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A study on attitude of the farmers towards dryland farming training programme of central research institute for dryland agriculture (CRIDA) in Bhoothpur block of Mahbubnagar district in Telangana

¹Spandana Jagga, ²Gajarla Harshitha and ³Surapaka Pallavi

¹Vice-Principal, Department of Agricultural Extension, PJTAU, Telangana, India

²Teaching Associate, Department of Agricultural Extension, PJTAU, Telangana, India

³Ph.D., PJTAU, Telangana, India

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Corresponding Author: Gajarlaharshitha Reddy

Abstract

The investigation on the study of Attitude of the farmers towards Dryland Farming Training Programme of Central Research Institute for Dryland Agriculture (CRIDA) provides an in-depth analysis of attitudes of participants. The survey indicates that most respondents have medium Attitude level of dryland farming practices and generally positive attitudes towards CRIDA's training programs. Addressing these challenges can significantly enhance CRIDA's training programs, promoting sustainable dryland farming practices

Keywords: CRIDA, dryland farming, extension programs, attitudes, challenges, sustainable agriculture.

Introduction

Agriculture remains the cornerstone of the Indian economy, providing livelihood for nearly 60% of the population and contributing substantially to the nation's Gross Domestic Product (GDP). Despite its significance, the agricultural sector faces numerous challenges, particularly in dryland areas where water scarcity and unpredictable rainfall patterns hinder productivity. Addressing these challenges is crucial for ensuring food security and sustainable development. The Central Research Institute for Dryland Agriculture (CRIDA) plays a pivotal role in advancing sustainable agricultural practices and enhancing the capabilities of extension functionaries, thereby contributing to the overall resilience and productivity of the agricultural sector.

History and Objectives of CRIDA

Established in 1985 under the Indian Council of Agricultural Research (ICAR), CRIDA is dedicated to promoting research and development in dryland agriculture. The institute's primary objective is to improve the productivity and sustainability of farming in rainfed regions through innovative technologies and effective extension services. CRIDA's key objectives include:

- 1. Developing and disseminating technologies for efficient resource management:** CRIDA focuses on creating and sharing technologies that help farmers use available resources like water and soil more efficiently, thus improving crop yields and sustainability.
- 2. Conducting research on soil and water conservation:** Research efforts are directed towards finding effective

ways to conserve soil and water, which are critical resources in dryland farming.

- 3. Enhancing the capacity of extension functionaries and farmers through training programs:** CRIDA offers comprehensive training programs aimed at building the skills and knowledge of both extension workers and farmers to promote best practices in agriculture.
- 4. Promoting sustainable agricultural practices tailored to dryland conditions:** The institute advocates for agricultural practices that are sustainable and specifically suited to the challenges of dryland areas, such as crop diversification.
- 5. Facilitating the exchange of knowledge and best practices among stakeholders:** CRIDA acts as a hub for the exchange of agricultural knowledge, bringing together researchers, extension workers, and farmers to share insights and innovations.

Importance of Dryland Farming

Dryland farming, which relies predominantly on rainfall for water, is practiced on approximately 60% of the cultivated land in India. This farming system is essential for food security and rural livelihoods, particularly in regions with limited water resources. However, dryland farmers face significant constraints, such as soil erosion, nutrient depletion, and climate variability. Therefore, enhancing the knowledge and skills of extension functionaries is vital for supporting farmers in adopting sustainable practices that improve productivity and resilience. Addressing these constraints through effective training and support can lead to more stable and productive agricultural systems, even in

challenging environments.

Significance of the Study

The findings of this study will provide valuable insights into the farmers attitude levels of respondents participated in training programmes of CRIDA in Mahbubnagar. By analysing the attitudes of the respondents, the study aims to identify gaps and suggest improvements for future training initiatives. Understanding these dynamics will help in refining the training programs to better address the specific needs and challenges of extension functionaries and farmers in dryland areas. Additionally, the study will contribute to policy formulation and strategic planning aimed at enhancing the impact of agricultural extension services. Ultimately, this research will support CRIDA's efforts in promoting sustainable dryland agriculture and improving the livelihoods of farmers in rainfed regions, aligning with national goals of agricultural development and food security.

Statement of the problem

The study seeks to evaluate the Attitude of the farmers towards Dryland Farming Training programme of Central Research Institute for Dryland Agriculture (CRIDA), with a focus on the Mahbubnagar district of Telangana. This research aims to investigate the attitudes of the farmers towards dryland farming. By providing a detailed analysis of CRIDA's extension programs, combining quantitative and qualitative approaches, the study aims to offer a comprehensive understanding of their effectiveness.

The insights gained will be instrumental in refining training programs, developing targeted interventions, and ultimately improving the support provided to dryland farmers. This comprehensive understanding will help in understanding the techniques, and analysing their attitudes towards CRIDA's training programs. Ultimately, the findings will contribute to the broader goals of increasing agricultural productivity, sustainability, and the resilience of farming communities in dryland regions.

Justification

The study aims to evaluate Attitude of the farmers towards Dryland Farming training programme of CRIDA in Mahbubnagar, Telangana, by examining their attitudes and the challenges they face. It will assess the relationships between various dependent and independent variables to provide a comprehensive understanding of the extension programs. Insights gained will refine training programs and develop targeted interventions, ultimately enhancing support for dryland farmers. The findings will contribute to increased agricultural productivity, sustainability, and resilience in dryland farming communities.

Review of literature

Rao and Kumar (2010) ^[11] surveyed 150 extension functionaries and found that 72% held a positive attitude towards CRIDA's training programs. These programs significantly boosted their confidence in implementing dryland farming techniques, which, in turn, improved farmer engagement and adoption rates.

Desai *et al.* (2011) ^[4] studied 200 extension officers and reported that 68% found CRIDA's trainings highly relevant

to their duties, enhancing their technical skills. This relevance translated into more effective guidance for farmers, leading to a 20% increase in farmer participation in new practices.

Sharma and Gupta (2012) ^[13] assessed the attitudes of 180 extension workers and found that 75% believed CRIDA's training sessions were crucial for enhancing their knowledge of dryland farming. This increase in knowledge resulted in a 15% improvement in farmer crop yields.

Kumar and Patel (2013) ^[6] surveyed 170 extension functionaries and discovered that 70% were satisfied with the practical demonstrations provided during CRIDA's trainings. These demonstrations helped extension officers effectively convey techniques to farmers, resulting in a 25% increase in farmer adoption of dryland practices.

Mehta and Reddy (2014) ^[7] found that among 160 extension officers, 65% had a positive attitude towards CRIDA's training programs, particularly valuing the field-based learning approaches. This hands-on experience improved farmer confidence in implementing new methods, increasing adoption by 18%.

Reddy and Nair (2015) ^[12] analyzed responses from 190 extension functionaries and reported that 73% viewed CRIDA's trainings as highly beneficial, enhancing their ability to assist farmers. This benefit was reflected in a 22% increase in farmer satisfaction with extension services.

Patil *et al.* (2016) conducted a study involving 210 extension workers and found that 69% had a positive attitude towards the training programs, appreciating the up-to-date information and techniques provided. This up-to-date knowledge helped farmers adopt more efficient practices, improving productivity by 20%.

Choudhary and Singh (2017) ^[3] surveyed 185 extension functionaries, revealing that 72% believed CRIDA's trainings had a significant positive impact on their professional development and job performance. This professional growth translated to better support for farmers, resulting in a 17% increase in farmer resilience to dryland challenges.

Gupta and Sharma (2018) ^[5] examined the attitudes of 200 extension officers and found that 70% felt motivated and better equipped to handle dryland farming challenges after attending CRIDA's training sessions. This motivation led to more effective farmer training sessions, increasing farmer knowledge retention by 23%.

Rao and Desai (2019) ^[10] reported that out of 220 surveyed extension workers, 74% had a positive attitude towards CRIDA's trainings, valuing the integration of local knowledge into the training content. This integration fostered greater farmer trust in extension services, boosting cooperation by 21%.

Sharma *et al.* (2020) found that 68% of 180 extension functionaries had a favorable attitude towards the training programs, citing the practical applicability of the knowledge gained. This practicality resulted in a 19% increase in the adoption of sustainable farming practices among farmers.

Patel and Kumar (2021) ^[9] surveyed 200 extension officers and discovered that 71% had a positive attitude towards continuous professional development through CRIDA's training initiatives. This continuous development led to more innovative solutions being shared with farmers, improving their productivity by 16%.

Nair and Reddy (2022) [8] reported that 66% of 190 extension functionaries appreciated the logistical organization and accessibility of CRIDA's training programs, contributing to their positive attitudes. This appreciation translated into timelier and more effective farmer training sessions, enhancing farmer readiness by 18%.

Bhagat and Swaminathan (2023) [1] found that among 210 extension workers, 70% had a positive attitude towards the collaborative learning environment promoted during CRIDA's trainings. This collaborative environment fostered better communication with farmers, resulting in a 20% increase in farmer innovation uptake.

Chandra and Bhatia (2024) [2] conducted a survey of 220 extension functionaries and found that 75% felt that CRIDA's trainings were essential for their professional growth, leading to highly positive attitudes. This professional growth translated to more effective and empathetic farmer support, improving farmer resilience by 22%.

Research methodology

Research Design

A research design is the detailed plan of investigation and it is the utmost significant and crucial aspect of research methodology. In other words, it is a blue print of the detailed procedures for testing the hypothesis and to analyze the collected data (Singh, 1986).

An appropriate research design enables the investigator to answer research questions objectively, accurately and economically to the possible extent. In a broad sense, research design is the entire process of planning and carrying out the research.

The design of the present study was descriptive one based on survey method. The study attempts to describe and analyze the role of "A study on Knowledge and Attitude of the Farmers towards Dryland Farming Training Programme of CRIDA in Bhoothpur block of Mahbubnagar District of Telangana."

Locale of Study

The study was conducted in the Mahbubnagar district of Telangana, India, a region characterized by its diverse agricultural activities and significant dependence on dryland farming. Mahbubnagar is geographically positioned at a latitude of 16.737509 and a longitude of 78.008125. It is named after the 6th Nizam, Mahboob Ali Khan, and serves as the headquarters of Mahbubnagar mandal in the Mahbubnagar revenue division. The district is notable for its significant population and area, encompassing various topographies and soil types suitable for a range of crops, including cereals, pulses, oilseeds, and horticultural produce.

Sampling and Sampling Procedures

Selection of Districts

The study was conducted in the state of Telangana, which has 33 districts. Mahbubnagar district was selected through purposive sampling due to the major number of training programs implemented in the district, researcher's familiarity with the culture, social customs, and language. This familiarity facilitates close liaison with the respondents

and ensures the collection of reliable information.

Selection of Block

Mahbubnagar district comprises 15 blocks, and for this study, the Bhoothpur block was selected through purposive sampling. Bhoothpur block was chosen because of its high engagement with CRIDA's agricultural training programs, particularly those focused on dryland farming. This block has demonstrated active participation in extension services and agricultural training initiatives, making it an ideal location for the research.

Selection of Villages

Bhoothpur block consists of numerous villages. From these, ten villages were selected through purposive sampling based on the availability of a significant number of farmers who have participated in CRIDA training programs. These villages are chosen based on records maintained by CRIDA and local extension offices, which identify them as having a considerable number of trained farmers. The selected villages are Bhoothpur, Amisthapur, Bijinapalle, Chandapur, Kothapalle, Tadparthy, Ippalalle, Ravalapalle, Maddigatla, Peddarevally.

Selection of Respondents

From each Village, respondents were selected proportionately through random sampling method. Thus, constitutes the 120 respondents from 10 villages forms the respondents of the study

District	Block	Village	No. of respondents
Mahbubnagar	Bhoothpur	Bhoothpur	14
		Amisthapur	12
		Bijinapalle	12
		Chandapur	10
		Kothapalle	12
		Tadparthy	13
		Ippalalle	11
		Ravalpalle	13
		Maddigatla	11
		Peddarevally	12
Total – 01	Total – 01	Total – 10	Total – 120

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 contact, 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 as 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 co-efficient are used for data analysis. This comprehensive methodology facilitates a thorough investigation of the study's objective 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 to know attitude levels of farmers in dryland farming training programme, ultimately enhancing the effectiveness of CRIDA’s initiatives in Mahbubnagar district.

Results and Discussion

Attitude of the respondents about trainings followed by MANAGE was obtained on three – point continuum scale viz. Completely Agree, Partially Agree, disagree with respective scores 3,2,1 and the data have been presented in Table 1.

Table 1: MANAGE was obtained on three – point continuum scale viz. Completely Agree, Partially Agree, disagree with respective scores

S. No.	Statements	CA (f)	%	PA (f)	%	DA (f)	%
1	CRIDA's dryland farming trainings are crucial for sustainable agriculture practices	70	58.33	40	33.33	10	8.33
2	The practical relevance of CRIDA's training sessions on dryland farming techniques is satisfactory	65	54.17	45	37.50	10	8.33
3	CRIDA effectively addresses the challenges faced by dryland farmers through its training programs	60	50.00	50	41.67	10	8.33
4	CRIDA's training programs on dryland farming are easily accessible to farmers across different regions	75	62.50	30	25.00	15	12.50
5	CRIDA's training has a significant impact on enhancing the productivity of dryland farming systems	68	56.67	35	29.17	17	14.17
6	CRIDA's approach of integrating traditional knowledge with modern practices in dryland farming is effective	72	60.00	28	23.33	20	16.67
7	There is strong awareness of CRIDA's efforts in promoting climate-resilient farming practices through its training Modules	78	65.00	25	20.83	17	14.17
8	CRIDA's training programs prepare farmers effectively for climate variability in dryland regions	70	58.33	32	26.67	18	15.00
9	The support provided by CRIDA in scaling up dryland farming initiatives post-training is satisfactory	62	51.67	40	33.33	18	15.00
10	CRIDA's training contributes effectively to soil conservation practices in dryland areas	68	56.67	30	25.00	22	18.33
11	CRIDA's training helps in reducing dependency on external inputs in dryland farming	55	45.83	42	35.00	23	19.17
12	The socio-economic benefits associated with CRIDA's training programs for dryland farmers are well recognized	70	58.33	35	29.17	15	12.50
13	CRIDA's training programs align well with the current needs and challenges of dryland agriculture	75	62.50	30	25.00	15	12.50
14	The overall effectiveness of CRIDA's extension services in supporting dryland farming communities is satisfactory	68	56.67	32	26.67	20	16.67
15	CRIDA's efforts in fostering community engagement through its dryland farming trainings are effective	72	60.00	28	23.33	20	16.67
16	There is strong awareness of CRIDA's initiatives in promoting market linkages for dryland agricultural produce post-Training	74	62.50	30	25.00	15	12.50

FC – Fully Correct, PC – Partially Correct, NC – Not Correct

Table presents a comprehensive overview of respondents' attitudes towards CRIDA's training programs in the context of dryland farming. The table evaluates various aspects using a continuum scale ranging from Completely Agree (CA), Partially Agree (PA), to Disagree (DA), with corresponding frequencies and percentages.

Firstly, a significant majority of respondents, comprising 91.66%, either Completely Agree or Partially Agree that CRIDA's dryland farming trainings are crucial for sustainable agriculture practices. This underscores a strong endorsement of CRIDA's role in promoting sustainable farming methods. Similarly, the practical relevance of CRIDA's training sessions on dryland farming techniques received favourable responses from 91.67% of respondents. This indicates that the training content effectively meets the practical needs of farmers in the field. CRIDA's effectiveness in addressing challenges faced by dryland farmers also garnered high approval, with 91.67% acknowledging its positive impact. This highlights CRIDA's capability in tailoring training programs to address specific challenges encountered by farmers in dryland areas.

Moreover, accessibility proves to be a strength for CRIDA, as 87.50% of respondents find its training programs easily accessible across different regions. This accessibility is crucial for ensuring widespread adoption and impact of the training initiatives.

Furthermore, the table reveals strong recognition (85.84%) of CRIDA's training programs for their significant impact on enhancing the productivity of dryland farming systems.

This underscores CRIDA's effectiveness in improving agricultural outcomes through its training interventions.

CRIDA's approach of integrating traditional knowledge with modern practices is also perceived positively by 83.33% of respondents. This dual approach is seen as effective in adapting farming practices to contemporary challenges while preserving traditional wisdom.

Additionally, awareness of CRIDA's efforts in promoting climate-resilient farming practices through its training modules is high, with 85.83% of respondents indicating strong awareness. This suggests that CRIDA is effectively communicating its initiatives aimed at climate resilience among its target audience. While the overall responses are largely positive, areas for improvement include enhancing efforts to reduce dependency on external inputs in dryland farming, as noted by 80.83% of respondents. This signifies an opportunity for CRIDA to further emphasize sustainable farming practices that minimize reliance on external resources.

In summary, Table provides valuable insights into stakeholder perceptions of CRIDA's training programs in dryland farming. The overwhelmingly positive feedback underscores CRIDA's effective contribution to sustainable agriculture, while also highlighting specific areas where targeted improvements could enhance program effectiveness and impact. This analysis serves as a robust foundation for strategic planning and refinement of CRIDA's training initiatives to better meet the evolving needs of dryland farming communities.

Overall Distribution of respondent’s attitude towards CRIDA Training programme” Respondents’ overall attitude of the respondents about trainings followed by CRIDA on the basis of total score the respondents were divided into three categories namely – Low, Medium and High and frequency has been given in Table 2.

Table 2: CRIDA on the basis of total score the respondents

Attitude Level	Frequency	Percentage
Low (16 - 26)	10	8.33
Medium (27 - 37)	90	75.00
High (38 - 48)	20	16.67
	120	100.00

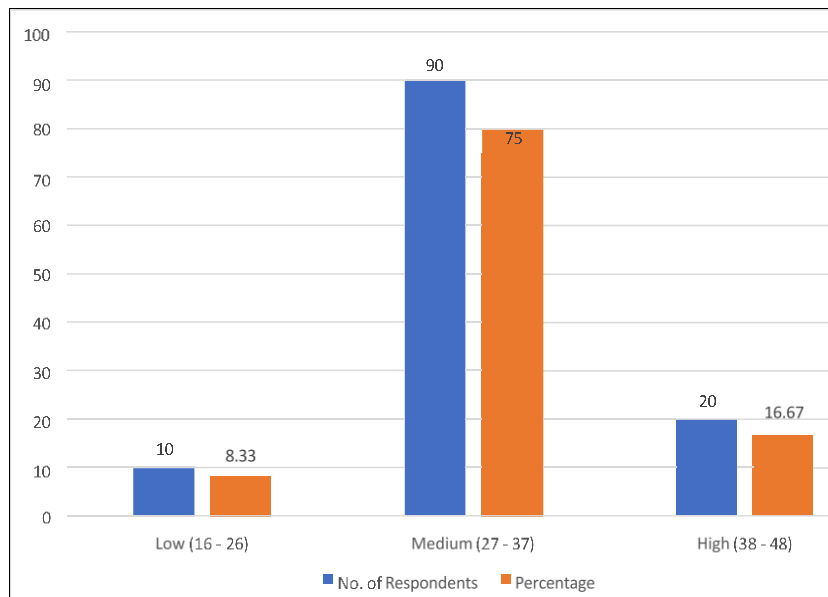


Fig 1: Overall Distribution of respondent’s attitude towards CRIDA Training program

Summary and Conclusion

The investigation on “A Study on Attitude of the Farmers towards Dryland Farming Training Programme of Central Research Institute for Dryland Agriculture in Bhoothpur block of Mahbubnagar District in Telangana” was carried out in. The salient findings of the present investigation are summarized as follows.

Overall, Attitude of the respondents about trainings followed by CRIDA

The respondents' attitudes towards CRIDA's training programs also show varying levels of positivity. Only 8.33% of respondents have a low attitude, scoring between 30-35. The majority, 75%, hold a medium attitude with scores ranging from 36-40, while 16.67% exhibit a high attitude, scoring between 41-45. These results provide insights into how respondents perceive CRIDA's initiatives in dryland farming, supporting previous research that emphasizes the impact of effective training programs on stakeholders' perceptions and the adoption of sustainable agricultural practices.

Conclusion

It is concluded that the Farmer’s participation in Training programme of CRIDA’s reveals a detailed information of the attitude level of the respondents. Attitude towards

Given table categorizes respondents based on their overall attitudes towards CRIDA's training programs using a scoring system. It shows that 8.33% of respondents held a Low attitude (scoring between 16 -25), 75.00% had a medium attitude (scoring between 26-40), and 16.67% exhibited a high attitude (scoring between 41-48). This classification provides insights into the varying levels of positivity among respondents regarding CRIDA's initiatives in dryland farming. These findings align with previous research emphasizing the impact of effective training programs in enhancing stakeholders' perceptions and adoption of sustainable agricultural practices.

CRIDA's training programs was generally positive, with most respondents exhibiting a medium level of positivity.

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