~~Socio- economic~~Socio-economic characteristics of guava orchardists in Western Uttar Pradesh

Abstract

This study was conducted in two blocks i.e., Baghara and Charthawal of Muzaffarnagar district of Western Uttar Pradesh during the year 2018-19. To know the ~~socio-economic~~socio-economic characteristics of guava orchardists for this investigation data ~~was~~ werecollected from 80 guava orchardists through personal ~~interview~~interviews. It was found that the majority of guava orchardists (43.75 percent) belongs to higher medium age group ranging between 46 to 60 years of age, (22.50 per cent) respondents were having educational status up to high school, (70.00 per cent) orchardists were belonging to other backward caste category, (91.25 per cent) orchardists were married, (91.25 per cent) orchardists were engaged in agriculture as the main occupation, 60.00 per cent orchardist's were living in joint family, (48.75 per cent) guava orchardists were belong to medium family category 5-8 members including their family, (63.75 per cent) were having membership of one organization, (78.75 per cent) orchardists were had pucca house, (51.25 per cent) orchardists were having land (above 04 ha.), majority of the respondents (60.00 per cent) were having medium level of family resources (between 6-10), (90.00 per cent) were having motor cycle/ Scooty as transportation facility, (43.75 per cent) were having low level of farm assets (below 6), (68.75 per cent) orchardists were having private electric tube well as a source of irrigation, (81.25 per cent) were having medium level of information sources (Between 7-12 sources) in research study area. The majority (53.75 ~~per cent~~percent) of guava orchardists annual income~~were~~ wasabove Rs. 2,00,000.

Key Words: Guava Orchardists, Socio-economic characteristics

Introduction

Guava (*Psidium guajava*L.) belongs to family Myrtaceae is one of the cherished fruits of India and is aptly called ~~as~~ the Apple of Tropics and Poor man's apple. It is native ~~of~~ toMexico, Central America, and Northern South America. ~~For~~ Ofits high adaptability to varied soil and climatic conditions along with its hardy nature, it has acclimatized ~~in~~ toIndian ~~condition~~ conditionswithin a short period of time. This fruit has gained considerable

prominence in our country in general and the state of Uttar Pradesh in particular on account of its high nutritive value, pleasant aroma and availability at moderate price.

Guava besides being a wholesome fruit is a storehouse of pectin, minerals (Ca P and Fe) ~~carbohydrate~~carbohydrates, fiber, riboflavin, thiamine ~~and Vitamin~~ and vitaminC. The fruit is used to prepare jelly, jam, nectar, juice, pie, cake, stewed, and preserve. Fresh fruit of guava contain's 100 to 260 mg Vitamin C of per 100g of its pulp and it is not lost during preservation. The total area and production of guava in the country are 265 thousand hectares and 40,54 thousand ~~metric~~metrics~~tonnes~~tons. Guava is successfully grown all over the country ~~and~~ Uttar Pradesh is the most important ~~guava producing~~guava-producing state of the country and Allahabad has the reputation of growing the best guava in the country as well as in the world. Uttar Pradesh is the largest producer of guava viz; 914.94 thousand ~~metric~~metrics~~tonnes~~tons from an area of 49.01 thousand hectares followed by Madhya Pradesh 523.75 thousand metric ~~tonnes~~tons in 30.31 thousand hectares. **(National Horticulture Board 2017-18)** Production of guava in ~~high density~~high-density planting (1.5×3.0 m) is 26 ~~tonnes~~tons per hectare during third year. The yield goes up to 47 ~~tonnes~~tons/ha during the fifth and 55 ~~tonnes~~tons/ha during the seventh year of growth. At spacing of 6.0×6.0 m, the 6 ~~tonnes~~tons/ ha yield is obtained. The meadow orchard system is more beneficial than any other system. In this system, the production starts from 2nd year itself giving an average yield of 13 ~~tonnes~~tons/ ha which doubles during the next year. In the 3rd/ and 5th year yield is approximately 40 and 60 ~~tonnes~~tons/ ha, respectively. This clearly shows that the meadow orchard system is better than other planting systems.

Research Methodology:

Thisstudy was conducted in Muzaffarnagar district of Western Uttar Pradesh. The district comprises of 9 blocks one of which, two blocks Baghara and Charthawal were selected for the study purposively on the basis of the maximum area under guava cultivators and availability of maximum guavacultivators. From each block four villages were selected purposively thus ~~the~~ atotal 8 villages were selected for the investigation and from each village 10 respondents were selected purposively. Thus, the total sample size was ~~of~~ 80 respondents for the investigation. The data was collected through personal ~~interview~~ interviewswith the help of a pre-tested interview schedule. The data was analyzed and used appropriate ~~statistically~~ statisticaltechniques.

1. Tabular analysis:

For comparison and interpretation of various aspects, knowledge, adoption, and constraints responsible, tabular analysis was used.

2. Percentage:

Simple comparison has been made on the basis of percentage. For obtaining percent, the frequency of a particular cell was multiplied by 100 and divided by the total number of orchardists in that particular category to which all of them belonged. The formula used to calculate the percentage is given below-

$$\text{Percentage} = \frac{\text{Frequency}}{\text{Number of respondent}} x\ 100$$

3. Mean (Average):

The mean ($\overline{X}$) was calculated by adding the total scores obtained by the respondents and divided it by the total number of respondents using the following formula:

$$(\overline{X}) = \frac{\sum X}{N}$$

Where,

($\overline{X}$) =Average or mean

∑x=Total number of scores obtained by respondents

N= Total number of ~~respondent~~respondents

4. Rank order:

The various ranks were given on the basis of the highest to the lowest frequency.

5. Standard Deviation (SD):

S.D. is the square root of the mean of the squares of all deviations, the directions being measured from the arithmetic mean of the distribution. It is commonly developed by the symbol sigma (σ).

$$\sigma = \sqrt{\frac{1}{N}\sum_{i=1}^{N}(x_i - \overline{x})^2}$$

Where,

σ = Standard deviation

d = Deviation from variables mean

n = Total number of items

Result and Discussion:

The Socio-economic status of the guava orchardists includes the personal profile of orchardists in terms of their age, education, caste, land holding size, housing pattern, social participation, annual income, marital status and occupation of the orchardists, ~~under~~ social and economic factors.

The findings related to different ~~aspect~~ aspects of ~~socio economic~~ socioeconomic characteristics were presented in Table-1.

Table-1: Distribution of the guavaorchardists according to their socio-economic characters: N = 80

socio-economic ~~characters~~ characteristics of guava growers	**Particulars**	
	F	**%~~P~~**
Age		
Young age group (below 30 years)	9	11.25
Lower medium age group (31-45 years)	28	35.00
Higher medium age group (46-60 years)	35	43.75
Old age group (above 60 years)	8	10.00
Education		
Illiterate	02	2.50
Can read only	02	2.50
Can read & write	06	7.50
Primary school	06	7.50
Junior High School	07	8.75
High school	18	22.50
Intermediate	13	16.25
Graduate	16	20.00
Post-graduate and above	10	12.50
Caste		
Upper caste (General)	19	23.75
Middle caste (OBC)	56	70.00

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Lower caste (SC/ST)	05	6.25
Marital status		
Married	73	91.25
Unmarried	7	8.75
Main Occupation		
Caste based occupation	-	-
Business	2	2.50
Cultivation (Agriculture)	73	91.25
Service	5	6.25
Type of family		
Nuclear family	32	40.00
Joint family	48	60.00
Size of family		
Small family (1-4 members)	15	18.75
Medium family (5-8 members)	39	48.75
Large family (More than 8members)	26	32.50
Social Participation		
No. member of any organization	15	18.75
Member of one organization	51	63.75
Member of more than one organization	10	12.50
Office Holder	7	8.75
Distinctive feature	6	7.5
Housing pattern		
Kachaha house	03	3.75
Mixed (Kachcha + Pucca)	14	17.50
Pucca	64	78.75
Land holding		
Marginal farmers (below 01 ha.)	2	2.50
Small farmers (01-02 ha.)	7	8.75
Medium farmers (0 2-04 ha.)	30	37.50
Large farmers (above 0 4 ha.)	41	51.25
Family resources		

Up to 6 materials	2	2.50
6-10 materials	48	60.00
Above 10	30	37.50
Transportation facility		
Bullock cart (jhota- buggy)	65	81.25
Cycle	68	85.00
Motorcycle/Scooty/Scooter	72	90.00
Tractor trolly	51	63.75
Car/Jeep/Taxi	49	61.25
Any other (Bus/truck)	15	18.75
Farm machineries		
Below 6 (assets low)	35	43.75
Between(6-12assets medium)	33	41.25
Above 12 (assets high)	12	15.00
Irrigation facilities		
Govt. electric tube well	2	2.50
Private electric tube well	55	68.75
Tube well diesel engine	5	6.25
Canal	12	15.00
Ponds	4	5.00
Any other specify	2	2.5
Source of information		
Information low (below 6 sources)	8	10.00
Information medium (between 7-12 sources)	65	81.25
Information high (Above 12 sources)	7	8.75
Annual Income		
Below RS. 50,000	4	5.00
RS. 50,000- 1,00,000	9	11.25
RS. 1,00,000- 1,50,000	11	13.75
RS. 1,50,000-2,00,000	13	16.25
Above 2,00,000	43	53.75

The table-1, reveals that the majority of guava orchardists (43.75 ~~per cent~~percent) were belonging to a medium age group ranging between 46 to 60 years of age, ~~the~~ similar findings were reported by **Mehta and Sonawane (2012)**. The maximum ~~numbers~~ numberof respondents (22.50 ~~per cent~~percent) were having educational status up to high school,~~the~~ similar findings were reported by **Tekale and Gavit (2013)**. ~~The most~~Most of the orchardists 70.00 ~~per cent~~percent were belonging to ~~other backward caste category~~another backward caste category, ~~the~~ similar findings were reported by **Singh *et al.* (2017)** and ~~the~~ most of the orchardists 91.25 ~~per cent~~percent were married in the study area. ~~The agriculture~~Agriculture was the main occupation of the orchardists 91.25 ~~per cent~~percent and (60.00 ~~per cent~~percent) of orchardists were living to joint ~~family~~ familieswhile~~,~~ 48.75 ~~per cent~~percent guava orchardists were ~~belong~~belonging to the medium family category 5-8 members including their family. The maximum ~~numbers~~ numberof respondents (63.75 ~~per cent~~percent) were ~~having member~~members of one organization. The majority of orchardists (78.75 ~~per cent~~percent) were having pucca houses and (51.25 ~~per cent~~percent) of respondents were having (above 4 hac) of land in the study area. The majority of the respondents (60.00~~per cent~~percent) were having medium level of family resources (between 6-10) and (90.00 ~~per cent~~percent) of respondents were having motor cycle/~~scooty~~scooters as transportation ~~facility~~facilities. The majority of the respondents (43.75 per cent) were having low level of farm assets (below 6) and majority of the orchardists (68.75 per cent) were having private electric tube well as a source of irrigation while, 81.25 per cent respondents were having medium level of information sources (between 7-12 Sources). The majority(53.75 ~~per cent~~percent) guava ~~orchardists~~orchardists'annual income ~~were~~was of Rs. 2,00,000similar findings were reported by **Tekale and Gavit (2013)**.

The candidate manuscript does not have a robust scientific discussion, I suggest the authors incorporate the suggested paragraphs, in this way it would improve the scientific quality of the manuscript:

Understanding the socioeconomic characteristics of guava growers in western Uttar Pradesh helps analyze the economic impact of guava cultivation in the region. It provides insights into the contribution of the guava industry to the local and regional economy, including factors such as income generation (Montenegro et al. 2021a), employment opportunities (Montenegro et al. 2021b), and market dynamics (Pitti et al. 2021).

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Examining the socioeconomic characteristics of guava growers' sheds light on the livelihoods of individuals and communities involved in guava cultivation. It helps identify the role of guava farming in rural development (Olivares and Franco, 2015; Olivares et al. 2017a), poverty alleviation (Olivares et al. 2017b), and overall socio-economic well-being (Hernandez and Olivares, 2020). This knowledge can inform policies and interventions to enhance rural livelihoods and promote sustainable development.

Socioeconomic studies enable an analysis of the market dynamics of guava production and its integration into the broader agricultural value chain (Olivares et al. 2016). By examining factors such as market structures, pricing mechanisms, supply chains, and trade patterns, researchers and policymakers can identify challenges and opportunities for guava growers to enhance their competitiveness and market access (Rodriguez et al. 2015).

Comparing socioeconomic studies across different regions allows for knowledge exchange and learning between researchers, policymakers, and stakeholders (Orlando et al. 2020; Olivares, 2014). Lessons learned from the Latin American experience in studying tropical crops can provide valuable insights and best practices that can be adapted to the context of guava cultivation in western Uttar Pradesh (Olivares et al. 2012; Cortez et al. 2016).

Comparative studies enable policymakers to understand the similarities and differences in socioeconomic factors affecting guava growers in western Uttar Pradesh and tropical crop growers in Latin America. This understanding can guide the formulation and adaptation of policies, programs, and strategies to address common challenges and leverage successful approaches from both regions (Guevara et al. 2012a, 2012b).

Comparative studies promote a global perspective by examining the socioeconomic characteristics of agricultural systems in different regions (Olivares et al. 2018). They foster collaboration and partnerships between researchers, institutions, and stakeholders across continents, facilitating the exchange of knowledge, innovations, and experiences to tackle shared socioeconomic issues in the agricultural sector (Hernandez et al. 2018c).

Equity and social justice: Understanding the socioeconomic characteristics of guava growers and tropical crop growers helps assess the equity and social justice implications of agricultural practices and policies (Olivares, 2014c). It allows for the identification of disparities, vulnerabilities, and opportunities for inclusive development, gender

empowerment, and social well-being in rural communities (Olivares, 2014b; Cortez and Olivares, 2017).

Socioeconomic studies contribute to the assessment of the sustainability of guava cultivation and tropical crop production systems (Camacho et al. 2018). They provide insights into the social dimensions of sustainable agriculture, such as farmer livelihoods (Olivares et al. 2017a), resource management (Olivares, 2018; López-Beltrán et al. 2019), social resilience(Hernandez et al. 2020), and the impacts of agricultural practices on local communities and ecosystems (Hernandez et al. 2018a; Viloria et al. 2023).

Studying the socioeconomic characteristics of guava growers and comparing them with tropical crop studies facilitates stakeholder engagement and empowerment (Hernandez et al, 2018b). By involving growers, local communities, and other relevant actors in the research process, it promotes participatory approaches, knowledge sharing, and the co-creation of solutions to address socioeconomic challenges and enhance the well-being of farming communities (Hernandez et al. 2017).

In summary, studying the socioeconomic characteristics of guava growers in western Uttar Pradesh and comparing them with tropical crop studies in Latin America brings forth crucial insights into the economic, social, and policy dimensions of guava cultivation. It contributes to sustainable rural development, knowledge exchange, and social justice while fostering collaboration and learning among stakeholders across regions.

Conclusion:

It may be concluded that most of the guava orchardists were belonging to a higher medium age group, ~~having~~ hadeducation ~~upto~~ up tohigh school, belongs to a backward caste, married, their main occupation was agriculture, living in jointly belong to medium family size, having pucca houses, most of them belongs to semi medium farmers category, most of them having membership of one organization,having medium level of sources of transportation, implements and information. Most of the guava orchardists annual income was upto 2 lacks.

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