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Profile characteristics of groundnut farmers of Telangana state

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Abstract

Groundnut, a key oilseed crop extensively grown across several states in India, particularly Andhra Pradesh, Karnataka, Tamil Nadu, and Telangana which serves as a source of edible oil and protein for millions of people in the country. Considering the important role it plays, this study was taken up to assess the profile characteristics of groundnut farmers in major groundnut producing districts of Telangana *viz.* Mahabubnagar, Wanaparthy, Nagarkurnool, Jogulamba Gadwal and Narayanpet. An *Ex-post-facto* research design along with multi-stage sampling method was employed in the study. A total of 24 farmers were selected from each district constituting the sample size of 120 farmers. The results of the study indicated that the majority of the farmers belonged to middle age category (63.33%) with secondary school education (29.17%), small holdings (37.50%), had a low level of farming experience (43.33%). Whereas 65.00 percent rely on rainfall+tubewell as primary water source, with medium level of sources of information (68.33%), medium degree of cosmpoliteness (53.33%), and medium level of social participation (45.00%). Further, nearly cent percent of the respondents had their occupation as agriculture, most of them belonged to middle-income category (69.17%) had high risk orientation (39.17%), high level of innovativeness (40.00%), had (58.33%) favourable attitude towards new varieties, 71.67 percent had medium level access to credit, most (80.00%) of them had high access to critical inputs (75.83%) with medium access to markets.

Keywords: Groundnut, Telangana, profile characteristics, risk orientation, attitude towards new varieties, sources of irrigation

1. Introduction

Groundnut is widely cultivated in almost all the tropical and subtropical countries of the world. The total groundnut production in the world is about 51.32 million tonnes(mt). India holds the second position in global production with 7.10 mt after China with 19.00 mt accounting for 14.00 and 37.00 percentages respectively in the year 2023-24 (USDA, 2024).

In Telangana, groundnut is cultivated in an area of 1.03 lakh hectares during 2022-23 with a production of 2.52 lakh tonnes and productivity 3,491 Kg/hectare (Indiastat, 2024). Telangana grows 27 maincrops, groundnut is one among them. The export potential of agricultural and allied sectors showed a significant surge from 9.7 percent in 2014-15 to 20.9 percent in 2020-21 (Navya *et al.* 2022) [16]. Groundnut based products were exported majorly from Jogulamba Gadwal, Narayanpet, and Wanaparthy districts of Telangana. Despite having high productivity, a significant area under cultivation and high export potential, it is not reflected in economic returns. This study was taken up to evaluate the profile characters of the farmers and to provide valuable insights for devising suitable policy interventions to promote large-scale adoption of the best production technologies, to achieve the required production level of groundnut through higher productivity.

2. Materials and Methods

In this study, an *Ex-post-facto* research design was adopted. The five major groundnut growing districts in Telangana *viz*, Mahabubnagar, Wanaparthy, Nagarkurnool, Jogulamba Gadwal and Narayanpet were selected for the study (DoA, 2024). The study was conducted during 2023-24. A multi-stage sampling procedure was adopted wherein two mandals were selected from each district based on highest area under groundnut crop cultivation. Thus, a total of 10 mandals were considered for study. Two villages from each mandal followed by six farmers from each village were selected randomly by using random number tables method. The data from respondents was collected using pre-tested, standardized and well-structured interview schedule.

3. Results and Discussion

The profile characteristics *viz*. Age, Education, Landholding, Farming experience, Sources of irrigation, Sources of information, Cosmopoliteness, Social participation, Occupation, Annual income, Risk orientation, Innovativeness, Attitude towards new varieties, Access to credit, Access to critical inputs and Access to market were studied as independent variables. The details of profile characteristics of the groundnut farmers of Telangana state were presented in Table 1.

3.1 Age

It was operationalized as the chronological age of the respondents completed in years at the time of the investigation. The results presented in the Table 1 revealed that the majority (63.33%) of the groundnut farmers belonged to middle age category followed by old age (25.00%) and young age (11.67%). The probable reason for this trend might be that, the young farmers preferred non-agricultural occupations over agriculture, which is constantly subjected to climate vagaries. This age distribution also suggests that middle-aged individuals might have taken up ancestral occupation and farming practices, while the low frequency of younger farmers could indicate challenges in attracting the youth to agriculture. The above findings were in accordance with the studies conducted by Vineetha *et al*. (2019) [23], Ravi *et al.* (2022) [19] and Bhavani *et al*. (2023) [2].

3.2 Education

It was operationalized as the formal education possessed by the respondent at the time of investigation by the researcher. The findings presented in the Table 1 depicted that 29.17 percent of the groundnut farmers had secondary school education followed by primary school (22.50%), illiterate (19.17%), functional literate (11.67%), intermediate (8.33%), degree (5.00%) and above graduation (4.17%). The presence of the schools in nearby localities and government initiatives to promote basic education have clearly had an impact, allowing many to complete at least primary or secondary school levels might be the reason. However, the high number of illiterate farmers reminds us of the challenges rural communities still face. Many respondents probably had to prioritize work and helping the family farm over school when they were young. The smaller percentages of more highly educated farmers suggest that while some were bringing advanced knowledge to the fields, traditional farming methods still hold strong in the community. These findings align with Amitha *et al.* (2021) [1] and Bhavani *et al.* (2023) [2] who revealed the same trend in the education level of groundnut growers.

3.3 Land Holding

It was operationally defined as the total area of agricultural land owned or leased by the respondent farmer at the time of investigation. The results illustrated in Table 1 reveal that the majority (37.50%) of groundnut farmers were small farmers, followed by semi-medium (31.67%), medium (22.50%), marginal (5.00%), and large farmers (3.33%). This trend might be the result of historical fragmentation of land holdings across generations. Over time, larger farms might have subdivided into smaller and medium-sized plots, potentially due to inheritance practices. Similar results were reported by Vineetha *et al*. (2019) [23], Amitha *et al.* (2021) [1] and Tejaswini *et al*. (2023) [21].

3.4 Farming Experience

It was operationalized as number of years the respondent farmer was actively involved in the groundnut cultivation and management practices. From the Table 1 it was found that the forty-three percent of the groundnut farmers had low level of farming experience followed by medium level (34.17%) and high level of farming experience (22.50%). This trend of low experience of majority groundnut farmers followed by medium and high experience of groundnut cultivation does not have any relation to their age reported in Table 1. However, more than half of the farmers combinedly belong to medium and high groundnut farming experience groups. The significance of the farming experience lies in its impact on various aspects of farmers' behavior. Experienced farmers were more likely to exhibit positive attitudes, actively participate in social networks, and be open to accepting, evaluating, and experimenting with new innovations. The results were in conformity with the findings of Keshav (2011) [9], Maraddi *et al.* (2014) [13] and Tej *et al.* (2022) [20].

3.5 Sources of irrigation

It was operationally defined as the source of water that the respondent farmer relies on for the cultivation of the Groundnut crop and for meeting regular farming requirements. The results depicted in the Table 1 revealed that the majority (65.00%) of groundnut farmers depend on a combination of rainfall and tubewell irrigation as primary source, followed by those who use a combination of rainfall and canal irrigation (17.50%), only rainfall (9.17%), and rainfall with open well irrigation (8.33%). The predominance of rainfall and tubewell irrigation might have likely reflected the reliability and accessibility of groundwater through tubewells, which could provide a more consistent water supply compared to other sources. Tubewells can tap into deeper aquifers, offering a dependable irrigation source, especially in areas where surface water is less reliable or where rainfall patterns are unpredictable. Additionally, the prevalence of tubewells aligns with the medium income category of most farmers (69.17%) as depicted in the Table 1.

3.6 Sources of information

It was operationally defined as the degree to which an individual maintains contact with different sources of information both formal and informal means. From the results described in the Table 1, it can be observed that majority of farmers (68.33%) had the medium number of information sources followed by low (22.50%) and high (9.17%). The probable reason for the medium number of information sources was their ease of access and trustworthiness. The frequency of contact with the government organization (TS OILFED) was negligible among the respondents. These findings were in accordance with the findings of Hadiya and Deshmukh (2014) [7], Kumar *et al.* (2019) [11].

3.7 Cosmopoliteness: It was operationally defined as the

degree to which an individual is oriented to the nearby social system and had developed contact beyond their local community. The results mentioned in the Table 1 revealed that majority of the farmers (53.33%) were having medium degree of Cosmopoliteness followed by high (43.33%) and low (3.34%). The probable reason for the medium and high levels of cosmopoliteness among groundnut farmers was likely due to several factors in the study area. The proximity to nearby towns or cities might have allowed farmers to regularly visit these places for selling their produce, purchasing inputs, or accessing services. This exposure to urban environments could have broadened their perspectives. The presence of agricultural extension services, farmer training programs, or local agricultural fairs could have also contributed to increased exposure to new farming practices and technologies. These findings align with the previous studies of Mamathalakshmi (2013) [12] and Meenal (2018) [14].

3.8 Social participation

It was operationally defined as extent of participation by the respondent farmer in social organizations. The results mentioned in the Table 1 revealed that, 45.00 percent of the groundnut farmers had medium level of social participation followed by low (33.33%) and high (21.67%). The probable reason for the medium social participation by the farmers might be majority being middle age category (63.33%) which was depicted in Table 1 who might have moderate interest in participation in social and community activities. These findings were in line with the findings of Hadiya and Deshmukh (2014) [7], Devi (2019) [4], Vineetha *et al*. (2019) [23] and Tejaswini *et al*. (2023) [21].

3.9 Occupation

It was operationally defined as the farmer's occupation at the time of investigation to generate income and means of livelihood. From the results in the Table 1 it can be observed that 96.67 percent of respondents have found their occupation in agriculture followed by agriculture + business (1.67%), agriculture + service (1.67%). The probable reason for this high concentration in farming suggests that agriculture remains the most viable and accessible livelihood for most respondents. The minimal engagement in farming combined with business or service reflects limited diversification due to possibly insufficient access to information, capital, or market infrastructure needed to support non-agricultural ventures. The above findings were in line with the findings of Khuvung *et al.* (2022) [10].

3.10 Annual income

It was operationally defined as the total income the respondent farmer earned from agricultural activities as well as any other business or enterprise during the year preceding this study. The results in the Table 1 revealed that, most (69.17%) of the groundnut farmers belonged to the middle-income category followed by high (25.83%) and low (5.00%). The observed income distribution among groundnut farmers can be attributed to several factors. Firstly, groundnut was considered as a commercial crop and fetches a good market price. Additionally, many of the farmers have high farming experience and were also cultivating diverse crops. These combined factors contribute to a stable income, enabling a significant portion of farmers to achieve a middle-income status. Similar findings were reported by Devi (2019) [4], Vineetha *et al*. (2019) [23], Bhaveshbhai M. C. (2022) [3] and Tej *et al.* (2022) [20].

3.11 Risk orientation

It was operationally defined as the degree to which the respondent was willing to accept risk and uncertainties and face the problems regarding the groundnut cultivation with courage. An overview of findings in the Table 1 revealed that, nearly equal proportions of groundnut farmers (39.17%) each exhibited high and medium levels of risk orientation, with the remaining 21.67 percent having low risk orientation. The prevalence of high and medium risk orientations among respondents might be due to majority being in the middle-age category, which often correlates with a greater propensity for moderate to high risk-taking behaviors. These findings were in accordance with the findings of Devi (2019) [4] and Bhavani *et al*. (2023) [2].

3.12 Innovativeness

It was operationally defined as the respondent farmer's degree of interest and willingness to actively seek out, experiment, and adopt new and improved farm technologies or practices when found practical and feasible. An insight of the results in the Table 1 clearly outlined that, most (40.00%) of the groundnut farmers had high level of innovativeness followed by medium (35.83%), and low innovativeness (24.17%). This high to medium level of innovativeness of the respondents may be attributed to their medium and high level of risk orientation, middle age had medium to high level of innovativeness. Further, it might also be due to respondent’s inclination towards adopting new farm practices and 68.33 percent actively seeking information about innovative practices and willingness to adopt promising new practices, highlighting a balanced but progressive approach to innovation among the respondents. These results align with the findings of Prodhan and Afrad (2014) [18].

3.13 Attitude towards new varieties

It was operationalized as the favourable or unfavourable feeling of the respondents towards the new varieties of groundnut. The findings presented in the Table 1 revealed that most (58.33%) of the groundnut farmers had the medium level of attitude towards new varieties followed by low (25.00%) and high (16.67%). This trend may be attributed to the fact that most of the farmers belonged to middle-age category, who typically exhibit a medium to high level of risk orientation and a high level of innovativeness, thereby fostering a favorable attitude towards adopting new varieties. The results were in line with the findings of Gandhale and Tekale (2021) [6].

3.14 Access to credit

It was operationally defined as the accessibility and availability of the credit to the respondent farmers to meet their financial needs for taking up farming activities related to groundnut cultivation from various sources. The Table 1 disclosed that majority (71.67%) of groundnut farmers had medium level of access to credit followed by low (15.00%) and high (13.33%) levels This medium level of credit access

may be likely because of the majority of respondents belong to small and semi-medium category, as shown in Table 1. Their limited risk-bearing ability and poor repayment capacity might have reduced their access to formal credit sources such as banks. Consequently, these farmers predominantly relied on informal sources like money lenders, friends, and input dealers, where collateral security requirements were less stringent. The results were in consonance with the findings of Devi (2019) [4] and Meghana *et al*. (2024) [15].

3.15 Access to critical inputs

It was operationally defined as the ease and extent to which respondent farmer can obtain critical inputs such as fertilizer, seeds, and agro-chemicals for groundnut cultivation. From the results obtained in the Table 1 it can be inferred that majority (80.00%) of the groundnut farmers had high access to critical inputs followed by medium (15.83%) and low (4.17%). This high access to critical inputs may be due to their medium–high level of cosmopoliteness, which might have enabled them to connect with different locations and thus had better access to the resources and inputs.

3.16 Access to market

It was operationally defined as the respondent's ability to transport and sell the groundnuts physically by entering into the marketing channels. The findings presented in the Table 1 depicted that majority (75.83%) of the respondent farmers had medium access to market followed by low (21.67%) and high (02.50%) levels. This medium level of market access might be due to the proximity of their farms to agricultural marketing committees and easy availability of village traders, facilitating reasonable market connectivity. These results were in accordance with the findings of Bhavani *et al*. (2023) [2].

Table 1: Distribution of the respondents according to their profile characteristics, (n=120)

S. No.	Independent Variables	Category	Respondents	
			F	%
1	Age	Young Age (18-35)	14	11.67
		Middle Age (36-55)	76	63.33
		Old Age (>55)	30	25.00
2	Education	Illiterate (No formal education)	23	19.17
		Functional Literate	14	11.67
		Primary school (1st to 7th)	27	22.50
		Secondary school (8th to 10th)	35	29.17
		Intermediate	10	8.33
		Degree	6	5.00
		Above Graduation	5	4.17
3	Land holding	Marginal (<1ha)	6	5.00
		Small (1-2ha)	45	37.50
		Semi-Medium (2-4ha)	38	31.67
		Medium (4-10ha)	27	22.50
		Large (>10ha)	4	3.33
4	Farming Experience	Low (upto 9 yrs)	52	43.33
		Medium (9-17 yrs)	41	34.17
		High (>17 yrs)	27	22.50
5	Sources of Irrigation	Only rainfall	11	9.17
		Rainfall + Open well	10	8.33
		Rainfall + Tubewell	78	65.00
		Rainfall + Canal	21	17.50
6	Sources of Information	Low (21-26.67)	27	22.50
		Medium (26.67-32.34)	82	68.33
		High (32.34-38)	11	9.17
7	Cosmopoliteness	Low (0-3.67)	4	3.33
		Medium (3.67-7.34)	64	53.33
		High (7.34-11)	52	43.33
8	Social Participation	Low (<5.12)	40	33.33
		Medium (5.12 - 6.70)	54	45.00
		High (>6.70)	26	21.67
9	Occupation	Agriculture as primary occupation	116	96.67
		Agriculture + Business	2	01.67
		Agriculture + Service (Govt. / Pvt. Job with monthly salary)	2	01.67
10	Annual Income	Low (Up to Rs.300000)	6	05.00
		Medium (Rs.300000-Rs.600000)	83	69.17
		High (600000-900000)	31	25.83
11	Risk Orientation	Low (9-14)	26	21.67
		Medium (14-19)	47	39.17
		High (19-24)	47	39.17
12	Innovativeness	Low (9-12)	29	24.17
		Medium (12-15)	43	35.83

		High (15-18)	48	40.00
13	Attitude towards new varieties	Less favourable (33-41)	30	25.00
		Medium favourable (41-49)	70	58.33
		More favourable (49-57)	20	16.67
14	Access to Credit	Low (5-6.67)	18	15.00
		Medium (6.67-8.34)	86	71.67
		High (8.34-10)	16	13.33
15	Access to critical inputs	Low (6-7.33)	5	4.17
		Medium (7.33-8.66)	19	15.83
		High (8.66-10)	96	80.00
16	Access to Market	Low (8-9)	26	21.67
		Medium (9-10)	91	75.83
		High (10-11)	3	2.50

4. Conclusion

The study revealed prevalence of diverse profile characteristics among groundnut farmers in Telangana, emphasizing several key insights. The majority of farmers belonged to the middle-aged category, possessed secondary-level education, and owned small to semi-medium landholdings. Despite a predominance of low farming experience, the majority exhibited medium to high innovativeness and risk orientation, fostering a positive attitude towards new varieties. The primary source of irrigation was rainfall, supplemented by tubewells. Farmers typically seek information through accessible and trusted sources, exhibited medium cosmopoliteness, and maintained medium social participation. Agriculture remains to be the primary occupation, with most farmers falling into the middle-income category. Credit access was predominantly at a medium level, and access to critical inputs and market connectivity was generally high to medium. Since, the farmers of the study area showed high innovativeness, sensitization campaigns about new varieties and production technologies might help them to boost their production. The findings also underscore the need for targeted policy interventions to enhance educational opportunities, improve irrigation facilities in the study area, facilitate greater social participation by motivating farmers to participate in extension activities, and provide better access to credit with timeliness and stable markets to enhance groundnut production and economic returns to the farmers of Telangana state.

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