)	1 (1.67)	19 (31.67)	31 (51.67)

SA=Strongly Agree, A=Agree, U=Undecided, DA=Disagree, SDA=Strongly Disagree

Table 3. Distribution of respondents on the basis of their overall attitude towards improved fodder production technologies (n=60)

Sl. No.	Attitude level	Respondents (n=60)	
		Frequency	Percentage
1.	Least favorable (<81.64)	9	15.00
2.	Moderately favorable (81.64 to 93.21)	14	23.33
3.	Highly favorable (>93.21)	37	61.67

3.2 Categorical Distribution of Respondents on the Basis of Their Overall Attitude Towards Improved Fodder Production Technologies (n=60)

The findings regarding overall attitude (Table 3) of respondents towards improved fodder production technologies revealed that, 61.67% had a highly favorable attitude towards improved fodder production technologies, while only 15.00 percent of the respondents had low or least favorable attitude. However, 23.33 percent of the respondents had a moderate attitude towards improved fodder production technologies. The results indicated that 51 respondents were having moderate to highly favorable attitude towards improved fodder production technologies. That means respondents were much concerned for introduction of new or improved fodder production technologies in their farm. From this we can conclude that there is inclination of positive response and concern for improved fodder technologies among respondents and vast majority of the respondents (85.00%) had a moderately to highly favorable attitude. The outcome of the present study are somewhat in line with the study of Rathod [13] which reported that majority of the

respondents had medium level of favorable attitude towards green fodder Cultivation. The findings of the study are contrary to the study of Javeed et al. [14] who reported that about 41.66 per cent of respondents had low favourable attitude towards the feeding of green fodder crops followed by a high (35.84%) and Medium (22.50%) favourable attitude towards the feeding of green fodder crops.

4. CONCLUSION

The study revealed that majority of respondents had positive attitude towards improved fodder production technologies and they were concerned for introduction of improved fodder production technologies in their farm. Since farmer attitude about usefulness and profitability of the technologies significantly affects both the probability and the intensity of having the improved fodder production technologies on the farm, it is important that for any new or improved technology to be introduced to the farmers, farmers should be involved in its evaluation to find the suitability of technologies to the farmers' circumstances.

CONSENT

Informed consent of the entire respondent was taken before conducting the personal interview.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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