Original Research Article

Profile of Farmers in Ananthapuramu District Adopting CSA Technologies

Abstract

The consequences of climate change are posing new challenges to the farming community in all possible forms. The study area, Ananthapuramu district is one among the five vulnerable districts in Andhra Pradesh state with the least average annual rainfall. Considering the rainfall as criteria, four blocks were chosen for the study with least average annual rainfall. Two villages from each block were selected based on highest number of farmers. The sample size was 161 chosen by Multi-Stage proportionate Random Sampling method. First hand information was collected from the farmers with the help of a well-structured and pre-tested interview schedule. The findings exposed the medium or moderate behaviour of the respondents towards the selected variables and can be enhanced to higher levels by opting efficient measures.

Keywords: *Drylands; Development; Farmers; Income; Profile.*

Introduction

Climate change is one of the biggest challenges that are being faced at not only global level but also at national and regional levels (Mmapatla, 2017). Many consequences of climate change are related to water, therefore considering how water is managed, particularly in rural and farming sectors, will be critical for the efforts for adaptation to climate change (Hardelin & Lankoski, 2015). The study area Ananthapuramu district receives an average annual rainfall of approximately 560 mm. The district ranks last with respect to irrigation facilities with only 14.08 per cent of gross cropped area irrigated. To meet the production needs of the growing population of the 21st century, the production should be increased (Veerabadran *et al*., 2000). The district has a net sown area of 9.70 lakh ha, out of 19.13 lakh ha of total area. The district is one among the five climate vulnerable districts in the Andhra Pradesh state. As the dryland farms and areas were found to be more vulnerable to climate change (Meze., 2000), the study area was selected. Majority of the dryland farmers in India are with scarce resources. The low productivity in drylands might be a cumulative effect of the constraints faced during crop production (Thangaraja *et al*., 2008). The higher exposure of the dryland farmers to the vagaries of climate change and the natural hazards in addition to the small landholding have resulted in fluctuating and low incomes of the farmers in most of the developing countries like Asia and Africa (Sathyan *et al*., 2018). In this context, the study was made with the aim to highlight the profile characteristics of the farmers in the study area.

Methodology

The study was carried out in Ananthapuramu district of Andhra Pradesh. Four blocks namely Chennekothapalle, Kuderu, Garladinne and Kambadur were purposively selected for the study. The criteria considered for the selection of the blocks was the least average annual rainfall. Two villages from each block were selected based on the highest number of farmers and the respondents were proportionately and randomly selected. The sampling procedure followed was Multi-stage Proportionate Random Sampling and the sample size was thus finalized as 161. A well-structured interview schedule was developed for collecting information from the respondents and was pre-

tested. The data was collected from the respondents through personal interview method. The collected data was analysed with the help of exploratory data analysis tools like frequency, percentage analysis, mean scores and standard deviation.

Findings and discussion

Studying the profile of the respondents will provide a primary and precise overview of the backdrops of the farmers in the sample area. The acquired data could be appropriately portrayed by utilizing the profile features. The results of the study on the profile were presented in Table 1.

1. Age

Age was characterised as the chronological age of the farmer respondent at the time of data collection and it symbolizes the intellect and cognitive capacity. The results from Table 01 revealed that nearly half (48.45%) of the farmers adopting CSA were middle aged followed by 27.33 per cent of young age and 24.22 per cent of young and old age category respectively. More enthusiastic nature and efficiency of the middle aged people might have contributed to the above trend. The findings are in line with those of Singh (2018) and Gottipalli and Mazhar (2021).

2. Educational status

Educational status of the farmers was operationally defined as the level of education acquired by the respondents at the time of data collection. The findings from Table 1 shows that more than one-fourth (29.19%) of the respondent farmers adopting CSA had primary education followed by 16.15 per cent of the respondents with higher secondary education. Most of the small and marginal farmers, due to their poor financial situation and inevitable demand in the family for the young to support their parents might have contributed to the lower per cent of formal schooling. The results derive support from Sunil (2017).

3. Occupational status

Occupation is the way of making a livelihood via job or business. It is a constructive activity in which a person invests his time. More than one-fourth (29.82%) of the farmers were engaged in agriculture + dairying followed by agriculture (24.84%) and agriculture + labour (22.98%). The district is more prone to extremities of weather which might be a possible reason for the considerable number of farmers depending on labour and dairying. The findings are in accordance with Coudhary *et al*., (2015) and Anjana and Sidhu (2022).

4. Annual income

The actual income of the respondent aggregated up for the whole year from different livelihoods is taken as such for operationalization. More than half (56.52%) of the CSA adopted farmers were with low level of annual income followed by medium and high levels of annual income with 37.27 and 6.21 per cent respectively. The findings showed that majority of the farmers were with low income which might be an outcome of small landholdings. High cost of inputs and lack of proper price for the produce may also contribute to the findings. The findings derive support from those of Meghwal (2017) and Devi (2020).

5. Farm size

Farm size referred to the number of acres of land the respondent possessed. It could be understood from the Table 01 that nearly one-third (31.68%) of the respondent farmers adopting CSA fall under marginal category with an acreage of less than 2.5 acres. The fact of division of joint

families from time to time and thus resulted fragmentation of land might have contributed to the less acreage of landholdings. The results were in line with Sundar and Peter (2016).

6. Farming experience

Number of completed years of the respondents in farming at the time of data collection was operationalized as such under farming experience. Nearly three-fifths (60.87%) of the CSA adopted farmers were with medium level of farming experience. Farming experience is an important factor that motivates the farmers to accept, evaluate and experiment and take decisions on improved technologies. Middle age of the respondents might be a possible reason for the medium level of farming experience. The findings were in line with Mishra and Ghadei (2015) and Rane (2016).

7. Farm power possession

The farm power possessed by the respondents was used to indicate the livelihood status and also the utility status of different farm implements. The results from Table 1 depicts that nearly three-fifths (72.67%) of the respondents were with medium level with respect to farm power possession. Poor farm power possession might be caused by low income, limited irrigation potential and agricultural savings. Prevalence of severe labour shortage and higher labour wage together could have forced the farmers to possess medium level farm power status. The results derive accordance from those of Jyoti (2012).

Table 1. Profile of the farmers **(n=161)**

S. No.	Variables	Category	Number	%
1.	Age	Young(Up to 35 years)	44	27.33
		Middle(36-55 years)	78	48.45
		Old(Above 55 years)	39	24.22
2.	Educational status	Illiterate	8	4.97
		Functionally literate	16	9.94
		Primary education	47	29.19
		Middle education	18	11.18
		Secondary education	24	14.91
		Higher secondary education	26	16.15
		Diploma	12	7.45
		Collegiate education	10	6.21
3.	Occupational status	Agriculture	40	24.84
		Agriculture + labour	37	22.98
		Agriculture + dairying	48	29.82
		Agriculture + services	13	8.07
		Agriculture + business	23	14.29
4.	Annual income	Low (< 1,00,000/-)	81	56.52
		Medium (1,00,001/- to 4,00,000/-)	68	37.27
		High (>4,00,000/-)	12	6.21
5.	Farm size	Marginal (<2.5)	51	31.68
		Small (2.5-5)	48	29.82
		Semi-medium (5-10)	39	24.22
		Medium (10-25)	22	13.66
		Large (>25)	1	0.62
6.	Farming experience	Low	26	16.15

		Medium	98	60.87
		High	37	22.98
7.	Farm power possession	Low	12	7.45
		Medium	117	72.67
		High	32	19.88
8.	Innovation proneness	Low	15	9.32
		Medium	106	65.84
		High	40	24.84
9.	Progressiveness	Less progressive	29	18.02
		Moderately progressive	92	57.14
		Highly progressive	40	24.84
10.	Change resistance	Low	55	15.52
		Medium	113	70.19
		High	23	14.29
11.	Attitude towards CSA technologies	Less favourable	28	17.39
		Moderately favourable	87	54.04
		Highly favourable	46	28.57
12.	Scientific orientation	Less oriented	19	11.80
		Moderately oriented	127	78.88
		Highly oriented	15	9.32
13.	Fatalism	Low	39	24.22
		Medium	91	56.53
		High	31	19.25

8. Innovation proneness

The degree of readiness of a farmer to embrace and implement the advancements in his field relatively earlier was taken as innovation proneness. Approximately two-thirds (65.84%) of the respondents adopting CSA were with medium level of innovation proneness followed by high (24.84%) and low (9.32%) levels of innovation proneness. The possible reason that could explain the findings might be the low literacy level and lack of confidence among the farmers. The findings are in line with those of Vasanthi *et al*., (2018). Pravallika and Mazhar (2021).

9. Progressiveness

Progressiveness defines the extent to which the farmers were amenable to contemporary ideologies and practices. Nearly three-fifths (57.14%) of the respondents possessed medium level of progressiveness followed by high (24.84%) and low (18.01%) levels of progressiveness. The medium to high level of progressiveness might be accounted by the tendency of the respondents to change towards better practices and improve their income and thus their standard of living. The findings are in contradiction with those of Anitha (2012) and Shindhu (2015).

10. Change resistance

The individuals' aversion to change to new from their old behaviour as well as resistance to integrate the new practices is termed as change resistance. The findings showed that nearly three-fourths (70.19%) of the respondents from the study area adopting CSA had medium level of change resistance followed by 15.53 per cent of low and 14.29 per cent of high levels of change resistance. In order to get additional income from the limited landholdings of farmers, they had to adopt improved practices which might involve a moderate level of risk factor. The low to medium level of

change resistance of the respondent farmers can be due to their need for adapting to the climate vagaries. The findings are in contradiction to those of Pynbianglang (2011).

11. Attitude towards CSA technologies

The persistent manner of thinking of the farmers about the CSA technologies was operationalized for the study under the attitude towards CSA technologies. More than half (54.04%) of the respondents were having moderately favourable attitude towards CSA technologies. Individuals after gaining a certain age and educational status are more likely to understand the concepts of CSA technologies and develop an attitude towards them. Attitude might play a major role in improving their farm productivity and thus their economic status. The findings derive support from those of Shikuku *et al*., (2020).

12. Scientific orientation

Scientific orientation likely makes the farmer an innovator. The results shows that more than three-fourths (78.88%) of the farmers adopting CSA were having medium level of scientific orientation followed by low (11.80%) and high (9.32%) levels. The climatic conditions faced by the farmers and their adverse effects on their farming income might had made the farmers to take up the innovative methods of farming which might be a possible reason for the medium level of scientific orientation among the farmers. The results are in line with those of Jamadar (2012) and Sunil (2017).

13. Fatalism

The predetermined behaviour of the individuals based on their beliefs was referred as fatalism. The findings from Table 1 shows that more than half (56.52%) of the respondents had medium level of fatalism accorded by 24.22 and 19.25 per cents of low and high levels of fatalism respectively. Majority of the respondents were scientifically oriented and believed in scientific evidences. This might be a possible reason for the low to medium level of fatalism among the respondents. The findings are in accordance with the studies of Sangeetha (2013).

Conclusion

The study gave a scope to highlight the primary factors in a society which can determine the behaviour of the farmer towards a new technology and his decisions in adopt to not to adopt them. The results of the study on profile of the farmers indicates that a higher per cent of farmers were middle aged with a minimum of primary education and having agriculture and dairying as their occupation. A notable number of farmers were marginal with mow annual income and medium level of farming experience, farm power possession and innovation proneness. More than half of the respondents were moderately progressive, with medium level of change resistance and with moderately favourable attitude towards CSA technologies. Majority of the respondents were moderately scientifically oriented and with low to medium level of fatalism. Understanding the profile of farmers in the study area helps to identify the gaps in the knowledge levels of the farmers. In conclusion, family is the primary unit of society and also the backbone of farming community which continues to support the economic and social activities. The study can help in developing farm policies which can be more adaptable to the farming conditions considering the heterogeneity of the profile and the farming conditions.

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