CONSUMERS' PERSPECTION OF SUPPLY CHAIN MANAGEMENT IN AGRICULTURE

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Abstract
India ranks second worldwide in farming. India is an agrarian country with around 70% of its people depending directly or indirectly upon agriculture. Agriculture had 15.4% share in economy of India in year 2017. Around 41.49% of total labor are associated with agriculture in year 2020. As per 2018, agriculture employed more than 50% of the Indian work force and contributed 17–18% to country's GDP. However, The National Crime Records Bureau of India reported that a total of 296,438 Indian farmers had committed suicide since 1995. Out of these, 60,750 farmer suicides were in the state of Maharashtra since 1995 and the remaining in Odisha, Telangana, Andhra Pradesh, Gujarat, Madhya Pradesh, and Chhattisgarh, all states with loose financial and entry regulations. Therefore, it is necessary to analyze the opinion of consumer on farmer to consumer supply chain to improve the life cycle of the farmers.

Key Words: Supply chain management, perception, consumer, agriculture

Introduction

Farmers to consumer direct supply chain is a supply chain which is very useful for both farmers and consumers. This supply chain benefit for farmers by cutting down middleman supply their farming products directly to the end consumer without any hindrance of middleman suppliers. This supply chain benefit for consumer by getting healthy farming food products in low price with good quality and quantity.

Problem statement:

The problem is significant because of farmers who were committed suicide due to their financial crisis. Even though India is rank second worldwide in farming, farmer's suicide rates were increasing in a year. Therefore, it is necessary to analyse the opinion of consumer on farmer to consumer supply chain to improve the life cycle of the farmers.

Objectives of study:

- To study the opinion analysis of consumer on farmers to consumer supply chain.
- To identify the products which the consumers like to buy directly from the consumers.
- To study how farmers to consumer supply chain helps to supply Agri-based products.

Review of literature

Mary Ahearn and James Sterns (2013) in their paper **"direct-to-consumer sales of farm products: producers and supply chains in the southeast"** has mentioned about Given the geography and agro climatic conditions of the Southeast, coupled with continued population expansion from in-migration, local foods markets may be a promising niche market for some farms in the region. This study considered what factors affect the probability of being successful, based on short and long-run measures of farm profitability, for those south-eastern farms that use direct-to consumer marketing.

Agricultural sector (2014) in their paper **"Agricultural supply chain management: a scenario in India"** has mentioned about India with its predominant rural base is considered as one of the world's oldest and largest agrarian country. Every aspect of the economy, polity, and majority of its population are governed by the performance of the agricultural sector. Agriculture continuous to be the key sector of the Indian Economy, and contributes about 14.5 % of the GDP. It is known through surveys that almost two thirds of the population in India relate to agriculture for their source of income

Saurav Negi, Neeraj Anand (2015) in their paper **"issues and challenges in the supply chain of fruits and vegetables sector in India: a review"** has mentioned about The Fruits and Vegetables (F&V) sector has been a driving force in stimulating a healthy growth trend in Indian agriculture. Authors has discussed the various models of supply chain running in fruits and vegetables sector in India and the challenges faced in the supply chain of the above said sector.

N. Arunfred, D. Kinslin (2015) in their paper **"food supply chain player: with direct and traditional channels"** has mentioned about the trend towards more ethical or morally acceptable consumption, consumers are increasingly demanding foods that are healthy, spray-free, organic, bio-dynamic, non-genetically modified organisms (GMO), have low food miles, are ethically produced, and/or fair-trade. These constructs all require the consumer to be aware of the conditions under which food has been produced, who produced it and the trustworthiness of that producer. These all suggest the importance of building strong distribution channel in an area. In direct marketing the price fixation is done by the government officials and there is a significant difference between direct and traditional channel with respect to price fixation. Traditional channel with lot of intermediaries fixes the price based on season and availability leaving behind the farmer's demand.

Ahmed Elghannam, Francisco J. Mesias, Miguel Escribano, et al. (2020) in their paper **"food supply chain based on social media: a focus group study in Spain"** has mentioned about in recent years, this sector has undergone several changes, one of the most important of which is related to the concentration of some of the players in the supply chain. The aim of this paper is to analyse consumer knowledge and acceptance of short food supply chains, but focusing on the use of social media and online word of mouth, as new tools to foster the development of SFSCs.

Research design:

Descriptive research is a study designed to depict the participants in an accurate way. More simply put, descriptive research is all about describing people who take part in the study.

Sampling design:

Consumers were taken as the population for the research. The data is collected from the consumers around the Chennai city. The sample size was 113, which was collected directly with the help of Google form.

Data collection design:

- Primary Data collection method comprised survey method while primary data collection instrument was structured questionnaire data.
- Secondary Data collection method comprised of Websites and online journals, Published reports & Review of literature from published articles

Statistical tool:

The main tools used for statistical analysis is hypothesis testing analytical tools such as One sample T-test and independent sample T-test.

Research framework:

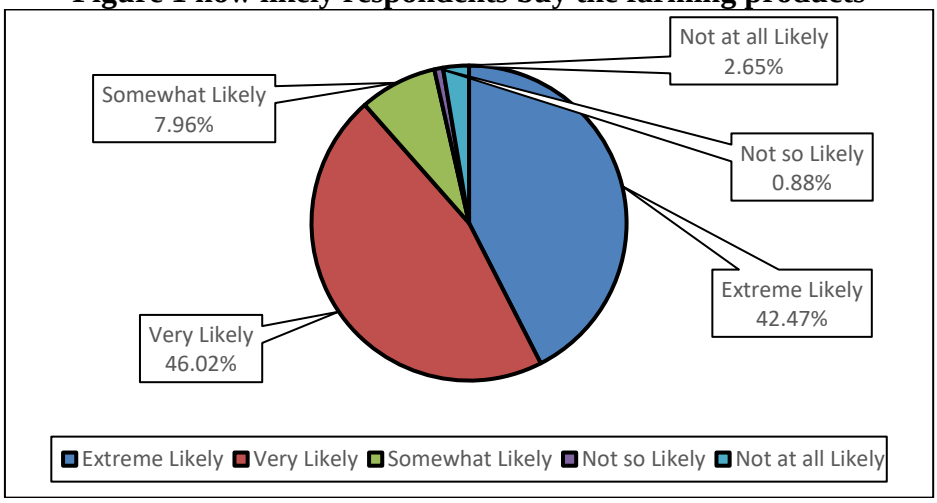
Questionnaire was divided into two sections. First part was designed to know the general information about the respondents and the second part contained the respondent's opinions about farmers to consumer direct supply chain.

Data analysis:

Table 1 how likely respondents buy the farming products

Particulars	No of Respondents	Percentage
Extreme Likely	48	42.47%
Very Likely	52	46.02%
Somewhat Likely	9	7.96%
Not so Likely	1	0.88%
Not at all Likely	3	2.65%

Figure 1 how likely respondents buy the farming products

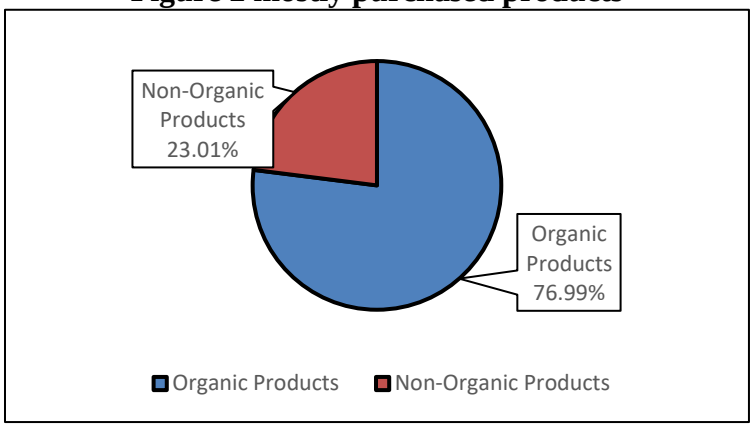


It is inferred that Majority (46.02%) of the respondents Very likely to buy farming products.

Table 2: Mostly purchased products

What kind of food products you mostly buy in stores	No of Respondents	Percentage
Organic Products	87	76.99%
Non-Organic Products	26	23.01%

Figure 2 mostly purchased products



It is inferred that majority (76.99%) of the respondents mostly purchased organic food products in stores.

Table 3 Respondent's rating on attributes of the farming products

Rate the attributes of the farming products	High	%	Medium	%	Low	%
Taste	85	75.22%	26	23.01%	2	1.77%
Price	17	15.04%	76	67.25%	20	17.69%
Nutrition	98	86.73%	12	10.62%	3	2.65%
Freshness	96	84.95%	14	12.38%	3	2.65%
Chemical free	65	57.52%	23	20.35%	25	22.12%

Figure 3 Respondent's rating on attributes of the farming products

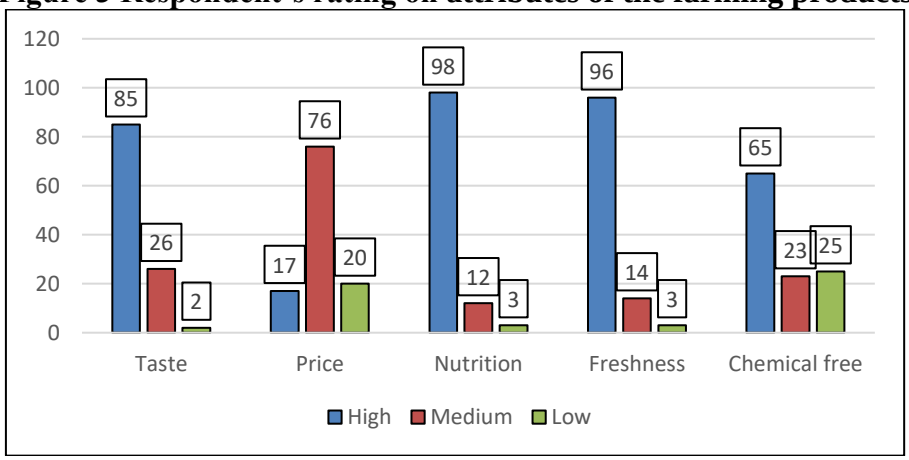


Table 4: Money spent by respondents on buying food products

Normally how much money will you spent in buying food products	No of Respondents	Percentage
Less than Rs.5000 per month	52	46.02%
Rs.6000-7000 per month	43	38.05%
Rs.7000-10000 per month	9	7.96%
More than Rs.10000 per month	9	7.96%

Figure 4 Money spent by respondents on buying food products

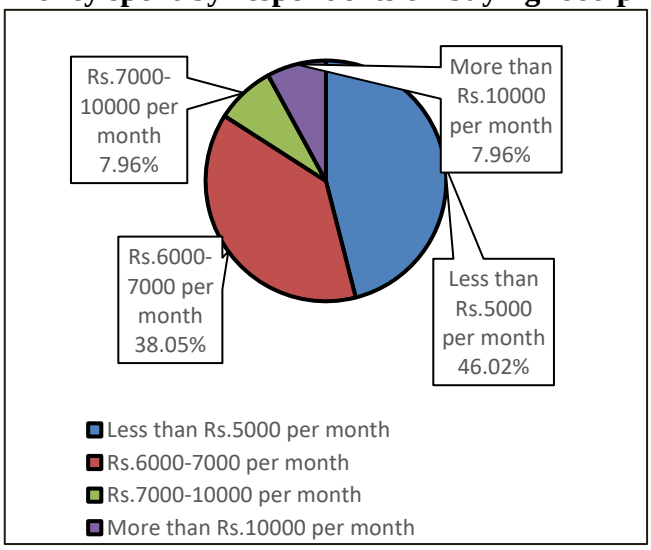


Table 5: Respondent's opinion on farming products statements

Do you agree with the following statements	SD	%	D	%	N	%	A	%	SA	%
Farming Products are good for Health	12	10.62%	3	2.65%	7	6.19%	50	44.25%	41	36.28%
Farming Products are Cheaper in	11	9.73%	8	7.07%	32	28.32%	44	38.94%	18	15.93%

Cost										
Buying farming products will improve the lifestyle of the farmers	10	8.85%	2	1.77%	9	7.96%	52	46.02%	40	35.39%

Figure 5 Respondent's opinion on farming products statements

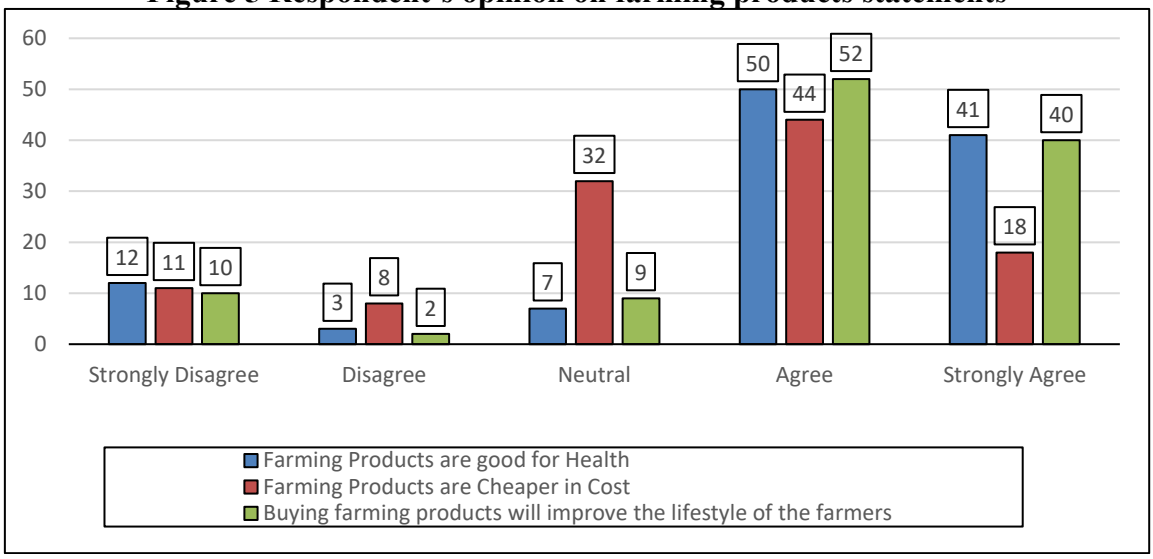


Table 6 Respondent's purchase behaviour on food products

Indicate how often you have purchased the following items	Never Purchased	%	Occasionally Purchased	%	Regularly Purchased	%
Vegetables	3	2.65%	17	15.04%	93	82.30%
Fruits	3	2.65%	36	31.86%	74	65.48%
Honey	21	18.58%	74	65.48%	18	15.93%
Meat	34	30.08%	44	38.94%	35	30.97%
Eggs	27	23.89%	24	21.24%	62	54.86%
Rice	4	3.54%	22	19.46%	87	76.99%
Wheat	7	6.19%	41	36.28%	65	57.52%
Milk	4	3.54%	11	9.73%	98	86.73%

Figure 6 Respondent's purchase behaviour on food products

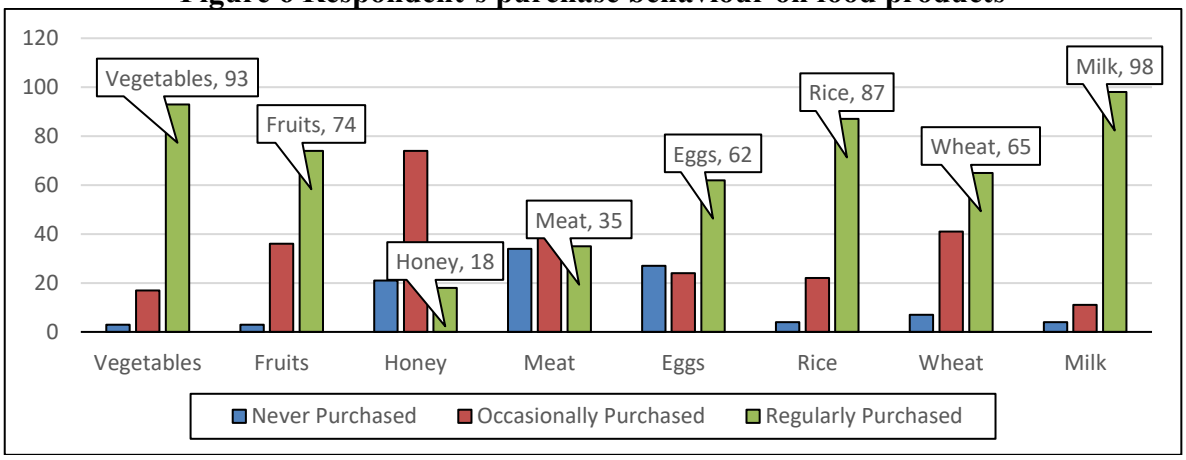


Table 7 respondent's rating on how often they have purchased food products vs test value (2)

One-Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
Vegetables	113	2.80	.466	.044
Fruits	113	2.63	.538	.051
Honey	113	1.97	.589	.055
Meat	113	2.01	.785	.074
Eggs	113	2.31	.835	.079
Rice	113	2.73	.518	.049
Wheat	113	2.51	.614	.058
Milk	113	2.83	.461	.043

One-Sample Test						
	Test Value = 2					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Vegetables	18.170	112	.000	.796	.71	.88
Fruits	12.420	112	.000	.628	.53	.73
Honey	-.479	112	.633	-.027	-.14	.08
Meat	.120	112	.905	.009	-.14	.16
Eggs	3.941	112	.000	.310	.15	.47
Rice	15.078	112	.000	.735	.64	.83
Wheat	8.886	112	.000	.513	.40	.63
Milk	19.181	112	.000	.832	.75	.92

Table 8 respondents purchase behaviour on food products vs gender of the respondents

Group Statistics					
	Gender	N	Mean	Std. Deviation	Std. Error Mean
Respondent's purchase behavior on food products	Male	73	19.90	2.668	.312
	Female	40	19.60	2.818	.445

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Respondent's purchase behaviour	Equal variances assumed	.367	.546	.568	111	.571	.304	.535	-.757	1.365

on food products	Equal variances not assumed			.559	76.696	.578	.304	.544	-.779	1.387

Limitation:

It is a sample study of 113 samples only. The study is targeted to Chennai district only. The data collected for the research is fully on primary data given by the respondents. There is chance for personal bias. So, the accuracy is not true. It is an objective study.

Summary of findings:

- Majority (46.02%) of the respondents Very likely to buy farming products.
- Majority (76.99%) of the respondents mostly purchased organic food products in stores.
- Majority (75.22%) of the respondents rated high for the taste of the farming products.
- Majority (67.25%) of the respondents rated high for the medium of the farming products.
- Majority (86.73%) of the respondents rated high for the nutrition of the farming products.
- Majority (84.95%) of the respondents rated high for the freshness of the farming products.
- Majority (57.52%) of the respondents rated high for the chemical free of the farming products.
- Majority (46.02%) of the respondents spent less than Rs.5000 per month for purchasing food products.
- Majority (44.25%) of the respondents are AGREE with the statement Farming Products are good for Health.
- Majority (38.94%) of the respondents are AGREE with the statement Farming Products are Cheaper in Cost.
- Majority (46.02%) of the respondents are AGREE with the statement Buying farming products will improve the lifestyle of the farmers.
- Majority (82.30%) of the respondents regularly purchased vegetables.
- Majority (65.48%) of the respondents regularly purchased fruits.
- Majority (65.48%) of the respondents occasionally purchased honey.
- Majority (38.94%) of the respondents occasionally purchased meat.
- Majority (54.86%) of the respondents regularly purchased eggs.
- Majority (76.99%) of the respondents regularly purchased rice.
- Majority (57.52%) of the respondents regularly purchased wheat.
- Majority (86.73%) of the respondents regularly purchased milk.
- The respondents mostly rate regularly purchased for the farming products, Vegetables, Fruits, Eggs, Rice, Wheat, and Milk. The respondents mostly rate occasionally purchased for the farming products, Honey, Meat.
- Both male and female have similar behaviour on purchasing food products.

Recommendation:

- Farmer can survive in today's competitive market when farmers sell their product in low price with good quality and quantity
- Local farmers should form an association among themselves to take of different activities like production, packing, transportation, and marketing. So, that they won't depend on middleman. Also, farmers should learn how to produce more with minimal water and land resources.
- Farmers should sell their products with the help of online services so that they can survive in this competitive market.
- Farmers should maintain their product with good quality and supply organic products

Conclusion:

Farmers to consumer supply chain is the biggest and famous direct supply in all over the world. This research paper shows that consumers love to buy farming products from farmers. They are ready to

purchase a variety of products in support of farmers. Now, it is Government's help that the farmers need. If the Government takes necessary steps to make this supply chain happen, the farmers will be benefited a lot. The farmer's livelihood will improve in the country. The consumers can also receive natural, healthy farming products from the consumers.

Reference:

- N. Arunfred, D. Kinslin (2015) "food supply chain player: with direct and traditional channels"
- Mary Ahearn and James Sterns (2013) "direct-to-consumer sales of farm products: producers and supply chains in the southeast"
- Saurav Negi, Neeraj Anand (2015) "issues and challenges in the supply chain of fruits and vegetables sector in India: a review"
- Agricultural sector (2014) "Agricultural supply chain management: a scenario in India"
- Ahmed Elghannam, Francisco J. Mesias, Miguel Escribano, et al. "food supply chain based on social media: a focus group study in Spain"
- M. Subburaj, T. Ramesh Babu, B. Suresh Subramonian (2015) "A study of strengthening the operational efficiency of diary supply chain in Tamil Nadu, India"
- Lauren Greco, Jane Kolodinsky, Marilyn Sitaker, et al. (2020) "farm fresh food boxes: relationships in value chain partnerships"