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Constraints and suggestions in adoption of dryland farming technologies

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Abstract

The goals of the current study, "Constraints in Adoption of Dryland Farming Technologies," were to examine the psychological, socioeconomic, and personal traits of dryland farmers as well as the obstacles they experience in implementing new technology. The majority of dryland farmers were primary educated (39.17%) and middle-aged (60.00%). Their family size was medium (65.83%), their annual income was medium (75.83%), their land holding was small (45.83%), cropping pattern was medium (63.33%), Social participation was medium (63.33%), their use of information sources was moderate (52.50%), their extension contact were medium (45.00%), their risk orientation was medium (60.00%), innovativeness was medium (65.00) and their knowledge of dryland farming technologies was medium (65.00%), and their adoption of these technologies was moderate (71.67%). The major constraints reported by dryland farmers were high labour cost and their shortage, high input cost, lack of information about antitranspirants, biofertilizer seed treatment, drought resistant varieties.

Keywords: Dryland technology, adoption, farming, constraints, farmers profile

Introduction

Latur district comes under Central Maharashtra plateau Zone and divided into 6 farming situations based on the cropping pattern, availability of irrigation source, soil class, temperature levels and rainfall data. Rainfed area is 83% and irrigated only 17.00 percent. We have not been using even the available potential properly. Agriculture and allied activities are the main sources of livelihood for majority of rural masses and control the economy of the district. Out of total geographical area of Latur, area under cultivated cereal crops like soybean, Sorghum, Bajra, Maize, Wheat is 60599 ha out which only 4452 ha area is under irrigated cereal crops. Area under Pulse crops like Pigeon pea, Gram, Green gram, Black gram is 377209 ha out of which 18325 is irrigated, Oilseed has 46089 ha area out of which 5313ha is irrigated area for oilseeds (Soybean, Safflower, Sunflower, Groundnut), 5940 ha area for cotton, 57619 ha area for sugarcane and other area for fruits, vegetables etc. Soybean is major crop in Latur. The area under soybean is 457823ha which is 70.06 percent of net cultivated area. Proportion of jowar is also maximum in Kharif season followed by Cotton, Pigeon pea, Sugarcane, bajra etc. Similarly, proportion of R. Jowar is maximum in rabi season. Crops like Wheat, sugarcane, gram, rabi jowar are cultivated on irrigated area. (<https://latur.gov.in>). In light of this, an effort has been made to investigate the extent to which farmers have adopted recommended dry land agricultural technology in relation to their socioeconomic, communication, and psychological traits. Additionally, the researchers hope to identify the barriers that farmers perceive to their adoption of these technologies and provide recommendations for solutions.

Objective

To Constraints faced by the respondents in adoption of dryland farming technologies and to invite their suggestions to overcome it.

Methodology

The current study was undertaken in 2022–2023 in the Latur district of the Marathwada region of the state of Maharashtra. The three tahsils in Latur, AUSA, and Renapur were selected at random from the ten tahsils in the Latur district. For the aims of the study, four villages from each tahsil were selected. Out of three tahsils, a total of twelve villages were selected for the study.

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Ten respondents were chosen at random from each of the villages that were chosen. Thus, a total of 120 respondents were taken into consideration as study of adoption. The selection of respondents was done by using simple random sampling method pertaining to the study's objectives. Ex-post-facto research design was used for the study to estimate the research.

Constraints faced by farmer respondents in adoption of dryland farming technologies and suggestions to overcome the constraints

Constraints faced by respondents in adoption of dryland

farming technologies

It is a reason, cause or circumstance which compels the respondent in non-adoption or partial adoption of the advocated technology which ultimately results in poor yield. The preceding results showed that the methods for dryland farming had not been fully adopted. The main goal of the current study was to determine why certain dryland farmers choose not to use the dryland farming technology that are advised. The information on constraints faced by the dryland farmers in adoption of dryland farming technologies was collected from the sample respondents and the same is presented in Table 1.

Table 1: Distribution of respondent according to the constraints reported by then in adoption of dryland farming technologies

Sr. No	Constraints	Frequency N=120	Percent
1	Non availability of seeds of drought resistant varieties at the time of sowing and high cost of inputs like seed, fertilizers and implements.	108	90.00
2	Non availability of labour in time and high labour cost	89	74.16
3	High cost of drip installation	96	80.00
4	Lack of information about contour bunding	52	43.33
5	Lack of complete information about biofertilizer seed treatment	87	72.50
6	Lack of information about antitranspirants	104	86.66
7	Lack of information about drought resistant varieties	69	57.5

Suggestions to overcome the constraints in adoption of dryland farming technologies

The researcher took into account the several constraints that the respondents encountered when implementing dryland

farming technology, and recorded their recommendations for resolving these issues and raising productivity and output levels in dryland farming. The suggestions made by the respondents are presented in Table 2.

Table 2: Suggestions of respondents to overcome the constraints

Sr. No.	Suggestions	Frequency (N=120)	Percent
1.	There is need of guidance by agriculture Universities and Krushi Vigyan Kendra to the new dryland farming technologies.	105	87.50
2.	Agriculture universities should develop low cost implements and machineries to replace the labours.	99	82.50
3.	Govt. should simplify the procedure of subsidy on drip irrigation and other scheme.	84	70.00
4.	Sufficient seed supply of drought resistant Varieties.	67	55.83
5.	Agriculture university should produce biofertilizers on commercial scale.	65	54.16

Conclusions

From table it is concluded that in the constraints regarding highly percents of respondents have constraints that non availability of seeds of drought resistant varieties at the time of sowing and high cost of inputs like seed, fertilizers and implements (90.00%), followed by and lack of information about antitranspirants (86.66%), high cost of drip installation (80.00%), non-availability of labour in time and high labour cost (74.16%), lack of complete information about biofertilizer seed treatment (72.50%), last one is lack of information about contour bunding (43.33%).

It is concluded that that (87.50%) farmers suggested the there is need to guidance by agriculture Universities and Krushi Vigyan Kendra to the new dryland farming technologies, followed by Agriculture universities should develop low cost implements and machineries to replace the labours 82.50 percent. Govt. should simplify the procedure of subsidy on drip irrigation and other scheme (70.00%), sufficient seed supply of drought resistant varieties (55.83%) and biofertilizer production by university on large scale (54.16%).

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