Study of Behavioural Traits of Grape Exporters in Maharashtra

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ABSTRACT

Many farmers from Maharashtra have become successful grape exporter by associating themselves to organizations like Mahagrapes. Study was conducted with ninety grape growers from Nashik, Sangli and Pune district of Maharashtra, who were members of cooperatives associated with the Mahagrapes organization. While studying socioeconomic and behavioral traits of these farmers it was observed 56 per cent members belonged to medium age category. In case of education 34.4 per cent members had completed their graduation and average annual income obtained was Rs. 13.32 lakh. About 15.5 per cent of total members were small and marginal, while 50 per cent belonged to semi medium (2.1-4 ha) land holding category. Productivity of grapes at members' field was 11.78 tons per acre. Members showed higher level of achievement motivation and self confidence. Productivity of grapes was positively and significantly correlated with the annual income, material possession, achievement motivation and self confidence of the member farmers.

Key words: *Mahagrapes; Socioeconomic profile; Behavioural traits;*

Country has got vast potential for the export of Grapes. In India, grapes are cultivated in an area of 111.4 thousand ha with a total production 1,234.9 thousand tons which is about two per cent of the total global grapes production of 65 million tons. Productivity of grapes in India is about 11.1 tons/ha *(NHB-2012)*. Grapes in India are cultivated under variety of soil and climatic conditions (*Shikhamany 2001*), for their excellence they are cultivated under tropical conditions. Maximum grape production takes place in Maharashtra state (774 thousand tons) followed by southern states like Karnataka (330.3 thousand tons), Tamil Nadu (53 thousand tons) and Andhra Pradesh with production of 27.6 thousand tons. (*NHB-2012*).

However, despite having the world class technical know-how, suitable weather conditions, required assistance from the Agriculture Department, the growers of Maharashtra are facing a bunch of problems, which makes the state the excellent producer but unsuccessful exporter of the grapes. The most important is the inability of farmers to meet the food safety and quality requirement as per Good Agricultural practices (GAP) and Codex standards. (*Roy and Thorat, 2008*).

Farmers Based Organisations can provide solution to these problems. *Herlehy (2012)* emphasized that when farmers come together through cooperatives, they can pool their resources and maximize the value of whatever work they do.

One such organization is Mahagrapes, which was established in the year 1991 as marketing partner to the group of cooperatives in the Maharashtra state. Mahagrapes is the first organization in the Maharashtra state to have the characteristics of both a cooperative and a private sector partnership firm. Since the establishment it has been able to organize the efforts of grape growers spread across Nashik, Sangli, Sholapur, Pune, Ahmednagar, Osmanabad and Latur. Mahagrapes has helped in obtaining EUROPGAP certificates to grape growers and helped in increasing export competitiveness of small Indian farmers. Mahagrapes has established chain of cold storage at cooperative societies (*Narrod et al (2006).*

Roy and Thorat (2008) studied unique success story of Mahagrapes, a marketing partner to farmer cooperatives and attributed its success to a combination of collective action and public private partnerships. Their

results indicate that Mahagrapes farmers earn significantly higher income vis-à-vis their outside marketing option and smallholders face no bias in selection. Mahagrapes provides materials and technical help along with infrastructural support to facilitate the implementation of the standards. Therefore study was conducted to analyze the socioeconomic and behavioural traits of farmers associated with this organization.

METHODOLOGY

Study was carried out in Nashik, Pune and Sangli district of Maharashtra which are located between 16.4° and 20.53° N latitude and between 73.16° and 75.16°E Longitude. Study area is part of the tropical monsoon land and shows a significant seasonal variation in temperature as well as rainfall conditions. Bajra, jowar, wheat, rice, gram, and sugarcane are the major aspect of agro ecosystem in these districts, which also comprise fruit crops like grapes, pomegranate, ber, guava etc. (*GOM 2014*). For the study, scientific, systemic and planned method of investigation was followed which consists of identification of research problem, devising objectives, development of questionnaire, pilot testing of the questionnaire, data collection, analysis and interpretation of the results (*Kerlinger 1978*). A triangulation approach using both qualitative and quantitative methods was followed to make study more comprehensive.

A multistage sampling procedure was followed wherein Nashik, Sangli and Pune district of Maharashtra were selected purposively. Thirty grape growers who were members of cooperatives linked to Mahagrapes were selected randomly from these districts, making total sample of 90. Personal interview and focused group discussion were used for data collection. A well structured interview schedule with both close end and open end questions was constructed. To measure social participation, scale followed by *Balasubramani (2006)* was used with some modifications. Risk taking ability, self confidence and achievement motivation were studied using Entrepreneurial Self Assessment Scale (1981) of Techno Net Asia, with slight modifications for the purpose of study. Collected data first subjected to coding then entered into the MS excel spreadsheet for statistical analysis. For studying the socioeconomic and behavioural aspects, tools like frequency, percentage and average were used to analyse the central tendency

and variability present socioeconomic aspects of the farmers. Pearson correlation coefficient was used to find out correlation of various socioeconomic and behavioural aspects with productivity of the grapes.

RESULTS AND DISCUSSION

Results obtained from analysis of the data are presented under the broad headings of socio personal, economic profile, behavioural traits of the grape exporters and correlation of socioeconomic and behavioural aspects with the productivity of the grapes. *Socio personal profile :* Socio personal profile of the grape exporters is discussed using variables like age, education, and social participation. While studying age of the grape exporters, it was found that most of members (56.7 %) belonged to medium age category (Table 1). Moreover 25.6 per cent of members were young with less than 35 years of age. While 17.8 per cent were old with more than 51 years old. *Hinge (2009)* in his study of wine grapes farmers observed that most of farmers belonged to medium category followed by young category of age.

Table 1. Personal and social profile of Mahagrapes members (N-90)

Variables	No.	%
Age		
Young (Up to 35)	23	25.6
Medium (36 to 50)	51	56.7
Old (More than 51)	16	17.8
Education		
Can read and write only	02	2.2
Primary level	03	3.3
High school	08	8.9
Higher secondary	34	37.8
Graduate	31	34.4
Post graduate	12	13.3
Social Participation		
Very low (score less than 4)	4	4.4
Low (4.1 to 6)	18	20.0
Medium (6.1 to 8)	50	55.6
High (8.1 to 10)	13	14.4
Very high (more than 10)	5	5.6

Education level of members is presented in Table 1. It was observed that 37.8 per cent of members had studied up to higher secondary level followed by graduation (34.4%). About 13 per cent of members were post graduate which indicated the higher educational

status of Mahagrapes members. Only 8.9 per cent had attended high school followed by primary school (3.3%). No one was illiterate while 2.2 per cent could read and write. *Hinge (2009),* observed that 38 per cent of grape growers were graduates while *Patil (2008)* found 25 per cent of grape exporting farmers were graduates.

Social participation was defined as the extent of involvement of an individual farmer in the formal and non formal organizations. Based on score obtained by farmers they were categorized into five categories (Table 1). It was observed that 4.4 per cent Mahagrapes farmers had very low level while 20 per cent had low level of social participation. Most of Mahagrapes members (55.6 %) belonged to middle level while 5.6 per cent Mahagrapes farmers had very high social participation. *Lokhande (1990)* in his study of grapes growers had observed that 45.00 % of the grape growers were having medium level of social participation.

Socioeconomic profile: Variables like total annual income, size of land holding, productivity, and material possession were studied in socioeconomic profile of the farmers. Total income derived from all sources in one year was considered as total annual income of the respondents and was categorized with the help of mean and standard deviation into five categories (Table 2). It was observed that majority of Mahagrapes farmers (36.7%) had medium level of income. Only 4.4 per cent Mahagrapes farmers had very low income while 33.3 per cent had low income level of income. Furthermore 22.2 per cent Mahagrapes members had high level of income annual income followed by 14.4 per cent very high. Distribution of Members according to annual income is given in Table 2. These findings are supported by Roy and *Thorat (2008),* who found that Mahagrapes members earn significantly higher income than independent farmers. *Calkins and Ngo (2005)* in their study on "Impacts of Cocoa Cooperatives on Well-being" also found that members of cooperatives got higher revenues both per bag and per hectare than non-members. Thus high income of Mahagrapes members can be attributed to their association with Mahagrapes.

While studying size of land holding, it was found that most of Mahagrapes members (50 %) belonged to semi medium category of land holding of 2 to 4 hectare (Table 2). More numbers of Mahagrapes farmers belonged to small and marginal categories of land holding (15.5 %). One third of the Mahagrapes members had medium land holding while 1.1 per cent had large land holding. These findings are supported by *Roy (2007)* who studied frequency distribution of Mahagrapes and independent farmers. They found that more number of Mahagrapes farmers were located in small and medium categories and there was no selection bias against them. Similar results were found by *Patil (2011), Prabhakar(1989)* and *Lokhande(1990).* This indicates that Mahagrapes had helped small and marginal farmers to link to international market.

Table 2. Socioeconomic profile of the Mahagrapes members (N-90)

Variables	No.	%
Annual Income		
Very low (less than 4 lakh)	4	4.4
Low (4.1 to 10 lakh)	30	33.3
Medium (10.1 to 16 lakh)	33	36.7
High (16.1 to 21 lakh)	13	14.4
Very high (more than 21 lakh)	10	11.1
Size of land holding		
Marginal land holding (0.1-1 ha)	1	1.1
Small land holding (1.1-2 ha)	13	14.4
Semi medium (2.1-4 ha)	45	50.0
Medium land holding(4.1-10 ha)	30	33.3
Large land holding (more than ten hector)	1	1.1
Productivity		
Very low (less than 9.75 ton/acre)	6	6.7
Low (9.76 to 11.25 ton/acre)	15	16.7
Medium (11.26 to 12.75 ton/acre)	45	50.0
High (12.76 to 14.25 ton/acre)	17	18.9
Very high (more than 14.26 ton/acre)	7	7.8
Material Possession		
Very low (less than Rs. 20 lacs)	3	3.3
Low (21 to 30 lacs)	21	23.3
Medium (31 to 40 lacs)	43	47.8
High (41 to 50 lacs)	15	16.7
Very high (more than 51 lacs)	8	8.9

It was found that overall productivity of Mahagrapes farmers (11.78 tons/acre). About 6.7 per cent and 16.7 per cent Mahagrapes members had very low and low productivity (Table 2). Most of the Mahagrapes members belonged to medium level of productivity (50 %) followed by 18.9 per cent to high and 7.8 per cent to very high. These findings are supported by study of *Calkins and Ngo (2005),* who in their study of Cocoa Cooperatives found that more judicious use of "modern" inputs (fertilizers, pesticides,

mechanical implements) led to 19 per cent higher per hectare yields for cooperative members than for non-members. *Roy and Thorat (2008)* also found higher productivity of grapes among members of Mahagrapes. Mean value of material possession of Mahagrapes members was Rs. 35.13 lacs. It was found that that majority of Mahagrapes members (47.8%) had medium level of material possession. Only 3.3 per cent Mahagrapes members had very low level of material possession while 23.3 per cent had low level of material possession. It was also found that 8.9 per cent and 16.7 per cent Mahagrapes members had very high and high material possessions respectively. Thus, it is evident that Mahagrapes members had high level of material possession.

Behavioural traits : It was studied using personal variables viz., risk taking ability, self confidence, and achievement motivation. Respondents were given five statements of which some were positive and some negative. Based on Likert's five point scale, these statements were scored and respondents were categorized into five categories.

Risk taking : It was referred to the extent to which an individual takes risk considering a decision for action with fair chances of success. Statements used and mean score is presented in Table 3, which indicates that overall mean score of Mahagrapes members was 3.78 on five point scale.

Table 3. Risk taking behavior of Mahagrapes members (N-90)

Statements	MS
I don't fear investing my money on a venture whose dividends I have calculated	3.93
I will consider as risk worth taking if probability for success is 40 to 60 per cent	4.00
I don't mind working under conditions of uncertainty as long as there is a reasonable probability of gains from it to me	3.54
I will consider a risk worth taking only if probability for success is 60 to 100 per cent	3.70
I don't care if profit is small so long as it is assured and constant	3.73
Overall mean score	3.78

Table 4 shows classification of Mahagrapes members into five categories based on risk taking behavior. It was found that most of Mahagrapes members (52.2 %) belonged to middle level risk takers. Only 6.7 per cent of Mahagrapes members had very

low level of risk taking while 6.7 per cent had very high level of risk taking. These findings are supported by *Patil (2011)* in his study on constraint analysis of grape exporters of Maharashtra. Similarly *Monosri et al. (2014)* found positive correlation between risk taking and productivity at the farm.

Table 4. Classification of Mahagrapes members according to risk taking (N-90)

Risk taking categories	No.	%
Very low ($\bar{X} - 2\sigma$)	6	6.7
Low ($\bar{X} - 1\sigma$)	13	14.4
Medium ($\bar{X} \pm \sigma$)	47	52.2
High ($\bar{X} + 1\sigma$)	18	20.0
Very high ($\bar{X} + 2\sigma$)	6	6.7
Total	90	100.0

Mean=18.91,   SD=2.18

Self confidence : It is the degree to which member expresses confidence in his own ability to complete a task or meet a challenge. Table 5 shows the statements along with mean score of respondents for self confidence. It was found that overall mean score for self-confidence of Mahagrapes members was 3.61 on five point scale.

Table 5. Self Confidence of Mahagrapes members (N-90)

Statements	MS
I accomplish most when I am alone, under no direct supervision of any one	3.42
I tend to overestimate my capabilities for succeeding in any venture	3.69
I doubt my ability to cope under new untested condition	3.51
I find difficulty in asserting myself against the opinion of majority	3.71
Even if I am capable hardworking and ambitious, if I do not have the money, I cannot start a business.	3.74
Overall mean score	3.61

Table 6. Classification of Mahagrapes members according to self confidence (N-90)

Categories	No.	%
Very low ($\bar{X} - 2\sigma$)	09	10.0
Low ($\bar{X} - 1\sigma$)	22	24.4
Medium ($\bar{X} \pm \sigma$)	37	41.1
High ($\bar{X} + 1\sigma$)	20	22.2
Very high ($\bar{X} + 2\sigma$)	02	02.2
Total	90	100.0

Mean=18.07,   SD=1.99

Table 6 shows that 41.1 per cent Mahagrapes member had medium level of self confidence. Moreover 10 per cent Mahagrapes members had very low self confidence while 24.4 per cent had low level of self confidence. It was found that 2.2 per cent members had very high level and 22.2 per cent had high level of self confidence.

Achievement motivation : It is the urge to improve oneself and excel in relation to a goal. Statements about achievement motivation with their mean score are given in Table 7. This indicates that overall mean score of Mahagrapes farmers was 3.86 on five point scale. *McClelland(1969)* established link between high achievement motivation and high entrepreneurial success. Thus Mahagrapes members high score on achievement motivation shows their entrepreneurial nature which is supported by risk taking behavior and self confidence.

Table 7. Achievement motivation of Mahagrapes members (N-90)

Statements	MS
I take pleasure on responding to challenges, so competition makes me work harder	4.04
In business I am more concerned with growth(being a success) rather than with profit	3.85
I want to earn only as much as to attain a comfortable way to live	3.81
I do mind routine unchallenging work if the pay is good	3.86
I like people on the basis of friendship and other relations(for their loyalty) rather than on the basis of competence	3.77
Overall mean score	3.86

Table 8. Classification of grape growers according to achievement motivation. (N-90)

Achievement motivation	No.	%
Very low ($\bar{X} - 2\sigma$)	6	6.7
Low ($\bar{X} - 1\sigma$)	23	25.56
Medium ($\bar{X} \pm \sigma$)	31	34.4
High ($\bar{X} + 1\sigma$)	19	21.1
Very high ($\bar{X} + 2\sigma$)	11	12.2
Total	90	100.0

Mean=19.33,   SD=2.09

Table 8 shows classification of Mahagrapes members into five categories based on achievement motivation. It was found that most of Mahagrapes members (34.4 %) had medium level of achievement motivation. Only 6.7 per cent of Mahagrapes members

had very low level of achievement motivation while 12.2 per cent had very high level of achievement motivation. *Govinda Gowda (2002)* also reported that nearly fifty per cent of Thompson seedless growers (47.00%) had high achievement motivation.

These socio personal and socio economic factors were correlated using Pearsons correlation coefficient with productivity of grapes obtained at farmer's field. It was observed that among socio economic factors, total annual income and material possession were significantly correlated with the productivity, which indicates that, those who have higher productivity are likely to have higher annual income and more material possessions. Similar results were also found by *Patel et al. (2014)* and *Sreeram et al.(2015)*. Among various behavioural traits, achievement motivation and self confidence are significantly and positively correlated with productivity which indicates that those having high achievement motivation and high self confidence are likely to achieve higher productivity of grapes at their field.

Table 9. Correlation of socioeconomic and psychological factors with productivity of grapes at the farmers field

Variables	(r)
Age	0.008
Education	0.002
Total annual income	0.351**
Land holding	0.194
Social participation	0.031
Material possession	0.228*
Risk taking behavior	0.130
Achievement motivation	0.225*
Self confidence	0.329**

** Significant at 0.01 level of probability.
* Significant at 0.05 level of probability.

CONCLUSION

Study on social personal and behavioural traits of the grape exporters who were members of Mahagrapes found that most of the members (56%) belonged to medium age category. As many as 34.4 per cent members were graduates average annual income obtained was Rs. 13.32 lakh per annum. Small and marginal farmers constituted 15.5 per cent of total members while 50 per cent belonged to semi medium (2.1-4 ha) land holding category. Productivity of grapes at members' field was 11.78 tons per acre. About 55.6

per cent of members had medium level of social participation. It was found that 47.8 per cent members had medium level of material possessions with mean of Rs. 35.13 lakh. Mahagrapes members scored high on achievement motivation and self confidence. Annual income, material possession, achievement motivation and self confidence were positively and significantly related to productivity of grapes obtained at farmer's field.

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