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

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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.

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 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.

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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,

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

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

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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
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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.

| S.N. | Reasons/Statements                                      | Frequency | Percentage |
|------|--------------------------------------------------------|-----------|------------|
| 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       |
| 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      |
| 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       |

**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 Tailor 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.

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