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Diagnostic analysis of socio-personal, economic, psychological and communication characteristics of grape growers in Sangli district

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ABSTRACT

This research takes a close look towards the social, personal, economic, psychological and communication backgrounds of grape farmers within the Sangli district of Maharashtra. Alongside profiling these growers, the study examines their overall marketing behaviour, the major roadblocks they confront and the practical solutions they propose. Through a descriptive research approach, information was compiled from a total of 150 grape farmers from Tasgaon, Jath and Miraj tehsils. The study followed an ex-post facto research design as the variables under investigation had already occurred and could not be manipulated.

The empirical findings regarding the profile of the respondents reveal that the majority of grape growers (66.67%) belonged to the middle-age group (36 to 55 years). In terms of formal education, nearly one-third of the growers (34.67%) had completed higher secondary education, followed by secondary education (28.00%), indicating a literate farming community capable of engaging with modern agricultural ideas. Regarding experience, nearly two-thirds of the respondents possessed a medium level of general farming experience (65.33%) and experience in grape cultivation (63.33%). Social participation was predominantly moderate, with 62.00% of growers falling into the medium category. Economically, landholding patterns indicated a prevalence of small and semi-medium structures, with 32.66% holding small landholdings and 30.00% holding semi-medium land holdings. More than half of the respondents (51.33%) operated on a low area under grape cultivation (up to 1.9 hectares), balancing financial risks associated with high input costs. Annual incomes and earnings specifically from the grape crop were largely concentrated in the low-to-medium brackets, with nearly half of the growers (46.66%) generating a middle-range income from grape production. Psychologically and communicatively, the majority of respondents demonstrated a medium level of risk orientation (62.67%), medium innovativeness (64.00%), and a medium level of information source utilization (62.67%).

Keywords: Marketing behaviour, Grape growers, Socio-personal, Economic, Psychological and communication characteristics

1. Introduction

Agriculture continues to play an important role in the Indian economy, while horticulture has emerged as an important avenue for diversification of farm income and strengthening the commercial orientation of farming. Among horticultural crops, grape (*Vitis vinifera* L.) occupies a distinctive position because of its high-value nature, intensive labour requirement, substantial investment needs and export potential. India has developed a strong position in tropical grape cultivation, with grapes being produced on a commercial scale in several states. According to the Agricultural and Processed Food Products Export Development Authority (APEDA), Maharashtra remains the leading grape-producing state in India, accounting for more than 69 per cent of national grape production during 2024–25. The country also exported 2,24,401.27 tonnes of fresh grapes during 2025–26, demonstrating the crop's importance in domestic and international agricultural trade.

Maharashtra has emerged as the major centre of commercial viticulture in the country, supported by favourable agro-climatic conditions, established production practices, infrastructure and export-oriented marketing systems. The important grape-producing regions of the state include Nashik, Sangli, Solapur, Pune and Satara. Within this production landscape, Sangli district occupies an important position as one of the major grape-growing regions of Maharashtra. The district's favourable climatic conditions, well-drained soils and established grape-growing practices have contributed to the concentration of viticulture in areas such as Tasgaon, Miraj, Jath and Kavathe Mahankal. The study's source document identifies Sangli as the second-largest grape-producing district after Nashik, with substantial area and production under grapes.

The importance of grape cultivation, however, cannot be assessed only in terms of production and productivity. The characteristics of the growers themselves have an important bearing on the way agricultural opportunities are perceived, technologies are adopted, information is utilized and farm resources are managed.

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Age, education, farming experience, experience in grape cultivation and social participation can influence the ability of growers to obtain and process information and respond to changing agricultural conditions. Similarly, landholding, area under grape cultivation and income determine the resource base available to farmers for investing in production and other farm-related activities. Psychological characteristics such as risk orientation and innovativeness are particularly relevant in commercial horticulture, where growers frequently have to respond to uncertain prices, changing technologies, climatic variability and market requirements. Communication characteristics, especially the use of different information sources, further influence farmers' access to technical and market-related knowledge.

The significance of these characteristics becomes more evident in grape cultivation because the crop is highly perishable and requires careful management after harvest. The marketing of grapes involves decisions concerning the selection of marketing channels, timing of sale, market information, grading, packaging, storage and, in some cases, processing and export. Karangami *et al.* (2022) [1] reported that grape growers in Maharashtra predominantly exhibited a medium level of marketing behaviour, indicating that growers' decisions and behavioural characteristics have an important role in determining how effectively they participate in the market. The source document also emphasizes that marketing behaviour extends beyond the physical sale of produce and includes decisions related to marketing channels, timing of sale, information acquisition and post-harvest value addition.

The changing nature of grape markets has further increased the importance of growers' individual characteristics. Domestic and export markets require attention to quality, grading, residue standards, traceability and timely access to market information. APEDA's GrapeNet system provides a traceability framework for Indian grapes, while export procedures require compliance with prescribed quality and residue-monitoring requirements. Consequently, growers' education, innovativeness, risk orientation and access to information can become important components of their capacity to respond to such requirements. At the same time, the adoption of new practices and market opportunities may depend upon the economic resources and practical experience available to individual growers.

Despite the considerable importance of grape cultivation in Sangli district, growers do not operate under identical socio-economic and behavioural conditions. Differences in landholding, area under grape cultivation, income, experience, social participation, risk orientation, innovativeness and access to information may create differences in their ability to respond to emerging opportunities and challenges. Therefore, examining these characteristics together is essential for developing a realistic understanding of the grape-growing community. A diagnostic assessment can help identify the prevailing characteristics of growers and provide a basis for designing extension programmes and institutional interventions according to their actual needs.

Although considerable attention has been given to grape production, export, post-harvest management and marketing, there is a need for location-specific empirical understanding of the socio-personal, economic, psychological and communication characteristics of grape growers in Sangli district. Such an assessment is particularly relevant

in a commercially important grape-growing region where production is closely linked with domestic and international markets. The present study was therefore undertaken to provide a diagnostic analysis of the socio-personal, economic, psychological and communication characteristics of grape growers in Sangli district. The study focuses on age, education, farming experience, experience in grape cultivation, social participation, size of landholding, area under grape cultivation, annual income, income from grape cultivation, risk orientation, innovativeness and sources of information. The findings are expected to provide a useful empirical basis for understanding the existing profile of grape growers and for developing more focused extension, capacity-building and institutional support programmes for the grape-growing sector of Sangli district.

2. Methodology

In the context of this study, Sangli district of Maharashtra selected purposively, which holds a prominent position in the state's grape production. Sangli district This study specifically targeted three tehsils of Tasgaon, Jath, and Miraj deliberately selected on the criterion of area under grape production. An

ex-post facto research design was adopted for the conduction of the research as the phenomenon had already happened and used exactly as it is for the study. From each of these tehsils five villages were identified purposively, making a total of 15 villages. A simple random sampling technique used to select 10 grape growers from each village, resulting in a total sample size of 150 respondents for the study.

Results and Discussion

The Socio-Personal, Economic, Psychological and Communication characteristics of grape growers provides critical findings in understanding of their marketing behaviour.

Socio-Personal characteristics of grape growers

Age

Age refers to the respondent's chronological age at the time of the interview, expressed in years. Continuous exposure to different situations over time can influence an individual's behaviour and decision-making. Age is an important aspect in socio-personal characteristic as it influences marketing behaviour, risk orientation, innovativeness and information source utilization among the grape growers. Table 1 revealed that two third (66.67%) of the grape growers were in the middle age group (36 to 55 years). The remaining respondents included 22.00 per cent from the old-aged group (56 years and above) and 11.33 per cent from the younger age category (up to 35 years) (Karangami *et al.* 2022) [1].

The preeminence of middle-aged grape growers may be attributed to their greater farming experience, financial stability and marketing knowledge, which help them manage grape marketing effectively and take decisions, accordingly. Older age group has more experience in grape cultivation which benefits them in marketing as more societal networks, while younger age category grape growers may be due to their preference for education, employment and other non-farm occupations.

Sr. No.	Category	Years	Frequency (N = 150)	Percentage (%)
1.	Young	Up to 35 yrs.	17	25.00
2.	Middle	36 yrs. to 55 yrs.	100	50.71
3.	Old	56 yrs. and above	33	24.29
	Total		150	100.00

Min = 27 Max = 62

Education

An individual's exposure to new ideas and information is largely shaped by their level of formal education. Education also helps to improve a person's ability to understand relationships between events

and strengthens problem-solving skills. With this in mind, data on the educational status of grape growers was collected, organized and analysed.

The data represented in Table 2 showed that, the highest proportion of grape growers (34.67%) had completed higher secondary education (11th to 12th Std), followed by secondary education (28.00%), primary education (17.33%), graduation (12.00%), post-graduation (05.33%), and illiteracy (02.67%). The predominance of higher-secondary educated growers indicates a relatively satisfactory level of formal education among respondents. The very low proportion of illiterate growers may be due to the availability and accessibility of educational opportunities in the study area (Vasane, 2023) [2].

Sr. No	Category	Standard of Education	Frequency (N = 150)	Percentage (%)
1.	Illiterate	Can't read / write	04	00.00
2.	Primary Education	1st to 7th Std.	26	09.29
3.	Secondary Education	8th to 10th Std.	42	33.56
4.	Higher Secondary Education	11th to 12th Std.	52	30.00
5.	Under Graduation	UG degree	18	22.86
6.	Post-Graduation	PG degree	08	04.29
Total			150	100.00

Sr. No.	Category	Score	Frequency (N = 150)	Percentage (%)
1.	Low	Up to 18	30	20.00
2.	Medium	19 to 30	98	65.33
3.	High	31 and above	22	14.67
Total			150	100.00

Range = 12 Min = 06 Max = 32

Experience in grape cultivation

The data set out in the Table 4 shares that Nearly three-fifths (63.33%) of the grape growers had medium experience in grape cultivation (13–21 years), while 30.67 per cent had low experience and only 6.00 per cent had high experience (22 years and above). The medium category was predominant because most respondents were middle-aged and had medium overall farming experience. This indicates that a considerable proportion of growers had sufficient exposure to grape cultivation practices. The small proportion of highly experienced growers may be attributed to the specialized and investment-intensive nature of grape cultivation, (Patil, S.D. and Chengappa, K. K., (2022)

Farming experience

The data presented in Table 3 revealed that nearly two-thirds (65.33%) of grape growers had medium farming experience (19 to 30 years), followed by 20.00 per cent with low experience (up to 18 years) and 14.67 per cent with high experience (31 years and above). The predominance of medium farming experience may be attributed to the fact that most respondents belonged to the middle-aged group. Such growers had spent a considerable period in agriculture and consequently gained sufficient practical expertise. (Salunkhe, 2024) [3]

Social participation

The data listed in Table 5 discovered that more than three-fifths (62.00%) of grape growers had medium social participation, followed by 19.34 per cent with high participation and 18.66 per cent with low participation. The predominance of the medium category may be due to growers' involvement in social and agricultural organizations mainly for obtaining information, maintaining contacts and participating in collective activities. Such participation provides opportunities for interaction with fellow farmers and other persons involved in agriculture. The nearly similar proportions of low and high participation indicate variation in the extent of organizational involvement among growers. (Vasane, 2023) [2]

Sr. No.	Category	Experience in grape cultivation	Frequency (N = 150)	Percentage (%)
1.	Low	Up to 12	46	30.67
2.	Medium	13 to 21	95	63.33
3.	High	23 and above	09	06.00
Total			150	100.00

Range = 09 Min = 03 Max = 29

Sr. No.	Category	Score	Frequency (N = 150)	Percentage (%)
1.	Low	Up to 10	28	18.66
2.	Medium	11 to 14	93	62.00
3.	High	15 and above	29	19.34
Total			150	100.00

Range = 4.3 Min = 6 Max = 19

Economic characteristics of grape growers

Size of Land Holding

The data observed in Table 6 uncovers that the largest proportion of grape growers (32.66%) possessed small landholdings (1.01–2.00 ha), closely followed by 30.00 per cent with semi-medium holdings (2.01–4.00 ha), 20.00 per cent with marginal holdings, 13.34 per cent with

medium holdings and only 04.00 per cent with large holdings. The predominance of small and semi-medium holdings may be due to fragmentation and division of agricultural land among family members over successive generations.

Consequently, most farming households operate relatively smaller holdings. The very small proportion of large landholders indicates that extensive land ownership was uncommon among the surveyed grape growers. (Salunkhe, 2024) [3]

Sr. No.	Category	Frequency (N = 150)	Percentage (%)
1.	Marginal (up to 01.00 ha)	30	20.00
2.	Small (01.01 to 02.00 ha)	49	32.66
3.	Semi Medium (02.01 to 04.00 ha)	45	30.00
4.	Medium (04.01 to 10.00 ha)	20	13.34
5.	Large (more than 10.00 ha)	06	04.00
Total		150	100.00

Max = 16 Min = 0.4

Area under grape crop

The data provided in Table 7 shows that just more than half (51.33%) of the respondents had low area under grape cultivation (up to 1.9 ha), followed by 32.00 per cent with medium area (2.0–3.4 ha) and 16.67 per cent with high area (3.5 ha and above). The predominance of the low category may be attributed to the considerable investment

required for planting material, irrigation, fertilizers, plant protection chemicals and labour. Further, fluctuations in grape prices may encourage growers to restrict the area under grapes to reduce financial risk. Thus, grape cultivation was mainly concentrated on relatively smaller areas among the respondents. (Dhanude, 2018) [4] and (Gaikwad, 2020) [5]

Sr. No.	Category	Area	Frequency (N = 150)	Percentage (%)
1.	Low	Up to 1.9 ha	77	51.33
2.	Medium	2.0 to 3.4 ha	48	32.00
3.	High	3.5 ha and above	25	16.67
Total			150	100.00

Range = 1.53 Min = 0.4 Max = 05

Annual income

The data listed in Table 8 describes that the largest proportion (31.33%) of grape growers belonged to the low-income category (Rs. 6,72,001 to Rs.9,54,000), followed by 24.00 per cent each in the very-low and medium-income categories. Further, 14.00 per cent had high

income and only 06.67 per cent belonged to the very-high-income category. The concentration in the lower-to-medium income groups may be related to the relatively small and medium-sized landholdings of most growers and the substantial production costs involved in grape cultivation. Price fluctuations and variations in productivity may also affect annual income. (Patil, 2018) [6] and (Kokate, 2020) [7]

Sr. No.	Category	Income (Rs.)	Frequency(N = 150)	Percentage (%)
1.	Very Low	Up to 6,72,000 /-	36	24.00
2.	Low	6,72,001 /- to 9,54,000 /-	47	31.33
3.	Medium	9,54,001 /- to 12,36,000 /-	36	24.00
4.	High	12,36,001 /- to 15,18,000 /-	21	14.00
5.	Very High	Above 15,18,001 /-	10	06.67
Total			150	100.00

Range = 2,82,000 Min = 3,90,000 Max = 18,00,000

Annual income from grape crop

The data shown in Table 9 addresses that nearly half (46.66%) of the grape growers belonged to the medium-income category from grape crop (Rs. 7,72,001–11,66,000), followed by 34.66 per cent in the low-income category and 18.68 per cent in the high-income category. The predominance of the medium category indicates that most growers

obtained a moderate level of income from grape cultivation. The considerable proportion in the low category may be associated with smaller grape areas, production expenses and variations in market prices. Only a relatively small proportion achieved high income, possibly because fewer growers had larger areas or better returns from grape production. (Devde, 2017) [8] and (Patil *et al.*, 2022) [9]

Sr. No.	Category	Income (Rs.)	Frequency (N = 150)	Percentage (%)
1.	Low	Up to 7,72,000	52	34.66
2.	Medium	7,72,001 to 11,50,000	70	46.66
3.	High	11,50,001 and above	28	18.68
Total			150	100.00

Range = 3,94,000 Min = 3,78,000 Max = 15,60,000

Psychological characteristics of grape growers

Risk Orientation

The data given in the Table 10 displays that More than three-fifths (62.67%) of grape growers showed medium risk orientation, followed by 28.67 per cent with high risk orientation and only 08.66 per cent

with low risk orientation. The medium level may be associated with the relatively better educational background of many growers, which can help them assess new technologies and practices before adoption. Grape cultivation itself involves considerable investment and market uncertainty, encouraging growers to take calculated rather than excessive risks. The high-risk group may be more willing to adopt new

practices when they perceive reasonable chances of success. (Salunkhe, 2024) [3]

Sr. No.	Category	Score	Frequency (N = 150)	Percentage (%)
1	Low	Up to 19	13	08.66
2	Medium	20 to 24	94	62.67
3	High	25 and above	43	28.67
Total			150	100.00

Range = 5 Min = 14 Max = 29

novativeness

The Table 11 demoonstrates that just less than two-thirds (64.00%) of grape growers had medium innovativeness, while 30.67 per cent had low innovativeness and only 05.33 per cent had high innovativeness. The predominance of medium innovativeness may be related to the moderate educational and income levels of the respondents, which

provide some capacity to access and evaluate new practices. Growers may be willing to adopt promising innovations but may remain cautious because grape cultivation involves substantial investment and production risk. The small high-innovativeness group indicates that only a few growers readily adopt and implement new practices compared with others. (Chengappa, 2017) [10]

Sr. No.	Category	Score	Frequency (N = 150)	Percentage (%)
1	Low	Up to 14	46	30.67
2	Medium	15 to 17	96	64.00
3	High	18 and above	08	05.33
Total			150	100.00

Range = 3.3 Min = 11 Max = 21

Communication characteristics of grape growers

Source of Information

The data in Table 12 revealed that just more than three-fifths (62.67%) of grape growers used a medium level of information sources, followed by 26.00 per cent with low use and 11.33 per cent

with high use of information sources. The medium level may be due to growers' dependence on readily accessible and reliable agricultural information sources. Limited awareness, accessibility and frequency of interaction with specialized information channels may have restricted many growers from reaching the high category. This indicates scope for strengthening farmers' access to diverse and timely sources of production and marketing information. (Bidve, 2017) [11].

Sr. No.	Category	Score	Frequency (N = 150)	Percentage (%)
1	Low	Up to 26	39	26.00
2	Medium	27 to 30	94	62.67
3	High	31 and above	17	11.33
Total			150	100.00

Range = 3.66 Min = 22 Max = 33

Conclusion

The findings of the diagnostic analysis provide an overall picture of the socio-personal, economic, psychological and communication characteristics of grape growers in Sangli district. Most of the growers belonged to the middle-age group (66.67%) and had attained higher secondary education (34.67%). Medium levels of farming experience (65.33%) and experience in grape cultivation (63.33%) were also predominant. This indicates that grape cultivation in the study area was largely managed by farmers who had gained adequate practical experience over the years. Similarly, 62.00 per cent of the respondents had medium social participation, reflecting their moderate involvement in social activities and opportunities for interaction and exchange of agricultural information.

The economic characteristics suggest that grape growers were generally operating with limited to moderate farm resources. Small and semi-medium landholdings constituted the major share of the respondents, while 51.33 per cent had a low area under grape cultivation. In terms of income, the respondents were largely concentrated in the low to medium annual income groups. However, income obtained specifically from grape cultivation was predominantly at the medium level (46.66%). This indicates that, although grape cultivation represents an important source of farm income, a considerable proportion of grow-

ers cultivated grapes on relatively limited areas and operated within a moderate resource base.

The psychological profile of the growers showed a clear predominance of medium levels of risk orientation and innovativeness. About 62.67 per cent of the respondents had medium risk orientation, whereas 64.00 per cent showed medium innovativeness. Thus, the majority of growers appeared to have a balanced approach towards taking risks and adopting new ideas. Their willingness to consider improved practices may provide a useful foundation for introducing new technologies and management practices, particularly when adequate technical guidance and support are available.

The communication profile also showed a predominance of medium information-source utilization, reported among 62.67 per cent of the growers. Only 11.33 per cent of respondents fell under the high category, indicating that intensive use of available information sources was relatively limited. This highlights the need to improve farmers' access to relevant and timely agricultural and marketing information through both conventional and contemporary communication channels.

Overall, the grape growers of Sangli district can be characterized as predominantly middle-aged and moderately educated farmers with considerable farming experience, medium social participation, and a moderate level of economic resources. Their medium risk orientation, innovativeness and use of information sources indicate the presence

of a foundation for further improvement. Strengthening farmers' access to appropriate information, encouraging innovative practices and providing need-based extension support could help them make more effective use of their available resources and improve the sustainability of grape cultivation in the district.

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