

## International Journal of Agriculture Extension and Social Development

Volume 7; Issue 7; July 2024; Page No. 354-357

Received: 02-04-2024  
Accepted: 03-05-2024

Indexed Journal  
Peer Reviewed Journal

### An evaluation of challenges and solutions in dryland farming training programs: Insights from Extension Functionaries at CRIDA in Bhoothpur Block, Mahbubnagar District, Telangana

<sup>1</sup>Gajarla Harshitha and <sup>2</sup>Dr. Jahanara

<sup>1</sup>P.G. Scholar, Department of Agricultural Extension and Communication, Sam Higginbottom University of Agriculture, Technology and Sciences, Uttar Pradesh, India

<sup>2</sup>Professor and Head, Department of Agricultural Extension and Communication, Sam Higginbottom University of Agriculture, Technology and Sciences, Uttar Pradesh, India

DOI: <https://doi.org/10.33545/26180723.2024.v7.i7e.825>

Corresponding Author: Gajarla Harshitha

#### Abstract

This study evaluates challenges and solutions in dryland farming training programs through insights gathered from extension functionaries at the Central Research Institute for Dryland Agriculture (CRIDA) in Bhoothpur Block, Mahbubnagar District, Telangana. Dryland farming, characterized by limited water resources and low rainfall, necessitates specialized training to enhance agricultural productivity and sustainability. Using a descriptive survey design, data was collected from 120 respondents using structured interviews, focusing on socio-economic profiles, knowledge levels, attitudes, and constraints faced during CRIDA's training programs. Results highlight significant challenges including insufficient training duration, impractical course content, and inconvenient session timing, as identified by respondents. Key suggestions for improvement include extending training durations, enhancing practical content relevance, and scheduling sessions at convenient times. Addressing these issues is crucial for optimizing CRIDA's training initiatives and improving farmer engagement in sustainable dryland farming practices. This research contributes actionable insights to enhance agricultural extension efforts in water-scarce regions, emphasizing tailored improvements to meet the evolving needs of farmers and maximize program effectiveness.

**Keywords:** CRIDA, dryland farming, challenges, sustainable agriculture, suggestions

#### Introduction

Dryland farming, characterized by low rainfall and limited water resources, poses unique challenges to agricultural productivity and sustainability. In regions like the Bhoothpur Block of Mahbubnagar District, Telangana, these challenges are pronounced, necessitating specialized training programs to equip farmers with the knowledge and skills required for effective dryland agriculture. The Central Research Institute for Dryland Agriculture (CRIDA) has been at the forefront of providing such training programs, aimed at enhancing the capabilities of extension functionaries and farmers in managing dryland farming systems.

Previous studies have highlighted the importance of training programs in improving agricultural practices and productivity in dryland areas. For instance, research by Sharma *et al.* (2015) <sup>[1]</sup> demonstrated the positive impact of targeted training on farmers' adoption of water conservation techniques. Similarly, Singh and Reddy (2017) <sup>[2]</sup> emphasized the role of continuous education in adapting to climate variability and improving crop yields in arid regions.

Despite these efforts, several constraints hinder the effective implementation of dryland farming practices. These include limited access to resources, inadequate training materials,

and socio-economic barriers faced by the farming community. Addressing these constraints is crucial for the success of dryland farming initiatives and the overall development of the agricultural sector in such regions.

This study aims to evaluate the challenges encountered by extension functionaries in implementing dryland farming training programs in the Bhoothpur Block. By identifying these challenges and seeking suggestions for improvement, the research intends to provide actionable insights that can enhance the effectiveness of training programs delivered by CRIDA. This investigation not only contributes to the existing body of knowledge on dryland agriculture but also offers practical solutions to enhance the resilience and productivity of farmers in water-scarce regions.

#### Research Methodology Research Design

This study employs a descriptive survey design to examine extension functionaries at the Central Research Institute for Dryland Agriculture (CRIDA). The primary objective is to collect systematic information on the socio-economic profiles, knowledge levels, attitudes, and constraints faced by respondents engaged in dryland farming. To ensure a comprehensive analysis, both quantitative and qualitative data collection techniques are employed.

**Locale of Study**

The study is conducted in the Mahbubnagar district of Telangana, India, known for its diverse agricultural activities and significant dependence on dryland farming. This district, geographically positioned at latitude 16.737509 and longitude 78.008125, is chosen due to its agricultural diversity and the substantial number of farmers who have participated in CRIDA training programs. The region's climatic conditions and farming practices provide an ideal setting to evaluate the effectiveness of these training programs across various agricultural scenarios.

**Sampling and Sampling Procedures**

The study uses purposive sampling to select Mahbubnagar district and Bhoothpur block, focusing on areas with high engagement in CRIDA's training programs. Within Bhoothpur block, ten villages are selected based on records identifying significant participation in CRIDA's initiatives. From each village, 12 respondents are chosen through random sampling, totalling 120 respondents for the study.

**Selection and Measurement of Variables**

Variables are selected based on the study's objectives and categorized into independent and dependent variables. Independent variables include age, educational level, caste, family type, type of house, annual income, land holding, occupation, extension contacts, mass media exposure, and source of information. Dependent variables include knowledge and attitude towards dryland farming. Specific measurement procedures for each variable are employed, such as scales and schedules developed in previous studies.

**Methods of Data Collection and Statistical Analysis**

Data collection involves a pre-tested, well-structured interview schedule, ensuring reliable and valid responses. Statistical tools like arithmetic mean, standard deviation, percentage analysis, and Pearson's product-moment

correlation coefficient are used for data analysis. This comprehensive methodology facilitates a thorough investigation of the study's objectives and allows for reproducibility by other researchers. Permissions for adapted tables and credit lines in footnotes are obtained as necessary. By following these detailed research methodologies, the study aims to provide actionable insights into the challenges and solutions in dryland farming training programs, ultimately enhancing the effectiveness of CRIDA's initiatives in Mahbubnagar district.

**Results and Discussion**

Dryland farming presents unique challenges that require specialized training and support. The effectiveness of training programs conducted by the Central Research Institute for Dryland Agriculture (CRIDA) is critical in equipping farmers with the necessary skills and knowledge to manage their farming practices sustainably. However, these training programs often face several constraints that can hinder their success. Understanding the challenges and constraints faced by participants in these programs is essential for improving their design and implementation.

To gain insights into these challenges, a survey was conducted among respondents participating in CRIDA's dryland farming training programs. The survey aimed to identify the main constraints faced by the respondents during these training programs and gather suggestions for improving future training initiatives. The findings provide valuable information for stakeholders to enhance the training experience and effectiveness.

The following table presents the main challenges or constraints faced by the respondents during CRIDA's dryland farming training programs. The data is categorized based on the respondents' level of agreement with each constraint, and the constraints are ranked according to the severity as perceived by the participants.

**Table 1:** Main Challenges/Constraints faced by the respondents during dryland training programs

S. No.	Statements	FA (n, %)	PA (n, %)	DA (n, %)	Rank
1	Training duration is insufficient	45(37.50)	30(25.00)	45(37.50)	VI
2	Course content is not practical	60(50.00)	30(35.00)	30(25.00)	IV
3	Training timing is inconvenient	95(79.17)	15(12.50)	10(8.33)	I
4	Lack of hands-on learning opportunities	30(25.00)	20(16.67)	70(58.33)	VIII
5	No field visits or practical demonstrations	40(33.33)	35(29.17)	45(37.50)	VII
6	Insufficient time for group discussions	50(41.67)	40(33.33)	30(25.00)	V
7	Ineffective use of audio-visual aids	25(20.83)	30(25.00)	65(54.17)	IX
8	Poorly planned locations for field demonstrations	15(12.50)	20(16.67)	85(70.83)	X
9	Biased selection of beneficiaries	70(58.33)	30(25.00)	20(16.67)	II
10	Limited dryland farming training programs	65(54.17)	25(20.83)	30(25.00)	III

FA – Fully Agree, PA – Partially Agree, DA – Disagree

The summary of the challenges and constraints highlights key areas requiring attention to improve the overall effectiveness and satisfaction of the training programs. By addressing these issues, CRIDA can enhance the learning experience for farmers and better support them in adopting sustainable dryland farming practices.

1. Training duration (VI): 37.50% fully agreed, and 37.50% disagreed, indicating a need for longer training sessions.
2. Course content practicality (IV): 50.00% fully agreed on the need for more practical content.

3. Training timing (I): 79.17% fully agreed, highlighting it as the most critical issue.
4. Hands-on learning (VIII): 58.33% disagreed, showing a gap in practical training opportunities.
5. Field visits (VII): Mixed responses, with 37.50% disagreeing about the lack of field visits
6. Group discussions (V): 41.67% fully agreed that there is insufficient time for discussions.
7. Audio-visual aids (IX): 54.17% disagreed with their effectiveness.
8. Field demonstration locations (X): 70.83% disagreed,

- showing dissatisfaction with the planning.
9. Beneficiary selection (II): 58.33% fully agreed that selection is biased.
  10. Training program availability (III): 54.17% fully agreed on the need for more programs. These findings underscore several areas needing improvement to enhance the effectiveness of CRIDA's dryland training programs.

In addition to identifying challenges, the survey also gathered suggestions from respondents on how to improve future training programs. These suggestions are crucial for tailoring the training content and delivery methods to better meet the needs of the participants.

**Table 2:** Suggestions Made by Respondents to Improve future training programs

S. No.	Suggestions	Frequency	Percentage	Rank
1	Extend training duration	105	87.50	I
2	Enhance practical relevance of content	100	83.33	II
3	Schedule training at convenient times	95	79.17	III
4	Increase hands-on learning activities	90	75.00	IV
5	Improve extension network support	85	70.83	V

The table below summarizes the respondents' suggestions, ranked by the frequency and percentage of agreement. This information will guide the development of more effective and responsive training programs.

#### Summary of Suggestions

1. Extend training duration (I): 87.50% suggested longer training sessions, aligning with the challenge of insufficient duration.
2. Enhance practical relevance (II): 83.33% emphasized the need for more practical content.
3. Convenient scheduling (III): 79.17% recommended more flexible training times.
4. Hands-on learning (IV): 75.00% wanted more interactive activities.
5. Extension network support (V): 70.83% suggested stronger support systems.

By addressing these key suggestions, future training programs can better meet farmers' needs and improve the effectiveness of agricultural extension efforts in dryland farming.

The analysis of challenges and suggestions highlights critical areas for improvement in CRIDA's dryland training programs. The primary concerns are inconvenient training times, insufficient practical content, and limited hands-on learning opportunities. Addressing these issues by extending training duration, enhancing content relevance, and scheduling sessions at more convenient times could significantly enhance program effectiveness. Similar constraints and improvement strategies have been discussed by Reddy and Sharma (2019) <sup>[3]</sup>, emphasizing the need for practical and accessible training to optimize farmer engagement and learning outcomes.

#### Conclusion

The study conducted among participants in Central Research Institute for Dryland Agriculture (CRIDA)'s training programs identified significant challenges such as insufficient training duration, impractical course content, and inconvenient session timing, which hinder the effectiveness of these initiatives. Respondents suggested extending training durations, enhancing the practical relevance of content, and scheduling sessions at more convenient times to improve future programs. Addressing these issues is crucial for enhancing farmer engagement and promoting sustainable dryland farming practices. This research contributes valuable insights into optimizing agricultural extension efforts, emphasizing the need for tailored improvements to better meet the needs of farmers and enhance the overall impact of CRIDA's training initiatives.

#### Acknowledgements

I express my deepest gratitude to my Advisor, Prof. Dr. (Ms.) Jahanara, for their invaluable guidance and support. I also thank the faculty of Department of Agricultural Extension and Communication, NAI – SHUATS, and MANAGE for their assistance. Special thanks to the participating farmers for their insights, and to my family and friends for their unwavering support.

#### References

1. Sharma P, Singh R, Reddy VR. Impact of training on adoption of water conservation techniques in dryland agriculture. *Agric Water Manag.* 2015;160:10-18.
2. Singh AK, Reddy RS. Continuous education for climate adaptation and crop yield improvement in arid regions. *J Agric Sci.* 2017;5(2):45-53.
3. Reddy SS, Sharma CS. Challenges and solutions in agricultural extension: Insights from dryland farming in Telangana. *J Agric Ext Res.* 2019;7(1):20-31.
4. Kumar A, Kumar S, Kumar R. Socio-economic constraints faced by farmers in dryland agriculture: A case study from Rajasthan, India. *J Arid Environ.* 2018;150:35-42.
5. Khatri-Chhetri A, Aggarwal PK, Joshi PK. Farmers' perceptions of and adaptations to changing climate in the Himalayan region of India. *J Agric Sci.* 2015;153(1):144-157.
6. FAO. Climate-smart agriculture: Sourcebook. Food and Agriculture Organization of the United Nations, Rome, Italy; c2013.
7. IPCC. Climate Change 2014: Impacts, Adaptation, and Vulnerability. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge, UK; c2014.
8. Biswas S, Siddiqui MH, Bhattacharyya R. Climate change and sustainable agriculture: A review. *Int J Agric Environ Biotechnol.* 2017;10(6):675-683.
9. Kumar A, Kumar S. Sustainable agriculture practices and climate change adaptation: A review. *J Clean Prod* 2018;199:279-293.
10. Tsegay A, Dikinya O, Sebebo R. Impact of climate change on agriculture production and food security in Africa: Current adaptation and future strategies. *J Agric*

Ext Rural Dev. 2017;9(4):73-83.

11. FAO. Dryland agriculture in India: State of the art. Food and Agriculture Organization of the United Nations, Rome, Italy; c2017.