



## Agriculture Product Farming: An Empirical Study on Perception and Satisfaction of Farmers

G.R.Rajalakshmi<sup>1</sup>, D.Priya<sup>2\*</sup>, B.Navaneetha<sup>3</sup> and G.Rajamani<sup>4</sup>

<sup>1</sup>Assistant Professor, Department of Commerce with CA, PSG College of Arts and Science, Coimbatore, Tamil Nadu, India.

<sup>2</sup>Assistant Professor, Department of B.Voc (Banking Stock and Insurance), PSG College of Arts and Science, Coimbatore, Tamil Nadu, India.

<sup>3</sup>Assistant Professor, Department of B.Com (CA), PSG College of Arts and Science, Coimbatore, Tamil Nadu, India.

<sup>4</sup>Assistant Professor, Department of B.Com (A and F), Sri Ramakrishna College of Arts and Science, Coimbatore, Tamil Nadu, India.

Received: 25 Jan 2023

Revised: 23 Apr 2023

Accepted: 31 May 2023

### \*Address for Correspondence

**D.Priya**

Assistant Professor,

Department of B.Voc (Banking Stock and Insurance),

PSG College of Arts and Science,

Coimbatore, Tamil Nadu, India.



This is an Open Access Journal / article distributed under the terms of the **Creative Commons Attribution License** (CC BY-NC-ND 3.0) which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. All rights reserved.

### ABSTRACT

Agriculture is the backbone of the Indian economy and it remains for a long time. Agricultural productivity mainly depends on various factors like availability and quality of agricultural inputs such as land, water, seeds and fertilizers, assurance of remunerative prices for agricultural produce, crop insurance and storage and marketing infrastructure etc. Indian agriculture is largely depended by agro-ecological diversities in soil, rainfall, temperature, and cropping system. A proper harvesting and proficient utilization of water is of great importance. Besides, major commodities imported to India are pulses, edible oils, fresh fruits and cashew nuts. Major agriculture produce are exported by India such as rice, spices, cotton, meat and its preparations, sugar, etc. The main objectives of the study are to know the demographic profile of the farmers and their retention of customers towards market produce, to identify the labour shortage after implementation of lockdown during COVID-19 and to examine the satisfaction level of the farmers towards the Marketing of Agricultural Produce after implementing Plans and policies during COVID Crisis. A sample of 150 farmers has been taken for the study. A purposive sampling technique has been adopted to collect the data from farmers. A tool such as Percentage analysis, Chi-square, ANOVA and T-test has been applied to analyze the data. The study reveals that Indian farmers should expand their cropping pattern from cereals to high-value crops. This will increase revenue and reduce environmental degradation simultaneously. It is concluded that marketing

57419



**Rajalakshmi et al.,**

before and after covid-19 have a significant association with retention of the customer, the marketing before covid-19 of the respondents have a significant association with labour shortage after implementation of lockdown. The respondents have been varied significantly in the satisfaction score for marketing of agricultural produce during covid crisis when they are classified based on age groups, gender, marital status, educational qualification, monthly income, problem faced on exporting and future farming.

**Keywords:** Agriculture productivity, Agro-ecological, Harvesting, Commodities and Lockdown during COVID-19

## INTRODUCTION

India is an agriculture country where two-thirds of its population is involved in agricultural production activity. Agriculture is the pillar of Indian economy, as it contributes 4 per cent of global gross domestic product (GDP) and in developing countries; it contributes more than 25 per cent of GDP as reported by World Bank. It is a primary activity, whose source of income for about 58 per cent of total India's population. It employs nearly half of the country workforce. India's food grains production is increasing every year and India is among one of the top producers of various crops such as rice, wheat, pulses, sugarcane etc. India becomes the highest producer of milk followed by fruits and vegetables. In 2013, India contributed 25 per cent to the world's pulses production, 22 per cent to rice production and 13 per cent to the wheat production. Agriculture refers to the act of growing crops and raising livestock for human consumption. It consists of two types of agriculture namely industrialized agriculture and subsistence agriculture. Industrialized agriculture is a type of agriculture where huge numbers of crops and livestock are produced for massive consumption and the products were exported to different countries. This type of agriculture increases the crop yield by implementing the large irrigation system and also by chemical fertilizers & pesticides. Another method of industrialized agriculture is monocultures, where single crop is planted on large scale in order to acquire high yield. Subsistence agriculture is based on small farming and the farmer produces enough food for own personal consumption. The main goal of subsistence agriculture is to produce sufficient food to ensure the survival of individual family. If there is any excess in food production, it may cater the needs of the local families. Instead of using chemical pesticides, subsistence farmers used only natural predators of pests to control the pest population. Polyculture is another method of subsistence agriculture, where different types of crops are planted in a single area to get the most crop yield out of a small area of land.

## STATEMENT OF THE PROBLEM

India is the second major producer of rice, wheat, cotton, sugarcane, fruits & vegetables and groundnuts. As of last decade, it also produced 25 per cent of the world's pulses until 2019. India is one among the top 15 exporters of agricultural products in the world. Agricultural export from India reached US\$ 38.54 billion (FY19) and US\$ 35.09 billion (FY20). High percentage of agriculture land, diverse agro-climatic situations encourages farming of different crops. Due to increase in population and rising urban & rural income is driving the demand. Demand for agriculture contributions such as hybrid seeds and fertilizers and associated services like warehousing and cold storages are increasing pace in India. In India, consumer spending is in growth during 2021 post the pandemic-led contraction, expanding by as much as 6.6 per cent.

## REVIEW OF LITERATURE

David Harris and Dorian Q Fuller (2014) have made a study on the topic "Agriculture: Definition and Overview". This study mainly focused on the evolutionary model involving pre-domestication cultivation and post-domestication cultivation evolution syndrome. This study reveals the various indicators like cultivation, domestication, mixed crop-livestock farming, pastoralism, horticulture, arboriculture and vegetable.



**Rajalakshmi et al.,**

Chandra Shekara, Ajit Kumar, Balasubramani et al (2016) have made a study on “Basic Agriculture”. The study focused on the important extension sources to farmers, input dealers, Cooperative Society, ATMA, Kissan Call Center, KrishiVigyan Kendra, Agricultural Universities, ICAR Institutions, Commodity Boards, National Institutes, International Institutes and Agricultural Magazines. This study concludes that the important sources of finance to farmers are banks, cooperatives and SHGs. Kissan Credit Cards provides adequate and timely financial support from the banking system to the farmers. Non loanee farmers are advised to take the benefits of agricultural insurance coverage by paying nominal premium, maintain close liaison with extension. William R. Cline (2008) has conducted a study on the topic “Global warming and agriculture”. This study focused on the effect on agriculture due to climatic changes, impact on crop yields and technological rescue. The researcher applies the ricardian model in the study. The study reveals that developing countries get affected due to the effects of global warming on agriculture and green revolution has been slow down the global warming. This study specifies the importance of coordinated international action to limit the carbon dioxide emissions.

**OBJECTIVES OF THE STUDY**

1. To know the demographic profile of the farmers and their retention of customers towards market products.
2. To identify the labour shortage after implementation of lockdown during COVID-19.
3. To examine the satisfaction level of the farmers towards the Marketing of Agricultural Products after implementing Plans and Policies during COVID Crisis.

**RESEARCH METHODOLOGY**

A sample of 150 respondents has been chosen for the study by adopting purposive sampling techniques. Structural questionnaire is used to collect the data from the farmers. Secondary data such as newspaper, magazine, journals, articles etc., have been taken for the study. Tools such as Percentage analysis, Chi-square, ANOVA and T-test have been applied to analyze the data.

**Analysis and Interpretation**

With respect to market before covid-19 of the respondents, it is clear that out of 150 respondents, 78 respondents belong to directly selling the products in market before covid-19. Among them, most (28.6 per cent) of the respondents has gained the customer. It is observed from the above table that 48 per cent of the respondents are in the age group of 40 to 60 years, 67.3 per cent of the respondents are male, 65.3 per cent of the respondents are married, 38 per cent of the respondents are graduate, 38 percent of the respondents have a monthly income of Rs.25,000 to Rs.50,000 and 42 per cent of the respondents are undertaking farm up to 5 years. 23.3 per cent of the respondents has neither gained nor lost the customer with respect to market after covid-19. The chi-square result have shown that the marketing before covid-19 of the respondents ( $\chi^2=20.655$ ,  $P > .05$ ) have a significant association with retention of the customer at 1 per cent level. Hence, the null hypothesis has been rejected with respect to marketing of the respondents before covid-19 whereas the null hypothesis has been rejected with respect to marketing of the respondents after covid-19 at 5% level of significance.

With respect to market before covid-19 of the respondents, it is clear that out of 150 respondents, 78 respondents belong to directly selling the products in market before covid-19. Among them, most (46 per cent) of the respondents has labour shortage before COVID 19. Among 64 respondents, 32 per cent of the respondents have labour shortage after COVID 19. The chi-square result have shown that the marketing before covid-19 of the respondents ( $\chi^2=20.655$ ,  $P > .05$ ) have a significant association with labour shortage after implementation of lockdown at 5 per cent level. Hence, the null hypothesis has been rejected with respect to labour shortage after implementation of lockdown before covid-19. The null hypothesis has been accepted with respect to market after covid-19.



**Rajalakshmi et al.,****ANOVA****Satisfaction vs. Socio-economic profile and study factors**

ANOVA and t-test have been used to test whether the 'Satisfaction' mean score has differed significantly among the respondents classified based on 'socio- economic profile ' and study profile with the following null hypothesis.

**H<sub>0</sub>: "The mean score of satisfaction does not have significant difference with Socio- economic Profile and study profile of the respondents".**

The null hypothesis has been tested for each of the Socio- Economic Profile factors and study factors separately and the results are presented in the following table. It is inferred from the above table that the respondents whose age belong to below 20 years (3.7353) have been highly satisfied the Marketing of Agricultural Produce after implementing Plans and policies during COVID Crisis and the respondents whose age above 60 years (2.0556) have been highly dissatisfied the marketing of agricultural produce during COVID Crisis. Female respondents are highly satisfied when compared to male respondents towards Marketing of Agricultural Produce after implementing Plans and policies during COVID Crisis. Graduates are highly satisfied when compared to others with respect to Marketing of Agricultural Produce after implementing Plans and policies during COVID Crisis. Most of the respondents (4.25) who have a monthly income of above Rs.1,00,000 have a highest satisfaction score. Most of the respondents do not face any problems on exporting agriculture produce since, it has highest mean score. Most of the respondents wish to continue their farming business.

However, with the F-ratio value / T-value, it is revealed that the respondents have been varied significantly in the satisfaction mean score for marketing of agricultural produce during covid crisis when they are classified based on age groups, gender, marital status, educational qualification, monthly income, problem faced on exporting and future farming. Therefore, the null hypothesis has been rejected at 1 per cent level and 5 per cent level with respect to Marketing of Agricultural Produce after implementing Plans and policies during COVID Crisis.

**SUGGESTIONS**

1. Marketing of agricultural produce gets affected after COVID-19. Farmers should compare the gross margins of different crops and the production techniques, helps to make decisions on using the land to maximize revenue. The retention of the customers is necessary in order to increase the sale of agriculture produce. Therefore farmers should retain their customers by fixing affordable price, discounting the agriculture produce and providing hospitality to their customers.
2. The farmers are facing the labour shortage after implementation of lockdown. Hence, the labour productivity helps to identify the crops and techniques that make best use of labour (family or wage labour). It also indicates if it is profitable to work on your own farm. In order to reduce the labour shortage, farmers should adopt various measures such as providing mask, sanitizer and adequate labour wage to work effectively.
3. The farmers in the age group of above 60 years are dissatisfied with the Marketing of agricultural produce. Therefore government should take appropriate steps to sell the agriculture produce by procuring goods directly from the senior citizens.
4. The farmers who have completed their primary education have less satisfaction score on Marketing of agricultural produce. So, the government should provide various awareness programs and skill enhancement programs to market the agriculture produce.
5. Farmer should analyze the capital productivity indicates which crops or production techniques make best use of money invested.

**CONCLUSION**

Agriculture sector is expected to grow in India in next few years due to increased investment in infrastructure facilities like irrigation facilities, warehousing and cold storage. Nowadays genetically modified crops has been





**Rajalakshmi et al.,**

increased the yield for Indian farmers. After globalization (1990), the India farmers have faced various challenges. Although being significant producer of rice, spices, cotton, rubber, tea, coffee and jute our agricultural products are unable to contest with the developed countries due to highly subsidized agriculture in those countries. In order to make the agriculture successful and profitable, it is necessary to improve the condition of marginal and small farmers. The study has been concluded that the marketing before and after covid-19 have a significant association with retention of the customer, the marketing before covid-19 of the respondents have a significant association with labour shortage after implementation of lockdown. The respondents have been varied significantly in the satisfaction score for marketing of agricultural produce during covid crisis when they are classified based on age groups, gender, marital status, educational qualification, monthly income, problem faced on exporting and future farming. Therefore, the null hypothesis has been rejected at 1 per cent level and 5 per cent level with respect to Marketing of Agricultural Produce after implementing Plans and policies during covid crisis.

## REFERENCES

1. David R. Harris and Dorian Q Fuller , "Agriculture: Definition and Overview", 2014, Encyclopedia of Global Archaeology (Claire Smith, Ed.), New York, pp 104-113, <https://www.researchgate.net/publication/301345493>.
2. Chandra Shekara, Ajit Kumar, Balasubramani et al, "Farmer's Handbook on Basic Agriculture", 2016, pp 1-154, <https://www.manage.gov.in/publications/farmerbook.pdf>.
3. William R. Cline, Finance & Development, March 2008, pp 1-5, <https://www.imf.org/external/pubs/ft/fandd/2008/03/pdf/cline.pdf>
4. <https://study.com/academy/lesson/types-of-agriculture-industrialized-and-subsistence-agriculture.html>
5. <file:///C:/Users/user/Downloads/HarrisFullerms.pdf>
6. [http://cbseacademic.nic.in/web\\_material/Curriculum/Vocational/2018/Basic%20Agriculture%20X%20\(408\).pdf](http://cbseacademic.nic.in/web_material/Curriculum/Vocational/2018/Basic%20Agriculture%20X%20(408).pdf)
7. [https://prsindia.org/files/policy/policy\\_analytical\\_reports/State%20of%20Agriculture%20in%20India.pdf](https://prsindia.org/files/policy/policy_analytical_reports/State%20of%20Agriculture%20in%20India.pdf)
8. <https://www.worldbank.org/en/topic/agriculture/overview#1>
9. <https://www.ibef.org/industry/agriculture-india.aspx>
10. <https://ncert.nic.in/ncerts/l/jess104.pdf>

**Table-1 Demographic Factors**

Demographic Factors	Categories	Frequency	Per cent
<b>Age</b>	Below 20	17	11.3
	20 – 40	52	34.7
	<b>40 -60</b>	<b>72</b>	<b>48.0</b>
	Above 60	9	6.0
<b>Gender</b>	<b>Male</b>	<b>101</b>	<b>67.3</b>
	Female	49	32.7
<b>Marital Status</b>	<b>Married</b>	<b>98</b>	<b>65.3</b>
	Unmarried	46	30.7
	Widowed	6	4.0
<b>Educational Qualification</b>	No formal education	17	11.3
	Primary education	15	10.0
	Secondary education	40	26.7
	<b>Graduate</b>	<b>57</b>	<b>38.0</b>
	Post graduate	12	8.0
	Others	9	6.0





**Rajalakshmi et al.,**

<b>Monthly Income of the family</b>	Below 25000	47	31.3
	<b>25000 – 50000</b>	<b>57</b>	<b>38.0</b>
	50000 – 75000	27	18.0
	75000 – 100000	14	9.3
	Above 100000	5	3.3
<b>Years of farming</b>	<b>Under 5 years</b>	<b>63</b>	<b>42</b>
	5 to 15 years	46	30.7
	More than 15 years	41	27.3

**Table-2 Chi square–Retention of the customer before and after COVID 19**

	<b>Groups</b>	<b>Retention before and after COVID 19</b>						<b>Total</b>		<b>Sig</b>
		Customer Lost		Neither gained nor lost		Customer Gained		<b>No.</b>	<b>%</b>	
		<b>No.</b>	<b>%</b>	<b>No.</b>	<b>%</b>	<b>No.</b>	<b>%</b>			
Market before COVID 19	Direct	<b>10</b>	<b>6.7</b>	<b>25</b>	<b>16.7</b>	<b>43</b>	<b>28.6</b>	<b>78</b>	<b>100</b>	<b>**</b>
	Through middle men	11	7.3	37	24.7	8	5.3	56	100	
	Through agencies	7	4.7	5	3.3	4	2.7	16	100	
Market after COVID 19	Direct	18	12.0	26	17.3	10	6.7	54	100	<b>*</b>
	Through middle men	<b>21</b>	<b>14</b>	<b>35</b>	<b>23.3</b>	<b>8</b>	<b>5.3</b>	<b>64</b>	<b>100</b>	
	Through agencies	22	14.7	6	4.0	4	2.7	32	100	

(Source: Computed Ns- Not Significant \*\*- Significant at 1% level \*- Significant at 5% level)

**Table-3 Chi square - Labour Shortage after Implementation of Lockdown**

	<b>Groups</b>	<b>Labour shortage after Implementation of Lockdown</b>				<b>Total</b>		<b>Sig</b>
		Yes		No		<b>No.</b>	<b>%</b>	
		<b>No.</b>	<b>%</b>	<b>No.</b>	<b>%</b>			
Market before COVID 19	Direct	<b>69</b>	<b>46.0</b>	<b>9</b>	<b>6</b>	<b>78</b>	<b>100</b>	<b>*</b>
	Through middle men	40	26.7	16	10.7	56	100	
	Through agencies	10	6.7	6	4.0	16	100	
Market after COVID 19	Direct	44	29.3	10	6.7	54	100	<b>NS</b>
	Through middle men	<b>48</b>	<b>32</b>	<b>16</b>	<b>10.7</b>	<b>64</b>	<b>100</b>	
	Through agencies	27	18	5	3.3	32	100	

(Source: Computed Ns- Not Significant \*\*- Significant at 1% level \*- Significant at 5% level)

**Table-4 Satisfaction Vs. Socio-economic profile factors and study factors**

<b>Marketing strategies</b>	<b>Groups</b>	<b>N</b>	<b>Mean</b>	<b>S.D</b>	<b>F-value/ T-value</b>	<b>Sig.</b>
Age	<b>Below 20</b>	<b>17</b>	<b>3.7353</b>	<b>.93320</b>	10.056	<b>**</b>
	20 – 40	52	3.5240	.93444		
	40 -60	72	2.9792	.94361		
	Above 60	9	2.0556	.54167		





## Rajalakshmi et al.,

Marketing strategies	Groups	N	Mean	S.D	F-value/ T-value	Sig.
Gender	Male	101	3.0668	1.01544	-2.342	*
	<b>Female</b>	<b>49</b>	<b>3.4694</b>	<b>.92651</b>		
Marital Status	Married	98	3.0230	.96062	10.737	**
	<b>Unmarried</b>	<b>46</b>	<b>3.6902</b>	<b>.92524</b>		
	Widowed	6	2.2917	.71443		
Educational Qualification	No formal education	17	3.1471	1.00023	7.180	**
	Primary education	15	2.5667	.94239		
	Secondary education	40	2.6875	.89470		
	<b>Graduate</b>	<b>57</b>	<b>3.5746</b>	<b>.96010</b>		
	Post graduate	12	3.4375	.65821		
	Others	9	3.9167	.68465		
Monthly income of the family	Below 25000	47	3.2819	.94928	4.187	*
	25000 – 50000	57	2.9386	1.01141		
	50000 – 75000	27	3.0833	.90671		
	75000 – 100000	14	3.8214	1.00684		
	<b>Above 100000</b>	<b>5</b>	<b>4.2500</b>	<b>.46771</b>		
Faced problems on exporting agricultural produce	Strongly agree	43	3.2907	1.09236	7.308	**
	Agree somewhat	63	2.7619	.91077		
	Neither agree nor disagree	24	3.6979	.65100		
	<b>Disagree</b>	<b>12</b>	<b>3.8333</b>	<b>.77850</b>		
	Strongly disagree	8	3.6875	.97055		
Future of farming in upcoming years	<b>Continue farming business as usual</b>	<b>52</b>	<b>3.5240</b>	<b>.92257</b>	8.016	**
	Continue and expand farming business	44	3.4148	.87095		
	Will allow family	21	2.9524	1.06835		
	Will rent it	17	2.9118	1.04561		
	Will discontinue from farming	16	2.1719	.64368		

(Source: computed)(Ns – Not significant, \*\* - significant at 1 per cent level, \* - significant at 5 per cent level)

