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A study on profile characteristics of sub-urban vegetable growers

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Abstract
The present study was carried out in Pune district, located in the state of Maharashtra. This district was chosen due to its high levels of urbanization, industrial development and rapid population growth. Haveli tahsil was selected for the study on the basis of level of urbanization. Within Haveli, twelve villages were chosen. From each village, ten vegetable growers were selected using a simple random sampling method, resulting in a total sample size of 120 respondents. An *ex-post facto* research design was used for research. An interview schedule was prepared to gather the required information. The collected data was analyzed using appropriate statistical techniques.
The research study was carried out during the year 2024–25 with the objective of analyzing the profile characteristics of sub-urban vegetable growers in Haveli tahsil of Pune district. Study inferred that the majority of respondents (64.17%) belonged to the middle-age group, largest proportion of sub-urban vegetable growers (51.67%) had attained secondary education, 45.00 per cent of the sub-urban vegetable growers had small size of the land holding, 69.17 per cent of sub-urban vegetable growers had low area under vegetable cultivation, 39.17 per cent of sub-urban vegetable growers were found to have a low level of annual income, majority (44.17%) of the sub-urban vegetable growers were fell under far market access category, 53.34 per cent of sub-urban vegetable growers had a fair irrigation status, 42.50 per cent of sub-urban vegetable growers exhibited a medium level of decision-making ability, majority of sub-urban vegetable growers (45.83%) exhibited a medium level of risk orientation, 51.66 per cent of sub-urban vegetable growers maintained a moderate level of contact with extension services.

Keywords: Sub-urban vegetable growers, livelihood, vegetable farmers, profile characteristics, Urbanization

1. Introduction

The term "suburb" has its origins in the Latin word "suburbium," meaning "under the city." According to the Oxford English Dictionary, suburbs are defined as areas located just beyond the boundaries of a town or city, particularly residential regions adjacent to urban centers (Oxford English Dictionary, 2011) [1]. The dictionary also cites examples of the term's usage in English dating back to the late fourteenth century. Suburbs can refer both to specific geographic locations and to the broader outskirts associated with various concepts, places, or events. Essentially, suburbs are regions that lie outside a city while still being connected to it (Frost, 1991) [2].

The population of the Pune Metropolitan Region (PMR) expanded from approximately 2.5 million in 1975 to over 9.13 million by 2020 (Schiavina *et al.*, 2022) [3]. Between 2001 and 2013, about 52.6 km^2 of green spaces, including grasslands and agricultural lands, were converted into built-up areas (Kantakumar *et al.*, 2015) [4]. As rural areas continue to urbanize, urban and sub-urban agriculture is anticipated to play a crucial role in ensuring food security and nutrition. This type of agriculture is expected to be particularly vital in meeting the needs of the approximately 700 million urban residents currently residing in developing countries, especially given the projected urban growth in these regions (Nandini, 2018) [5].

Vegetables constitute a major part of the daily human diet, and sub-urban vegetable growers play a crucial role in meeting the urban demand by supplying fresh produce to cities. Vegetables are considered essential for well-balanced diets since they supply vitamins, minerals, dietary fiber and phytochemicals (Dias, 2013) [6]. Considering food and nutritional security vegetables play an important role in Indian agriculture. They are commonly called 'Protected food' because of their protective effects against degenerative diseases. Vegetables are considered as 'Nutraceutical food' of the century (Rahal *et al.*, 2014) [7]. To help to prevent diet-related chronic diseases and reduce the risk of micronutrient deficiencies, the World Health Organization (WHO) recommends consuming at least 400 grams of fruits and vegetables per day, which is equivalent to five servings of approximately 80 grams each (WHO, 2003) [8].

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Cultivation of vegetables not only ensures nutritional security but also generates substantial employment opportunities for people in suburban areas and opens avenues for export. It therefore plays a significant role in improving the livelihood conditions of sub-urban vegetable growers. In this context, the present study aims to examine the profile characteristics of vegetable growers in the sub-urban areas of Pune Municipal Corporation, Maharashtra, and to provide valuable insights for academicians, planners, policymakers, and extension workers.

2. Methodology

The present study was carried out in the Pune district of Maharashtra. This district was chosen due to its high levels of urbanization, industrial development and rapid population growth (Census of India, 2011) [9]. Haveli tahsil was selected for the study on the basis of level of urbanization. Twelve villages within this tehsil were selected based on their maximum area under vegetable cultivation and production, identified in consultation with the Taluka Agriculture Officer and Agriculture Assistant of that respective area. From each village, 10 sub-urban vegetable growers were chosen by simple random sampling method, resulting in a total sample size of 120 respondents. An *ex-post facto* research design was adopted for the study. Data collection was done through personal interviews using a pre-tested interview schedule, with most respondents being approached directly in their fields. The collected data was analyzed using statistical tools such as frequency and percentage.

3. Results and Discussion

3.1 Age

It refers to the number of completed years by the sub-urban vegetable grower at the time of data collection. Majority of respondents (64.17%) belonged to the middle-age group (36 to 55 years). This was followed by 26.67 per cent of respondents who were in the young age category (up to 35 years), while 09.16 per cent were classified as older adults (56 years and above). The table shows that most of the sub-urban vegetable growers are middle-aged. This may be because they are more knowledgeable, hardworking and able to make independent farming decisions compared to younger and older growers.

The above findings are similar to the findings of the Pradhan (2019) [10], Chavan *et al.* (2022) [11] and Sindhura *et al.* (2022) [12].

3.2 Education

Education refers to the number of years of formal education completed by the sub-urban vegetable grower. The largest proportion of sub-urban vegetable growers (51.66%) had attained secondary education (5th to 10th grade). This was followed by 21.67 per cent of sub-urban vegetable growers who had completed graduation, 20.00 per cent sub-urban vegetable growers had higher secondary education (11th and 12th grade), 05.00 per cent had primary-level of education and only 01.67 per cent sub-urban vegetable growers were illiterate. The likely reason is that they have prioritized education to achieve personal development and improve their economic situation.

These findings are consistent with the results reported by Chavan *et al.* (2022) [11] and Sindhura *et al.* (2022) [12].

3.3 Land holding

Land holding refers to the total land owned by the sub-urban vegetable growers family at the time of data collection in a hectare. Most (45.00 %) of the sub-urban vegetable growers had small size of the land holding (1.01 to 2.00 ha) followed by 27.50 per cent marginal (Up to 1.00 ha) sub-urban vegetable growers, 21.67 per cent semi-medium (2.01 to 4.00 ha) sub-urban vegetable growers, 04.16 per cent sub-urban vegetable growers had medium size of land holding (4.01 to 10.00 ha) and remaining 01.67 per cent are large (10.01 ha and above) farmers. The reason for the small land holding may be due to the division and subdivision of the land from generation after generation which results in small land holding.

The above findings are similar to the findings of the Pradhan (2019) [10] and Suman (2019) [13].

3.4 Area under vegetable cultivation

It refers to the total area under vegetables cultivation owned by the sub-urban vegetable grower in a hectare. 69.17 per cent of sub-urban vegetable growers cultivated vegetables on land up to 1.60 hectare, while 28.33 per cent sub-urban vegetable growers had medium area under vegetable cultivation (1.61 to 2.80 ha). Only 02.50 per cent of the sub-urban vegetable growers had more than 2.81 hectares under vegetable cultivation. It is evident that most sub-urban vegetable growers had low vegetable cultivation area. These might be due to majority of sub-urban vegetable growers had small and marginal land holding.

The above findings are similar to the findings of the Kshirsagar (2024) [14].

3.5 Annual income

Annual income refers to the gross income of family members in terms of rupees from all sources in a year. As presented in Table 1, 39.17 per cent of sub-urban vegetable growers were found to have a low level of annual income, followed by 30.83 per cent who had a very low income. Additionally, 14.17 per cent reported an average income level, while 08.33 per cent and 07.50 per cent of the growers fell into the very high and high income brackets, respectively. The data reveals that a majority of sub-urban vegetable growers earn relatively low incomes. This may be primarily due to their small size of land holdings, which restrict production capacity and consequently income levels.

These results are in line with the findings reported by Rai *et al.* (2019) [15] and Ramesh *et al.* (2019) [16].

3.6 Market access

Market access was operationalized as the distance from the sub-urban vegetable growers field to nearby market for selling vegetable produce for their livelihood. As presented in Table 1, most (44.17%) of the sub-urban vegetable growers were fell under far (15 to 24 km) market access category. While 31.67 per cent and 24.16 per cent of sub-urban vegetable growers were fell under near (up to 14 km) and very far (25 and above) market access category respectively. These might be due to sub-urban vegetable growers prefer to sell their produce in markets that offer better prices, even if those markets are located far from their villages.

These findings are consistent with the results reported by Punitha (2017) [17].

3.7 Irrigation status

It refers to the different sources of irrigation and method for irrigation used by sub-urban vegetable grower in their vegetable field. Table 1 reveals that, majority of sub-urban vegetable growers (53.34%) had a fair irrigation status, while 42.50 per cent had a poor status and 04.16 per cent had a good irrigation status. This may be because most of the sub-urban vegetable growers use flood irrigation instead of drip or sprinkler systems, as water is generally adequate and these traditional methods are more accessible.

The above findings are similar to the findings of the Shigwan (2019) [18] and Konduskar *et al.* (2023) [19].

3.8 Decision making ability

Decision-making skill is sub-urban vegetable growers capacity to select the best alternative for maximizing his farming profits by balancing the alternatives according to their likelihood and desirability. 42.50 per cent of sub-urban vegetable growers exhibited a medium level of decision-making ability, followed by 38.33 per cent with a high level and 19.17 per cent with a low level of decision-making ability. The majority of vegetable growers fall into the medium category. This may be due to fluctuating weather patterns and unstable market prices.

The above findings are similar to the findings of the Somvanshi *et al.* (2016) [20] and Gayathri *et al.* (2022) [21].

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3.9 Risk orientation

Risk orientation refers to degree to which sub-urban vegetable grower was oriented towards risks and uncertainty in accepting new ideas in vegetable cultivation. Table 1 indicated that the majority of sub-urban vegetable growers (45.84%) exhibited a medium level of risk orientation. Additionally, 35.83 per cent and 18.33 per cent of the sub-urban vegetable growers had high and low level of risk orientation, respectively. Most of the growers had medium to high risk orientation, likely because middle-aged sub-urban farmers are more willing to take risks.

The above findings are similar to the findings of the Suman (2019) [13] and Sindhura *et al.* (2022) [12].

3.10 Extension contact

Extension contact refers to the frequency with which sub-urban vegetable growers comes in contact with extension officers. Majority (51.67%) of sub-urban vegetable growers maintained a medium level of contact with extension services. Additionally, 40.83 per cent had low contact, while only 07.50 per cent reported a high level of interaction with extension services. Most of the vegetable growers had medium to low levels of extension contact, likely because they prefer using mobile applications to solve their problems rather than seeking help from extension workers.

These results are in line with the studies conducted by Pradhan (2019) [10] and Islam *et al.* (2019) [22].

Table 1. Distribution of sub-urban vegetable growers according to their profile characteristics

Sr. No.	Variables	Categories	Respondents (n = 120)	
			Frequency	Percentage
1	Age	Young Age (Up to 35)	32	26.67
		Middle age (36 to 55)	77	64.17
		Old age (56 and above)	11	09.16
2	Eductaion	Illiterate (No education)	2	01.67
		Primary (1^{st} to 4^{th})	6	05.00
		Secondary (5^{th} to 10^{th})	62	51.66
		Higher Secondary (11^{th} and 12^{th})	24	20.00
		Graduate (Degree and above)	26	21.67
3	Land holding	Marginal (Up to 1 ha)	33	27.50
		Small (1.01 to 2.00 ha)	54	45.00
		Semi Medium (2.01 to 4.00 ha)	26	21.67
		Medium (4.01 to 10.00 ha)	5	04.16
		Large (10.01 ha and above)	2	01.67
4	Area under vegetable cultivation	Low (Up to 1.60 ha)	83	69.17
		Medium (1.61 to 2.80 ha)	34	28.33
		High (2.81 ha and above)	3	02.50
		Max = 4, Min = 0.4, Range = 3.6		
5	Annual income	Very low (Up to Rs. 5,08,000 /-)	37	30.83
		Low (Rs. 5,08,001/- to Rs. 8,06,000/-)	47	39.17
		Average (Rs. 8,06,001/- to Rs. 11,04,000/-)	17	14.17
		High (Rs. 11,04,001/- to Rs. 14,02,000/-)	9	07.50
		Very High (Rs. 14,02,001/- and above)	10	08.33
		Max = 17,00,000, Min = 2,10,000, Range = 14,90,000		
6	Market access	Near (Up to 14 km)	38	31.67
		Far (15 to 24 km)	53	44.17
		Very Far (25 and above)	29	24.16
		Max = 34, Min = 4, Range = 30		
7	Irrigation status	Poor (Up to 3.66)	51	42.50
		Fair (3.67 to 5.33)	64	53.34
		Good (5.34 and above)	5	04.16
		Max = 7, Min = 2, Range = 5		
8	Decision making ability	Low (Up to 8)	23	19.17
		Medium (9 to 13)	51	42.50
		High (14 and above)	46	38.33
		Max = 18, Min = 3, Range = 15		
9	Risk orientation	Low (Up to 10)	22	18.33
		Medium (11 to 14)	55	45.84
		High (15 and above)	43	35.83
		Max = 18, Min = 6, Range = 12		
10	Extension contact	Low (Up to 9)	49	40.83
		Medium (10 to 15)	62	51.67
		High (16 and above)	9	07.50
		Max = 21, Min = 3, Range = 18		

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4. Conclusion

The study concluded that the majority of sub-urban vegetable growers were middle-aged (64.17%) and had attained at least secondary education (51.66%). Most operated small land holdings (45.00%) ranging from 1.01 to 2.00 hectares, with 69.17 per cent cultivating vegetables on areas up to 1.60 hectares. A considerable proportion (39.17%) reported a low annual income between Rs. 5,08,001/- and Rs. 8,06,000/-. Market access was relatively favorable, with 44.17 per cent of the growers located within 15 to 24 kilometers of the nearest market. Generally had fair irrigation status (53.34%). The majority demonstrated a medium level of decision-making ability (42.50%) and risk orientation (45.84%), with 51.67 per cent maintaining moderate contact with extension services. Overall, while sub-urban vegetable growers exhibited reasonable educational attainment and moderate engagement with support services, challenges related to land holding size, income and irrigation infrastructure remain, indicating the need for targeted interventions to enhance their productivity and livelihoods.

References

1. Oxford English Dictionary. 2011. 555-556. https://www.oed.com.
2. Frost L. The New Urban Frontier. Kensington: University of New South Wales University Press; 1991.
3. Schiavina M, Freire S, MacManus K. GHS-POP R2022A: GHS Population Grid Multitemporal (1975–2030). 2022. Available from: https://ghsl.jrc.ec.europa.eu/datasets.phpinline-nav-ghs_pop2022
4. Kantakumar LN, Kumar S, Schneider K. Spatiotemporal urban expansion in Pune metropolis, India using remote sensing. Habitat International. 2016;51:11-22.
5. Nandini CL. Impact of urbanization on agricultural production system across rural-urban interface of North Bengaluru. Green Farming. M.Sc. (Agri) Thesis. 2018;9(6).
6. Dias JS. Vegetable breeding for nutritional quality and health benefits; Cultivars: chemical properties, antioxidant activities and health benefits Carbon K (editor). New York: Nova Science Publishers Inc; 2013.
7. Rahal A, Verma AK, Kumar A, Tiwari R, Kapoor S, Chakraborty SC, Dhama K. Pytonutriants and nutraceutical in vegetables and their multi-dimentional medicinal and health benefits for human and their companion animals: A Review. Journal of Biological Science. 2014;14(1):1-19.
8. WHO. Diet, Nutrition and the Prevention of Chronic Diseases, Report of the joint WHO/FAO expert consultation, WHO Technical Report Series No. 916 (TRS 916). Geneva: World Health Organisation (WHO); 2003.
9. Census of India. 2011. Available at http://www.censusindia.net.
10. Pradhan S. Assessment of Livelihood Security of Small farmers in Shahpura block of district of Jabalpur. M.Sc (Agricultural Extension) Thesis. Jawaharlal Nehru Krishi Vishwa Vidyalaya, Jabalpur, MP; 2019.
11. Chavan NN, Koshti NR, Tekale VS, Bhople PP, Shende NV, Khadse VS. Profile of organic vegetable growers in Western Vidarbha. The Pharma Innovation Journal. 2022;12(1):303-307.
12. Sindhura K, Tekale VS, Thakre PN. Socio-Economic Profile of Vegetable Growers in the Amaravati Division of Maharashtra. India. Asian Journal of Agricultural Extension, Economics and Sociology. 2022;40(12):402-409.
13. Suman RS. Socio-Economic And Psychological Characteristics of Vegetable Grower. International Journal of Recent Scientific Research. 2019;10(01):30544-30547.
14. Kshirsagar AS. Knowledge and adoption of pesticides among vegetable growers. Mahatma Phule Krishi Vidyapeeth, Rahuri. M.Sc. (Agri) Thesis; 2024.
15. Rai MK, Paudel B, Zhang Y, Khanal NR, Nepal P, Koirala HL. Vegetable Farming and Farmers' Livelihood: Insights from Kathmandu Valley, Nepal. Sustainability. 2019;11:889.
16. Ramesh PG, Ahamed IB, Saravanan A. Livelihood security of women agricultural labourers in Erode district of Tamilnadu. International Journal of Innovative Technology and Exploring Engineering. 2019;9(22):318-321.
17. Punitha P. Jhumias of Manipur in North-East India : A Livelihood Analysis. Ph.D. (Agricultural Extension) Thesis. Central Agricultural University, Imphal; 2017.
18. Shigwan AS. Knowledge and attitude of the konkan farmers towards organic farming practices. Ph.D. thesis, Dr. BSKKV, Dapoli; 2019.
19. Konduskar MJ, kadam JR, Kharage AP, Mohan VV, Desai AV. Profile of organic vegetable growers from palghar district. The Pharma Innovation Journal. 2023;SP-12(12):1525-1528.
20. Somvanshi RM, Deshmukh AN, Mokhale SU, Godase SK. Entrepreneurial behaviour of vegetable growers. Agric. Update. 2016;11(3):239-241.
21. Gayathri GN, Sahana S. Socio-economic Profile of Fruits and Vegetable Growers: An after the fact research. Asian Journal of Agricultural Extension Economics and Sociology. 2022:175–184.
22. Islam R, Ali MD, Alam MM, Shariar SA, Moin MJ. Farmer's constraints for vegetables marketing in Bangladesh. Asian Journal of Advances in Agricultural Research. 2019;11(2):1-9.

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