



Personal, socio-economic and psychological characteristics of coconut growers

Mohith K^{1,*}, C Narayanaswamy²

¹M.Sc. Scholar, Department of Agricultural Extension, College of Agriculture, UAS, GKVK Bengaluru, Karnataka, India
www.ksmsgmohith101010@gmail.com

²Professor and Scientific officer to Dean (Agri.), Department of Agricultural Extension, College of Agriculture, UAS, GKVK Bengaluru, Karnataka, India
cnswamyextn@gmail.com

*Corresponding author

Received: 25 Jul 2024; Received in revised form: 25 Aug 2024; Accepted: 31 Aug 2024; Available online: 04 Sep 2024

©2024 The Author(s). Published by Infogain Publication. This is an open-access article under the CC BY license

(<https://creativecommons.org/licenses/by/4.0/>).

Abstract—The present study to know the personal, socio-economic and psychological characteristics of randomly selected 120 coconut growers from Tiptur, Turuvekere, Chikkanayakanahalli and Sira taluks of Tumkur district was conducted during the year 2022-23. Overall it was found that equal number of coconut growers (42.50 %) were in the old and middle age group respectively, while significant number of coconut growers (37.50 %) were having education upto high school, two-third of coconut growers (69.16 %) were found under the category of medium family size, while two-fifth of coconut growers (40.00 %) came under big farmers category followed by 39.16 per cent under the small farmers category and more than two-fifth of coconut growers (46.66 %) possessed medium level of farming experience. Overall it was found that significant number of coconut growers (44.20 %) belonged to medium category of information seeking behaviour, more than two-fifth of coconut growers (43.33 %) came under medium category of extension participation, two-fifth of coconut growers (40.00 %) belonged to medium category of management orientation. Among the overall coconut growers, it was disclosed that significant number of coconut growers i.e., 46.67 per cent were found equally under the medium category of risk orientation, credit orientation, innovativeness. Overall it was found that slightly more than two-fifth of coconut growers (41.67 %) were having medium level of deferred gratification, significant number of coconut growers (46.67 %) belonged to medium category of scientific orientation and significant number of coconut growers (44.17 %) belonged to medium category of cosmopolitaness.



Keywords— Characteristics, Coconut growers, Personal, Psychological, Socio-economic

I. INTRODUCTION

Plantation crops are an essential part of our agricultural economy and a major factor in the expansion and advancement of the agrarian economies in several Indian states. The plantation crop industry plays a significant role in the overall socio-economic development of the country, as evidenced by its substantial contribution to foreign exchange earnings and the number of direct and indirect jobs it generates. Among the plantation crops, Coconut is one such vital crop which holds a prominent

position symbolizing resilience, versatility and cultural significance within the Indian agricultural landscape.

Considering global scenario, India is amongst the largest coconut producing countries with nearly 31% share of global production (Coconut Development Board, 2021)[1]. Coconut cultivation holds particular importance in the Indian circumstances, especially in the state of Karnataka which is known as one of the leading hubs for coconut cultivation. In Karnataka state, Tumkur district is often hailed as 'Land of Coconuts' or 'Kalpatharu Nadu' and it plays an essential role in strengthening the coconut

yield of the state. Around 29 per cent of the total coconut cultivation area and nearly 30 per cent of production in the state is contributed by Tumkur district alone (Coconut Development Board 2021-22)[2].

Coconut cultivation is a significant farming activity with substantial economic and cultural significance in many regions. We can say that the success and sustainability of this sector are greatly influenced by the grower's backgrounds, behaviours or characteristics and attitudes. So, studying the personal, socio-economic and psychological characteristics of coconut growers is necessary for several reasons. By understanding these characteristics, we can recognize the factors that drive decision-making, adoption of new technologies and their responses to challenges such as market fluctuations, climate change and resource constraints. This study provides insights into the personal, socio-economic and psychological characteristics of coconut growers practicing coconut farming. These findings can enlighten targeted interventions, policy-making functionaries and extension functionaries about developing support programs designed to enhance productivity, sustainability and the overall well-being of coconut growers. Thus, this study can contribute to strengthening of the resilience and improvement of the coconut farming sector, which is vital for the livelihoods of many rural coconut growing communities.

II. MATERIALS AND METHODS

The present research was conducted in Tumkur district of Karnataka in the year 2022-23 using *Ex-post-facto* research design. As coconut cultivation is being taken up in most of the taluks of the Tumkur district and for the reason that in Karnataka state, Tumkur is one of the top coconut growing districts, it was selected purposively for the study. Considering the highest and lowest productivity in Tumkur district, out of ten taluks, Tiptur, Turuvekere, Chikkanayakanahalli and Sira taluks were selected purposively for the study. By using simple random sampling, thirty coconut growers from each chosen taluk were selected. Thus, the total sample involved was 120 coconut growers from four taluks.

III. RESULTS AND DISCUSSION

Personal, socio-economic and psychological characteristics of coconut growers

One of the goals of the current investigation was the identification of the coconut growers profiles. Following a review of the literatures, several most significant characteristics of coconut growers were chosen and

examined. Table 1 summarizes, interprets and presents the results.

Age

From the study it was revealed that in the case of age of coconut growers, significant number of coconut growers in Tiptur taluk (50.00 %) and Chikkanayakanahalli taluk (53.30 %) were found in the middle age group where as significant number of coconut growers of Turuvekere taluk (53.30 %) and Sira taluk (66.70 %) were found in the old age group. Thus, among the overall coconut growers it was revealed that equal number of coconut growers (42.50 %) belonged to both the old and middle age group respectively followed by 15.00 per cent of them in the young age group category. The found pattern may be because of the fact that individuals in the middle age group might have a balance of family responsibilities and farming obligations, making them actively engaged in both their households and farms. In case of old age group of coconut growers some might continue coconut farming as part of their lifestyle and to maintain a source of income during their retirement years. Younger individuals might be increasingly attracted to urban areas for education and employment opportunities, leading to a decreased interest in coconut farming. This result matched those of Nayabhai (2011)[3], Koli (2012)[4], Deepika (2015)[5].

Education

It was revealed that significant amount of coconut growers in Tiptur taluk (33.33 %) had Pre-university education whereas significant number of coconut growers in case of Turuvekere taluk (56.70 %) and Chikkanayakanahalli taluks (43.30 %) had education upto high school. Whereas in case of Sira taluk significant number of coconut growers (36.70 %) had education upto primary school. Ultimately in case of overall coconut growers, significant amount of coconut growers (37.50 %) were having education upto high school followed by 20.00 per cent of respondents having Pre-University education level then followed by 19.20 per cent of respondents having primary school education, 13.33 per cent of respondents were having graduation and above and 10.00 per cent were illiterate. Due to the existence of high schools in rural areas and the recognition of the value of education for one's total growth and development, it was possible that the majority of coconut farmers have completed their high school education. According to investigations by Abhilash (2017)[6], this investigation's findings are consistent.

Family size

The family size in case of all the chosen taluks *viz.*, in Tiptur taluk (60.00 %), in Turuvekere taluk (76.60 %), in Chikkanayakanahalli taluk (66.60 %) and in Sira taluk (73.33 %) was significantly known to be of medium size .

Overall it was revealed that two-third of coconut growers (69.16 %) fell under the category of medium family size followed by 23.33 per cent of them fell under the small family size category then 07.50 per cent of coconut growers fell under the large family size category. The possible cause might be that medium-sized family might provide a better work-life balance for parents, allowing them to engage in farming while also dedicating time to their family's well-being and other interests. While smaller family sizes could be a reflection of changing demographic trends, with younger generations opting for smaller families. Even the availability of good reproductive health treatments increases, families may decide to have fewer children, prioritizing quality over number. In areas with limited educational opportunities and alternative livelihoods, families might choose to have more children who can contribute to farm work. The results are consistent with those of Vikas (2020)[7].

Land-holdings

Half of the coconut growers (50.00 %) in Tiptur taluk and more than two-fifth (46.66 %) of coconut growers in Turuvekere taluk were found to be in big farmer category. While equal number of coconut growers (40.00 %) were found to be in both small and big farmer category in Chikkanayakanahalli taluk. Further it was revealed that noteworthy amount of coconut growers (53.33 %) of Sira taluk were found in the small farmer category. Overall it was found that two-fifth of coconut growers (40.00 %) come under big farmers category followed by 39.16 per cent under the small farmers category and then 20.83 per cent of coconut growers under the marginal farmers category. The inheritance of land from their ancestors, which may have been transferred down the line from generation to generation could be the reason for such land holding. The investigations carried out by Rashmi (2018)[8] was consistent with these findings.

Farming experience

From the investigation it was known that noteworthy amount of coconut growers *viz.*, in Tiptur taluk (56.67 %), in Turuvekere taluk (40.00 %), in Chikkanayakanahalli taluk (46.70 %) as well as in Sira taluk (43.33 %) came under medium level of farming experience. Thus, among overall coconut growers more than two-fifth of coconut farmers or growers (46.66 %) came under medium level of farming experience followed by 30.00 per cent of respondents were belonging to low level of farming experience and then 23.33 per cent of respondents came under high level of farming experience. This may be due to significant number of the coconut growers belong to medium age as well as old age who may have started farming activities by dropping their education and even

significant number of coconut growers who had recently involved in farming and the fact that they are young farmers. So a sizable portion of respondents might have fell into the category of having little agricultural experience. According to Kamar (2019)[9], this conclusion is consistent.

Information seeking behaviour

From the investigation it was known that half of the coconut growers in Tiptur taluk (50.00 %) were having high level of information seeking behaviour whereas significant number of coconut growers *viz.*, in Turuvekere taluk (36.70 %), in Chikkanayakanahalli taluk (46.70 %) and in Sira taluk (53.30 %) were considered to have medium level of information seeking behaviour. Overall it was evident that significant number of coconut growers (44.20 %) were considered to have medium level of information seeking behaviour followed by 30.00 per cent were considered to have low level of information seeking behaviour and then 25.80 per cent of the respondents were found to have high level of information seeking behaviour. The respondents pattern of having medium to low level of overall information seeking behaviour is most likely caused by the reason that coconut growers present in isolated or rural areas may lack easy access to information sources from agencies of Government, research conducting institutions and agricultural extension services. Even the respondents had little interest in learning about new crops or technologies, which may have prevented farmers from interacting with the institutional and non-institutional sources of knowledge that were accessible to them. This finding is consistent with study conducted by Bora *et. al* (2021)[10].

Extension participation

The analysis showed that significantly equal number of coconut growers (43.33 %) in Tiptur taluk were having both medium as well as high level or category of extension participation. While two-fifth of coconut farmers or growers (40.00 %) in Turuvekere taluk found to have medium level of extension participation at the same time more than half (53.33 %) of respondents or coconut growers of Sira taluk were known to have medium level of extension participation. In case of Chikkanayakanahalli taluk half of the coconut growers (50.00 %) were known to possess low level of extension participation. Overall it was revealed that more than two-fifth of coconut growers (43.33 %) were having medium level of extension participation followed by 32.50 per cent were having low level of extension participation and then high level of extension participation was seen in 24.17 per cent respondents. The likely cause of the afore mentioned trend is that respondents are eager to work with extension

workers to solve their problems and they are also less interested in participating in extension activities due to a lack of time and even coconut farms spread over large areas where extension services are not easily accessible or require significant travel, coconut growers might be less likely to participate. Mutteppa's (2018)[11] findings are in consistent with the results of the medium category.

Management orientation

Coming to management orientation, significant number of coconut growers *viz.*, in Tiptur taluk (50.00 %) and in Turuvekere taluk (40.00 %) were considered to have medium category of management orientation while in noticing Chikkanayakanahalli and Sira taluks significantly equal number of coconut growers (46.67 %) possessed low category of management orientation. Overall it was known that two-fifth of coconut growers (40.00 %) were possessing medium level of management orientation followed by 34.17 per cent were found to have low level of management orientation and then by 25.83 per cent respondents were found to have high level of management orientation. Individual's innovativeness, cosmopolitanism also the scientific orientation can be frequently influencing factors over management orientation. The medium degree of these qualities among coconut growers may be the likely cause of the respondents medium managerial approach. This research supported the conclusions of Deepika (2015)[5].

Risk orientation

The findings revealed that noteworthy amount of coconut growers *viz.*, in Tiptur taluk (46.67 %), in Turuvekere taluk (43.33 %), in Chikkanayakanahalli taluk (46.67 %) as well as in Sira taluk (50.00 %) were known to have medium level of risk orientation. Thus among the overall coconut growers, it was learnt that noteworthy amount of coconut growers (46.67 %) were found to have medium level of risk orientation followed by 27.50 per cent respondents were possessing low level of risk orientation and then followed by 25.83 per cent respondents were found to belong to high level of risk orientation. This could be because due to the uncertain market conditions, including fluctuating prices and demand, can discourage growers from taking risks with their produce. Even normal human tendency not to take risk might have forced the coconut growers not to involve themselves in taking of the risky decisions in farming. This result supported the conclusions of Mohammed mosif (2015)[12].

Credit orientation

The study revealed that noteworthy amount of coconut growers *viz.*, in Tiptur taluk (50.00 %), in Turuvekere taluk (46.67 %), in Chikkanayakanahalli taluk (43.33 %) as well as in Sira taluk (46.70 %) found to have medium

level of credit orientation. Overall, it was learnt that around 46.67 per cent of respondents found to have medium level of credit orientation followed by 27.50 per cent of the respondents were learnt to have low level of credit orientation and then 25.83 per cent respondents had high level of credit orientation. The cause might be that due to respondent's level of education and medium level of cosmopolitanism could have led them to have medium level of credit orientation. Coconut growers might rely on informal sources of credit from local moneylenders or traders. This reliance might be due to easier accessibility, but it can come with risks and elevated interest rates. Even limited understanding of financial concepts and credit mechanisms can make coconut growers hesitant to seek credit or unsure about how to manage loans. This research is in accordance of the conclusions of Jayashree (2013)[13].

Innovativeness

The study found that significantly equal number of coconut growers *i.e.*, 46.67 per cent from the chosen four taluks had medium level of innovativeness. Thus, the study showed that among overall coconut growers, more than two-fifth of coconut growers (46.67 %) were found to have medium level of the innovativeness followed by 28.33 per cent respondents were found to have low level of innovativeness and then by 25.00 per cent of respondents of the investigation were found to have high level of innovativeness. The levels of education and interaction with the outside World could be the probable cause of this moderate propensity for innovation. They may also have observed it in others and taken their time to embrace innovative farming practices, which shows this results are consistent with Mutteppa (2018)[11] findings.

Deferred gratification

The study showed that significant number of coconut growers *viz.*, in Tiptur and Chikkanayakanahalli taluk both with (40.00 %) of coconut growers, in Turuvekere and Sira taluk both with (43.33 %) of coconut farmers or growers were found to have medium level of deferred gratification. Finally among overall coconut growers it was discovered that slightly more than two-fifth of coconut growers (41.67 %) were discovered to have medium level of deferred gratification followed by 31.67 per cent of the respondents were discovered to have high level of deferred gratification and then 26.67 per cent of respondents were revealed to have low level of deferred gratification. The likely answer for found pattern of medium to high level of deferred gratification behavior is that the greater part of the respondents thinks that future uncertainty can be managed now, and as a result, they demonstrated the capacity to

make plans for such uncertainties. The results are similar with the results of Rajendra Prasad (2016)[14].

Scientific orientation

The findings revealed that significant number of coconut growers viz., in Tiptur and Chikkanayakanahalli taluk (50.00 %) of coconut growers whereas in Turuvekere and Sira taluk (43.33 %) of respondents or the coconut growers were discovered to have medium level of the scientific orientation. Overall it was learnt that noteworthy amount of coconut growers (46.67 %) were discovered to have medium level of scientific orientation followed by 29.17 per cent were found having low level of scientific orientation and then followed by 24.17 per cent of the respondents were found to have high level of scientific orientation. This may be because a significant portion of coconuts growers were discovered to possess medium to low risk orientation and even low extension involvement/participation, which may have prevented them from adopting scientific methods for coconut farming. Results from Mohammad mosif (2015)[12] validate these finding.

Cosmopoliteness

From the investigation it was revealed that significantly equal amount of coconut growers (43.33 %) in Tiptur and Turuvekere taluks, noteworthy amount of coconut growers (40.00 %) in Chikkanayakanahalli taluk and half of the coconut growers (50.00 %) in Sira taluk found to have medium level of cosmopoliteness. Overall it was discovered that noteworthy number of coconut growers (44.17 %) were discovered to have medium level of cosmopoliteness followed by 28.33 per cent of the respondents were discovered to have high level of cosmopoliteness and then followed by 27.50 per cent of the respondents were found to have low level of cosmopoliteness. The selected villages relatively proximity to the towns and the frequent visits made by the coconut growers either for personal or even farming-related work could be the reason for their medium level of cosmopoliteness. These findings are consistent with those of Yashodhara(2015)[15].

Table 1: Personal, socio-economic and psychological characteristics of coconut growers

Sl. No.	Characteristics	Category	Tiptur (n ₁ =30)		Turuvekere (n ₂ =30)		Chikkanayakanahalli (n ₃ =30)		Sira (n ₄ =30)		Overall (n=120)	
			f	%	f	%	f	%	f	%	f	%
1	Age (Years)	Young (<35years)	3	10.00	2	06.67	11	36.70	2	06.67	18	15.00
		Middle (35-50years)	15	50.00	12	40.00	16	53.30	8	26.70	51	42.50
		Old (>50 years)	12	40.00	16	53.30	3	10.00	20	66.70	51	42.50
2	Education	Illiterate	2	06.67	3	10.00	2	06.67	5	16.70	12	10.00
		Primary school	2	06.67	3	10.00	7	23.30	11	36.70	23	19.20
		High school	7	23.30	17	56.70	13	43.30	8	26.70	45	37.50
		Pre-University	10	33.30	3	10.00	5	16.70	6	20.00	24	20.00
		Graduation and above	9	30.00	4	13.30	3	10.00	0	0.00	16	13.30
3	Family size (No. of members)	<4 members	9	30.00	5	16.60	7	23.30	7	23.33	28	23.33
		4-6 members	18	60.00	23	76.60	20	66.60	22	73.33	83	69.16
		>7 members	3	10.00	2	06.60	3	10.00	1	03.33	9	07.50
4	Land-holdings (acres)	Marginal (< 2.50 acre)	7	23.33	5	16.66	6	20.00	7	23.33	25	20.83
		Small (2.50-5.00 acre)	8	26.66	11	36.66	12	40.00	16	53.33	47	39.16
		Big (> 5.00 acres)	15	50.00	14	46.66	12	40.00	7	23.34	48	40.00
5	Farming experience	Low < (25.97 – 6.83)	8	26.67	8	26.66	11	36.70	9	30.00	36	30.00
		Medium (25.97 ± 6.83)	17	56.67	12	40.00	14	46.70	13	43.33	56	46.66
		High > (25.97 + 6.83)	5	16.67	10	33.33	5	16.70	8	26.67	28	23.33

	Mean = 25.97 S.D = 13.67											
6	Information seeking behaviour Mean =34.7 S.D =9.96	Low < (34.7 – 4.98)	3	10.00	9	30.00	13	43.30	11	36.70	36	30.00
		Medium (34.7 ± 4.98)	12	40.00	11	36.70	14	46.70	16	53.30	53	44.20
		High > (34.7 + 4.98)	15	50.00	10	33.30	3	10.00	3	10.00	31	25.80
7	Extension participation Mean = 4.92 S.D =4.51	Low < (4.92 – 2.25)	4	13.33	8	26.67	15	50.00	12	40.00	39	32.50
		Medium (4.92 ± 2.25)	13	43.33	10	33.33	13	43.33	16	53.33	52	43.33
		High > (4.92 + 2.25)	13	43.33	12	40.00	2	06.67	2	6.66	29	24.17
8	Management orientation Mean =55.85 S.D =5.41	Low < (55.85 – 2.70)	5	16.67	8	26.67	14	46.67	14	46.67	41	34.17
		Medium (55.85 ± 2.70)	15	50.00	12	40.00	10	33.33	11	36.67	48	40.00
		High > (55.85 + 2.70)	10	33.33	10	33.33	6	20.00	5	16.67	31	25.83
9	Risk orientation Mean =8.24 S.D =1.54	Low < (8.24 – 0.77)	5	16.67	6	20.00	10	33.33	12	40.00	33	27.50
		Medium (8.24 ± 0.77)	14	46.67	13	43.33	14	46.67	15	50.00	56	46.67
		High > (8.24 + 0.77)	11	36.67	11	36.67	6	20.00	3	10.00	31	25.83
10	Credit orientation Mean =3.06 S.D =1.13	Low < (3.06 – 0.56)	5	16.67	4	13.33	12	40.00	12	40.00	33	27.50
		Medium (3.06 ± 0.56)	15	50.00	14	46.67	13	43.33	14	46.70	56	46.67
		High > (3.06 + 0.56)	10	33.33	12	40.00	5	16.67	4	13.30	31	25.83
11	Innovativeness Mean =7.44 S.D =2.07	Low < (7.44 – 1.03)	5	16.67	6	20.00	11	36.67	12	40.00	34	28.33
		Medium (7.44 ± 1.03)	14	46.67	14	46.67	14	46.67	14	46.67	56	46.67
		High > (7.44 + 1.03)	11	36.67	10	33.33	5	16.67	4	13.33	30	25.00
12	Deferred gratification Mean =27.85 S.D =4.31	Low < (27.85 – 2.15)	7	23.33	6	20.00	10	33.33	9	30.00	32	26.67
		Medium (27.85 ± 2.15)	12	40.00	13	43.33	12	40.00	13	43.33	50	41.67
		High > (27.85 + 2.15)	11	36.67	11	36.67	8	26.67	8	26.67	38	31.67
13	Scientific orientation Mean =16.36 S.D =1.38	Low < (16.36 – 0.69)	6	20.00	7	23.33	10	33.33	12	40.00	35	29.17
		Medium (16.36 ± 0.69)	15	50.00	13	43.33	15	50.00	13	43.33	56	46.67
		High > (16.36 + 0.69)	9	30.00	10	33.33	5	16.67	5	16.67	29	24.17
14	Cosmopolitaness Mean =7.86 S.D =1.26	Low < (7.86 – 0.63)	5	16.67	6	20.00	11	36.67	11	36.67	33	27.50
		Medium (7.86 ± 0.63)	13	43.33	13	43.33	12	40.00	15	50.00	53	44.17
		High > (7.86 + 0.63)	12	40.00	11	36.67	7	23.33	4	13.33	34	28.33

f = Frequency and % = Percentage

IV. CONCLUSION

We can say that the personal, socio-economic and psychological characteristics of coconut growers can play immense role in how they make decisions, accept new ideas and respond to the problems in agriculture. Studying these characteristics can help us understand the variables which can affect their overall productivity and farming methods. By identifying these characteristics, we can create policies, support networks and extension interventions more effectively that are suited to the unique requirements of coconut growers by having a deeper knowledge of these qualities for a successful socio-economic growth and development of coconut growers.

REFERENCES

- [1] World - Area, Production and Productivity of Coconut in Major Coconut Growing Countries – 2021. [Weblink: <https://coconutboard.gov.in/Statistics.aspx>]. [Visited on 15 May, 2024].
- [2] Coconut Area and production, coconut Statistics: Tumkur. [Weblink: <https://coconutboard.gov.in/presentation/statistics/statistics.aspx>]. [Visited on 28 April, 2024].
- [3] Nayabhai, B. K. (2011). Managerial efficiency of coconut plantation growers in coastal area of Saurashtra region. Ph.D. Thesis (Unpublished), Junagadh Agricultural University, Gujarat.
- [4] Koli, M. A. (2012). Knowledge and adoption of coconut production technology in Junagadh district of Gujarat state. M. Sc. (Agri.) Thesis (Unpublished), Junagadh Agricultural University, Gujarat.
- [5] Deepika, K. R. (2015). Study on technological gap and adoption level of improved cultivation practices by arecanut growers of Bhadra command area. M. Sc. (Agri.) Thesis (Unpublished), University of Agricultural and Horticultural Sciences, Shivamogga.
- [6] Abhilash, J. (2017). Study on information management behaviour of arecanut growers in Shivamogga district of Karnataka. M. Sc. (Agri.) Thesis (Unpublished), University of Agricultural and Horticultural Sciences, Shivamogga.
- [7] Vikas C. (2020). A study on knowledge, yield gap and extent of adoption of recommended production technologies by maize growers in Koppal district. M. Sc. (Agri) Thesis (Unpublished), University of Agricultural Sciences, Bangalore.
- [8] Rashmi, N. (2018). A study on knowledge, adoption and marketing behaviour of tomato growers in Chickaballapur district of Karnataka. M. Sc. (Agri) Thesis (Unpublished), University of Agricultural Sciences, Bangalore.
- [9] Kamar, A. (2019). Knowledge and adoption of coconut production technology by the coconut growers in Thiruvananthapuram district. M. Sc. (Agri) Thesis (Unpublished), Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola.
- [10] Bora, S., Das, P. K., Barman, I., Deka, S. D. And Sonowal, D. (2021). Farmers information seeking behavior in relation to organic vegetable production in Assam. In biological forum–An International Journal, **13**(3): 517-522.
- [11] Mutteppa, C. (2018). A study on knowledge and extent of adoption of improved cultivation practices by turmeric growers in Belgavi district. M. Sc. (Agri) Thesis (Unpublished), University of Agricultural Sciences, Bangalore.
- [12] Mohammad Mosif. (2015). A Study on technological gap and constraints in adoption of mango production technologies among orchardists of Bulandshar district. M. Sc. (Agri) Thesis (Unpublished), Sardar Vallabhbhai Patel University of Agriculture and Technology Meerut (UP).
- [13] Jayashree, D. (2013). Sustainability of jhum cultivation as perceived by tribal people of Tripura and their livelihood status. M. Sc. (Agri) Thesis (Unpublished), University of Agricultural Sciences, Bangalore.
- [14] Rajendra Prasad, S. (2016). A study on entrepreneurial behaviour and economic performance of sugarcane growers in Chamarajnagar district of Karnataka. M. Sc. (Agri) Thesis (Unpublished), University of Agricultural Sciences, Bangalore.
- [15] Yashodhara, B. (2015). A comparative analysis of livelihood status in irrigated and rain fed farming situations in central dry zone of Karnataka. Ph.D. Thesis (Unpublished), University of Agricultural Sciences, Bangalore.