

## RESEARCH ARTICLE

# Adoption of Green Fodder Production Practices in Watersheds of Bidar District, Karnataka

Md. Arif Javeed<sup>1</sup>, KC Veeranna<sup>2</sup>, T Thirumalesh<sup>3</sup>, Prakashkumar Rathod<sup>4</sup>, GT Gopala<sup>5</sup>, Channappagouda Biradar<sup>6</sup>

### ABSTRACT

An ex-post-facto study was conducted to know the adoption status of green fodder production, reasons for adoption or non-adoption, and constraints faced by using a pretested interview schedule through personal interview method. The study involved 120 respondents of Bidar District, Karnataka, which revealed that the majority of the respondents were non-adopters of fodder production practices followed by adopters (38%). Although this adoption seems to be low, it should be further noted that the status of fodder adoption had improved over the period, which might be due to the implementation of KWDP-Sujala-III project activities in the study area. Further, this study has also focused on the reasons for adoption, non-adoption, and discontinuation of fodder production practices. The study also revealed that farmers faced constraints like scarcity of water, non-availability of inputs, lack of knowledge, etc. in the study area. The study concluded that there is a need to maximize participatory demonstrations and capacity building programs to make the farmers adopt fodder production practices through need-based and demand-driven research and extension approaches for improved dairy production.

**Keywords:** Adoption, Bidar, Constraints, Green fodder, Karnataka, KWDP-Sujala-III Project, Livestock owners.

*Ind J of Vet Sci and Biotech* (2020); 10.21887/ijvsbt.15.4.7

### INTRODUCTION

The livestock sector is one of the fastest-growing segments of the agricultural economy, particularly in the developing world (Delgado *et al.*, 2009). Despite rapid advances in the animal husbandry technologies and their roles in improving livestock sector, the productivity of this sector is still very low in India (Chander *et al.*, 2010) which may be due to poor adoption and diffusion of scientific practices in animal husbandry and dairying (Rathod *et al.*, 2014). Among various livestock production practices, green fodder production is considered very promising but faces huge regional variations in terms of adoption due to several reasons like lack of inputs, poor knowledge, etc. Although farmers need to know about the importance of cultivation and feeding of green fodder for improving productivity, there is poor adoption among the farmers, which must be highly emphasized. With this theoretical background, an attempt was made to study the adoption level of fodder production, reasons for adoption or non-adoption apart from highlighting the constraints faced by dairy farmers in green fodder production in watershed areas of Bidar district in Karnataka state, India.

### MATERIALS AND METHODS

The study was conducted in purposively selected KWDP-Sujala III watershed project areas of Humnabad and Aurad talukas of the Bidar district in Karnataka, India. The data was collected from March to July, 2018. From each taluka, four villages were selected randomly for study, making a total of eight villages. Further, 15 respondents were selected from

<sup>1</sup>Part of M.V.Sc Thesis submitted by first author. Present Address: Veterinary Officer, Veterinary Dispensary, Mallekavu, Koratagere Taluka, Tumkur District, Karnataka State, India

<sup>2</sup>Registrar, KVAFSU, Bidar, Karnataka, India

<sup>3</sup>Professor and Head, Department of Instructional Livestock Farm Complex, Veterinary College, Shivamogga, Karnataka, India

<sup>4</sup>Assistant Professor, Department of Veterinary and A.H Extension Education, Veterinary College, Bidar, Karnataka, India

<sup>5</sup>Assistant Professor, Department of Veterinary and A.H Extension Education, Veterinary College, Shivamogga, Karnataka, India

<sup>6</sup>Assistant Professor, Department of Veterinary and A.H Extension Education, Veterinary College, Bidar, Karnataka, India

**Corresponding Author:** Prakashkumar Rathod, Assistant Professor, Department of Veterinary and A.H Extension Education, Veterinary College, Bidar, Karnataka, India, e-mail: prakashkumarkr@gmail.com

**How to cite this article:** Javeed, M.A., Veeranna, K.C., Thirumalesh, T, Rathod, P., Gopala, G.T. and Biradar, C. (2020). Adoption of Green Fodder Production Practices in Watersheds of Bidar District, Karnataka. *Ind J Vet Sci and Biotech*, 15(4): 38-42.

**Source of support:** Nil

**Conflict of interest:** None.

**Submitted:** 07/04/2020 **Accepted:** 16/04/2020 **Published:** 15/05/2020

each village by random sampling to make the sample size of 120 respondents. The primary data was collected through a personal interview method with the help of a pretested semi-structured interview schedule to know whether the farmers had adopted fodder production practices in this study area

with a score of 3, 2, and 1 for adopted, non-adopted and discontinuation of fodder production practices. Further, if there was the adoption of fodder production, such farmers were categorized into four categories depending on the number of years since when the respondents followed the fodder production practices. The categories noted were fodder production introduced for more than 4 years and above, since last 2-4 years, since last 0-2 years and the practice irregularly adopted. An effort was also made to study the reasons for adoption/non-adoption and discontinuation of fodder production practices in the study area. Further, constraints or problems faced by the respondents in the adoption of fodder production practices were also noted in the study. A set of questions about the socio-personal and psychological characteristics of the respondents was also enquired. The information collected was tabulated and

analyzed using relevant statistical tools, and the results were discussed accordingly, keeping in view the objectives laid for the study.

## RESULTS AND DISCUSSION

### Socio-personal, economic and psychological characteristics of respondents

Table 1 shows that majority of the respondents in the study area belong to the middle age group with the average age of 46 years which might be attributed to the fact that middle-aged farmers were more cosmopolite, hardworking and did not hesitate to take an economic risk when compared to old farmers. Further, the majority of respondents were found illiterate, followed by those having education up to primary school, which might be due to their poor economic status,

**Table 1:** Socio-personal, economic and psychological characteristics of respondents N = 120

Variables	Mean and S.D	Categories	Frequency	Percentage
Age	Mean-46.175 S.D-10.358	Young age	19	15.84
		Middle age	81	67.50
		Old age	20	16.66
Education	Categorical value	Illiterate	56	46.66
		Primary school	25	20.84
		High school	24	20.00
Family type	Categorical Value	College and Above	15	12.50
		Nuclear	65	54.16
		Joint	55	45.84
Occupation	Categorical value	Agriculture	111	92.50
		A.H	02	01.66
		Business	06	05.00
		Government service	01	00.84
Herd size	Mean-3.077 S.D-1.123	Labour	00	00.00
		Low	09	07.50
		Medium	93	77.50
Experience in dairy farming	Mean-6.725 S.D-3.449	High	18	15.00
		Low	17	14.16
		Medium	87	72.51
Landholding	Mean-4.716 S.D-2.647	High	16	13.33
		Low	04	03.33
		Medium	106	88.34
Experience in fodder production	Mean-6.608 S.D-3.569	High	10	08.33
		Low	17	14.16
		Medium	87	72.51
Annual income	Mean-72808.333 S.D-39182.0	High	16	13.33
		Low	03	2.51
		Medium	113	94.16
		High	04	3.33
Social participation	Categorical Value	Nil	112	93.33
		Member of one organization	06	5.00
		Member of more than One Organization	02	1.67
		Office bearer	00	0
		Public leader	00	0

Contt...

Contt...

Distance from the veterinary institution	Mean-40.5 S.D-8.219	Less	16	13.33
		Medium	46	38.33
		Longer	58	48.34
Average time spent to receive service	Mean-31.7 S.D-13.568	Less time	13	10.84
		Moderate time	84	70.00
		Delayed time	23	19.16
		Veterinary officer	75	54.16
Common service provider	Categorical Value	VLI	65	45.84
		Local healer	00	0.00
		Any other	00	0.00
Information seeking behavior	Mean-32.0 S.D-2.882	Low	14	11.67
		Medium	84	70.00
		High	22	18.33
Extension participation	Mean-15.4 S.D-4.082	Low	26	21.66
		Medium	75	62.50
		High	19	15.84
Decision-making ability	Mean-15.116 S.D-4.421	Low	40	33.33
		Medium	75	62.51
		High	05	4.16
Scientific orientation	Mean-12.491 S.D-5.329	Low	44	36.66
		Medium	29	24.17
		High	47	39.17
Economic orientation	Mean-12.066 S.D-4.959	Low	42	35.00
		Medium	49	40.84
		High	29	24.16
Risk orientation	Mean-11.891 S.D-4.920	Low	43	35.84
		Medium	38	31.66
		High	39	32.50

improper guidance, and less awareness about the importance of education. A majority (54.16%) of respondents belong to nuclear family type since the majority of the farm families had interaction with the urban population and migration to urban areas.

Majority (92.50%) of the respondents pursued both agriculture and animal husbandry as their source of livelihood since these occupations were interdependent and integrated for generations. The study (Table 1) also indicated that the majority of respondents had medium levels of herd size, experience in dairy farming, landholding, experience in fodder production, and annual income. This might be because a majority of respondents belong to a nuclear family with agriculture and livestock as a major occupation possessing a manageable herd size and landholding over some time. Due to limited land and livestock holding, the farmers could earn medium-income primarily through agriculture and animal husbandry in the study area. The Table 1 depicts that majority (93.33%) of the respondents did not have any social participation, had high distance from a veterinary institution and received service in moderate time, which could be attributed to low level of education, hesitation in working in a group to solve the problems, did not show interest in social participation for their

development. Further, it was found that (Table 1) majority of respondents were in the medium category of information-seeking behavior, extension participation, decision-making ability, and economic orientation. This might be due to poor education level and poor social participation leading to negligible contact with other organizations or extension functionaries in the study area. Further, it was observed that majority of the respondents were in medium decision-making ability, which means that all the members were involved in decision making related to different aspects of dairy farming. It was found that majority of the dairy farmers were in a high level of scientific orientation, medium category of economic orientation, and low-risk orientation. Although high to medium scientific orientation was a positive trend in the study area, the farmers lacked the interest to involve in scientific dairy farming due to their poor economic status and low risk-taking ability. Almost similar findings were also reported by Krunal *et al.* (2014) and Rathod *et al.* (2014).

#### The extent of adoption of fodder production practices

The study revealed that majority of the respondents (55.84%) were non-adopters of fodder production practices followed by adopters (38.33%). Further, 5.83% respondents



**Table 2:** Distribution of respondents based on the reasons for adoption/non-adoption and discontinuation of fodder production practices  
N = 120

S.N.	Reasons/Statements	Frequency	Percentage
<i>Reasons for adoption</i>			
1	Help to solve the fodder related problems	38	31.66
2	Fodder availability throughout the year	40	33.33
3	Improves animal health and milk production	46	38.33
4	Selling root slips and seeds to other farmers	10	8.33
<i>Reasons for non-adoption</i>			
1	Non-availability of inputs at the village level	60	50.00
2	Lack of information about the sources of fodder seeds and root slips	67	55.83
3	Lack of information about different fodder varieties	61	50.83
<i>Reasons for discontinuation</i>			
1	Less production of the adopted variety of fodder	6	5.00
2	No improvement in the performance of the animal	5	4.16
3	Animal production is good with the local fodder variety	7	5.83

discontinued this practice due to several reasons. Although adoption seems to be about 38%, it should be further noted that the status of fodder adoption had improved over the period, which might be due to the implementation of KWDP-Sujala-III project activities in the study area. Further, among the adopted farmers, it was interesting to note that majority of the respondents (69.58%) adopted fodder production practices for 2 years, followed by 15.21% farmers in 2-4 years category. Further, 15.21% of farmers were irregular in the adoption of fodder production practices in the study area. Similar findings were also reported by Khin (2005), Basunathe *et al.* (2010), and Rathod (2016).

#### Reasons for adoption/non-adoption and discontinuation of fodder production practices

An effort was made to study the reasons for adoption/non-adoption and discontinuation of fodder production practices in the study area. The findings are depicted in Table 2.

#### Constraints faced by farmers in green fodder production

The study identified significant constraints faced by respondents in green fodder production. Some of the constraints were scarcity of water (79.16%), non-availability of inputs (74.16%), lack of agriculture land (73.33%), lack of awareness about fodder production (70.83%), preference for the cultivation of food crops (70.00%), non-availability of labor (66.00%) and lack of fencing (55.00%) in the study area. The above observations were similar to the findings reported by Taylor *et al.* (2012) and Rathod (2016).

#### CONCLUSION

The study revealed that majority of the respondents were non-adopters of fodder production practices followed by adopters (38%). Although this adoption seems to be low, it should be further noted that the status of fodder adoption

had improved over the period, which might be due to the implementation of KWDP-Sujala-III project activities in the study area. Further, this study has also focused on the reasons for adoption, non-adoption, and discontinuation of fodder production practices. The study also revealed that farmers faced constraints like scarcity of water, non-availability of inputs, lack of knowledge, etc. in the study area. The study concluded that there is a need to maximize participatory demonstrations and capacity building programs to make the farmers adopt fodder production practices through need-based and demand-driven research and extension approaches. The concerned organizations have to focus on the relevant factors which need to be improved upon for improving the adoption status of green fodder production in the study area.

#### ACKNOWLEDGMENTS

This study is a part of the World Bank-funded KWDP- Sujala-III Project of KVAFSU, Bidar, through Government of Karnataka. The authors gratefully acknowledge the funds granted by the Government of Karnataka and sincerely thank all the respondents for sharing their valuable views in the study.

#### REFERENCES

- Basunathe, V. K., Sawarkar, S. W., and Sasidhar, P. V. K. (2010). Adoption of dairy production technologies and implications for dairy development in India. *Outlook Agric.*, **39**: 134-140.
- Chander, M., Dutt, T., Ravikumar, R., and Subrahmanyeswari, B. (2010). Livestock technology transfer service in India: A review. *Indian J. Anim. Sci.*, **80**:1115-1125.
- Delgado, C., Rosegrant, M., Steinfeld, H., Ehui, S. and Courbois, C. (2009) Livestock to 2020. The next food revolution. IFPRI Publication, Washington, USA.
- Khin, M. O. (2005). Knowledge and adoption of improved dairy management practices by women dairy farmers in Dharwad

- district. M. Sc. thesis, (unpub.), University of Agricultural Sciences, Dharwad, India.
- Krunal, D. G., Nethravathi, G.V, and Pandyl, O. V.(2014). Profile analysis of dairy farm women in adoption of scientific practices. *International J. Agric. Ext.*, **2**(3): 159-163.
- Rathod, P., Hiremath, S., Manjunathachar, H.V., Balaraj, B.L and Bangar, Y. (2014). Adoption status of livestock innovations and factors affecting their adoption in Bidar district of Karnataka. *The Indian J. Field Veterinarians*, **9** (4):62-65.
- Rathod, P. (2016). Attitude of dairy farmers towards cultivation of green fodder crops in Bidar district of Karnataka. *Indian J. Vet. Sci. and Biotechnology*, **12** (3): 152-156.
- Tailor, R., Meena, G. L., Sharma, L. and Sharma, F. L. (2012). Constraints faced by the tribal farmers in dairy Farming in Udaipur district. *Raj. J. Extn. Edu.*, **20**: 187-189

