



## Research Article

# SOCIO-ECONOMIC ATTRIBUTES OF VEGETABLE GROWERS IN EASTERN UTTAR PRADESH

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**Abstract:** The study was conducted in randomly selected 10 villages in Purabazar and Mavaiblock of Ayodhya district on 200 vegetable growers selected through proportionate random sampling technique. The majority of respondents were of middle aged and literate including formal and informal education. Backward caste farmers were dominantly engaged in vegetable enterprises and nuclear family system was dominantly in existence having 5 to 8 members in their families. Maximum vegetable growers were marginal farmers reported agriculture as their main occupation. Mixed type of houses was more. Almost all vegetable growers were above the poverty line. Diesel engine and Electric motor were dominant farm power along with farm implements. The cycle was main conveyance with all vegetable growers. The mobile phone followed by radio was possessed by majority. Good extension contact was observed.

**Keywords:** Block, Proportionate, Vegetable, Extension

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## Introduction

India is the second largest producer of vegetables in the world. In India, it contributes 14% of the total world production of vegetables. Furthermore, Madhya Pradesh contributing about 8.6%, Bihar with 8.75%, Gujarat with 7%, Odisha with a 6%, Karnataka with 5%, Tamil Nadu and others with a 3.4% contribution in total production. The contribution of vegetables remains highest (59-61%) in horticulture crop productions over the last five years. During 2016-17(2nd Adv Est), the area under vegetables is estimated at 10.3 million hectares with a production of 175 million tonnes in India.

The vegetable cultivation has great potentiality and scope for improving socioeconomic condition of small and marginal farmers since it provides higher yield and high economic return in short time as compared to food grains. It has more income per unit area and employment generation in short span of time and thereby have attracted the farmers of the state. It was, therefore, required to study the profile of vegetable growers to get some awareness about socio economic profile of vegetable growers. The vegetables are increasingly becoming important for nutritional and livelihood security due to nutritional richness, economic viability and ability to generate on-farm and off-farm employment. At present, various pests cause losses in the range of 10-30 percent depending upon the infestation severity in time and space. Farmers use pesticides as first line of defense and frequently resort to indiscriminate and non-judicious use of pesticides. However, these measures lead to several problems such as environmental pollution, pesticide residue in the harvested products, development of resistance/resurgence in pests, emergence of new pests, destruction of natural enemies and pollinators, and increased cost of production. In the background of this, a paradigm shift in pest management approaches is urgently required. This can be effectively achieved through rationalization of pesticide use and integration of several eco-friendly approaches to minimize over reliance on pesticides. These approaches, if undertaken will also help growers in producing vegetables in compliance with the international standards for vegetable export.

## Material and Methods

The study was carried out in purposively selected district Ayodhya of Uttar Pradesh. There are 11 community development blocks in Ayodhya district, out of two blocks namely, Purabazar and Mavai had been selected on the basis of maximum and minimum area under vegetable crops. The list of villages in which the vegetable grown was prepared separately for the both blocks. The villages were sequentially arranged as per the vegetable growing area. Out of the listed villages, five villages from each block, having greatest producing area of the vegetable were selected for the study. Thus, makes a total of 10 villages. Twenty vegetable farmers from villages were selected through proportionate random sampling technique having minimum 0.01ha. was under vegetable crops, which would make the total of 200 vegetable farmers as respondents. The data was collected with the help of semi-structured interview schedule specially to be developed incorporating standard indices/scales with some modifications in the light of the objectives of the present study. To analyze the data suitable statistical methods were used and draw the inferences.

## Findings

### Age composition

Table-1 Distribution of the respondents on the basis of age, N=200

SN	Categories (years)	Respondents	
		Frequency	Percentage
1	Young age (Up to 27)	27	13.50
2	Middle age (28-47)	132	66.00
3	Old age (48 and above)	41	22.50
	Total	200	100.00

Mean=37.69, S.D. =10.34063, Min. =22, Max. = 62

The above [Table-1] reveals that majority of the respondents (66%) belonged to middle age group (28-47 years) followed by (22%) of respondents belonged to old age group (48 and above) and only (13.5%) of respondents belonged to the young age group (Up to 27), respectively.

Age of the selected respondents ranged from 22 to 62 years. The mean age of the respondents was observed to be 37.69 years. Similar finding was also reported that majority of the respondents was observed in the middle age category.

**Education**

The [Table-2] reveals that the majority of the respondent's 69 percent literate and 31 percent illiterate. Further, the educational level was worked out and given in descending order as 21.5%, 18.5%, 12.5%, 12.0%, and 04.5% primary, can read and write only, middle, high school, intermediate and graduate & post graduate, respectively. Hence, it may be said that the educational standard of the respondents was considerably good in comparison to average literacy rate of the state and country as such. The similar findings were also reported by Singh *et al.* (2012) [1].

Table-2 Distribution of the respondents on the basis of education, N=200

SN	Categories	Respondents	
		Number	Percentage
A	Illiterate	29	14.50
B.	Literate		
I.	Can read and write only	33	16.50
II.	Primary	47	23.50
III.	Middle	39	19.50
IV.	High school	29	14.50
V.	Intermediate	14	7.00
VI	Graduate & Post graduate	9	4.50
	Total	200	100.00

**Caste category**

The [Table-3] depicts that majority of respondents (70%) belonged other backward caste category, followed by scheduled caste (24.5%) and general caste (12%), respectively. Thus, it may be concluded that the backward caste was found dominantly engaged in vegetable production in the area of study. The results of the study are in same line of findings reported by Mishra and Ghadei (2015) [2].

Table-3 Distribution of the respondents on the basis of caste, N=200

SN	Categories	Respondents	
		Number	Percentage
1	General caste	24	12.00
2	Other Backward classes	127	63.50
3	Scheduled caste	49	24.50
	Total	200	100.00

**Type of family**

The [Table-4] shows that single families were more in number than joint families. In terms of percentage 72% respondents belonged to nuclear families, while, remaining 28% belonged to joint families. It means, nuclear family system is dominant in the area of study. The results of the study are in same line of findings reported by Saini *et al.* (2017) [3].

Table-4 Distribution of the respondents on the basis of family type, N=200

SN	Family type	Respondents	
		Number	Percentage
1	Nuclear/Single family	144	72.00
2	Joint family	56	28.00
	Total	200	100.00

**Size of family**

The [Table-5] shows that majority of respondents (48.5%) belonged to medium category of those had 5-8 members in their families followed by 38 percent and 13.5 percent to the category of (up to 4) and (9 and above) members in their families, respectively. The average size of family was observed to be 6 members with minimum and maximum in the range of 03 to 15 numbers of family members.

Table-5 Distribution of the respondents on the basis of family size, N=200

SN	Categories (members)	Respondents	
		Number	Percentage
1	Small (up to 4)	76	38.00
2	Medium (5-8)	97	48.50
3	Large (9 and above)	27	13.50
4	Total	200	100.00

Mean= 5.19, S.D. =1.28, Min=3, Max=15.

It might be due to dominant nuclear family system existence in the study area. The results of the study were also reported by Maurya *et al.* (2017) [4].

**Size of land holding**

The [Table-6] depicts that 62.5 percent of respondents were having less than 1 ha of land who belonged to marginal farmers category. Respondents belonged to small and medium categories were 27 percent and 6 percent, respectively. Data also shows that only 4.5 percent of respondents were having large land holding. The average size of land holding was found to be 1.1056 hectare with minimum of 0.12 and maximum of 7.2hectares. Therefore, it may be said that the small and marginal farmers were mostly there in the study area. It might be due to fragmentation of the family. The results of the study are in same line of findings reported by Papnai *et al.* (2017) [5].

Table-6 Distribution of the respondents on the basis of land holding (hectares), N=200

SN	Categories (hectares)	Respondents	
		Number	Percentage
1	Marginal farmers	125	62.50
2	Small farmers	54	27.00
3	Medium farmers	12	6.00
4	Large farmers	9	4.50
	Total	200	100.00

Mean= 1.1056, S.D. =1.2488, Min= 0.12, Max= 7.2.

**Occupation**

It is evident from the [Table-7] that the maximum (83%) respondents were observed such who had their main occupation as agriculture, followed by (12%) agriculture + business, (9%) services (Govt. + Private) and (7.5%) caste-based occupation, respectively. The maximum (22%) respondents were observed such who had their subsidiary occupation as agriculture labour, followed by (14%) caste-based occupation, (12%) services (Govt. + Private), (10%) agriculture and (4%) agriculture + business, respectively. Hence, it may be noticed that a considerable number of the respondents had occupations other than agriculture for their livelihood. A similar finding was also reported that majority of the respondents was observed in their main occupation as agriculture [6].

Table-7 Distribution of the respondents on the basis of occupation, N=200

SN	Occupation	Main		Subsidiary	
		No.	%	No.	%
1	Agriculture labour	0	0.00	45	22.50
2	Caste based occupation	15	7.50	28	14.00
3	Agriculture	166	83.00	20	10.00
4	Services (Govt. + Private)	18	9.00	25	12.50
5	Agriculture + Business	24	12.00	8	4.00

**Annual income**

The [Table-8] reveals that maximum number of the respondents were 77.5% belonged to the annual income of Rs. (21001-157000) whereas, 19.5% and 3%, respondents were belonging to income range from Rs. 157001 and above and Rs. up to 21000, respectively. The maximum number of the respondents was found in the annual income range of Rs. 18000 to 580000 with an average of Rs. 88785. The results of the study are in same line of findings reported by Singh *et al.* (2018) [7].

Table-8 Distribution of the respondents on the basis of annual income (Rs.), N=400

SN	Annual income (Rs)	Respondents	
		Number	Percentage
1	Small (up to 21000)	6	3.00
2	Medium (21001-157000)	155	77.50
3	High (157001 and above)	39	19.50
	Total	200	100.00

Mean =88785, S.D. =68211.2354, Min. = Rs 18000, Max. = Rs 580000.

**Housing pattern**

It is apparent from the data shown in the [Table-9] pertaining to type of house possession, the mixed type of habitation was observed to be 53% followed by 33% kuchcha houses and 14% pucca house. So, it can be concluded that respondents were having quality houses. The results of the study are in same line of findings reported by Mishra and Ghadei (2015).

Table-9 Distribution of the respondents on the basis of housing pattern, N=200

SN	Housing pattern	Respondents	
		Number	Percentage
1	Kuchcha	66	33.00
2	Mixed	106	53.00
3	Pucca	28	14.00
	Total	200	100.00

### Social participation

The [Table-10] shows that the 31.5 percent of the respondents were found having membership of one organization, while 28.5% were the member of two organizations. In this way, 72% of respondents were associated with the organizations like panchayats, cooperatives, youth-club, religious and political organization. It can also be concluded that only 12% of respondents found having membership in more than two organizations/office bearer, while 28% of vegetable farmers did not take participation in any organization. Less participation in social organization might be due to probable reason that respondents are found less social participation. The results of the study are in same line of findings reported by Papnai *et al.* (2017).

Table-10 Distribution of the respondents on the basis of social participation, N=200

SN	Participation	Respondents	
		Number	Percentage
1	No participation	56	28.00
2	Participation in one organization	63	31.50
3	Participation in two organization	57	28.50
4	Member in more than two organizations /office bearer	24	12.00
	Total	200	100.00

### Materials possession

#### Farm Material

##### Farm Power

The [Table-11] presents the possession of farm power machinery among the respondents. It shows that 36.5 percent of respondents had their own diesel engine, 32.5 percent respondents possessed electric motor, 09 percent owned tractor, 4.5 percent owned bullock and only 1.5 percent of respondents had power tiller, respectively. The similar findings was also reported by Singh *et al.* (2012).

Table-11 Distribution of the respondents on the basis of farm power, N=200

SN	Farm power	Respondents	
		Number	Percentage
1	Bullock	9	4.50
2	Tractor	18	9.00
3	Power tiller	3	1.50
4	Diesel engine	73	36.50
5	Electric motor	65	32.50

Note: More than one items have been shown by respondents, hence the total percentage of all items would be more than 100.

#### Farm implements materials

Table-12 Distribution of the respondents on the basis of farm implements, N=200

SN	Farm implements	Respondents	
		Number	Percentage
1	Cultivator	17	8.50
2	Disc Plough	16	8.00
3	Thresher	21	10.50
4	Seed drill	7	3.50
5	Deshi plough	4	2.00
6	Pata	26	13.00
7	Kudal	188	94.00
8	Potato planter	9	4.50
9	Shovel	200	100.00
10	Chaff cutter	168	84.00
11	Khurpi	200	100.00
12	Sickle	200	100.00
13	Duster/ Power duster/Sprayer	36	18.00

Note: More than one items have been shown by respondents, hence the total percentage of all items would be more than 100.

The [Table-12] revealed the possession of agricultural implements among respondents. It is clear from the table that 100 percent of the respondents

reported having Sickle, Khurpi, Shovel, followed by Kudal (94.00%), Chaffcutter (84.00%), Duster/ Power duster (18.00%), Pata (13.00%), Thresher (10.50%), Cultivator (8.50%), Disc Plough (8.00%), Potato planter (4.50%), Seed drill (3.50%) and Deshi plough (2.00%). On the basis of findings, it may be said that almost 82 percent of respondents did not possess duster/ power duster/sprayer, the essential equipment for pesticide application. The similar findings were also reported by Singh *et al.* (2012).

### Transportation material possession

The [Table-13] clearly indicates that 93 percent respondents were found having cycle as a means of transportation followed by 60 percent tractor trolley, 55 percent bike/scooter, 17 percent jeep, 9 percent tractor, 8.5 percent pickup and 1.5 percent bullock cart, respectively. Note: It would be better to note here that the maximum farmers were having marginal or small piece of land, but the condition of farm power, farm implements and transportation materials was considerably good because the farmers use these materials for providing services to other farmers on hired basis.

Table-13 Distribution of the respondents on the basis of transportation materials, N=200

SN	Medium of Transportation	Respondents	
		Number	Percentage
1	Bullock cart	3	1.50
2	Jeep	34	17.00
3	Pickup	17	8.50
4	Tractor	18	9.00
5	Tractor Trolley	120	60.00
6	Cycle	186	93.00
7	Bike/scooter	110	55.00

Note: More than one items have been shown by respondents, hence the total percentage of all items would be more than 100.

### Houses hold materials possession

The [Table-14] clearly indicates that 100 percent members were reported having cots and crockery each followed by wrist watch (95%), clock (94%), pressure cooker and gas chullah each (92%), fan/cooler and chairs each (90%), solar lantern (78%), double bed (71%), electric press (66%), sewing machine (23%), heater (15%), sofa set (12%) and dinner table (7%), respectively. The condition of house hold materials seems to be good.

Table-14 Distribution of the respondents on the basis of household materials, N=200

SN	Particulars	Respondents	
		Number	Percentage
1	Gas chullah	185	92.50
2	Double bed	142	71.00
3	Pressure cooker	184	92.00
4	Electric press	132	66.00
5	Clock	189	94.50
6	Wrist Watch	190	95.00
7	Chairs	180	90.00
8	Crockery	200	100.00
9	Heater	30	15.00
10	Fan/ Cooler	180	90.00
11	Sewing machine	46	23.00
12	Cots	200	100.00
13	Dinner table	14	7.00
14	Sofa set	25	12.50
15	Solar lantern	156	78.00

Note: More than one items have been shown by respondents, hence the total percentage of all items would be more than 100.

### Communication media possession

The [Table-15] indicates that the majority of respondents (97 %) observed possessing mobile phone with them. The respondents who had other communication media with them were in descending order as radio (91%), T.V. (80%), D.T.H. (76%), internet connection (17%), newspaper (15%) and computer/laptop (2.5%), respectively. Thus, it can be inferred that mobile, radio and T.V. were found to be main sources of information and recreation purposes.

Table-15 Distribution of the respondents on the basis of communication media possession, N=200

SN	Communication media	Respondents	
		Number	Percentage
1	Radio	182	91.00
2	T.V.	160	80.00
3	Mobile phone	194	97.00
4	D.T.H.	152	76.00
5	News paper	30	15.00
6	Internet	35	17.50
7	Laptop/computer	5	2.50

Note: More than one items have been shown by respondents, hence the total percentage of all items would be more than 100.

#### Overall materials possession

The overall material possession was categorized into three main categories on the basis of scores as low (up to 45), medium (46 to 72) and high (73 and above).

The [Table-16] revealed that highest number of the respondents 60.5% were observed in the medium category (46 to 72) of materials possession followed by 24% high (73 and above) and 15.5% low (up to 45), respectively. The mean of scores for materials possession was observed to be mean 59.69, with a minimum 25 and maximum 86 scores. The results of the study are in same line of findings reported by Singh *et al.*(2012).

Table-16 Distribution of the respondents on the basis of overall material possession, N=200

SN	Categories (score value)	Respondents	
		Number	Percentage
1	Low (up to 45)	31	15.50
2	Medium (46 to 72)	121	60.50
3	High (73 and above)	48	24.00
	Total	200	100.00

Mean= 59.69, S. D. = 13.67 4, Min. =25, Max. = 86.

**Application of research:** Findings of the study will be helpful in and knowing the correlation between independent variable and dependent variable like awareness, utilization, designing messages and developing extension strategy for promoting of safe plant protection measures of vegetable cultivation in the study area.

**Research Category:** Extension Education

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**Study area / Sample Collection:** Ayodhya of Uttar Pradesh

**Cultivar / Variety / Breed name:** Nil

**Conflict of Interest:** None declared

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