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Socioeconomic profile of the vegetable growers of Odisha: An analytical study

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Abstract

Vegetable farming is becoming increasingly essential among low-income households. Vegetable growing has a tremendous potential and scope for improving the socioeconomic conditions of small and marginal farmers since it produces a larger yield and a higher economic return in a shorter period of time than food grains. The present study was conducted to know the socio-economic profile of the vegetable growers with the help of different socioeconomic variables. Ex-post Research Design was followed for the present study. A total of 240 vegetable growers were selected by covering 16 villages of 4 blocks from the 2 Districts of the Odisha for the purpose of the study. Most of the respondents of the study area were small farmers. It was found that majority of the respondents (33.33%) have upper primary level of education. Majority of the respondents have moderate level of extension contact (65.42%), social Participation (69.58%), and mass media Utilization (77.92%). Majority no. of respondents were having medium level of annual income (68.34%). This study throws light on the existing conditions of the vegetable growers of Odisha, which is very fragile and needs immense care.

Keywords: Education, income, media utilization, socioeconomic, vegetable growers

Introduction

Vegetables are important components of Indian agriculture and nutritional security because of their short duration, higher production, nutritional richness, economic viability, and ability to generate on-farm and off-farm employment. Over the last few years, India has seen a significant boost in horticultural production. Significant work has been made in expanding the region, resulting in increased output (Verma *et al.*, 2019) [12]. Odisha ranks sixth in the country in terms of vegetable production. Over 8.8 million metric tonnes of vegetables were produced in Odisha. Brinjal (18.1%), tomatoes (11.2%), cabbage (5.9%), okra (5.6%), cauliflower (4.3%), onion (3.3%), and sweet potato (3.3%) are among the most important vegetables grown in Odisha. Odisha is the second-largest producer of brinjal and cabbage in the country, accounting for approximately 20% and 14% of total production, respectively (Anonymous, 2018) [2].

Small holdings are shrinking in India, as land availability per capita is constantly decreasing. Agriculture is getting less profitable as agricultural input costs continue to rise. Whatever farmer produce is insufficient to cover the family's daily food and other needs. Rural youth are migrating to cities in search of work. Poor farmers, on the other hand, do not have enough income to meet their daily demands. (Disket *et al.*, 2021) [5]. Commercial vegetable farming is becoming increasingly essential among low-income households. Vegetable growing has a tremendous potential and scope for improving the socioeconomic conditions of small and marginal farmers since it produces a larger yield and a higher economic return in a shorter period of time than food grains. It generates higher income per unit area and creates more jobs in a shorter period of time, attracting state farmers. Vegetables have proven to be a boon to the small and marginal farmers. (Mishra and Ghadei, 2015) [8]. Against this backdrop, it's become necessary to research the socioeconomic profile of vegetable growers in order to gain some insight into their lives and their socioeconomic conditions.

Methodology

The current study was undertaken on purposively in the state of Odisha. An ex-post-facto research design was used for the investigation. The state's two districts (Cuttack from Higher Production potential Districts and Puri from Lower Production potential Districts) were chosen at random for the current study, and two blocks from each district were chosen at random.

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Furthermore, two Gram Panchayats were chosen at random from each block. By dividing the study into 16 villages, two villages from each Gram Panchayat were regarded the basic unit of this study. For the current study, respondents with at least 5 years of expertise cultivating vegetables on a land of 2 Acres or more in a year were chosen. A total of 240 respondents (15 vegetable growers from each village) were selected for the completion of this study via a personal interview approach at the vegetable growers' doorstep using a pre-list structured interview schedule.

Results and Discussion

Socioeconomic status (SES) is a combined measurement of a person's or group's economic and social position in relation to others in society. It plays a significant role in determining one's access to common resources, livelihood pattern,

household food & nutritional security, and so on. (Roy *et al.*, 2013; Behera *et al.*, 2020) ^[11, 3] In this present study, the various variables representing socio economic profile of the vegetable Growers of Odisha has been Portrayed in following Tables with results.

Age

The data pertaining to age of respondents has been analyzed and categorized into three categories (Table 1). A perusal of table 1 clearly indicated that the majority of the respondents of the Cuttack (65.83%), Puri (68.33%) and in total (67.08%) fit into middle-aged category. As a result, it could be stated that decisions regarding farming practises in the study area were expected to be heavily influenced by middle and elderly farmers. This finding is similar to the findings reported by Inavati *et al.*, (2014) ^[6]; Patel, (2014) ^[10].

Table 1: Distribution of respondents according to their age (n=240)

Study Area	Cuttack (n=120)		Puri (n=120)		Total (n=240)	
	f	%	f	%	f	%
Young (≤35)	4	3.33	6	5.00	10	4.17
Middle-aged (36-50)	79	65.83	82	68.33	161	67.08
Old (≥50)	37	30.83	32	26.67	69	28.75
Mean	45.43		44.24		44.84	
SD	6.09		6.34		6.24	

Education

Table 2 clearly indicated that majority of the respondents (35.00%) of the respondents Cuttack District were having High school education, followed by those having Upper primary level (31.67%) and lower primary level (28.33%), respectively. It was also found that 3.33 per cent of the respondents were not having any formal education; only 1.67 per cent of respondents were having a higher secondary level of education; and In Cuttack District, 35.00 per cent of respondents were having upper primary level education, followed by those having a high school level education (30.83%), lower Primary (29.17%), no education (4.17%), and higher secondary (0.83). However, on total, the table indicated that majority of the respondents (33.33%) of the respondents were having upper primary level of education. The present findings were in line with Mohapatra and Sahu, (2012) ^[9], Mishra *et al.*, (2012) ^[7].

Table 2: Distribution of respondents according to their education (n=240)

Study Area	Cuttack (n=120)		Puri (n=120)		Total (n=240)	
	f	%	f	%	f	%
Illiterate (No schooling)	4	3.33	5	4.17	9	3.75
Lower Primary (Up to 4 th)	34	28.33	35	29.17	69	28.75
Upper Primary (5 th to 7 th)	38	31.67	42	35.00	80	33.33
High school (8 th to 10 th)	42	35.00	37	30.83	79	32.92
Higher secondary (10 th to 12 th)	2	1.67	1	0.83	3	1.25

Family Type

As depicted in table 3, majority of the respondents of Cuttack (56.67%), Puri (52.50%), and in total (54.58%) were having Nuclear Family residing in the village. The main reason respondents have nuclear families is likely due to their ability to make independent decisions and a smaller number of family members interfering in vegetable farming decision making, and the concept of joint family approach is slowly eroding in villages.

Table 3: Distribution of respondents according to their Family Type (n=240)

Category	Cuttack (n=120)		Puri (n=120)		Total (n=240)	
	f	%	f	%	f	%
Nuclear	68	56.67	63	52.50	131	54.58
Joint	52	43.33	57	47.50	109	45.42

Housing Pattern

The data presented in table 4 presented housing pattern of respondents. It indicated that majority of the respondents (45.83%) of Cuttack District were having Mixed type of Housing pattern, followed by Pucca type (31.67%), and Kachha type (22.50%). Similarly, majority of the respondents (46.67%) of Puri District having mixed type of housing pattern followed by the respondents (26.67%), who are having similar in no. in having kachha and Pucca type housing pattern. In total, 46.25 per cent of the respondent were having mix type housing pattern followed by Pucca type (29.17%), and kaccha type (24.58%). A similar finding was also reported by Ananthnag *et al.*, (2014) ^[11].

Table 4: Distribution of respondents according to their Housing Pattern (n=240)

Category	Cuttack (n=120)		Puri (n=120)		Total (n=240)	
	f	%	f	%	f	%
Kachha	27	22.50	32	26.67	59	24.58
Mixed	55	45.83	56	46.66	111	46.25
Pucca	38	31.67	32	26.67	70	29.17

Operational land Holding

The respondents were classified into three Categories (Small, Medium, Large) according to their operational holdings as shown in table 5. Data clearly proclaimed that Majority of the respondents of Cuttack (45.83%), Puri (50.00%), and in total (47.91) had small land holding. In Cuttack, around 33.33 per cent of respondents were in medium land holding category

followed by 20.84 per cent of respondents who were having large land holding. Likewise, In Puri District, around 32.50 per cent of respondents were in medium land holding category followed by 17.50 per cent of respondents who were having large land holding. This landholding distribution corresponds to the general trends in the state and possible region of it, as agriculture was discovered to be the main occupation of the family who inherited it from ancestors, and agriculture was mostly practised in a subsistence manner. Above finding are supported by Dhanasree *et al.*, (2014) [4].

Table 5: Distribution of respondents according to their Operational land Holding (n=240)

Category	Cuttack (n=120)		Puri (n=120)		Total (n=240)	
	f	%	f	%	f	%
Small (Up to 2.5 acre)	55	45.83	60	50.00	115	47.91
Medium (2.5-5 acre)	40	33.33	39	32.50	79	32.92
Large (5 acre and above)	25	20.84	21	17.50	46	19.17

Occupation

An outlook from the table 6 inferred that, around half of the respondents (46.67%) from Cuttack district were following agriculture as main Occupation followed by 22.50 per cent respondents who follows agriculture along with labour, 13.33 per cent respondents who have Agriculture and Animal Husbandry as main occupation. Similarly, In Puri District, majority of the respondents (41.67%) have Agriculture as main occupation; followed by 25.00 per cent and 20.83 per cent respondents, who have main occupation agriculture with labour, and Agriculture with Animal Husbandry, respectively. In total, majority of the respondents (44.17%) of Odisha have agriculture as the main occupation. The results of the study are in line with the findings given by Rajasree *et al.*, (2017).

Table 6: Distribution of respondents according to their Occupation (n=240)

Category	Cuttack (n=120)		Puri (n=120)		Total (n=240)	
	f	%	f	%	f	%
Agriculture	56	46.67	50	41.67	106	44.17
Agriculture + Labour	27	22.50	30	25.00	57	23.75
Agriculture + Animal Husbandry	16	13.33	25	20.83	41	17.08
Agriculture + Caste based occupation	15	12.50	11	9.17	26	10.83
Agriculture + Business	6	5.00	4	3.33	10	4.17

Annual income

Data presented in Table 7 states that In Cuttack, Puri District, and also in Overall basis, majority of the respondents (71.67%, 65.00%, and 68.34%, respectively) had medium level of Annual Income. The Average annual income of Cuttack District (68950.58 rupees) is more than Puri District (63300.00 rupees). Likewise, average income of the respondent on overall basis is 66125.29 rupees. The findings are similar to the findings reported by Boruah *et al.*, (2015).

Table 7: Distribution of respondents according to their Annual income (In rupees) (n=240)

Category	Cuttack (n=120)		Puri (n=120)		Total (n=240)	
	f	%	f	%	f	%
Low (≤ 53711.65)	9	7.50	26	21.66	35	14.58
Medium (53711.65 to 78538.93)	86	71.67	78	65.00	164	68.34
High (≥ 78538.93)	25	20.83	16	13.14	41	17.08
Mean	68950.58		63300		66125.29	
SD	11156.11		13033.01		12413.64	

Sources of irrigation

Different sources of Irrigation for respondents in their vicinity for Vegetable are being shown in Table Result shown in table 8. The result shown in table 8 states that Majority of the respondents (58.33%) from Cuttack District were having Two sources of Irrigation followed by Three sources of Irrigation (30.00%), and One sources (11.67). Whereas, In Puri District majority of the respondents (40.83%) had one two sources of irrigation followed by two sources (39.17%), and three sources (20.00%). On an overall basis, majority of the respondents (48.75%) had two sources for irrigation for their vegetable followed by one source (26.25%), and three sources (25.00%).

Table 8: Distribution of respondents according to their sources of irrigation (n=240)

Irrigation Sources	Cuttack (n=120)		Puri (n=120)		Total (n=240)	
	f	%	f	%	f	%
One source	14	11.67	49	40.83	63	26.25
Two sources	70	58.33	47	39.17	117	48.75
Three Sources	36	30.00	24	20.00	60	25.00

Vegetable Farming Experience

The data in table 9 revealed that majority (63.33%) of the respondents of Cuttack District had medium level of vegetable farming experience followed by 19.17 per cent and 17.50 per cent, who had lower and higher level of farming experience, respectively. Whereas majority (60.00 per cent) of the vegetable growers of Puri District had medium level of Vegetable farming experience followed by 22.50 and 17.50 per cent of them had lower and higher level of farming experience, respectively. On Overall Basis, majority of the respondents (61.67%) of studied area had medium level of vegetable farming Experience.

Table 9: Distribution of respondents according to their Vegetable Farming Experience (n=240)

Category	Cuttack (n=120)		Puri (n=120)		Total (n=240)	
	f	%	f	%	f	%
Low (≤ 17.51)	23	19.17	27	22.50	50	20.83
Medium (17.51 to 25.91)	76	63.33	72	60.00	148	61.67
High (≥ 25.91)	21	17.50	21	17.50	42	17.50
Mean	22.08		21.34		21.71	
SD	4.46		3.91		4.20	

Exposure to Training

Table 10 shows respondent's exposure to training. Result shown in table 10 states that more no of respondents (6.67%), who were exposed to training of 5 to 7 days than respondents (4.17%) of Puri District. There were more no of untrained respondents (40.00%) in Puri district regarding vegetable farming than respondents (33.33%) of Cuttack District. On an Overall basis, majority of the respondents (43.75%) were exposed to training of 1 day regarding Vegetable farming.

Table 10: Distribution of respondents according to their Exposure to Training (n=240)

Training Duration	Cuttack (n=120)		Puri (n=120)		Total (n=240)	
	f	%	f	%	f	%
Untrained	40	33.33	48	40.00	88	36.67
1 day	48	40.00	57	47.50	105	43.75
2-3 Days	24	20.00	10	8.33	34	14.17
5-7 Days	8	6.67	5	4.17	13	5.41

Social Participation

Data portrayed in table 11 states that majority of the respondents (60.83% from Cuttack, 62.50% from Puri District, and 61.67% on Overall basis) had medium level participation in different social institutions like SHGs, FPOs, Cooperative, Farmers Club. These findings are in line with Saini *et al.*, (2017)

Table 11: Distribution of respondents according to their Social Participation (n=240)

Category	Cuttack (n=120)		Puri (n=120)		Total (n=240)	
	f	%	f	%	f	%
Low (≤ 1.11)	24	20.00	28	23.33	52	21.66
Medium (1.11 to 3.65)	73	60.83	75	62.50	148	61.67
High (≥ 3.65)	23	19.17	17	14.17	40	16.67

Information seeking Behaviour

Table 12 shows the respondent's information seeking behaviour. Information seeking Behaviour was shown with its Components like Extension Contact, Information Sources, and Mass Media Utilization. In terms of Extension Contact is Concerned majority of the respondents (65.42%) had moderate level of extension contact followed by higher (17.50%), and Lower (17.08%) level of Extension Contact to different Extension Functionaries like Horticulture Extension Worker, Assistant Agriculture Officer, Assistant Horticulture Officer, Horticulture Overseers, KVK Scientists. In terms of Information Sources, majority of the respondents (69.58%) had moderate level of extension contact followed by higher (17.08%), and Lower (13.34%) level of Sources of Information from sources like Friends, FPOS, Progressive farmers, Input dealers, Mandi, Co-operative. In terms of Mass Media Utilisation, majority of the respondents (77.92%) had moderate level of extension contact followed by lower (11.66%), and higher (10.42%) level of mass media Utilisation like Television, Radio, Mobile (SMS), YouTube, Farming Apps, Newspaper, Farm Periodicals/Bulletin. In total, it can be inferred from the table 12 that majority of the respondents (67.50%) had moderate level of extension contact followed by higher (17.50%), and lower (15.00%) level of Information Seeking Behaviour.

Table 12: Distribution of respondents according to their Information seeking Behaviour (n=240)

SI. No.	Components	Range/ category	Frequency (f)	Percentage (%)
1	Extension Contact	Lower (≤ 4.31)	41	17.08
		Moderate (4.31 to 6.64)	157	65.42
		Higher (≥ 6.64)	42	17.50
2	Information Sources	Low (≤ 4.79)	32	13.34
		Medium (4.79 to 8.45)	167	69.58
		High (≥ 8.45)	41	17.08
3	Mass Media Utilization	Lower (≤ 4.60)	28	11.66
		Moderate (4.60 to 7.40)	187	77.92
		Higher (≥ 7.40)	25	10.42
4	Information Seeking Behaviour	Lower (≤ 15.41)	36	15.00
		Moderate (15.41 to 20.77)	162	67.50
		Higher (≥ 20.77)	42	17.50

Farm Decision Making

Table 13 depicts that In Cuttack District, maximum respondents (63.33%) were found in medium level of farm decision making followed by high (29.17%) and low (7.50%) level. Whereas in Puri District, maximum respondents (67.50%) were found in medium level of farm decision making followed by low (29.67%) and high (10.83%) level. On Overall basis, 65.42 per cent of respondents were having medium level of farm decision making ability. The finding was supported by Mohapatra and Sahu (2012)^[9].

Table 13: Distribution of respondents according to their Farm Decision Making (n=240)

Category	Cuttack (n=120)		Puri (n=120)		Total (n=240)	
	f	%	f	%	f	%
Low (≤ 7.52)	9	7.50	26	21.67	35	14.58
Medium (7.52 to 13.32)	76	63.33	81	67.50	157	65.42
High (≥ 13.32)	35	29.17	13	10.83	48	20.00

Innovativeness

Table 13 depicts that In Cuttack District, maximum respondents (63.33%) were found in medium level of farm decision making followed by high (29.17%) and low (7.50%) level. Whereas in Puri District, maximum respondents (67.50%) were found in medium level of farm decision making followed by low (29.67%) and high (10.83%) level. On Overall basis, 65.42 per cent of respondents were having medium level of farm decision making ability. The finding was supported by Mohapatra and Sahu (2012)^[9].

Table 14: Distribution of respondents according to their Innovativeness (n=240)

Category	Cuttack (n=120)		Puri (n=120)		Total (n=240)	
	f	%	f	%	f	%
Low (≤ 7.73)	7	5.83	27	22.50	34	14.17
Medium (7.73-13.32)	87	72.50	78	65.00	165	68.75
High (≥ 13.32)	26	21.67	15	12.50	41	17.08

Risk orientation

It is evident from table 15 that majority (66.67%) of the respondents of Cuttack District had medium level of risk orientation followed by 30.83 in high level and only 2.50 per cent in low level of risk orientation categories. While among

Vegetable growers of Puri District, maximum (76.67%) of them had medium level of risk orientation followed by 20.00 and 3.33 per cent had lower and higher level of risk orientation, respectively. On Overall basis, Majority of the respondents (71.67%) had moderate level of risk orientation.

Table 15: Distribution of respondents according to their Risk orientation (n=240)

Category	Cuttack (n=120)		Puri (n=120)		Total (n=240)	
	f	%	f	%	f	%
Low (≤ 3.92)	3	2.50	24	20.00	27	11.25
Medium (3.92 to 7.56)	80	66.67	92	76.67	172	71.67
High (≥ 7.56)	37	30.83	4	3.33	41	17.08

Scientific orientation

It is observed from table 16 that majority (59.17%) of the respondents of Cuttack District had moderate level of scientific orientation followed by 21.67 and 19.17 per cent of them had higher and lower level of scientific orientation, respectively. While, majority (72.50 per cent) of the respondents of Puri District had moderate level of scientific orientation followed by 25.83 and 1.67 per cent of them had lower and higher level of scientific orientation, respectively. On Overall basis, Majority of the respondents (65.83%) had moderate level of Scientific orientation.

Table 16: Distribution of respondents according to their Scientific orientation (n=240)

Category	Cuttack (n=120)		Puri (n=120)		Total (n=240)	
	f	%	f	%	f	%
Low (≤ 4.23)	23	19.17	31	25.83	54	22.50
Medium (4.23 to 8.06)	71	59.17	87	72.50	158	65.83
High (≥ 8.06)	26	21.66	2	1.67	28	11.67

Economic orientation

Data presented in table 17 shows that majority (52.50%) of the respondents of Cuttack District had moderate level of economic orientation followed by 32.50 and 15.00 per cent of them had higher and lower level of scientific orientation, respectively. While, majority (75.00%) of the respondents of Puri District had moderate level of scientific orientation followed by 22.50 and 2.50 per cent of them had lower and higher level of scientific orientation, respectively. On Overall basis, Majority of the respondents (63.75%) had moderate level of Scientific orientation. This is conformity with the finding of earlier studies of Das, (2012) [13].

Table 17: Distribution of respondents according to their Economic orientation (n=240)

Category	Cuttack (n=120)		Puri (n=120)		Total (n=240)	
	f	%	f	%	f	%
Low (≤ 5.42)	18	15.00	27	22.50	45	18.75
Medium (5.42 to 8.64)	63	52.50	90	75.00	153	63.75
High (≥ 8.64)	39	32.50	3	2.50	42	17.50

Conclusion

This study has upheld the socioeconomic condition of the vegetable Growers based on the various socio-economic variables. This study reveals that majority of the respondents

were middle-aged farmer, were having Upper primary level of education with nuclear family, mixed housing pattern, and following agriculture as the main occupation. It was found that most of the respondents were small Farmer. It was found that majority of the respondents were having medium level of annual income, Vegetable Farming Experience, Social Participation, Information seeking Behaviour, Farm Decision Making, Innovativeness, Risk orientation, and Scientific, risk, and economic orientation. Thus, this study throws light on the existing condition of the vegetable growers of the Odisha, which needs immense care. The policymakers should keep this socioeconomic status in mind while formulating any strategies to improve the socioeconomic condition of the vegetable growers of Odisha.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

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