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ISSUES AND CHALLENGES IN SUPPLY CHAIN OF ORGANIC FOOD PRODUCT SECTOR IN KARNATAKA

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Abstract: **The entire supply chain of organic food products in Karnataka is burdened with various issues and challenges. To list the possible challenges and suggest a way forward, there is a need to study the supply chain of organic food products sector in Karnataka. The purpose of the paper is to identify and discuss the supply chain of organic food products in Karnataka and recognize the issues which are the causes for slow and inefficient supply of organic food products. The attempt is made to suggest alleviation strategies to overcome the recognized issues and challenges.**

1. INTRODUCTION

India is majorly considered as agricultural economy and one of largest producer of food but along with the development in technology the ill-effects of chemicals used in agriculture has made the consumers realize the contamination in their food consumption. The use of synthetic inputs, such as synthetic fertilizers and pesticides, veterinary drugs, genetically modified seeds and breeds, preservatives, additives and irradiation are some of the technology interventions in Food cultivation that has caused the impurity. Organic farming was pioneered in the early twentieth century by a small group of farmers who were concerned about evil effects of mechanism on the biological health of the soil.

The Demand for organic food is growing at a faster rate, According to Assocham-Ey study organic packaged food market will cross Rupees 87.1 crore by 2021[1].

India is moving towards organic movement, the organic food industry is at the forefront of organic movement promoting organic food consumption. Taking into consideration few segments like organic tea, basmati rice and cotton, India has been leading in internationally.

Food standards and Safety Authority of India, in December 2107, have taken initiatives to regulate organic products and has introduced several incentives schemes to organic farmers. To facilitate Organic Farming, Eleven states Governments (Kerala, Karnataka, Andhra Pradesh, Sikkim, Mizoram, Nagaland, Himachal Prades, Madhya Pradesh, Gujarat, Rajasthan and Odisha) have come out with initiatives to promote Organic farming, Sikkim has been declared has first organic state.

Since 2001 the Government has been promoting organic farming through third party certification under the National Programme for organic production (NPOP). Along with certification the government had rolled out different schemes like (NPOF) National Project on Organic farming, (NMSA) National Mission on Sustainable Agriculture,(PKVY) Paramparagat Krishi Vikash Yojana, (RKVY) Rashtriya Krishi Yojana, (MIDH) Mission for Integrated Development of Horticulture, (NMOOP) Natioanal Mission on Oilseeds and Oil Palm etc.to promote and regulate Organic Food Products[2]. With all the Initiatives and support the cost of cultivation is expected to cut down and the productivity will improve significantly. As a result the cost of purchasing organic food products should reduce for mass consumption which will create a further Demand.

As the popularity of organic food continues to grow, the challenges to main effective food supply chains to grow.

Supply chain management of organic food products become complicated as the supply chains are faced with the pressure to increase and maintain output to keep up with consumer demand for organic food products. Organic farmers are facing problems in finding the right buyers, resulting in high transaction costs, and thus the organic farmers, organic marketers are faced with numerous operational challenges to cater to the need of ever expanding organic market requirements.

2. OBJECTIVES OF THE STUDY

The supply chain of organic food products is burdened with major issues of ineffective distribution channels and due other factors. Since the recognition of the issues and challenges may give a blueprint for planning and implementation of effective strategies to improve supply chain system of organic food products, the following objectives are considered for the purpose of the study:

1. To identify the factors affecting supply chain of organic food products in Karnataka.
2. To suggest improvement strategies for the recognized challenges in supply chain of organic food products industry in Karnataka.

3. METHODOLOGY

A quantitative and qualitative analysis approach has been used for his study. The supply chain of organic food products has been explained and attempt has been made to identify the issuing factors of organic food supply chain by collecting primary data through questionnaires directing to Distributing channels and a interview schedule directed to Organic farmers.

A qualitative analysis through review of literature, journals and conference proceedings is also used to describe the factors affecting the supply chain of organic food products.

For the purpose of collection of data, the sample for distribution channels is drawn from the urban zones of Karnataka. Organic farmers are been selected in and around Karnataka to interview.

4. DISCUSSION AND ANALYSIS

In the section of discussion the various models of supply chain in organic food products in Karnataka is discussed.

Supply chain Management may be defined as a set of approaches utilized to efficiently integrate suppliers, producers, warehouses and stores, so that merchandise is produced and distributed at the right quantities, to the right location and at the right time, in order to minimize system –wide costs while satisfying service level requirements (Simchi-Levi et al., 2008).

Problems faced by Organic Food product Retailers

Table 1: showing Marketing problems faced by the Retailers

Problems of Marketing:

Problems of Marketing	Frequency	Percent
Brand name	**51**	21.3
Transportation	46	19.2
Advertising	41	17.1
Lack of knowledge	43	17.9
Packaging	31	12.9
Others	28	11.7
Total	240	100.0

Source: Primary source

It is observed from the above table the marketing problems faced by the retailers of the organic food products. The frequency of brand name and transportation is 51 and 46 with a valid percentage 21.3 and 19.2. In comparison of lack of

knowledge and advertising having a frequency counts of 43 and 41and a valid percentile of 17.9 and 17.1. However, in the last two categories we have packaging and others with a valid percentile of 12.9 and 11.7 comprising of 31 and 28 responses respectively.

Table 2: showing Retail outlets facing the Insufficient Supply of Organic food Products

Insufficient Supply	Frequency	Percent
Lack of transportation	43	17.9
Natural calamities	59	24.6
Political unrest	77	32.1
Crops affected by diseases	45	18.8
Not harvested in due time	16	6.7
Total	240	100.0

Source: Primary source

It is observed from the above table a claims about insufficient supply of organic food products. The retailers commonly use the channel political unrest and natural calamities having a frequency 77 and 59 with a valid percentage 32.1 and 24.6. In comparison the retailers also claim for the insufficient supply crops affected by diseases having a frequency count of 45 and a valid percentile of 18.8. However, in the last two categories is lack of transportation and snot harvested in due time it has a valid percentile of 17.9 and 6.7 comprising of 43 and 16 responses respectively.

Table 3: showing Supply chain adopted by the retail outlets

Most relevant supply channels	Frequency	Percent
Direct sale	51	21.3
Wholesalers	47	19.6
Retailers	41	17.1
Specialized shops	37	15.4
Super markets	31	12.9
Open in air	28	11.7
General food stores	5	2.1
Total	240	100.0

Source: Primary source

From the above table it observes the various supply chain chosen by the retailers for organic food products. The most common supply chain used is direct sale and whole sellers having a frequency is 51 and 47 having a percentage of 21.3 and 19.6. The next type of supply chain chosen by the retailers is retailers and specialized shops having a frequency is 41 and 37 having a percentage of 17.1 and 15.4. However the retailers also opt for super markets and open in air having a frequency are 31 and 28 having a percentage of 12.9 and 11.7. Additionally few of the retailers also feel that they can choose general food stores as a medium of supply chain having a frequency is 5 and having a percentage of 2.1.

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Table 4: showing Logistics and supply chain management undertaken by the retailer's outlets

Supply Chain	Frequency	Percent
Ask producers	62	25.8
Check by self	70	29.2
Educated by officials	76	31.7
No understanding	30	12.5
Other	2	.8
Total	240	100.0

Source: Primary source

It is observed from the above table how the right organic food product reaches the shops through supply. The frequency of educated by management and check by self is 76 and 79 with a valid percentage 31.7 and 29.2. In comparison of ask the producers has a frequency count of 62 and a valid percentile of 25.8.However, in the last two category of no understanding and other it has a valid percentile of 12.5 and 0.8 comprising of 30 and 2 responses respectively .

Table 5: showing Retailer's outlets understanding of the supply chain routes

Understanding Supply Chain Routes	Frequency	Percent
Supply routes	33	13.8
Almost all supply routes	77	32.1
Immediate suppliers	105	43.8
No answer	25	10.4
Total	240	100.0

Source: Primary source

It is observed from the above table that the understanding of the supply chain made by the retailers. The frequency of immediate suppliers and almost all supply routes is 105 and 77 with a valid percentage 43.8 and 32.1. In comparison to all the supply routes have a frequency count of 33 and a valid percentile of 13.8 However, in the last category it has a valid percentile of 10.4 comprising of 25 responses that belong to no answer category.

Table 6: showing Supply chain adopted by the retail outlets

Most relevant supply channels	Frequency	Percent
Direct sale	51	21.3
Wholesalers	47	19.6
Retailers	41	17.1
Specialized shops	37	15.4
Super markets	31	12.9
Open in air	28	11.7
General food stores	5	2.1
Total	240	100.0

Source: Primary source

From the above table it observes the various supply chain chosen by the retailers for organic food products. The most common supply chain used is direct sale and whole sellers having a frequency is 51 and 47 having a percentage of 21.3 and 19.6. The next type of supply chain chosen by the retailers is retailers and specialized shops having a frequency is 41 and 37 having a percentage of 17.1 and 15.4. However the retailers also opt for super markets and open in air having a frequency are 31 and 28 having a percentage of 12.9 and 11.7. Additionally few of the retailers also feel that they can choose general food stores as a medium of supply chain having a frequency is 5 and having a percentage of 2.1.

Supply chain of organic food product Farmers

Table 7: Mode of transportation adopted by the farmers of the urban Karnataka

Transportation	FREQUENCY	PERCENT
Own	38	31.7
Buyers	30	25.0
Consumers	27	22.5
Others	25	20.8
Total	120	100.0

In the above table it is found that the various responsibility undertaken by the farmers in arranging the transportation of the organic products. The farmers majorly use own and buyers as a source of transportation having a frequency of 38 and 30 with a percentage of 31.7 and 25.0. The next tool for transportation used by the farmers is consumers and others having a frequency of 27 and 25 with a percentile of 22.5 and 20.8 respectively.

Table 8: Steps to protect the integrity of organic food products during transportation followed by the farmers of the urban Karnataka

Steps to protect the integrity	FREQUENCY	PERCENT
Dedicated organic only	21	17.5
Inspecting transport	**48**	40.0
Cleaning transport	1	.8
Clean truck affidavits	16	13.3
State with transport company with organic requirements	20	16.7
Others	14	11.7
Total	120	100.0

In the above table it is mentioned the steps to protect the integrity of organic food products during transportation. The major step taken in the production of organic product produced by the farmer is inspecting transport and dedicated organic only having a frequency of 48 and 21 with a percentage of 40.0 and 17.5 respectively. The farmers also follow the step of stating with Transport Company with organic requirements and clean truck having a frequency of 20 and 16 with a valid percentage of 16.7 and 13.3.In the last two steps others and cleaning transport having a frequency of 14 and 1 with a valid percentile of 11.7, 0.8 respectively.

5. SUGGESTIONS

1) Development of cold chain infrastructure at the identified Retailers networking areas will help the famers and retailers to extend the shelf life of organic food produce and to effectively supply their produce and get sufficient remuneration. The private organizations and co-operative societies in collaboration with the Government can establish and effectively operate cold chain infrastructure.

2) Farmers are dependent on the traders and intermediaries, the supply chain of organic produce are more fragmented in nature. To overcome this situation, the farmers should have organized village level aggregators run and functioned by the state government agencies along with the efficient private players to manage internally.

3) Farmers empowerment is the need of the hour, technical up gradation and workshops must be conducted to reach out to the farmers in educated them and creating awareness about the latest technologies and marketing integration available to them.

4) Transportation is another drawback in effectively supplying the organic food product especially when it comes to the perishable food products which has to reach the market in time without any quality deterioration. Thus Government owned specialized transport vehicles with all the needed facilities should be implemented to effectively connect the markets.

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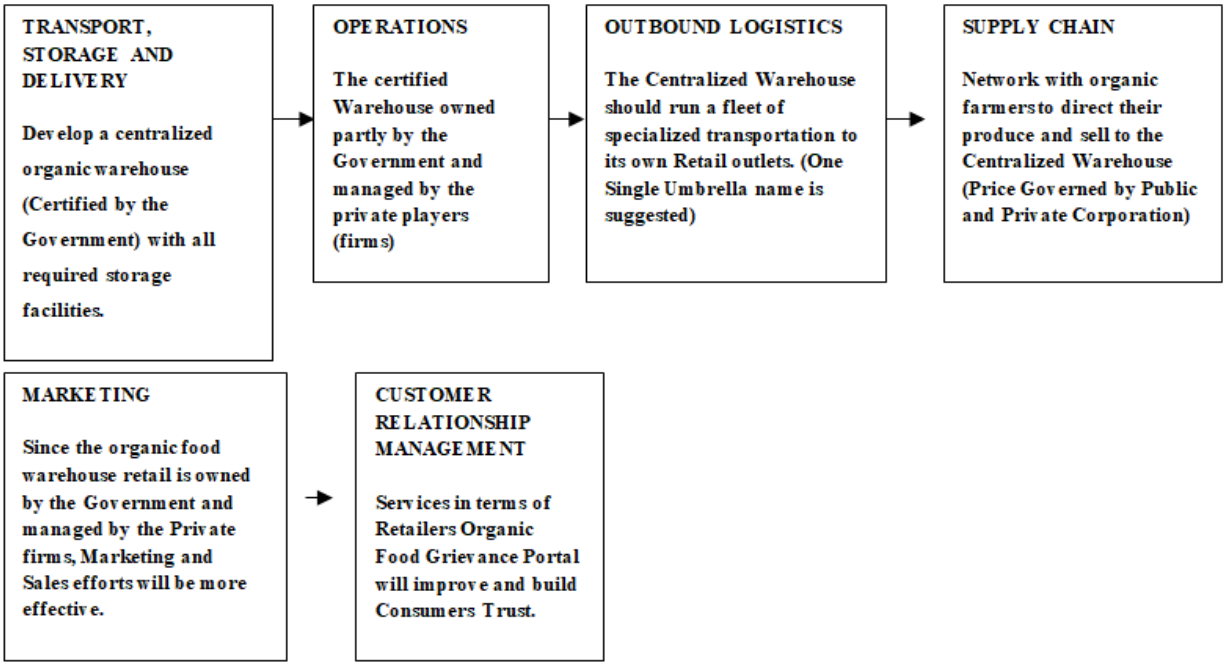
5) Timely information about market demand and trends will enrich the farmers to effectively operate in the market. A state wise integrated E-channel opera ted by the government where farmers can directly link to the leading private players in market to get their best deal would fasten and lead to empowering the farmers.

Developing Organic Food product Retailers Logistics in Collaboration with the State Government Organic Food Retailers



Organic Retail firms Infrastructure should be the combined efforts of Best Private players to develop a recognizable warehouse which will cater to the Quality/Authenticity of Organic Food.

- The logistics expertise should be appointed (Quality inspectors etc). An Equal Representation from the Government and Private firms should form the committee.

- The Organic warehouse should be established in such a way that farmers produce network should bring in benefits out of this collaboration.

- Since the suggested logistics is an collaborative effort of state Government and private organisation, the latest technology in terms of storage methodologies, distance techniques etc can be learnt and adopted from the foreign countries.

6. CONCLUSION

The study and research conducted on the supply chain of organic food products suggest that a proper supply chain management is the need of the hour, as more consumers demand organic food products, distributors and middlemen handling organic food should involve in an effective supply chain tracking.

The complete supply chain of organic food products is burdened with long and fragmented supply chain, dependency on intermediaries, poor transportation facility to cater to the need of maintaining the organic quality of food products, high of packaging and packing etc. which is leading to the high cost to the producers which in turn inflates the prices to the consumers.

Organic farmers opportunities are expanding, organic food handling, producing and processing facilitates are being widened. Organic farmers and retailers are creating jobs and implementing a new age of sustainable food consumption. Thus the organic business in India is successful and is expected to increase more by 2020. Nevertheless to develop the industry and encourage more investments to make in the organic food Retailers logistics, the dynamics and the business risk must be shared and it should lead to collaborative efforts of state Government and Private Organizations. The effective Government policy and efficient private firm's innovative efforts will bring in a fruitful market for the Organic Food product Industry.

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