International Journal of Science and Research (IJSR)
ISSN: 2319-7064
SJIF (2022): 7.942

Profile Study of Dry Farmers in Central Dry Zone of Karnataka

Sachin, V. R.[1*], Prasanta Mishra[2], Shridevi Valamannavar[3]

[1, 2]Department of Extension Education, Assam Agricultural University, Jorhat, Assam, India-785013

[3]Manage Fellow (Agricultural Extension), MANAGE, Hyderabad, Telangana, India-500030
* Corresponding author's E-mail: *sachinvr69[at]gmail.com*

Abstract: ***This profile study was conducted in the central dry zone of Karnataka during 2019-20. The survey was done with the sample size of 250 dry farmers who were sampled with the help of multistage random sampling technique. The findings of the study revealed that majority were found to be 36 to 62 years old (65.60 %), educated up to high school (32.00 %) with 3 to 26 years farming experience (51.20 %) and had 2 to 6 members in their family (86.80 %). Majority were small land holders (48.40 %) who fell in low level in case of their level of HYV index (55.60 %), level of organic manure (86.80 %), level of fertilizers (78.00 %), level of pesticides (98.80 %) and farm power mechanization (75.60 %). While, majority were found in medium level in case of their extension contact (58.40 %), mass media utilization (56.40 %), economic motivation (84.00 %), management orientation (69.20 %), achievement motivation (67.60 %), level of aspiration (93.20 %), decision making pattern (62.00 %) and innovativeness (72.80 %). Whereas, majority fell in high level in case of their level of rain water harvesting and moisture conservation measures (50.80 %), change proneness (64.00 %), risk orientation (76.40 %) and farming commitment (62.80 %).***

Keywords: Dry farmers, Karnataka, profile study, central dry zone

1. Introduction

The central dry zone is one of the agro climatic zones in Karnataka where annual rainfall is less than 750 mm (raitamitra.kar.nic.in). The farming in this dry area is known as the dry farming with very limited resources. In this study, attempt has been made to find the updated profile of the dry farmers. The profile is a basic information which is very essential to take up any developmental activities. Even to implement the agricultural developmental schemes this data is helpful. As the change is common in any society, recent data provide better understandings hence this study may provide brief idea of the farming community in this zone for the agencies who work for the betterment of farmers. Following methodology was followed in this study

2. Materials and Methods

The study area taken was central dry zone of Karnataka where, the respondents were dry farmers. The sampling was done with the help of multi-stage random sampling technique.

Table 1: Measurement of the profile characteristics of the dry farmers (N=250)

Sl. No.	Profile characteristics (operational definition)	Measurement technique	
1	**Age** (The chronological age of the dry farmer at the time of collecting data)	**Scoring (years)**	
		Young (< 36)	(< Mean – SD)
		Middle aged (36 – 62)	(Mean ± SD)
		Old (> 62)	(> Mean + SD)
2	**Level of education** (Formal education qualification possessed by the dry farmer at the time of data collection)	**Scoring (scores)**	
		Illiterate -0	
		Primary school - 1	
		Higher secondary school - 2	
		High school - 3	
		PUC - 4	
		Degree/diploma - 5	
		Master degree - 6	
3	**Farming experience** (The total number of years accomplished by the dry farmer in raising of crops in his own or leased farm land at the time of data collection)	**Scoring (years)**	
		Low (< 26)	
		Medium (27 – 50)	
		High (> 51)	
4	**Family size** (The total number of members in a dry farmer's family)	**Scoring (scores)**	
		Low (< 7)	
		Medium (7 – 11)	
		High (> 11)	
5	**Landholding** (The number of hectares of land owned by the dry farmer at the time of data collection)	**Scoring (hectares)**	
		Marginal farmers (< 1)	
		Small farmers (1 - 2)	
		Semi medium farmers (2 - 4)	
		Medium farmers (4 - 10)	
		Large farmers (> 10)	

6	**Index of HYV** (The dry farmer's land area under the cultivation of high yielding varieties since last one year from the time of data collection)	**Scoring (scores)**	
		Low (< 50)	
		Medium (50 - 99)	
		High (100 - 150)	
7	**Level of use of organic manure** (The quantity of organic manure applied by the dry farmer in quintals per hectare of gross cropped area in the last three years from the time of data collection)	**Scoring (quintals/ha)**	
		Low (< 150)	
		Medium (150 - 299)	
		High (300 - 449)	
		Very high (> 449)	
8	**Level of use of fertilisers** (Different commercially available chemical fertilizers applied by the dry farmer in kilograms per hectare for each crop in the last two seasons from the time of data collection)	**Scoring (kg/ha)**	
		Low (< 215)	
		Medium (215 - 429)	
		High (430 - 644)	
		Very high (> 644)	
9	**Level of use of pesticides** (Different commercially available chemical pesticides applied by the dry farmer in kilograms per hectare for each crop in the last two seasons from the time of data collection)	**Scoring (kg/ha)**	
		Low (< 2)	
		Medium (2 - 3)	
		High (4 - 5)	
		Very high (> 5)	
10	**Rain water harvesting and moisture conservation** (Different rain water harvesting and moisture conservation techniques adopted by the dry farmer to ensure lifesaving irrigations to sustain his crops during the moisture stress period)	**Scoring (scores)**	
		Low (< 4)	
		Medium (4 - 5)	
		High (6 - 7)	
		Very high (> 7)	
11	**Farm power mechanization** (The labour (human & animal) & time conserving and efficient working devices of farm operations owned by the dry farmer)	**Scoring (scores)**	
		Low (< 5)	
		Medium (5 - 9)	
		High (10 - 14)	
		Very high (> 14)	
12	**Extension contact** (The frequency of dry farmer's contact with extension personnel of different departments of agriculture and its allied sectors to get information on different aspects of farming for the smooth and efficient functioning of the farm)	**Scoring (scores)**	
		Low (< 7)	
		Medium (7 - 13)	
		High (14 - 20)	
		Very high (> 20)	
13	**Mass media utilization** (The frequency of exposure and the use of different mass media for getting information about the different aspects of agriculture and its allied sectors by the dry farmer)	**Scoring (scores)**	
		Low (< 5)	
		Medium (5 - 9)	
		High (10 - 14)	
		Very high (> 14)	
14	**Economic motivation** (The dry farmer's orientation to achieve highest economic end for example maximization of farm profit)	**Scoring (scores)**	
		Low (< 9)	(< Mean – SD)
		Medium (9 - 11)	(Mean ± SD)
		High (> 11)	(> Mean + SD)
15	**Change proneness** (Dry farmer's disposition to accept or reject the change)	Low (< 3)	
		Medium (3 - 4)	
		High (5 - 6)	
		Very high (> 6)	
16	**Risk orientation** (The dry farmer's degree of orientation towards risk and uncertainty in farm management and his courage to face the various risks involved in farming)	**Scoring (scores)**	
		Low (< 6)	
		Medium (6 - 8)	
		High (> 8)	
17	**Management orientation** (the degree to which the dry farmer is oriented towards the management of farming activities in his farm)	**Scoring (scores)**	
		Low (< 51)	(< Mean – SD)
		Medium (51 - 65)	(Mean ± SD)
		High (> 65)	(> Mean + SD)
18	**Achievement motivation** (The dry farmer's striving to do a good work with a standard of excellence which may be related to his task or self)	**Scoring (scores)**	
		Low (< 22)	
		Medium (22 - 27)	
		High (> 27)	
19	**Farming commitment** (The degree of commitment of the dry farmer to consider farming as his profession)	**Scoring (scores)**	
		Low (< 18)	
		Medium (18 - 23)	
		High (24 - 29)	
		Very high (> 29)	
20	**Level of aspiration** (The dry farmer's possible goal set by himself in his performance)	**Scoring (scores)**	
		Low (< 1)	(< Mean – SD)
		Medium (1 - 3)	(Mean ± SD)

		High (> 3)	(> Mean + SD)
21	**Decision making pattern** (The nature of decision making, it may individual, joint or collective decision that the farm family has resorted to, while performing farm activities)	**Scoring (scores)**	
		Low (< 20)	(< Mean – SD)
		Medium (20 - 48)	(Mean ± SD)
		High (> 48)	(> Mean + SD)
22	**Innovativeness** (Thedry farmer's socio-psychological orientation of close association with change, adoption of innovative ideas and practices)	**Scoring (scores)**	
		Low (< 16)	
		Medium (16 - 19)	
		High (20 - 23)	
		Very high (> 23)	

3. Findings

1) **Age:** Almost two-third (65.60 %) of the dry farmers were found to be 36 to 62 years old, followed by 18.40 per cent were found to be less than 36 years old. Remaining 16.00 per cent were found to be more than 62 years old (Table 1). The findings were in line with the results of Rajyalakshmi (2019) and Ashwani Kumar (2020) where they do found majority of their respondents at middle age.
2) **Level of education:** Almost one-third (32.00 %) of the dry farmers from central dry zone were completed their formal education up to high school level. Remaining two-third were distributed among the PUC (17.60 %), illiterates (16.80 %). primary school (13.60 %), higher secondary school (11.20 %). Degree/diploma (8.80 %) categories of education. Whereas, none were found to have master degree (Table 1). The results were in contrary with Rajyalakshmi (2019) and Ashwani Kumar (2020) where they reported as majority were found with primary school education.
3) **Farming experience:** More than half of the (51.20 %) of the dry farmers were found to have 3 to 26 years of farming experience. Whereas, remaining less than half were distributed among 27 to 50 years (46.40 %) and 51 to 75 years (2.40 %) groups of farming experience (Table 1). The findings were in contrary with results of Sunitha (2015) and Rajyalakshmi (2019) where they found majority farmers with medium farming experience.
4) **Family size:** In case of family size, more than four-fifth (86.80 %) of dry farmers were found to have 2 to 6 members in their family. Followed by few (11.20 %) were found to have 7 to 11 members in their family. Whereas, remaining very few (2.00 %) were found to have 12 to 16 members in their family (Table 1). Results were in line with Sunitha (2015) where majority were with small size families. Whereas the results of Ashwani Kumar (2020) were in contrary where majority of the farmers were with medium size family.
5) **Land holding:** Almost half (48.40 %) of the dry farmers in the central dry zone were found to be small land holders. Whereas, remaining half were distributed among the semi medium (24.80 %), marginal (16.00 %), medium (10.40 %) and large (0.40 %) land holder categories (Table 1). The findings of the study were in line with the findings of Rajyalakshmi (2019) and Ashwani Kumar (2020) where they reported majority of their respondents were small farmers.
6) **HYV index:** More than half (55.60 %) of dry farmers fell into the low level of high yielding varieties index. Whereas, remaining half were distributed among by medium (27.20 %) and high (17.20 %) levels of high yielding varieties index (Table 1).The results were in contrary with Singh (2001) where he reported that majority farmers were with medium HYV index.
7) **Level of use of organic manure:** More than four-fifth (86.80 %) of the dry farmers were belonged to low level of use of organic manure. Whereas, remaining few were distributed among medium (12.00 %), high (0.80 %) and very high (0.40 %) levels of use of organic manure (Table 1). The results were in contrary with Singh (2001) where he found majority of farmers at medium level in use of organic manure.
8) **Level of use of fertilizers:** More than three-fourth (78.00 %) of the dry farmers were belong to low level of use of fertilizers. Whereas, remaining less than one-fourth were distributed among medium (19.60 %), high (1.60 %) and very high (0.80 %) levels of use of fertilizers (Table 1). The results were in contrary with Singh (2001) where he found majority of farmers at medium level in use of fertilizers.
9) **Level of use of pesticides:** Almost all (98.80 %) the dry farmers were found to use pesticides at low level. Followed by very few were found to use at medium (0.80 %) and very high (0.40 %) levels and none of them were found to use pesticides at high levels (Table 1). The results were in line with Singh (2001) where he found majority of farmers not at all used pesticides.
10) **Rain water harvesting and moisture conservation:** Half (50.80 %) of the dry farmers were found to fall in high level of adoption of rain water harvesting and moisture conservation measures. Whereas, remaining half were distributed among medium (40.00 %) and low (9.20 %) levels of adoption of rain water harvesting and moisture conservation measures (Table 1).The results were in contrary with Singh (2001) where majority of farmers were with inadequate water harvesting and moisture conservation measures in their fields.
11) **Farm power mechanization:** In case of farm power mechanization, almost three fourth (75.60 %) of dry farmers were found to own less number of farm machineries. Whereas, remaining one-fourth were distributed among medium (20.00 %), high (4.00 %) and very high (0.40 %) levels of farm power mechanization (Table 1). The results were in line with Singh (2001) where majority of farmers were with low level of farm power mechanization.
12) **Extension contact:** More than half (58.40 %) of the dry farmers were found to maintain their extension contact at medium level. From remaining less than

half, 23.20 per cent, 17.60 per cent and 0.40 per cent were found to maintain their extension contact at low, high and very high levels respectively (Table 1). The results were in line with Rajyalakshmi (2019) where majority of farmers were found to have medium extension contact.

13) **Mass media utilization:** More than half (56.40 %) of the dry farmers were found to utilize mass media at medium level. Whereas, remaining less than half were found to utilize mass media at low (29.60 %), high (12.80 %) and very high (1.20 %) levels (Table 1).The results were in line with Rajyalakshmi (2019)where majority of farmers were found to utilize mass media at medium level. Whereas, the results were in contrary with findings of Singh (2001) where majority of farmers were found to utilize mass media at low level.

14) **Economic motivation:** Economic motivation was found be at medium level among more than four-fifth (84.00 %) of the dry farmers. Whereas, remaining less than one-fifth were found to have low (15.20 %) and high (0.80 %) levels of economic motivation (Table 1). The results were in line with Singh (2001) and Sunitha (2015) where majority of farmers were found to have medium level of economic motivation.

15) **Change proneness:** Almost two-third (64.00 %) of the dry farmers were found to express high level of change proneness. Whereas, remaining one-third were distributed among medium (31.60 %) and low (4.40 %) levels of change proneness (Table 1). The results were in contrary with Singh (2001)where majority of farmers were found to exhibit low level of change proneness.

16) **Risk orientation:** More than three-fourth of the dry farmers exhibited high (76.40 %) level of risk orientation. Whereas, remaining less than one-fourth were distributed among medium (23.20 %) and low (0.40 %) levels of risk orientation (Table 1). The results were in contrary with Sunitha (2015) and Kumar (2020)where majority of farmers were found to exhibit medium level of risk orientation.

17) **Management orientation:** More than two-third (69.20 %) of the dry farmers were found to stand at medium level of management orientation. Whereas, remaining less than one-third were distributed among high (16.00 %) and low (14.80 %) levels of management orientation (Table 1). The results were in line with Sunitha (2015) and Rajyalakshmi (2019)where majority of farmers were found to havemedium level of management orientation.

18) **Achievement motivation:** Achievement motivation was found to be at medium level among more than two-third (67.60 %) of dry farmers. Whereas, remaining less than one-third were distributed among low (29.20 %) and high (3.20 %) levels of achievement motivation (Table 1).The results were in line with Sunitha (2015) and Rajyalakshmi (2019) where majority of farmers were found with medium level of achievement motivation.

19) **Farming commitment:** More than three-fifth (62.80 %) of the dry farmers expressed high level of farming commitment. Whereas, remaining two-fifth were distributed among medium (29.20 %) and low (8.00 %) levels of farming commitment (Table 4.23). The results were in contrary with Sunitha (2015) where majority of farmers were with medium level of farming commitment.

20) **Level of aspiration:** Great majority were found to have medium (93.20 %) level of aspiration. Whereas, remaining few were distributed among high (5.60 %) and low (1.20 %) levels of aspiration (Table 2).The results were in line with Sunitha (2015) where majority of farmers were found to with medium level of aspiration.

21) **Decision making pattern:** In case of decision making pattern, medium level was conquered by almost two-third (62.00 %) of the respondents. Whereas, remaining one-third were distributed among low (29.60 %) and high (8.40 %) levels of decision making pattern as given in the Table 2. The results were in contrary with Sunitha (2015) where majority of farmers were with high level of decision making pattern.

22) **Innovativeness:** Almost three-fourth (72.80 %) of the dry farmers were found to be innovative at medium level. Followed by exactly two-fifth (20.00 %) of them were found to have low level of innovativeness. Whereas, remaining few were distributed among high (6.80 %) and very high (0.40 %) levels of innovativeness (Table 2). The results were in line with Sunitha (2015) and Rajyalakshmi (2019)where majority of farmers were found to have medium level of innovativeness.

Table 2: Profile of the dry farmers (N=250)

Sl. No.	Independent variable	Category	Class interval	F	%
1	Age	24 - 35	< 36	46	18.40
		36 - 62	36 - 62	164	65.60
		63 - 85	> 62	40	16.00
2	Level of education	Illiterate		42	16.80
		Primary school		34	13.60
		Higher secondary school		28	11.20
		High school		80	32.00
		PUC		44	17.60
		Degree/diploma		22	8.80
		Master degree		0	0.00
3	Farming experience	3 - 26	< 27	128	51.20
		27 - 50	27 - 50	116	46.40
		51 - 75	> 50	6	2.40
4	Family size	2 - 6	< 7	217	86.80
		7 - 11	7 - 11	28	11.20

		12 - 16	> 11	5	2.00
5	Land holding	Marginal farmers	< 1 ha	40	16.00
		Small farmers	1 - 2 ha	121	48.40
		Semi medium farmers	2 - 4 ha	62	24.80
		Medium farmers	4 - 10 ha	26	10.40
		Large farmers	10 ha and above	1	0.40
6	HYV index	Low	< 50	139	55.60
		Medium	50 - 99	68	27.20
		High	> 99	43	17.20
7	Level of use of organic manure	Low	< 150	217	86.80
		Medium	150 - 299	30	12.00
		High	300 - 449	2	0.80
		Very high	> 449	1	0.40
8	Level of use of fertilizers	Low	< 215	195	78.00
		Medium	215 - 429	49	19.60
		High	430 - 644	4	1.60
		Very high	> 644	2	0.80
9	Level of use of pesticides	Low	< 2	247	98.80
		Medium	2 - 3	2	0.80
		High	4 - 5	0	0.00
		Very high	> 5	1	0.40
10	Rain water harvesting and moisture conservation	Low	< 4	23	9.20
		Medium	4 - 5	100	40.00
		High	6 - 7	97	38.80
		Very high	> 7	30	12.00
11	Farm power mechanization	Low	< 5	189	75.60
		Medium	5 - 9	50	20.00
		High	10 - 14	10	4.00
		Very high	> 14	1	0.40
12	Extension contact	Low	< 7	58	23.20
		Medium	7 - 13	146	58.40
		High	14 - 20	44	17.60
		Very high	> 20	1	0.40
13	Mass media utilization	Low	< 5	74	29.60
		Medium	5 - 9	141	56.40
		High	10 - 14	32	12.80
		Very high	> 14	3	1.20
14	Economic motivation	Low	< 9	38	15.20
		Medium	9 - 11	210	84.00
		High	> 11	2	0.80
15	Change proneness	Low	< 3	11	4.40
		Medium	3 - 4	79	31.60
		High	5 - 6	142	56.80
		Very high	> 6	18	7.20
16	Risk orientation	Low	< 6	1	0.40
		Medium	6 - 8	58	23.20
		High	> 8	191	76.40
17	Management orientation	Low	< 51	37	14.80
		Medium	51 - 65	173	69.20
		High	> 65	40	16.00
18	Achievement motivation	Low	< 22	73	29.20
		Medium	22 - 27	169	67.60
		High	> 27	8	3.20
19	Farming commitment	Low	< 18	20	8.00
		Medium	18 - 23	73	29.20
		High	24 - 29	91	36.40
		Very high	> 29	66	26.40
20	Level of aspiration	Low	< 1	3	1.20
		Medium	1 - 3	233	93.20
		High	> 3	14	5.60
21	Decision making pattern	Low	< 20	74	29.60
		Medium	20 - 48	155	62.00
		High	> 48	21	8.40
22	Innovativeness	Low	< 16	50	20.00
		Medium	16 - 19	182	72.80
		High	20 - 23	17	6.80
		Very high	> 23	1	0.40

4. Summary and Conclusion

Overall glance of the entire profile of dry farmers revealed that even though majority were 36 to 62 years old, majority were had 3 to 26 years of farming experience (Table 2). This might be due to the reason that most of the farmers took up the farming as profession at their later age after the trials of some non-agricultural activities at their early age.

In case of index of HYV, level of use of organic manure, level of use of fertilisers, level of use of pesticides and farm power mechanization majority fell in the low level category (Table 2). This might be due to common and well known reason i.e., scarcity of resources with majority of small land holders (Table 2) of this dry zone to make investments even though majority were high risk takers (Table 2) with high level of farming commitment (Table 2).

As water scarcity is not recent problem, they were found to adopt rain water harvesting and moisture conservation measures (Table 2) at high level. Also the promotional efforts of department of agriculture and its allied sectors' departments along with gram panchayats boosted the adoption level of some of the rain water harvesting and moisture conservation measures. Which was complimented by high level of change proneness (Table 2) of farmers as their difficult life style with uncertain dry farming occupation made them to give good response to the desirable changes.

Majority of the dry farmers were educated up to high school (Table 2) and had 2 to 6 members in their family (Table 2). Majority of the dry farmers were found to have medium levels of extension contact, mass media utilization, economic motivation, management orientation, achievement motivation, level of aspiration, decision making pattern and innovativeness (Table 2).

References

[1] Ashwani Kumar. (2020). Socio-economic analysis of soybean growers with reference to cost of cultivation and income in Rajnandgaon district of Chhattisgarh. M.Sc. Theses, Acharya N G Ranga Agricultural University, Guntur.
[2] http:// raitamitra.kar.nic.in accessed on 22nd February 2019.
[3] Rajyalakshmi, M. B. (2019). A study on performance of custom hiring centres in Chittoor district of Andhra Pradesh. M.Sc. Thesis, Acharya N G Ranga Agricultural University, Guntur.
[4] Singh, S. (2001). Extension management for sustainable dry land agriculture in Haryana. Ph.D. Thesis, Chaudhary Charan Singh Haryana Agricultural University, Haryana.
[5] Sunitha, A. B. (2015). Sustainability of farming systems in selected agro-climatic zones of Karnataka. Ph.D. Thesis, University of Agricultural Sciences, Bangalore.