CONSUMER PRFEFERNCE FOR PROCESSED ORGANIC FOOD PRDODUCTS- A CASE STUDY IN BENGALURU CITY

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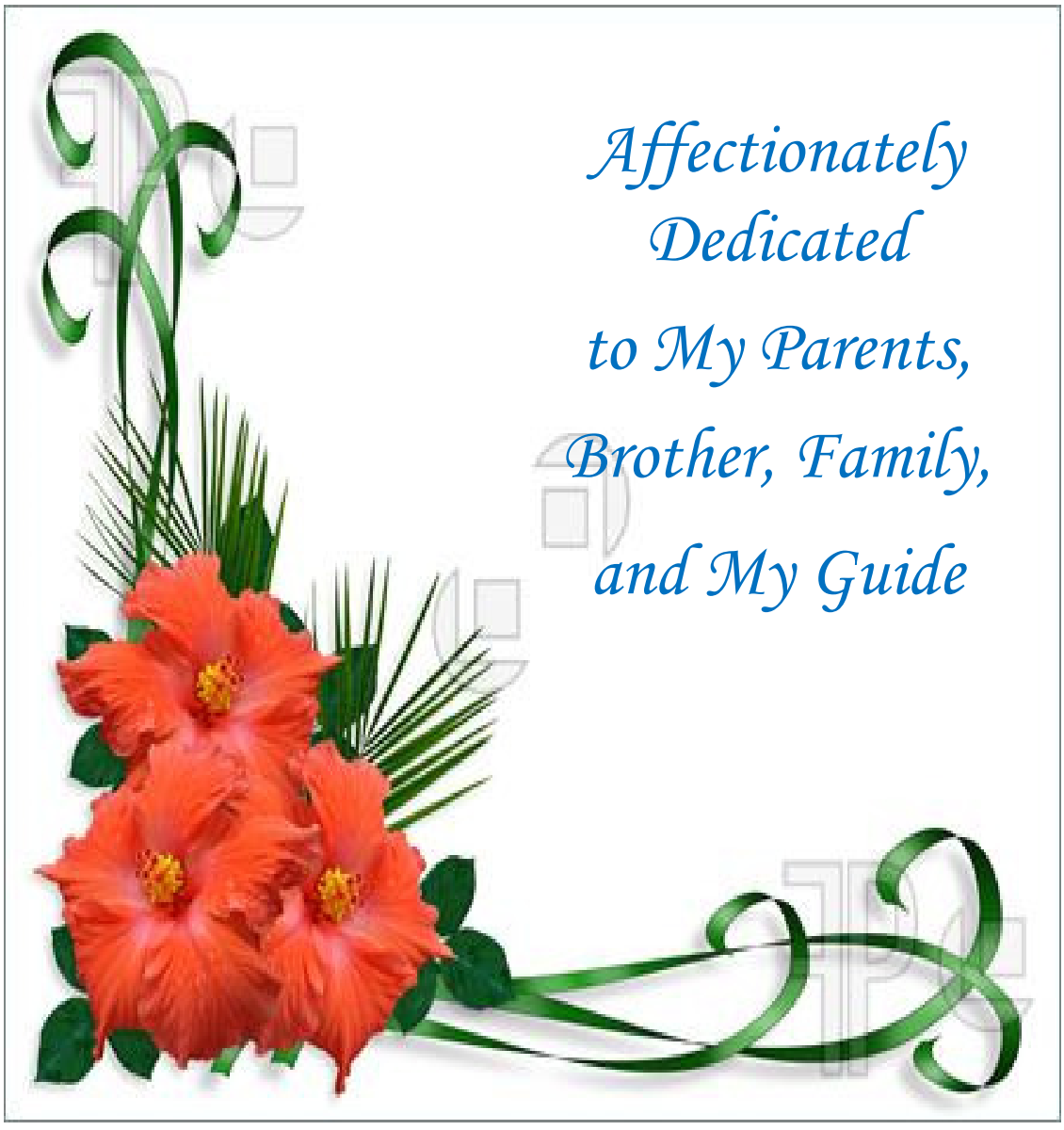
Bengaluru **September, 2017**


Affectionately
Dedicated
to My Parents,
Brother, Family,
and My Guide

DEPARTMENT OF AGRICULTURAL MARKETING, COOPERATION AND BUSINESS MANAGEMENT, UNIVERSITY OF AGRICULTURAL SCIENCES, GKVK, BENGALURU- 560 065

CERTIFICATE

This is to certify that the Project Report entitled "**CONSUMER PREFERENCE FOR PROCESSED ORGANIC FOOD PRODUCTS – A CASE STUDY IN BENGALURU CITY"** submitted by **Ms. HARSHITHA, K.R., ID No. MBAL 5004**, in partial fulfillment of the requirements of the degree of **MASTER OF BUSINESS ADMINITRATION (AGRIBUSINESS MANAGEMENT)** to the University of Agricultural Sciences, Bengaluru is a bonafide record of research work done by her during the period of her study in this University, under my guidance and supervision and the project work has not previously formed the basis of the award of any degree, diploma, associateship, fellowship or other similar titles.

Bengaluru,
September, 2017

Dr. B. M. Shashidhara
Major Advisor

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Dr. G.B. Mallikarjuna

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I humble place before the throne of Almighty, my most sincere gratitude. His grace and tender mercies have renewed me every day, all the way on the journey through my life.

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Bengaluru *(Harshitha, K.R.)*

September, 2017

CONSUMER PRFEFERNCE FOR PROCESSED ORGANIC FOOD PRDODUCTS- A CASE STUDY IN BENGALURU CITY

HARSHITHA, K.R.

ABSTRACT

Organic production is a overall system of farm management and food production that combines best environmental practices and production method using natural substance and processes. The present study analyzed the factors influencing the consumer preference for processed organic food products and the constraints in marketing of processed organic food products in Bengaluru city. The primary data was collected through pre-tested schedule from 60 consumers and 30 retailers. The data was analyzed using descriptive statistics, factor analysis and Garrett's ranking technique. The study has clearly revealed that nutritional content, appearance, affordability, health consciousness and convenience are the important factors influencing the consumer preference for processed organic food products. Nearly 48.33 per cent of consumers are ready to pay up to 10 per cent higher price for processed organic food products. The study also revealed that 36.67 per cent of consumers preferred to consume only specific brands. Besides 30 per cent of consumers preferred to buy the same brand, even if the prices are slightly higher than other brands. The major constraints in marketing of processed organic food products as per garrett's ranking are customers not aware of products with ranks 1st with 65.16 score, followed by side effects with 58.37 score. The other major constraints expressed by retailers was high prices, with garrett's score of 53.26 followed by non-palatable taste with 48.4 score. It is suggested that the consumers should prefer organic food products from the point of health and nutritional value.

September, 2017 **(B.M. Shashidhara)**

Dept. of Agricultural Marketing co- operation & Business Management

Major advisor

ಬೆಂಗಳೂರು ನಗರದಲ್ಲಿ ಸಂಸ್ಕರಣೆ ಮಾಡಿದ ಸಾವಯವ ಆಹಾರ ಪದಾರ್ಥಗಳಿಗೆ ಗ್ರಾಹಕರ ಆಯ್ಕೆ

ಹರ್ಷಿತಾ, ಕೆ.ಆರ್.

ಸಾರಾಂಶ

ಸಾವಯವ ಆಹಾರ ಉತ್ಪಾದನೆಯನ್ನು ನೈಸರ್ಗಿಕವಾದ ಸಲಕರಣೆಗಳನ್ನು ಉಪಯೋಗಿಸಿ ಉತ್ಪಾದನೆ ಮಾಡಲಾಗುತ್ತದೆ. ಪ್ರಸ್ತುತ ಅಧ್ಯಯನದ ಮುಖ್ಯ ಉದ್ದೇಶಗಳೆಂದರೆ ಗ್ರಾಹಕರು ಸಂಸ್ಕರಣೆ ಮಾಡಿದ ಸಾವಯವ ಆಹಾರ ಪದಾರ್ಥಗಳ ಸೇವಿಸಲು ಪರಿಣಾಮ ಬೀರುವ ಮುಖ್ಯ ಅಂಶಗಳು ಹಾಗೂ ಸಂಸ್ಕರಿಸಿದ ಸಾವಯವ ಆಹಾರ ಪದಾರ್ಥಗಳ ಮಾರಾಟದಲ್ಲಿ ಇರುವ ಮುಖ್ಯ ಸಮಸ್ಯೆಗಳನ್ನು ಅರಿತುಕೊಳ್ಳುವುದಾಗಿದೆ. ಪ್ರಾಥಮಿಕ ಮಾಹಿತಿಯನ್ನು ೬೦ ಜನ ಗ್ರಾಹಕರು ಹಾಗೂ ೩೦ ಜನ ಚಿಲ್ಲರೆ ವ್ಯಾಪಾರಸ್ಥರಿಂದ ಪಡೆಯಲಾಯಿತು. ಮಾಹಿತಿಯನ್ನು ವಿಶ್ಲೇಷಣೆ ಮಾಡಲು ಗ್ಯಾರೆಟ್ ಶ್ರೇಣಿ, ವಿವರಣಾತ್ಮಕ ಅಂಕಿ ಅಂಶಗಳು ಹಾಗೂ ಇತರೆ ಪದ್ಧತಿಗಳನ್ನು ಅಳವಡಿಸಿಕೊಳ್ಳಲಾಯಿತು. ಈ ಅಧ್ಯಯನದಲ್ಲಿ ಕಂಡುಬಂದ ಮುಖ್ಯ ಅಂಶಗಳೆಂದರೆ ಗ್ರಾಹಕರು ಸಂಸ್ಕರಣೆ ಮಾಡಿದ ಸಾವಯವ ಆಹಾರ ಪದಾರ್ಥಗಳ ಖರೀದಿಯ ಮೇಲೆ ಪರಿಣಾಮ ಬೀರುವ ಅಂಶಗಳೆಂದರೆ ಆಹಾರದಲ್ಲಿನ ಪೋಷಕಾಂಶಗಳು, ಪದಾರ್ಥಗಳ ಚಹರೆ, ಖರೀದಿಯ ಸಾಮರ್ಥ್ಯ, ಆರೋಗ್ಯದ ಕಾಳಜಿ ಹಾಗೂ ಖರೀದಿಸಲು ಅನುಕೂಲಗಳೆಂದು ಕಂಡುಬಂದಿದೆ. ಸಂಸ್ಕರಣೆ ಮಾಡಿದ ಸಾವಯವ ಆಹಾರ ಪದಾರ್ಥಗಳಿಗೆ ಶೇ. ೪೮.೩೩ ಗ್ರಾಹಕರು ಸಾವಯವ ಅಲ್ಲದ ಪದಾರ್ಥಗಳಿಗಿಂತ ಶೇ. ೧೦ ರಷ್ಟು ಹೆಚ್ಚಿನದರವನ್ನು ಕೊಡಲು ಸಿದ್ದರಿದ್ದಾರೆ. ಶೇ. ೩೮.೬೭ ರಷ್ಟು ಗ್ರಾಹಕರು ನಿರ್ದಿಷ್ಟ ಬ್ರಾಂಡುಗಳಿಗೆ ನಿಷ್ಠೆಯನ್ನು ವ್ಯಕ್ತಪಡಿಸಿರುತ್ತಾರೆ. ಶೇ. ೩೦ ರಷ್ಟು ಗ್ರಾಹಕರು ಇತರೆ ಬ್ರಾಂಡುಗಳಿಗಿಂತ ನಿರ್ದಿಷ್ಟ ಬ್ರಾಂಡಿನದರ ಹೆಚ್ಚಿಸಿದರು ಕರೀದಿ ಮಾಡುತ್ತಾರೆ ಎಂದು ಕಂಡುಬಂದಿದೆ. ಗ್ಯಾರೆಟ್ ಶ್ರೇಣಿ ವಿಶ್ಲೇಷಣೆಯಿಂದ ಸಾವಯವ ಆಹಾರ ಪದಾರ್ಥಗಳ ಮಾರಾಟದಲ್ಲಿರುವ ಸಮಸ್ಯೆಗಳ ಶ್ರೇಣಿಯಲ್ಲಿ ಗ್ರಾಹಕರಲ್ಲಿ ಸಾವಯವ ಪದಾರ್ಥಗಳ ಬಗ್ಗೆ ಮಾಹಿತಿ ಇಲ್ಲದಿರುವುದು ಶ್ರೇಣಿ ೬೫.೦೬ ಆಗಿದ್ದು ಮೊದಲನೆ ಸ್ಥಾನದಲ್ಲಿರುತ್ತದೆ, ಎರಡನೇ ಸಮಸ್ಯೆಯೆಂದರೆ ಸಾವಯವ ಆಹಾರ ಸೇವನೆಯಿಂದ ಉಂಟಾಗುವ ಆರೋಗ್ಯ ಸಮಸ್ಯೆಗಳು ಶ್ರೇಣಿ ೫೮.೭೩ ಆಗಿದ್ದು, ಮೂರನೇ ಸ್ಥಾನವನ್ನು ಹೆಚ್ಚಿನ ದರಗಳು ಆಗಿದ್ದು ಶ್ರೇಣಿ ೫೩.೨೬ ಆಗಿರುತ್ತದೆ, ತದನಂತರ ಸ್ಥಾನವನ್ನು ಆಹಾರ ಕಲಬೆರಿಕೆಯ ಸಮಸ್ಯೆ ಪಡೆದಿದ್ದು ಶ್ರೇಣಿ ೪೮.೯೬ ಆಗಿರುತ್ತದೆ. ಗ್ರಾಹಕರ ಆರೋಗ್ಯ ಮತ್ತು ಪೋಷಕಾಂಶಗಳ ದೃಷ್ಟಿಯಿಂದ ಸಾವಯವ ಆಹಾರ ಪದಾರ್ಥಗಳನ್ನು ಸೇವಿಸಲು ಸಲಹೆ ನೀಡಲಾಗಿದೆ.

ಸೆಪ್ಟೆಂಬರ್, ೨೦೧೭ (ಬಿ.ಎಂ. ಶಶಿಧರ)
ಕೃಷಿ ಮಾರಾಟ, ಸಹಕಾರ ಮತ್ತು ಪ್ರಧಾನ ಸಲಹೆಗಾರರು
ವ್ಯವಹಾರ ನಿರ್ವಹಣೆ ವಿಭಾಗ

Consumer Preference for Processed Organic Food Products : A Case Study in Bengaluru city

Harshitha, K. R. and B. M. Shashidhara

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Introduction

Organic products are grown under a system of agriculture without the use of chemical fertilizers and pesticides with an environmentally and socially responsible approach. This method of farming helps in preserving the reproductive and regenerative capacity of the soil, and also produces nutritious food.

India produced around 1.35 million MT (2015-16) of certified organic products which includes Sugarcane, Oil Seeds, Cereals & Pluses , Fruits and vegetables , coffee and tea, spices and medicinal plants and dry fruits.

During 2015-16 India exported 263687MT of organic products, with a total value of 293 million USD. The important destinations for organic products from India are European Union, US, Canada, Switzerland, Korea, Australia, New Zealand, South East Asian countries, Middle East, South Africa etc.

Among organic products oil seed alone has nearly 50 per cent of the total export value. The other important organic products are processed food products (25 %), Cereals & Millets (17 %), Tea (2 %), Pulses (2 %), Spices (1 %), Dry fruits (1 %), and others.

Objective

To analyze the factors influencing consumer preference for processed organic food products in Bengaluru city.

Methodology

Study Area:

- The present study was conducted in Bengaluru city during the year 2017.

Sampling design :

- For the study, 60 respondents were selected, residing in the south , central and northern part of Bengaluru city.

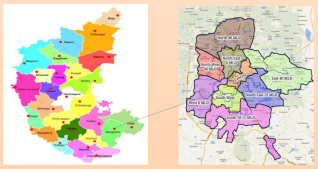

Fig. 1: Map showing the study area- Bengaluru district

sampling technique:

- Simple random sampling technique was adopted to select the sample respondents in Bengaluru city

Data collection:

- The primary data was collected during the period of 2016-2017 through personal interview method.

Analytical tools and technique

- The primary data was analyzed by using Factor analysis and Kaiser-Meyer-Olkin (KMO) test by using SPSS software.

Results

Table 1: KMO and Bartlett's test for variance among the factors

KMO and Bartlett's test		
Kaiser –Meyer-Olkin Measure of Sampling Adequacy		0.595
Bartlett's test of Sphericity	Approx. chi-square test	126.07
	Degrees of freedom	55
	Significance level	.00

Table 2: Factors influencing consumer preference for processed organic food products

n=60

Sl. No.	Attributes	Components			
		1	2	3	4
1.	price	0.042	**0.877**	-0.025	0.064
2.	Quality	-0.060	**.845**	0.152	0.099
3.	Hygiene	-0.006	0.183	**0.826**	0.111
4.	Health	0.077	0.104	-0.010	**0.714**
5.	Brand image	**0.750**	-0.033	0.151	0.066
6.	Taste	**0.574**	-0.092	-0.337	-0.054
7.	Pack	**0.729**	0.017	-0.010	0.024
8.	Advertisement	**0.568**	-0.516	0.047	0.365
9.	Convenience	-0.053	-0.002	0.221	**0.712**
10.	Nutrition	**0.555**	0.319	0.378	-0.315
11.	Food safety	0.041	-0.074	**0.720**	0.091

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

Discussion

- The KMO and Bartlett's test for variance among factors is presented in Table 1. The Table cleared revealed that the KMO measure was found to be 0.595 which is significant which reflects the importance shown by the urban consumers for processed organic food products.
- The factors influencing the consumer preference for processed organic food products is presented in Table 2. In the table, 4 values greater than 1 are considered for determining the factors influencing the consumer preference with the help of scree plot. It is clear from the table the 4 factor have Eigen value greater than 1. Hence only 4 factors represented in the Fig.1.
- The study clearly indicates that the consumer preference for processed organic food products is mainly influenced by nutritional content and appearance under factor1. With respect to factor 2, consumer have ranked affordability. Health consciousness is the most important attribute under factor 3, followed by convenience under factor 4.

Graphs and Photographs

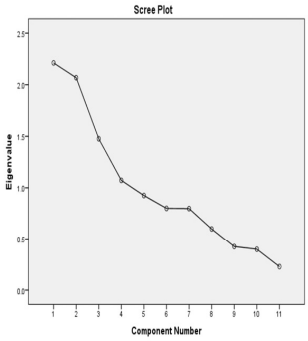

Fig.2: Catlett's scree plot for factors influencing consumer preference for processed organic food products

Summary

- The study has clearly highlights that affordability, appearance, nutritional content, health consciousness and convenience influenced the consumers preference for the processed organic food products.
- The study also exhibited that consumers preference for organic products due to the facts that they are safer, healthier and more environmentally friendly compared to inorganic food products.

Advisory Committee

Chairperson: Dr. B. M. Shashidhara
Members: Dr. G. N. Nagaraja
Mr. T. N. Venkata Reddy
Dr. G. B. Mallikarjuna

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I INTRODUCTION

1.1 Overview and origin

The term “organic” can be broadly described as food grown without the assistance of man-made chemicals. The term "organic farming" was coined by Lord Northbourne in 1940. The organic movement began in the early 1900s in response to the shift towards synthetic nitrogen fertilizers and pesticides in the early days of industrial agriculture. A small group of farmers came together and promoted. Demeter International of Germany, which encouraged biodynamic farming and began the first certification programs. Similarly Australian Organic Farming and Gardening Society, the Soil Association of the United Kingdom, and Rodale Press in the United States, were promoted to encourage organic farming. In 1972 these organizations joined to form the International Federation of Organic Agriculture Movements (IFOAM). In recent years, environmental awareness has driven demand and conversion to organic farming. Some countries, including the European Union, have begun to support organic farming through agricultural subsidy reform. As a result Organic production and marketing have grown at a fast pace.

1.2 History

In the summer of 1924 Rudolf Steiner presented what has been called the first organic agriculture course to a group of over one hundred farmers and others at Kobierzyce in Poland. In Germany Rudolf Steiner's Spiritual Foundations for the Renewal of Agriculture, published in 1924, led to the popularization of biodynamic agriculture, probably the first comprehensive organic farming system, that was based on Steiner's spiritual and philosophical teachings.

The first use of the term "organic farming" is by Lord Northbourne (aka Walter James, 4th Baron Northbourne). This term derives from his concept of "the farm as organism", which he expounded in his book, Look to the Land (1940), in which he described a holistic, ecologically balanced approach to farming. Northbourne wrote of "chemical farming versus organic farming". (http://www.orgprints.org/10138). Sir Albert Howard's 1940 book, *An Agricultural Testament*, was influential in promoting organic techniques, and his 1947 book "The Soil and Health, A Study of Organic Agriculture"

adopted Northbourne's terminology and was the first book to include "organic" agriculture or farming in its title.

In the 1970s, worldwide movements concerned with environmental pollution caused by persistent agrichemical increased attention on organic farming. One of the goal of the *organic movement* was to promote consumption of locally grown food, which was promoted through slogans such as *"Know Your Farmer, Know Your Food"*.

In 1972, the International Federation of Organic Agriculture Movements (IFOAM), was founded in Versailles, France. IFOAM was dedicated to the diffusion of information on the principles and practices of organic agriculture across national and linguistic boundaries. In the same year, John Battendieri founded Santa Cruz Organics, marketed some of the first packaged organic products.

In the 1980s, around the world, various farming and consumer groups began seriously pressuring governments for regulation of organic production to ensure standards of production. This led to enhancement of various legislation and certification standards during 1990s and till date. Currently, most of the aspects of organic food production are government-regulated particularly in US and the European Union.

In the 2000s, the worldwide market for organic products (including food, beauty, health, bodycare, and household products, and fabrics) has grown rapidly. As a result more countries are establishing formal, government-regulated Organic certification standards. Monitoring and implementing certification rules and decisions have become a regular, high profile activities in the organic movement.

1.3 Organic food

According to the United States Department of Agriculture (USDA), organic food is produced by farmers who emphasize the use of renewable resources and the conservation of soil and water to enhance the quality of the environment. Organic poultry and dairy products come from animals that are given no antibiotics or growth hormones. Organic food is produced without the use of synthetic pesticides or fertilizers, bioengineering, and ionizing radiation. Before a product labeled as "organic", the

Government-approved certifier inspects the farm where the food is grown to make sure the farmer is following all the rules necessary to meet USDA organic standards. Companies that handle or process organic food before it reaches supermarkets and restaurants must be certified as well.

Organic products are grown under a system of agriculture without the use of chemical fertilizers and pesticides with an environmentally and socially responsible approach. This is a method of farming that works at grass root level preserving the reproductive and regenerative capacity of the soil, good plant nutrition, and sound soil management, produces nutritious food rich in vitality which has resistance to diseases, (Apeda, 2017).

India is bestowed with lot of potential to produce all varieties of organic products due to its various agro climatic regions. In several parts of the country, the inherited tradition of organic farming is an added advantage. This holds promise for the organic producers to tap the market which is growing steadily in the domestic market related to the export market.

As per the available statistics, India's rank in terms of World's Organic Agricultural land was 15 as per 2013 data (Source FIBL & IFOAM Year Book 2015). The total area under organic certification is 5.71million Hectare (2015-16). This includes 26 per cent cultivable area with 1.49 million Hectare and rest 74 per cent (4.22 million Hectare) forest and wild area for collection of minor forest produces, (Apeda, 2017).

The Government of India has implemented the National Programme for Organic Production (NPOP). The national programme involves the accreditation programme for Certification Bodies, standards for organic production, promotion of organic farming etc. The NPOP standards for production and accreditation system have been recognized by European Commission and Switzerland for unprocessed plant products as equivalent to their country standards. Similarly, USDA has recognized NPOP conformity assessment procedures of accreditation as equivalent to that of US. With these recognitions, Indian organic products duly certified by the accredited certification bodies of India are accepted by the importing countries, (Apeda, 2017).

1.4 Production

India produced around 1.35 million MT (2015-16) of certified organic products which includes all varieties of food products namely Sugarcane, Oil Seeds, Cereals & Millets, Cotton, Pulses, Medicinal Plants, Tea, Fruits, Spices, Dry Fruits, Vegetables, Coffee etc. . The production is not limited to the edible sector but also produces organic cotton fiber, functional food products etc.

Among all the states, Madhya Pradesh has covered largest area under organic certification followed by Himachal Pradesh and Rajasthan, (Apeda, 2017).

1.5 Exports

The total volume of export during 2015-16 was 263687 MT. The organic food export realization was around 298 million USD. Organic products are exported to European Union, US, Canada, Switzerland, Korea, Australia, New Zealand, South East Asian countries, Middle East, South Africa etc.

Oil seeds (50 %) lead among the products exported followed by processed food products (25 %), Cereals & Millets (17 %), Tea (2 %), Pulses (2 %), Spices (1 %), Dry fruits (1 %), and others, (Apeda 2017).

According to "India Organic Food Market Forecast & Opportunities, 2017" (IOFMFO, 2017), Indian organic food market is anticipated to grow at a significant CAGR of around 19 per cent during 2012-2017. In India, majority of the demand for organic foods is originating from Tier I cities such as Mumbai, Delhi, Chennai, Bangalore, Gurgaon and Pune. Organic food usually costs up to 20 per cent to 30 per cent more than conventional food items which is one of the major challenges in Indian market as majority of the consumers are quite price sensitive, (Techsciresearch, 2017).

Production and marketing strategies are determined by consumer beliefs, attitudes, responses to organically grown products and the willingness to pay a premium price. Because organic products are credence goods, consumers may not know whether a product is produced using organic or conventional methods unless they are told so (Giannakas, 2002).

The organic food market has grown continuously over the past decade, but, the total share of organic food is still small compared with the total food market. Even in countries with matured organic sectors such as Switzerland, Austria and Denmark, organic food consumption is barely more than 5 per cent of total food consumption (Willer and Kilcher, 2011).

Indian organic food market is anticipated to grow at a significant CAGR of around 19 per cent during 2012-2017. In India, majority of the demand for organic foods is originating from Tier I cities such as Mumbai, Delhi, Chennai, Bangalore, Gurgaon and Pune. Companies are witnessing increase in sales as a result of increasing demand from metro cities and the entry of several new players in the organic food market offering an online channel for purchase.

The major players in Indian organic food market are Conscious Foods, Sresta, Eco Farms, Organic India, Navdanya and Morarka Organic Foods. Organic food usually costs up to 20 per cent to 30 per cent more than conventional food items which is one of the major challenges in Indian market as majority of the consumers are quite price sensitive. However, at the same time increasing health consciousness and increasing disposable income among Indians is incessantly increasing the demand for organic food, (IOFMFO, 2017).

According to "India Organic Food Market By Product Type, Competition Forecast and Opportunities, 2011-2021", the market for organic food in India is anticipated to grow at a CAGR of over 25% during 2016-2021, on account of changing food consumption patterns and increasing instances of contamination of farm produce with chemical fertilizers and pesticides, surging investments in organic food market and rising use of bio fertilizers. (Research and markets, 2017)

Organic pluses and food grains segment dominates India organic food market, as pulses and food grains form an important part of staple diets in India. Further, West India is anticipated to continue dominating the organic food in the country through 2021, on account of high disposable income levels and rising health consciousness among consumers in the region. The analysts forecast the global organic food and beverages

market to grow at a CAGR of 12.69 per cent over the period 2014-2019, (Research and markets, 2017).

The organic food market in India is growing at 25-30 per cent. The domestic organic food market may touch the 90.47 billion rupees mark by 2020. The organic farming is practiced in 12 states in about 4.72 million hectares. In 2013-14, organic food production was 1.24 million tons, (The Economic Times, 2016).

1.6 Organic Production in India

Major organic produces in India include plantation crops, spices, cereals, pulses, oil-seeds, fruits, and vegetables. Further classification under these product categories include

Table 1.1: Major organic products in India

Sl. No.	Category	Products
1.	Plantation Crops	Tea, Coffee and Coconut
2.	Spices	Arecanut, Black pepper, Chilli, Cinnamon, Cloves, Ginger, Turmeric, Nutmeg, Parsley, Bay leaves
3.	Cereals	Non-basmati paddy, Maize, Bajra and Ragi
4.	Pulses	Chickpea, Pigeon-Pea, Green Gram, Red Gram and Horse gram,
5.	Oil- Seeds	Groundnut, Sesame and Soybean
6.	Fruits	Mango (alphanso, neelam, totapuri, kesar,sindura), Pineapple, Banana
7.	Vegetables	Tomato, Brinjal
8.	Other Products	Honey, Cotton, Sugarcane

Source: Organic Policy, 2017.

1.7 Global Scenario

In the world, across 172 countries 2 million farmers are cultivating 43.7 million hectares of land (1% of total agricultural land) organically. The area under organic cultivation and the global organic food market is increasing at an annual rate of 10 per cent and 12 per cent, respectively, over the last 14 years and global market is estimated to reach USD 80 billion by 2016. (Organic Policy, 2017).

1.8 Indian Scenario

As on March 2016, India has brought 57.09 lakh ha under organic certification. India exported 2.64 lakh tons of various commodities worth about Rs. 1,900 crore, which account for 0.3 per cent of total global organic trade, (Organic Policy, 2017).

1.9 Karnataka Scenario

Karnataka stands 5th in the country in terms of total cultivated area under organic certification at 93,963 ha as on March 2016 and 3rd in terms of total certified production at 2,82,633 tons. This is an indication of the immense opportunities available to the state in view of its inherent advantages of climate and diversified production. Important crop commodities exported from the state are cane sugar, mango pulp, cashew nuts, pineapple juice, etc. Other crops that have high export potential and can be given enhanced thrust and focus for organic farming and export are coffee, coconut, spices, pulses, medicinal and aromatic crops. Fruits and fruit products also have a huge future potential, (Organic Policy, 2017).

1. 10 Organic farming in Karnataka

Around 93,963 ha area cultivated under organic farming. Totally certified production was 2, 82,633 tons. 246 certified operators and 6,612 farmers under organic cultivation. There are eight organic farming research institute .about 109 model private forms was situated in Karnataka. Around 120 NGOs also involved in promotion of organic farming.

Around 513 private outlets/retailers stores, 48 mega stores with organic shelves, 20 exclusive organic restaurant/ caterers in Bengaluru and 124 operators/ processors and exporters are present, (Organic Policy, 2017).

1.11 Objectives of the study

The present study is a modest attempt to document the availability and product range of processed organic food products, factor influencing the consumer preference for processed organic food products and to document the constraints in marketing of processed organic food products. The study is confined to a detailed enquiry of consumer preference for processed organic products in Bengaluru city. The specific objectives with which the research was conducted were:

a) To document the availability and product range of processed organic food products marketed in Bengaluru city,

b) To analyze the factors influencing consumer preference for processed organic food products in Bengaluru city and

c) To document the constraints in marketing of processed organic food products.

1.12 Hypotheses of the study

a) Only few processed organic food products are available in organized retail outlet in Bengaluru City

b) Income is the major determining factor in preferring processed organic food products by consumers

1.13 Scope and importance of the study

With rising concern of health issues and food safety, many consumers have turned their site to organic products. The increased consumers' interest in organic food has been attributed among others to the growing demand for food free from pesticides and chemical residues.

Organic food promotes a balance of human, other living organisms and the nature. It also promotes no artificial preservatives and best maintain the originality of food. This prevents excess use harmful ingredients and thereby ensures health.

This study attempted to gain knowledge about consumer preference towards organic food product, consumption. Nevertheless, before any behavior can be changed, it is necessary to evaluate the current state of consumers' awareness and knowledge. Therefore consumer's attitude, perception towards organic food products, willingness to pay for organic food product and intention to purchase organic food will be the main agenda of this study.

1.14 Limitations of the study

Primary data was collected from the sample respondent by personal interview method. As the study was based on the consumer preference for processed organic food products, the respondents may have not disclosed the exact information. Hence, it would be difficult to draw precise generalization regarding the implication of the study. The finding of the study, interpretation and conclusion drawn could be best seen with these limitation.

The study was limited to Bengaluru and the findings may not be applicable to other cities, as vast difference exist among the consumers with regards to demographic and psychographic characteristics. Hence, the finding of the study area and extra care should be taken while generalizing the results.

II REVIEW OF LITERATURE

A review of the research work relevant to the objective of the present study is presented in this chapter. In this chapter an attempt is made to review the work done by other researchers related to the topic of investigation. The studies regarding consumer preference for processed organic food products in Bengaluru city have been reviewed and also reviews of the other comparable studies pertaining to the objective the present study have been presented under the following sub-headings.

2.1 Document the availability and product range of processed organic food products

2.2 Factors influencing consumer preference for processed orgasnic food products

2.3 Constraints in marketing of processed organic food products.

2.1 Document the availability and product range of processed organic food products

Monika (2016) conducted the study on the major brands of packaged drinking water available in Chandigarh. It was found that about 5 different brands of packaged water were available in Chandigarh i.e. Bisleri, Kinely, Bailley. Kingfisher and Aquafina.

Moksha (2016) conducted the study on the different neem based and non neem based pesticide aviable in Kolar district. Result indicated that Neem oil and Neem cake products were available i.e. Nembecidine, Neemza, Indika, Vijay neem, Neem ban, Neemarin under oil formulation. Anandam sahubam, Parryneem, avana, Organic gold and Eco garden under Neem cake formulation.

2.2 Factors influencing consumer preference for processed organic food products

Jyrki *et al.,* (2006) examined the kind of views and attitudes consumers and other food chain actors have, concerning organic food and its production and how these views and attitude differ. As a result of the analysis, five differing attitudinal groups, believers, committed, neutral, doubters and negatives were identified among the consumers. In addition, six differing attitudinal groups, believers, supporters, weak doubters, strong doubters, unsatisfied and negatives were identified among the other food chain actors. It was found that the products and information in the organic food chain did not flow

smoothly from producers to consumers. Consequently, both consumers and other food chain actors wanted more information about organic food.

Gowda (2009) analyzed the consumer preference for retail formats in Bengaluru city. He reported that majority (27.50 %) of the consumers belonged to the income group of Rs. 30,000-40,000 followed by Rs. 20,000- Rs. 30,000 (23.33 %), Rs. 40,000- Rs. 50,000 (16.67 %), Rs. 10,000- Rs. 20,000 (15.83 %), Rs. 50,000 and above (13.33 %) and up to Rs. 10,000 (3.33 %).

Morteza *et al.*, (2009) conducted study across two locations in eastern New Brunswick to examine consumer willingness-to-pay a premium price to purchase organic fresh fruit and vegetables Willingness-to-pay the premium was modeled as a function of a series of demographic, socioeconomic and knowledge variables and degree of awareness concerning the environment, and risk attitudes. The results revealed that when making food choices, the consumers in eastern New Brunswick prioritize their health concerns over the environment. Moreover, the more income households earn, and the more consumers perceive a potential negative impact on health from pesticides usage, the more likely they would be willing to pay a premium for fresh organic produce.

Gerardine *et al*., (2010) in their study revealed that Consumers were allocated to 9 separate groups, using the procedure of Cluster Analysis. Two of these groups were identified as having strong positive attitudes to organic food associated with a strong propensity to purchase. Three other groups also have positive attitudes but this is not reflected in purchase behavior due to various market imperfections. This study is of value to companies in the organic market as it provides information on the attitudinal and demographic profiles of likely buying and non-buying groups.

Bharath (2012) analyzed the consumer preference for store formats in Bengaluru city. He reported that majority (36.67 %) of the consumers belonged to the age group of 31 to 40 years followed by 20 to 30 years (25.83 %), 41 to 50 years (24.17 %) and above 50 years (13.33 %).

Chandraprabha (2012) analyzed the consumer preference for value added products of tomato in Bengaluru city. She reported that majority (56 %) of the consumers

belonged to the age group of 31 to 50 years followed by above 50 years (40 %) and up to 30 years (4 %).

Ragavan and Mageh (2013) reported that the perceptions towards organic food products depict the relationship with buyers' intention to buy organic food product followed by the buyers' belief that consuming organic food product is contributing to preserving the environment. It seems that perception towards organic food and belief that organic food is environmentally friendly are not independent from each other. Besides, the availability of product information is also supporting the consumers' intention to purchase organic products. The perception towards organic products, beliefs about product safety for use, belief about product friendliness to the environment and availability of product information are the major determinants for the consumers' purchase intention towards organic products.

Ravi *et al*., (2014) in their study revealed that the most of the consumers prefers organic stores and supermarkets for the purchase of organic food products. The least preferred purchase places were the local markets and conventional retail shops. Furthermore, the results from regression showed that the preferences about places to purchase organic food products were mainly influenced by gender, education, family size, and family income. Policy makers in agricultural marketing, institutions who are involved in organic food marketing, and producers should consider the differences in consumer preferences and their socio-demographic attributes for determining and supporting efficient marketing channels for organic food products.

Hakan *et al*., (2014) examined that organic product preferences of consumer varied based on demographic characteristics. While significant differences were observed between consumer perceptions of organic products and their genders, occupations, monthly incomes. The differences between consumer perceptions and their ages, marital status, educational levels and number of households were not significant.

Brijesh (2015) studied the consumers prefer to buy organic food products, female respondents have more preference for organic food products as compared to male respondents. More number of educated respondents prefers to buy organic food products.

Age group of 29-39 prefers to buy organic food as compared to other age groups. Also higher income group prefer to buy organic food. Consumers prefer to buy organic food products because of their perception that the organic food products are healthy and safe, nutritious and environment friendly. The study reveals that the determinants of consumer preference towards organic food and it will be useful for the marketers to design a suitable marketing mix.

Jayanthi (2015) in her study analyzed the consumers' level of awareness about organic food products in Coimbatore District. A disproportionate stratified random sampling method was used, and a total of 550 respondents were surveyed by using a questionnaire. The results showed that 40.5per cent and 38.4per cent of the respondents were aware and partly aware about organic food products, and only 14per cent of the respondents were highly aware about the same. Thus, awareness acts as a crucial factor in changing the attitude of consumers towards organic foods.

Mohamed *et al.,* (2015) in their study revealed that consumer, nowadays are more concerned about food safety and this awareness has influenced the pattern of food purchasing. As a result has been expansion of demand for organically grown food, and is rapidly gaining ground in many parts of the world. Organic agriculture not only preserves the environment, but also has less harmful substances and improves health, bringing significant benefits.

Sathyendra and Chandrashekar (2015) identify that most of the consumer especially in urban people prefer organic food product. Marketing of organic product is so poor in study area so the demand for organic product is increases but supply is very low. The major reasons are organic producer are low, adequate market facility is not there, few number of shops, lack of awareness, and so on. Therefore if farmer as well as government give interest to organic farming easily enhancing good marketing system in Karnataka

Vladimir *et al*., (2016) in their study revealed that the strongest reason for buying organic food for Romanian respondents is health care, presented by 42 per cent of respondents. Respondents prefer to buy organic foods directly from the producers,

followed by supermarkets, specialized shops and pharmacies. The prevailing price of monthly purchase of organic food is 10 to 20€. The respondents are able to pay for organic food from 5 to 10 per cent more than for conventional food.

2.3 Constraints in marketing of processed organic food products.

Jaffer (2002) analyzed the marketing problems of banana growers by using Garrett Ranking Technique. The percentage of the individual ranks was converted into scores using the Garrett Table and thereby the mean score and the rank were assigned to the problems encountered by the growers. The fluctuation in prices of banana was the major problem with a mean score of 73.86. Inadequate finance was the next important problem faced by the grower with a mean score of 62.12.

Amatul and Laxmi (2007) identified the current prospects and problems of retailing in India. With the emergence of organized retailing in the country and a growing convenience, retailing has emerged, as a key business, given their wide retail presence, exists customer base and strategically located sites. Even though India had well over 5 million retail outlets of all sizes and styles, the country sorely lacks anything that can resemble a retailing industry in the modern sense of term. Indian retailing though enjoyed many unique features was still done in a primitive way, they were handicapped by higher taxes, multiple laws, wrong policy decisions, unnecessary/illegal imports, poor infrastructure and logistics, high cost of equipment and packing material.

Singarwad *et a*l., (2009) in their study results revealed that constraints like difficulties in control of pests and diseases were severe problem which was expressed by 93.33 per cent of flower growers. In the next order, non-availability of transport facilities was opined by 92.22 per cent of them. Then the difficulties faced were pruning (86.66 per cent) and control of weeds (84.44 per cent). As regard the suggestions, about 91.11 per cent of flower growers gave emphasis on pests control and 84.4 per cent for provision of training over pruning problem.

Prem Kumar (2012) in his study observed that horticulture sector in India is constrained by low crop productivity, limited irrigation facilities and underdeveloped infrastructure support like cold storages, markets, roads, transportation facilities etc.

There are heavy post-harvest and handling losses, resulting in low productivity per unit area and high cost of production. However, on the other hand India's long growing-season, diverse soil and climatic conditions comprising several agro-ecological regions provide ample opportunity to grow a variety of horticulture crops. Thus, efforts are needed in the direction to capitalize on our strengths and remove constrains to meet the goal of moving towards a horticulture lead agricultural growth in India. The foreign trade policy 2004-09 emphasized that to boost agricultural exports. This paper deals with vegetables marketing in Tamilnadu. It outlines the issues on vegetables marketing. This paper makes an analysis of problems of vegetables marketing in Tamilnadu on the basis of ratings of the vegetables growers.

Suresh *et al.,* (2012) analysed the marketing of aromatic crops in Uttar Pradesh. They reported major marketing constraints in aromatic crops viz., less number of buyers, absence of legal market information, lack of regulated market, ignorance of quality of produce and delays in payment.

Nguyen (2013) *et al*., in their study revealed that farmers produce and different marketing different qualities of milk to two main buyers under the constraints of high input prices, feed scarcity, exploitation by downstream actors, capital investment inadequacy, inadequate poor market information and knowledge, lack of technical support from dairy manufacturer and local authority, land limit, and cow diseases.

Bhavya (2014) studied the current E-Business situation in India, analyzed the scope, performance and problems of E-Business in India. The primary objectives of this paper were to study the position of E-business in India, to analyze the future of E-Business in India, to study the challenges faced by E-Business players in India. E-business was more than just buying and selling products online. It also included the entire online process of developing, marketing, selling, delivering, servicing and paying for products and services. India was showing tremendous growth in the E-business. India had an internet user base of over 100 million users. The penetration of E-business was low compared to markets like in US and UK but was growing at a much faster rate with a large number of new entrants. E-commerce created new opportunities for business, it also created new opportunities for education and academics line. It raised key challenges that

are being faced by consumers relating to e-commerce viz., Ethical issues, Perceptions of risk in e-service encounters, challenges for e-business education and legal system.

Dilip and Rajeev (2014) observed the problems faced by the handicraft industry were manifold. It starts right from the procurement of the raw material due to non-availability of required standard input, unavailability of skilled artisans, unawareness about the technical supports and lack of customer awareness towards the craft products. One of the major issues faced by handicraft sector was in information dissemination. This has led to a situation where customers had no information related to the craft products. The starting point of any organization should be to assess the demand and acceptability for their products. Accordingly, industries produced the products to meet the need and demand of the customer. But the Indian craft industry was in dire need of a strong marketing information system.

Nwabunike (2015) in his study revealed that fishes are marketed in different forms either as fresh, smoked or dried fish. Marketers have lots of challenges, which the researcher has tried to proffer solutions to as attested by the majority of the respondents. Based on the research findings, the following policy recommendations are therefore proffered. Fish marketers should form a co-operative society to enable them obtain loan from financial institutions so as to expand their marketing activities. Government and private organization should encourage fish marketers by building an organized market and effecting free trade within the study area. Government should provide more cold rooms to enable fish marketers get fish for sale easier. Government should provide processing places/spaces to enable those who want to engage in fish smoking to cope. There should be subsidy in price of fish by the government so that everybody will have access to fish, this is because majority of the consumers within the study area are poor. Government should also provide transportation facilities and good infrastructural facilities within the study area to encourage the fish marketers.

Rakesh *et al.,* (2015) conducted a research in Mysore where they studied about the opportunities and challenges faced by the domestic packaged drinking water manufactures. They found that heavy competition from the players in the market

considered as a major challenge. They suggested that government should take the necessary steps against unorganized or unregistered packaged drinking water manufacturing companies and should help the registered manufacturers to grow in well manner in market.

III METHODOLOGY

This chapter is concerned with description of study area, sampling procedure, tools and techniques used in the analysis of data. Further few terms are defined for clear understanding of the study. The details of the methodology adopted for the study is presented under the following headings.

3.1 Description of study area

3.2 Sampling procedure

3.3 Nature and source of data

3.4 Analytical tools and techniques

3.5 Concepts used in the study

3.1 Description of study area

Bengaluru lies in the south- east of South Indian state of Karnataka. It is in a region of the larger Precambrian Deccan plateau with an average elevation of 900m (2,953ft). It is located at 12^0 58 N 77^0 38^1 E and covers an area of 741 sq kms. The city of Bengaluru lies Bengaluru Urban district of Karnataka including part of the rural district

The study conducted in Bengaluru city, which is the capital city of Karnataka. The city was selected purposively which is one of the fastest growing metropolitan cities, with people of different religions, castes, occupations, cultures, languages and food habits. Further Bengaluru serves as the cultural, administrative, industrial and the commercial center of Karnataka. It is the information technology (IT) and biotechnology (BT) hub of India, with industrial estates and numerous financial and educational institutions of immense potential for retail food outlets.

Bengaluru is the largest city in the Karnataka, state with a population of more than 11.5 million (census, 2017). Bangalore is the third largest city in India and 27^{th} largest city in the world. Bengaluru is one of the most ethnically diverse cities in the country, with over 62 per cent of the city's population comprising migrants from other

parts of India. Historically a multicultural city, Bengaluru has experienced a dramatic social and cultural change with the advent of the liberalization and expansion of the information technology and business process outsourcing industries in India. IT companies in Bengaluru employ over 35 per cent of India's pool of 1 million IT professionals over the years. Bengaluru has evolved into a manufacturing hub for public sector heavy industries particularly aerospace, telecommunications, machine tools, heavy equipment, space and defense.

3.2 Sampling procedure

The primary data regarding consumer preference was collected using a pre tested schedule. The simple random sampling method was used to select the respondents. The respondents were selected randomly irrespective of characteristics. The primary data was purposively collected from different region of Bengaluru north, south and central. A total of 60 consumers and 30 shopkeepers were interviewed, 20 respondents (consumers) from each and 10 respondents (shopkeepers) from north, south and central respectively.

3.3 Nature and source of data

Primary data: The general information regarding socio economic characteristics like name, age, education, occupation, family income, food habit and family details were collected and the data regarding specific objectives like factors influencing consumer to purchase the processed organic food products i.e. price, quality, hygiene, health, brand image, taste, pack, advertisement, convenience, nutrition and food safety, constraints faced by shopkeepers for marketing of processed organic food products were collected through pre-tested schedule from respondents randomly by personal interview method during march 2017.

Secondary data: The information regarding the availability of products and product range were collected from the other sources like organized retail market, retail outlets and organic food products shops.

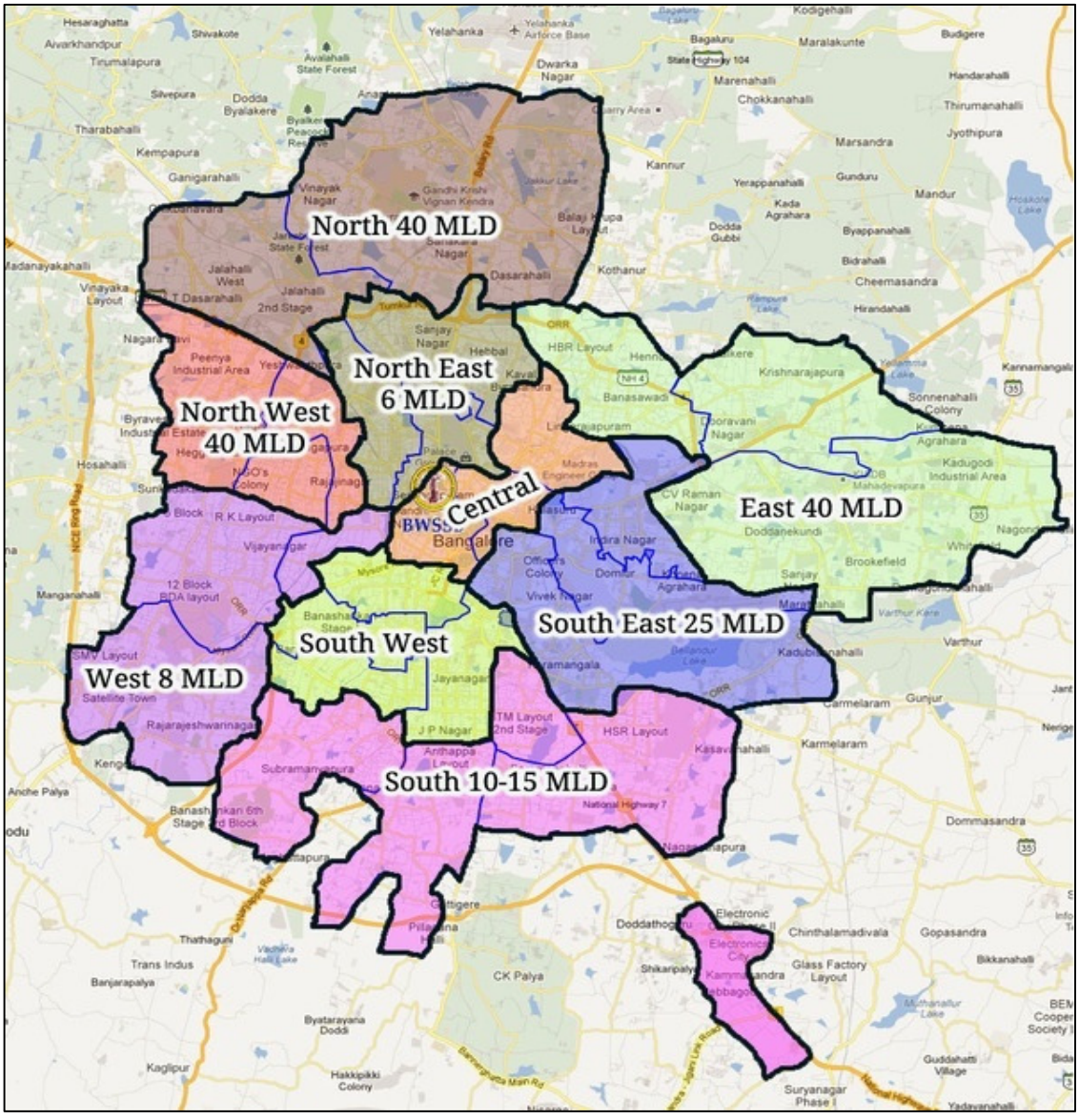

Fig. 1: Map of showing the study area- Bengaluru City

3.3 Analytical tools and techniques

To fulfil the specific objectives of the study the Descriptive statistics Factor analysis and Garret's ranking was used to analyze and interpret the data.

3.4.1 Descriptive statistics

For the study, descriptive statistics such as mean, percentages and frequency distribution were used in analyzing the data of the study.

3.4.2 Factor analysis

Factor analysis is a statistical method used to describe variability among observed, correlated variables in terms of a potentially lower number of unobserved variables called factors. Factor analysis searches for such joint variations in response to unobserved latent variables. The observed variables are modelled as linear combinations of the potential factors, plus "error" terms. The information gained about the interdependencies between observed variables can be used later to reduce the set of variables in a dataset.

3.4.2.1 Uses of Factor Analysis

1. To identify underlying factors that explains the correlation among a set of variables. A set of statements can be used to measure the profiles of consumers. These statements may then be factor analyzed to identify the underlying factors.

2. To identify a new, smaller set of uncorrelated variables to replace the original set of correlated variables in subsequent multivariate analysis.

3.4.2.2 Factor Analysis Model

$X_i = A_{i1} F_1 + A_{i2} F_2 + A_{i3} F_3 + \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots + A_{im} F_m + V_i U_i$

Where,

X_i = i^{th} standardized variable

A_{ij}=Standardized multiple regression co-efficient of variable on common factor j

F= Common factor

V_I = Standardized regression co-efficient of variable i on unique factor

U_i= Unique factor for variable i

m = Number of common factors

The unique factors are uncorrelated with each other and with the common factors. The common factors themselves can be a linear combination of the observed variables.

$F_i = W_{i1} X_1 + W_{i2} X_2 + W_{i3} X_3 + \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots + W_{ik} X_k$

Where,

F_i= Estimate of i^{th} factor

W_i= Weight or factor score co-efficient

k = Number of variables

It is possible to select weights or factor score co-efficients so that the first factor explains the largest portion of the total variance. Then a second set of weights can be selected so that the second factor accounts for most of the residual variance subject to being uncorrelated with the first factor. The same principle can be applied for selecting additional weights for the additional factors.

3.4.2.3 Limitations of Factor Analysis

One of the limitation of this technique is that naming the factors can be problematic. Factor names may not accurately reflect the variables within the factor. Further, some variables are difficult to interpret because they may load onto more than one factor which is known as split loading. It is not recommended to pool result from several samples or from the samples at different points in time as these methods may obscure the findings. As such, the finding from factor analysis are difficult to replicate.

3.4.3 Garrett's Ranking Technique

Garrett's ranking technique was followed to analyze the factors contributing for entropy process in different organizations.

In this method, the employees were asked to rank the given factors and the outcome of such ranking has been converted into score value with the help of the following formula.

$$\text{Percentage position} = \frac{100\,(R_{ij} - 0.5)}{N_j}$$

Where

R_{ij} = Rank given for the i th variable by j th respondents

N_j = Number of variable ranked by j th respondents

The percentage position is converted into scores by referring to the table given by Henry Garrett (1969). Then for each factor the scores of the individual respondents were added together and divided by the total number of respondents for whom the score were added. These mean scores for all the factors were arranged in descending order and the most preferred factors were identified through the ranks assigned.

3.5 Definitions of terms and concepts

Factor: It is the linear combination of the original variables. It also represents the underlying dimension that summarize or account for the original set of observed variables.

Factor Scores: The summation of subject‘s response * factor loading, which means the extent of each subject being explained by the factor.

Eigen values: It measures the variance in all the variables which is accounted for by that factor.

Scree plot: A scree plot displays the Eigenvalues associated with a component or factor in descending order versus the number of the component or factor.

Factor rotation: It is the process of manipulation or adjusting the factor axes to achieve a simpler and pragmatically more meaningful factor solution.

Correlation matrix: A matrix giving the correlations between all pairs of data sets in the analysis.

Kaiser Meyer Oklin (KMO): A statistic that indicates the proportion of variance in variables that might be caused by common underlying factors. It ranges from 0 to 1.

Bartlett's test of Sphericity: It is a measure of sampling adequacy which is used to test the hypothesis that the correlation matrix is an identity matrix (is on the diagonal, is off the diagonals), which would indicate that the variables are unrelated. The Bartlett's test of Sphericity must be less than 0.05.

Communality (common variance): This shows the overall proportion of variance attributable to the factors.

Varimax: A method of factor analysis in which uncorrelated factors are sought by a rotation that maximizes the variance of the factor loading.

IV RESULTS

The data was collected according to the objectives and analyzed to find their results. The findings of the study are presented in this chapter under the following headings.

4.1. Socio- economic profile of consumers in Bengaluru city

4.2. Document the availability and product range of processed organic food products in Bengaluru city

4.3 Factors influencing consumer preference for processed organic food products in Bengaluru city and

4.4 Problems in marketing of processed organic food products.

4.1. Socio- economic profile of consumers in Bengaluru city

The socio-economic characteristic of the consumers provides an idea about kind of people or section of the society consuming processed organic food products. The details of general information about consumers is presented in Table 4.1, which includes information about age, education, gender, family, size, occupation and monthly income. It could be seen from Table 4.1 that 40 per cent of the consumers belonged to the age group of >35-45 years, 25 per cent of the consumers belongs the age group of >45-55 years, 22 per cent of the consumers belongs to the age group of >25-35 years and 13.33 per cent of consumers belongs the age group of >55-65 years respectively.

The education level of sample consumers were analyzed and found that 41.67 per cent were graduates, 23.33 per cent of the consumers were post-graduates, and 15 per cent of consumers were with the education level of PUC, 11.67 per cent of consumers with the education level of high school and 8.33 per cent of primary education.

The occupation patter of the consumers revealed that among 60 consumers, 53.33 per cent of them were females and remaining 46.67 per cent were males. With respect to family type 80 per cent of the family belonged to nuclear type and 20 per cent were joint

type of family. With respect to food habits 76.67 per cent of consumers belonged to non-vegetarian type and remaining 23.33 per cent were vegetarians.

Table 4.1: Socio-economic profile of consumers in Bengaluru city

(n=60)

Sl. No	Particulars	No. of respondents	Percentage to the total
1.	**Age (Years)**		
a)	25-35	13	21.67
b)	>35-45	24	40.00
c)	>45-55	15	25.00
d)	>55-65	8	13.33
	Total	**60**	**100**
2.	**Educational level**		
a)	Primary	5	8.33
b)	High School	7	11.67
c)	PUC	9	15.00
d)	Under Graduation	25	41.67
e)	Post- Graduation	14	23.33
	Total	**60**	**100**
3.	**Gender**		
a)	Male	28	46.67
b)	Female	32	53.33
	Total	**60**	**100**
4.	**Family Type**		
a)	Nuclear	48	80.00
b)	Joint	12	20.00
	Total	**60**	**100**
5.	**Food Habit**		
a)	Vegetarians	14	23.33
b)	Non-vegetarians	46	76.67
	Total	**60**	**100**
6.	**Employment pattern**		
a)	Private job	23	38.33
b)	Government job	15	25.00
c)	Own business	10	16.67
d)	House wife	12	20.00
	Total	**60**	**100**
7.	**Monthly income (in Rs.)**		
a)	Up to 25,000	5	8.33
b)	>25,000-50,000	25	41.67
c)	>50,000-75,000	14	23
d)	>75,000-1,00,000	9	15
e)	>1,00,000	7	11.67
	Total	**60**	**100**

Among 60 consumers, 38.33 per cent of consumers were working in private sector, 25 per cent were in government jobs, 20 per cent were housewives and 16.67 per cent of consumers had their own business.

Among the consumers 41.67 per cent had their monthly income of more than Rs. 25,000- 50,000, 23 per cent consumers had their income in the range of more than Rs. 50,000 to 75,000, 15 per cent consumers income was in the range of more than Rs. 75,000 to 1, 00,000, followed by more than one lakh income group with 11.67 per cent. The consumers with less than Rs. 25,000 income were insignificant (8.33 %).

4.2. Document the availability and product range of processed organic food products in Bengaluru city

4.2.1 Availability and product range of processed organic rice products marketed in Bengaluru city

The various products and product range of processed organic food products marketed in Bengaluru city were listed in the table 4.2.

It was observed that 14 different kinds of processed rice were sold in market, based on purpose of consumption, degree of processing, color, flavor etc. Eight companies were in the business of organic processed rice and rice products with equal number of brands.

The specification of the different brands i.e. 24 manthra have a specification like grown without synthetic pesticide and GMOs, terra green have specification like healthy staple, timbaktu organic have specification like unpolished and chemical free, phalad sure and pure have a specification like cultivated with controlled organic farming practices, safe harvest have a specification like no synthetics pesticides, pristine field of gold have specification like rich in minerals, high dietary fibers and anti- oxidants, turn organic have specification like healthy diet, gramya darma have specification like pure with honesty, G10 have specification like good for health, pro nature have specification like 100 % organic, dhanya have specification like manually processed and organic arya have specification like taste natural.

Table 4.2: Product range of processed organic rice products marketed in Bengaluru city

Sl. No.	Products	Company	Brand	Specification
1.	**Rice**			
a)	Idly Rice	Sresta Natural Bioproducts Pvt. Ltd	24 Mantra	Grown without synthetic pesticide and GMOs
b)	Broken Rice	Sresta Natural Bioproducts Pvt. Ltd	24 Mantra	Grown without synthetic pesticide and GMOs
c)	Sonamasuri semi brown rice	Sresta Natural Bioproducts Pvt. Ltd	24 Mantra	Grown without synthetic pesticide and GMOs
d)	Sonamasuri hand powder rice	Terra Firma Organic Project Ptv. Ltd	Terra Green	Healthy staple
e)	Normal Organic Rice	Dharani Fam Coop Ltd	Timbaktu Organic	Unpolished and chemical free
f)	Rajmundi Rice	L.P Entrpries	LP	Good source of vitamin B and E
g)	Semi polished	Phalad Agro Research Foundation Pvt. Ltd	Phalad pure and Sure	Cultivated with controlled organic farming practices
h)	Red Sambar Rice	Safe Harvest Ptv. Ltd	Safe Harvest	No synthetics pesticides and herbicides
i)	Red Rice	Dharani Fam Coop Ltd	Timbaktu Organic	Unpolished and chemical free
h)	Red Rice	Sresta Natural Bioproducts Pvt. Ltd	24 Mantra	Grown without synthetic pesticide and GMOs
k)	Black Rice	Pristine Organic Ptv. Ltd	Pristine fields of Gold	Rich in minerals, high dietary fibers and have anti-oxidants
l)	Sonamasuri Polished Rice	Cosmic Foods	TurnOrganic	Healthy Diet
m)	Basmathi Brown Rice	Terra Firma Organic Project Ptv. Ltd	Terra Green	Healthy staple
n)	Basmathi White Rice	Terra Firma Organic Project Ptv. Ltd	Terra Green	Healthy staple
o)	Basmathi Brown Rice	Sucitva Bio- Products Ptv. Ltd	Gramya darma	Pure with Honesty
p)	Normal rice(raw rice)	Sucitva Bio- Products Ptv. Ltd	Gramya darma	Pure with Honesty

4.2.2 Availability and product range of processed organic wheat products marketed in Bengaluru city

In wheat, three different kinds of wheat products were sold in market, based on the degree of processing and purpose of consumption, etc.

The specification of the different brands i.e. 24 manthra have a specification like grown without synthetic pesticide and GMOs, terra green has specification like healthy staple, timbaktu organic have specification like unpolished and chemical free.

Table 4.3: Product range of processed organic wheat products marketed in Bengaluru city

Sl. No.	Products	Company	Brand	Specification
2.	**Wheat**			
a)	Wheat Grain	Dharani Fam Coop Ltd	Timbaktu Organic	Unpolished and chemical free
b)	Wheat Semolin	Dharani Fam Coop Ltd	Timbaktu Organic	Unpolished and chemical free
c)	Wheat Dhaliya	Terra Firma Organic Project Ptv. Ltd	Terra Green	Healthy staple
d)	Wheat Dhaliya	Sresta Natural Bioproducts Pvt. Ltd	24 Mantra	Grown without synthetic pesticide and GMOs

4.2.3 Availability and product range of processed organic millets products marketed in Bengaluru city

Among the minor millets, the different kinds of millets were available in market i.e. finger millet, fox tail millet, kodo millet, proso millet, little millet were marketed. Based on the degree of processing and purpose of consumption, etc.

The specification of the different brands i.e. terra green has specification like healthy staple, timbaktu organic have specification like unpolished and chemical free,

safe harvest have a specification like no synthetics pesticides, gramya darma have specification like pure with honesty, G10 have specification like good for health, pro nature have specification like 100 % organic, dhanya have specification like manually processed and organic arya have specification like taste natural.

Table 4.4: Product range of processed organic millets products marketed in Bengaluru city

Sl. No.	Products	Company	Brand	Specification
3.	**Ragi (Finger millet)**			
a)	Whole Ragi	Terra Firma Organic Project Ptv. Ltd	Terra Green	Healthy staple
b)	Whole Ragi	Dharani Fam Coop Ltd	Timbaktu Organic	Unpolished and chemical free
c)	Whole Ragi	Sucitva Bio-Products Ptv. Ltd	Gramya darma	Pure with Honesty
d)	Whole Ragi	Mehrotra Cosumer Products Ptv. Ltd	Organic Tattva	pure natural
Fox Tail Millet				
a)	Fox Tail Millet	G10 Organic Exportes	G10	Good for Health
b)	Fox Tail Millet	Terra Firma Organic Project Ptv. Ltd	Terra Green	Healthy staple
c)	Fox Tail Millet	Pro Nature Organic Food Ptv. Ltd	Pro Nature	100 % Organic
d)	Fox Tail Millet	Dhanya Food Impex Corporation	Dhanya	Manually proceesed
Kodo Millet				
a)	Kodo Millet	Arya Farm Products Ptv. Ltd	Organic Arya	Tastes Natural
b)	Kodo Millet	Dharani Fam Coop Ltd	Timbaktu Organic	Unpolished and chemical free
c)	Kodo Millet	Dhanya Food Impex Corporation	Dhanya	Manually proceesed
a)	Proso Millet	Dharani Fam Coop Ltd	Timbaktu Organic	Unpolished and chemical free
b)	Little Millet	Dharani Fam Coop Ltd	Timbaktu Organic	Unpolished and chemical free

4.2.4 Availability and product range of processed organic dal products marketed in Bengaluru city

In dal, tur dal and masoor dal were sold in market by five companies, based on purpose of consumption, size and color.

The specification of the different brands i.e. terra green has specification like healthy staple, timbaktu organic have specification like unpolished and chemical free, safe harvest have a specification like no synthetics pesticides, G10 have specification like good for health, pro nature has specification like 100 % organic, and organic arya have specification like taste natural.

Table 4.5: Product range of processed organic dal products marketed in Bengaluru city

Sl. No.	Product	Company	Brand	Specification
4.	**Dal**			
a)	Tur Dal	Pro Nature Organic Food Ptv. Ltd	Pro Nature	100 % Organic
b)	Tur Dal	G10 Organic Exportes	G10	Good for Health
c)	Tur Dal	Terra Firma Organic Project Ptv. Ltd	Terra Green	Healthy staple
d)	Tur Dal	Safe Harvest Ptv. Ltd	Safe Harvest	No synthetics pesticides and herbicides
e)	Masoor Dal	Terra Firma Organic Project Ptv. Ltd	Terra Green	Healthy staple
f)	Masoor Dal	Safe Harvest Ptv. Ltd	Safe Harvest	No synthetics pesticides and herbicides
g)	Masoor Dal	Arya Farm Products Ptv. Ltd	Organic Arya	Tastes Natural

4.2.5 Availability and product range of processed organic Bengal gram products marketed in Bengaluru city

In bengal gram, kabuli and brown bengal gram were sold by five companies in market, based on size and color.

The specification of the different brands i.e. 24 manthra have a specification like grown without synthetic pesticide and GMOs, terra green has specification like healthy staple, phalad sure and pure have a specification like cultivated with controlled organic farming practices, safe harvest have a specification like no synthetics pesticides and pro nature have specification like 100 % organic.

Table 4.6: Product range of processed organic Bengal gram products marketed in Bengaluru city

Sl. No.	Products	Company	Brand	Specification
5.	**Bengal Gram**			
a)	Kabuli	Safe Harvest Ptv. Ltd	Safe Harvest	No synthetics pesticides and herbicides
b)	Kabuli	Terra Firma Organic Project Ptv. Ltd	Terra Green	Healthy staple
c)	Kabuli	Sresta Natural Bioproducts Pvt. Ltd	24 Mantra	Grown without synthetic pesticide and GMOs
d)	Kabuli	Phalad Agro Research Foundation Pvt. Ltd	Phalad pure and Sure	Cultivated with controlled organic farming practices
e)	Kabuli	Sanjeevani Organic Ptv. Ltd	Sanjeevani Organic	
f)	Brown Bengal Gram	Sresta Natural Bioproducts Pvt. Ltd	24 Mantra	Grown without synthetic pesticide and GMOs
g)	Brown Bengal Gram	Pro Nature Organic Food Ptv. Ltd	Pro Nature	100 % Organic

4.2.6 Availability and product range of processed organic green gram products marketed in Bengaluru city

In green gram, normal green gram whole, split green gram, whole moong dal was sold by six companies, based degree of processing, purpose of consumption and size.

The specification of the different brands i.e. terra green has specification like healthy staple, timbaktu organic have specification like unpolished and chemical free, safe harvest have a specification like no synthetics pesticides, and organic arya have specification like taste natural.

Table 4.7: Product range of processed organic green gram products marketed in Bengaluru city

Sl. No.	Products	Company	Brand	Specification
6.	**Green Gram**			
a)	Green Gram	Terra Firma Organic Project Ptv. Ltd	Terra Green	Healthy staple
b)	Green Gram	Arya Farm Products Ptv. Ltd	Organic Arya	Tastes Natural
c)	Green Gram	Safe Harvest Ptv. Ltd	Safe Harvest	No synthetics pesticides and herbicides
d)	Green Gram	Dharani Fam Coop Ltd	Timbaktu Organic	Unpolished and chemical free
Moong Dal Whole				
a)	Moong Dal Whole	Terra Firma Organic Project Ptv. Ltd	Terra Green	Healthy staple
b)	Moong Dal Whole	Arya Farm Products Ptv. Ltd	Organic Arya	Tastes Natural
c)	Moong Dal Whole	Safe Harvest Ptv. Ltd	Safe Harvest	No synthetics pesticides and herbicides
d)	Moong Dal Whole	G10 Organic Exporters	G10	Good for Health

4.2.7 Availability and product range of processed organic urd dal products marketed in Bengaluru city

In urd dal, whole and split urd dal, white and black whole urd dal and split urd dal black were marketed by seven companies, based on degree of processing, purpose of consumption color and size.

Table 4.8: Product range of processed organic urd dal products marketed in Bengaluru city

Sl. No.	Products	Company	Brand	Specification
7.	**Urda Dal White Whole**			
a)	Urda Dal White Whole	Terra Firma Organic Project Ptv. Ltd	Terra Green	Healthy staple
b)	Urda Dal White Whole	Safe Harvest Ptv. Ltd	Safe Harvest	No synthetics pesticides and herbicides
c)	Urda Dal White Whole	Pro Nature Organic Food Ptv. Ltd	Pro Nature	100 % Organic
d)	Urda Dal White Whole	Mehrotra Cosumer Products Ptv. Ltd	Organic Tattva	pure natural
Split Urda Dal White				
a)	Split Urda Dal White	G10 Organic Exportes	G10	Good for Health
b)	Split Urda Dal White	Terra Firma Organic Project Ptv. Ltd	Terra Green	Healthy staple
c)	Split Urda Dal White	Safe Harvest Ptv. Ltd	Safe Harvest	No synthetics pesticides and herbicides
d)	Split Urda Dal White	Sucitva Bio- Products Ptv. Ltd	Gramya darma	Pure with Honesty
Black Whole Urda Dal				
a)	Black Whole Urda Dal	Sucitva Bio- Products Ptv. Ltd	Gramya darma	Pure with Honesty
b)	Black Whole Urda Dal	Safe Harvest Ptv. Ltd	Safe Harvest	No synthetics pesticides and herbicides
Split Urda Dal Black				
a)	Split Urda Dal Black	Sucitva Bio- Products Ptv. Ltd	Gramya darma	Pure with Honesty
b)	Split Urda Dal Black	Safe Harvest Ptv. Ltd	Safe Harvest	No synthetics pesticides and herbicides
c)	Split Urda Dal Black	Sresta Natural Bioproducts Pvt. Ltd	24 Mantra	Grown without synthetic pesticide and GMOs
d)	Split Urda Dal Black	Phalad Agro Research Foundation Pvt. Ltd	Phalad pure and Sure	Cultivated with controlled organic farming practices

The specification of the different brands i.e. 24 manthra have a specification like grown without synthetic pesticide and GMOs, terra green have specification like healthy staple, phalad sure and pure have a specification like cultivated with controlled organic farming practices, safe harvest have a specification like no synthetics pesticides, gramya darma have specification like pure with honesty, G10 have specification like good for health, pro nature have specification like 100 % organic, and organic tattava have specification like pure natural.

4.2.8 Availability and product range of processed organic jaggery and sugar food products marketed in Bengaluru city

In jaggery and sugar, jaggery powder and jaggery ball were marketed. In sugar products, normal white sugar was marketed, based on degree of processing, purpose of consumption color and size. Around four companies were present in the business.

The specification of the different brands i.e. 24 manthra have a specification like grown without synthetic pesticide and GMOs, terra green has specification like healthy staple, safe harvest has a specification like no synthetics pesticides, gramya darma have specification like pure with honesty, G10 have specification like good for health and pro nature have specification like 100 % organic,

4.2.9 Availability and product range of processed organic oil seeds products marketed in Bengaluru city

In oil seeds, groundnut, white sesame was marketed, based on the size, oil content etc. around four companies were present in the business.

The specification of the different brands i.e. 24 manthra have a specification like grown without synthetic pesticide and GMOs, timbaktu organic have specification like unpolished and chemical free, safe harvest have a specification like no synthetics pesticides and pro nature have specification like 100 % organic.

Table 4.9: Product range of processed organic jaggery and sugar products marketed in Bengaluru city

Sl. No.	Products	Company	Brand	Specification
8	**Jaggery**			
a)	Jaggery Powder	Safe Harvest Ptv. Ltd	Safe Harvest	No synthetics pesticides and herbicides
b)	Jaggery Powder	Sresta Natural Bioproducts Pvt. Ltd	24 Mantra	Grown without synthetic pesticide and GMOs
c)	Jaggery Powder	Terra Firma Organic Project Ptv. Ltd	Terra Green	Healthy staple
d)	Jaggery Ball	Sresta Natural Bioproducts Pvt. Ltd	24 Mantra	Grown without synthetic pesticide and GMOs
e)	Jaggery Ball	Sucitva Bio- Products Ptv. Ltd	Gramya darma	Pure with Honesty
f)	Jaggery Ball	Terra Firma Organic Project Ptv. Ltd	Terra Green	Healthy staple
g)	Jaggery Ball	Safe Harvest Ptv. Ltd	Safe Harvest	No synthetics pesticides and herbicides
Sugar				
a)	Normal White Sugar	Sucitva Bio- Products Ptv. Ltd	Gramya darma	Pure with Honesty
b)	Normal White Sugar	Terra Firma Organic Project Ptv. Ltd	Terra Green	Healthy staple
c)	Normal White Sugar	Safe Harvest Ptv. Ltd	Safe Harvest	No synthetics pesticides and herbicides
d)	Normal White Sugar	Pro Nature Organic Food Ptv. Ltd	Pro Nature	100 % Organic

Table 4.10: Product range of processed organic oil seeds products marketed in Bengaluru city

Sl. No.	Products	Company	Brand	Specification
9.	**Oil Seeds**			
a)	Groundnut	Sresta Natural Bioproducts Pvt. Ltd	24 Mantra	Grown without synthetic pesticide and GMOs
b)	Groundnut	Safe Harvest Ptv. Ltd	Safe Harvest	No synthetics pesticides and herbicides
c)	Groundnut	Pro Nature Organic Food Ptv. Ltd	Pro Nature	100 % Organic
d)	Groundnut	Dharani Fam Coop Ltd	Timbaktu Organic	Unpolished and chemical free
e)	White Sesame	Sresta Natural Bioproducts Pvt. Ltd	24 Mantra	Grown without synthetic pesticide and GMOs
f)	White Sesame	Pro Nature Organic Food Ptv. Ltd	Pro Nature	100 % Organic

4.2.10 Availability and product range of processed organic oil products marketed in Bengaluru city

In oil, ground nut oil, mustard oil, safflower oil was marketed, based on the degree of processing, aroma, thickness and flavor. Four companies were present in the business.

The specification of the different brands i.e. 24 manthra have a specification like grown without synthetic pesticide and GMOs, terra green has specification like healthy staple, timbaktu organic have specification like unpolished and chemical free, gramya darma have specification like pure with honesty, G10 have specification like good for health and pro nature have specification like 100 % organic.

Table 4.11: Product range of processed organic oil products marketed in Bengaluru city

Sl. No.	Products	Company	Brand	Specification
10.	**Oil**			
a)	Ground nut Oil	Dharani Fam Coop Ltd	Timbaktu Organic	Unpolished and chemical free
b)	Ground nut Oil	Sresta Natural Bioproducts Pvt. Ltd	24 Mantra	Grown without synthetic pesticide and GMOs
c)	Ground nut Oil	Pro Nature Organic Food Ptv. Ltd	Pro Nature	100 % Organic
d)	Ground nut Oil	Sucitva Bio- Products Ptv. Ltd	Gramya darma	Pure with Honesty
e)	Mustard Oil	Sresta Natural Bioproducts Pvt. Ltd	24 Mantra	Grown without synthetic pesticide and GMOs
f)	Mustard Oil	Pro Nature Organic Food Ptv. Ltd	Pro Nature	100 % Organic
g)	Safflower Oil	Sucitva Bio- Products Ptv. Ltd	Gramya darma	Pure with Honesty
h)	Safflower Oil	Sresta Natural Bioproducts Pvt. Ltd	24 Mantra	Grown without synthetic pesticide and GMOs

4.2.11 Availability and product range of processed organic spices products marketed in Bengaluru city

In spices, cardamom, cumin, fenu greek, mustard, black pepper and clove were marketed by seven companies, based on degree of processing, purpose of consumption, color and size.

The specification of the different brands i.e. 24 manthra have a specification like grown without synthetic pesticide and GMOs, terra green have specification like healthy staple, phalad sure and pure have a specification like cultivated with controlled organic farming practices, safe harvest have a specification like no synthetics pesticides, gramya darma have specification like pure with honesty, G10 have specification like good for

health, pro nature have specification like 100 % organic, and organic arya have specification like taste natural.

Table 4.12: Product range of processed organic spices food products marketed in Bengaluru city

Sl. No.	Products	Company	Brand	Specification
11.	**Spices**			
a)	Cardomom	Sresta Natural Bioproducts Pvt. Ltd	24 Mantra	Grown without synthetic pesticide and GMOs
b)	Cardomom	Pro Nature Organic Food Ptv. Ltd	Pro Nature	100 % Organic
c)	Cardomom	Phalad Agro Research Foundation Pvt. Ltd	Phalad pure and Sure	Cultivated with controlled organic farming practices
d)	Cumin	Pro Nature Organic Food Ptv. Ltd	Pro Nature	100 % Organic
e)	Cumin	Safe Harvest Ptv. Ltd	Safe Harvest	No synthetics pesticides and herbicides
f)	Cumin	Terra Firma Organic Project Ptv. Ltd	Terra Green	Healthy staple
g)	Fenu greek	Pro Nature Organic Food Ptv. Ltd	Pro Nature	100 % Organic
h)	Fenu greek	Terra Firma Organic Project Ptv. Ltd	Terra Green	Healthy staple
i)	Fenu greek	Sucitva Bio- Products Ptv. Ltd	Gramya darma	Pure with Honesty
j)	Mustard	Pro Nature Organic Food Ptv. Ltd	Pro Nature	100 % Organic
k)	Mustard	Terra Firma Organic Project Ptv. Ltd	Terra Green	Healthy staple
l)	Mustard	Sucitva Bio- Products Ptv. Ltd	Gramya darma	Pure with Honesty
m)	Black Pepper	Safe Harvest Ptv. Ltd	Safe Harvest	No synthetics pesticides and herbicides
n)	Black Pepper	Terra Firma Organic Project Ptv. Ltd	Terra Green	Healthy staple
o)	Black Pepper	G10 Organic Exportes	G10	Good for Health
p)	Black Pepper	Arya Farm Products Ptv. Ltd	Organic Arya	Tastes Natural
q)	Clove	Terra Firma Organic Project Ptv. Ltd	Terra Green	Healthy staple
r)	Clove	Pro Nature Organic Food Ptv. Ltd	Pro Nature	100 % Organic
s)	Clove	Sucitva Bio- Products Ptv. Ltd	Gramya darma	Pure with Honesty

4.2.12 Availability and product range of processed organic honey products marketed in Bengaluru city

In honey, normal honey, mint honey and multiflora honey were sold by four companies, based on the degree of processing, aroma, color and thickness.

The specification of the different brands i.e. 24 manthra have a specification like grown without synthetic pesticide and GMOs, terra green has specification like healthy staple, safe harvest have a specification like no synthetics pesticides, pro nature have specification like 100 % organic and timbaktu organic have specification like unpolished and chemical free.

Table 4.13: Product range of processed organic honey products marketed in Bengaluru city

Sl. No.	Products	Company	Brand	Specification
12.	**Honey**			
a)	Honey	Pro Nature Organic Food Ptv. Ltd	Pro Nature	100 % Organic
b)	Honey	Sresta Natural Bioproducts Pvt. Ltd	24 Mantra	Grown without synthetic pesticide and GMOs
c)	Honey	Dharani Fam Coop Ltd	Timbaktu Organic	Unpolished and chemical free
d)	Mint Honey	Singh andSingh Distributor	Sanjeevani Organic	
e)	Multi Flora Honey	Safe Harvest Ptv. Ltd	Safe Harvest	No synthetics pesticides and herbicides

4.2.13 Availability and product range of processed organic juice products marketed in Bengaluru city

In juices, apple juice, mango juice, orange juice and mixed fruit juice were available in the market. Two companies were present in the business which were selling the products based on the degree of processing, purpose of consumption and aroma.

The specification of the different brands i.e. 24 manthra have a specification like grown without synthetic pesticide and GMOs and organa have a specification lie 100 % organic juice.

Table 4.14: Product range of processed organic juice products marketed in Bengaluru city

Sl. No.	Products	Company	Brand	Specification
13.	**Juice**			
a)	Apple Juice	Mother India Organic and Naturals Ptv. Ltd	Organa	100 % Organic Fruit Juice
b)	Mango Juice	Mother India Organic and Naturals Ptv. Ltd	Organa	100 % Organic Fruit Juice
c)	Orange Juice	Mother India Organic and Naturals Ptv. Ltd	Organa	100 % Organic Fruit Juice
d)	Mixed Fruit Juice	Mother India Organic and Naturals Ptv. Ltd	Organa	100 % Organic Fruit Juice
e)	Apple Juice	Sresta Natural Bioproducts Pvt. Ltd	24 Mantra	Grown without synthetic pesticide and GMOs
f)	Mango Juice	Sresta Natural Bioproducts Pvt. Ltd	24 Mantra	Grown without synthetic pesticide and GMOs
g)	Orange Juice	Sresta Natural Bioproducts Pvt. Ltd	24 Mantra	Grown without synthetic pesticide and GMOs
h)	Mixed Fruit Juice	Sresta Natural Bioproducts Pvt. Ltd	27 Mantra	Grown without synthetic pesticide and GMOs

4.2.14 Availability and product range of processed beverages organic food products marketed in Bengaluru city

In beverages, organic tea (25 bags), tulsi green tea, tulsi masal tea, tulsi ginger tea,assam tea, green tea, tulsi ginger tea(25 bags) were marketed. Four companies were present in the business for selling of products based on degree of processing, purpose of consumption, color and size.

The specification of the different brands i.e. 24 manthra have a specification like grown without synthetic pesticide and GMOs and some others brands are well back and organic India.

Table 4.15: Product range of processed beverages organic food products marketed in Bengaluru city

Sl. No.	Products	Company	Brand	Specification
14.	**Beverages**			
a)	Organic Tea (25 bags)	Stanes Amalgamated Estates Ltd	Well back	-
b)	Tulsi Green Tea	Organic India Ptv. Ltd	Organic India	-
d)	Tulsi Masala Tea	Organic India Ptv. Ltd	Organic India	-
e)	Tulsi Ginger Tea	Organic India Ptv. Ltd	Organic India	-
f)	Assam Tea	Sresta Natural Bioproducts Pvt. Ltd	24 Mantra	Grown without synthetic pesticide and GMOs
g)	Tulsi Tea	Sresta Natural Bioproducts Pvt. Ltd	24 Mantra	Grown without synthetic pesticide and GMOs
h)	Green Tea	Sresta Natural Bioproducts Pvt. Ltd	24 Mantra	Grown without synthetic pesticide and GMOs
i)	Tulsi Ginger Tea (25 bags)	Sresta Natural Bioproducts Pvt. Ltd	24 Mantra	Grown without synthetic pesticide and GMOs

4.3. To analyze the factors influencing consumer preference for processed organic food Products in Bangalore city and

4.3.1 Purchase frequency of processed organic food products by consumers in Bengaluru City

The purchase frequency of processed organic food products varies from family to family and same is presented in the Table 4.16. 33.33 per cent of consumers purchase once in fortnight followed by 28.33 per cent of consumers purchase once in a month followed by 16.67 per cent consumers purchased weekly once followed by 11.67 per cent consumer purchase once in two months and 10 per cent of consumers purchased only once in three months.

Table 4.16: Purchase frequency of processed organic food products by consumers in Bengaluru city

Sl. No.	Frequency	No. of respondents	Percentage to the total
1.	Weekly once	10	16.67
2.	Fort Nightly	20	33.33
3.	Once in a month	17	28.33
4.	Once in two months	7	11.67
5.	Once in three months	6	10.00
	Total	60	100

4.3.2: Sources of information to consumers about processed organic food products in Bengaluru city

The source of information regarding processed organic food products is presented in the Table 4.17. About 36.67 per cent of consumer getting information from relatives/ friends followed by 23.33 per cent of information from mass media followed by 16.67 per cent from internet followed by 13.33 per cent from magazine and 10 per cent from doctor.

Table 4.17: Sources of information to consumers about processed organic food products in Bengaluru city

Sl. No	Particulars	No. of respondents	Percentage to the total
1.	Mass media	14	23.33
2.	Doctor/ Dietician	6	10.00
3.	Relatives/friends	22	36.67
4.	Internet	10	16.67
5.	Magazine	8	13.33
	Total	60	100

4.3.3 Brand loyalty of the consumers towards processed organic food products

The brand **l**oyalty of the consumers towards processed organic food products varies from consumers to consumers and the same is presented the Table 4.18. 33.33 per cent of consumers confined to use specific brands followed by 30 per cent of consumers are loyal to specific brand even at higher price followed by 25 per cent consumers used specific brand based on recommendation of others and 11.67 per cent of consumers are interested in experimenting other brands.

Table 4.18: Brand loyalty of the consumers towards processed organic food products in Bengaluru city

Sl. No	Particulars	No. of respondent	Percentage of the total
1.	Confined to use specific brand	20	33.33
2.	Based on recommendation of others	15	25.00
3.	Loyal to specific brand even if prices are high	18	30.00
4.	Interested in experimenting with other brands	7	11.67
	Total	60	100

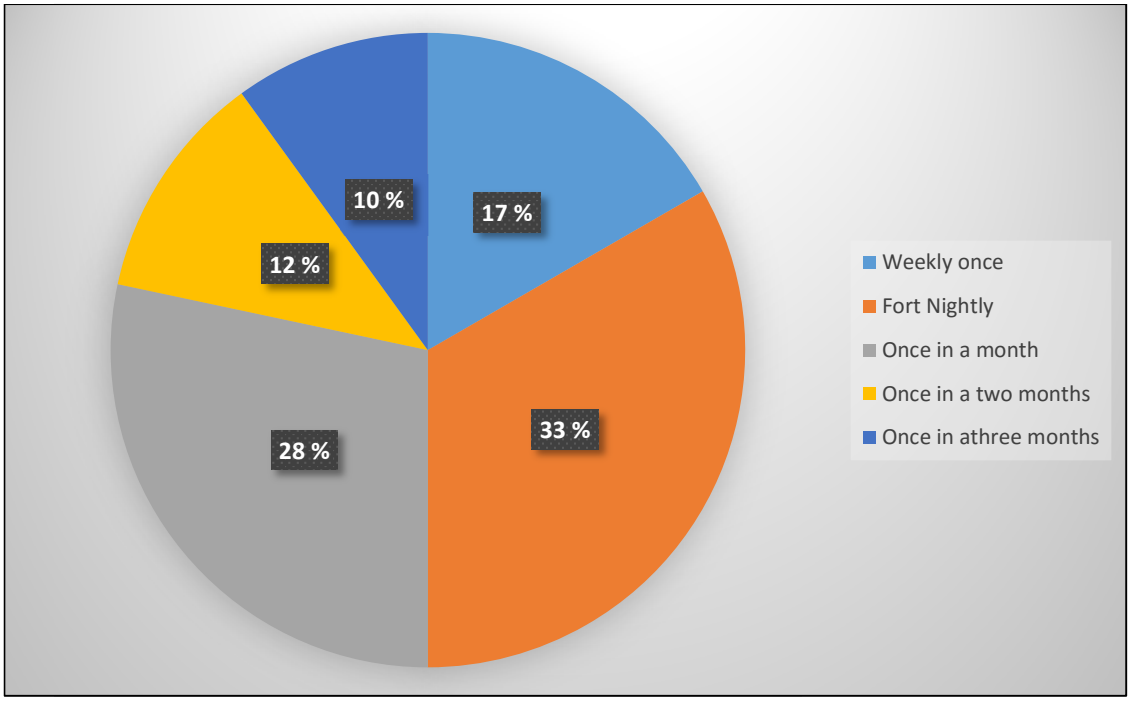

Fig. 2: Purchase frequency of processed organic food products by consumers in Bengaluru City

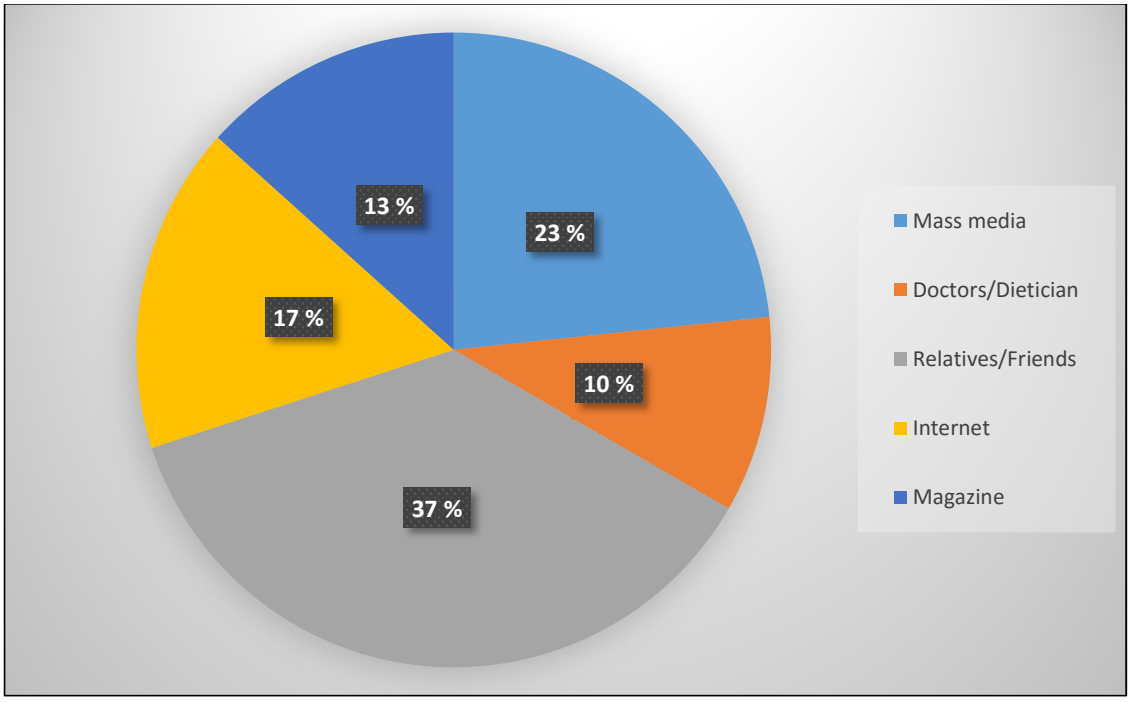

Fig. 3: Sources of information for processed organic food products in Bengaluru city

4.3.4 Consumer willing to pay for processed organic food products in Bengaluru city

The consumer surplus for a particular brand by consumers is presented in the Table 4.19. 48.33 per cent of consumers are ready pay up to 10 per cent followed by 31.67 per cent of consumers are ready to pat up to 5 per cent followed by 13.33 per cent of consumers are read to pay up to 15 per cent and 6.67 per cent of consumers are ready to up to 20 per cent.

Table 4.19: Consumer willing to pay for processed organic food products in Bengaluru city

Sl. No.	Extra margin (%) or Extra Price or Additional Price	No. of respondents	Percentage to the total
1.	5	19	31.67
2.	10	29	48.33
3.	15	8	13.33
4.	20	4	6.67
	Total	**60**	**100**

4.3.5 Consumers preferred time for purchase of processed organic food products in Bengaluru city

Consumers preferred time for purchase of processed organic food products in Bengaluru city is presented in the Table 4.20. 68.33 per cent of consumers prefer evening time, followed by 20 per cent prefer afternoon and 11.67 per cent of consumers prefer morning time to purchase the processed organic food products.

Table 4.20: Consumers preferred time for purchase of processed organic food products consumers by in Bengaluru city

Sl. No	preferred time	No. of respondents	Percentage of the total
1.	Morning	7	11.67
2.	Afternoon	12	20.00
3.	Evening	41	68.33
	Total	60	100

4.3.6 Factors influencing consumer preference towards processed organic food products in Bengaluru city

Factor analysis was used to identify the important attributes influencing the consumers to purchase processed organic food products. The first step is to check the adequacy of factor analysis with the help of Kaiser- Meyer- Olkin (KMO) measure and Bartlett's Test Table 4.21. The KMO measure was 0.595 which revealed that the factors extracted will account for fair amount of variance. The chi-square value for Bartlett's test was significant.

Which reflects the importance shown by the urban consumers for processed organic food products. It clear from the study that urban consumers have accepted processed organic food products, similar to any other food products.

Table 4.21: KMO and Bartlett's test for variance among the factors

KMO and Bartlett's test		
Kaiser –Meyer-Olkin Measure of Sampling Adequacy	0.595	
Bartlett's test of Sphericity	Approx. chi-square test	126.075
	Degrees of Freedom	55
	Significant level	.00

The factors influencing the consumer preference for processed organic food products is presented in the Table 4.22. and Fig. 4.1 value greater than 1 are considered for determining the factor influencing the consumer preference with the help of scree plot. It is clear from the table the 4 factor has Eigen value greater than 1. Hence only 4 factor were shown in the Fig.1.

The study clearly indicates that the consumer preference for processed organic food products is mainly influenced by nutritional content and appearance under factor1.

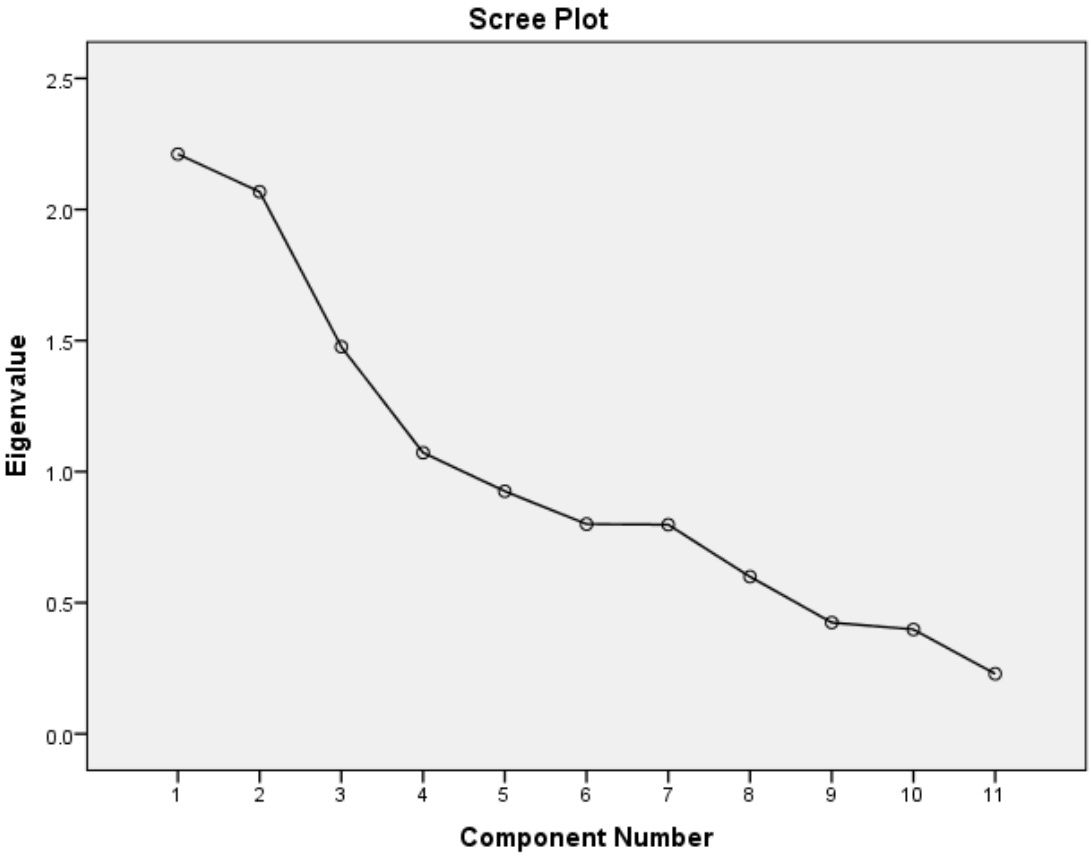

Fig.4: Catlett's scree plot for factors influencing consumer preference towards processed organic food products in Bengaluru city

With respect to factor 2 consumers have ranked affordability. Health consciousness is the most important attribute under factor 3, followed by convenience under factor 4.

The study also exhibited that consumers prefer organic products i.e. cereals, pluses, millets, fruits and vegetables etc. because that fact that they are safer, healthier and more environmentally friendly compared to inorganic food products.

Table 4.22: Factors influencing consumer preference towards processed organic food products in Bengaluru city

		Components			
Sl. No	**Attributes**	**1**	**2**	**3**	**4**
1.	Price	0.042	**0.877**	-0.025	0.064
2.	Quality	-0.060	**0.845**	0.152	0.099
3.	Hygiene	-0.006	0.183	**0.826**	0.111
4.	Health	0.077	0.104	-0.010	**0.714**
5.	Brand image	**0.750**	-0.033	0.151	0.066
6.	Taste	**0.574**	-0.092	-0.337	-0.054
7.	Pack	**0.729**	0.017	-0.010	0.024
8.	Advertisement	**0.568**	-0.516	0.047	0.365
9.	Convenience	-0.053	-0.002	0.221	**0.712**
10.	Nutrition	**0.555**	0.319	0.378	-0.315
11.	Food safety	0.041	-0.074	0.**720**	0.091

Note: Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

4.4. Constraints in marketing of processed organic food products

The major constraints in marketing of processed organic food products faced by shopkeepers / retailers is presented in the Table 4.23. It is clear from the table that lack of awareness of products by customers ranked I (65.16) followed by concern about side effects of processed organic food products ranked II (58.733). The customers felt that products are expensive(ranked III), followed by concern about artificial additives in processed organic food products (rank IV), non-palatable of taste(rank V), non-awareness about nutrient contents by customers (rank VI) and scientifically not proven tangible benefits of processed organic food products (rank VII).

Table 4.23: Constraints in marketing of processed organic food products

Sl. No.	Factors	Mean Score	Rank
1.	Customers not aware of products/ products information.	65.16	I
2.	Concern about side effects in POFPs	58.73	II
3.	Products are Expensive	53.26	III
4.	Concern about artificial additives in POFPs	52.96	IV
5.	Taste is not palatable	48.46	V
6.	Customers not aware about nutrient contents	41.63	VI
7.	Scientifically not proven tangible benefits of POFPs	28.3	VII

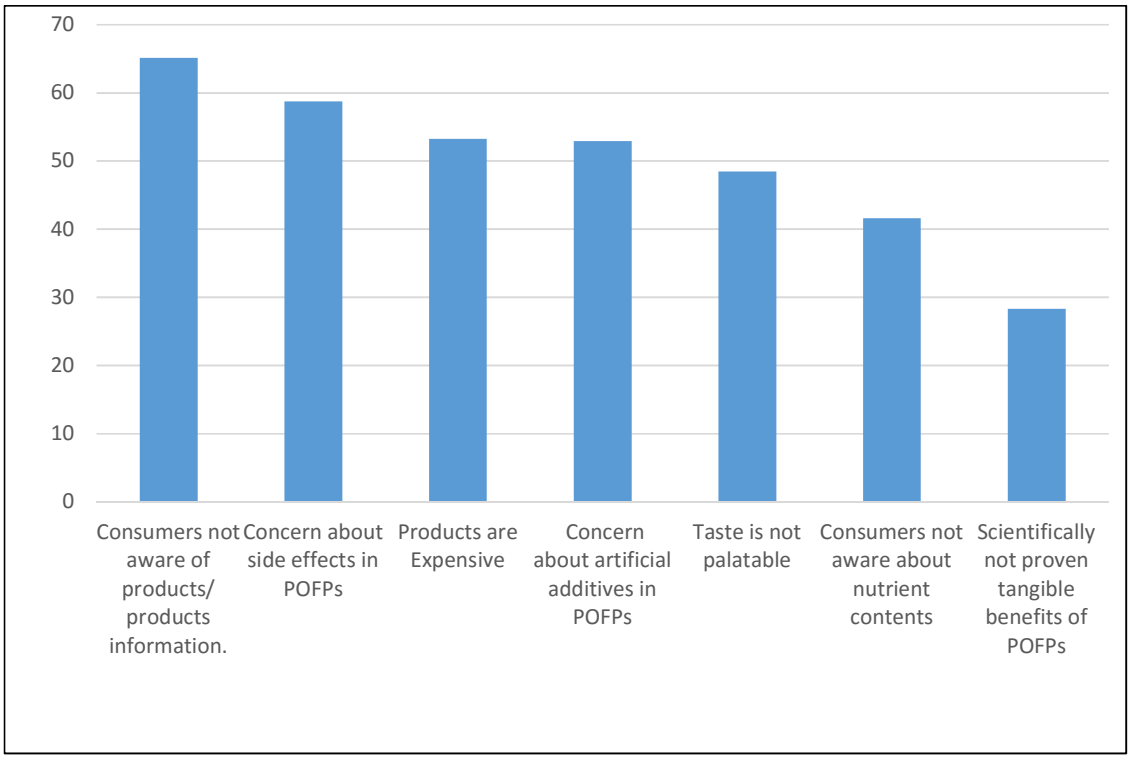

Fig. 5: Constraints in marketing of processed organic food products

V DISUSSION

The result of the analysis carried out for fulfilling the objectives of the study are presented under the following headings.

5.1. Socio- economic profile of consumers in Bengaluru city

5.2. Document the availability and product range of processed organic food products in Bengaluru city

5.3. Factors influencing consumer preference for processed organic food products in Bengaluru city

5.4. Problems in marketing of processed organic food products.

5.1. Socio- economic profile of consumers in Bengaluru city

The socioeconomic profile of the consumers including information about age, education level, gender, family type food habit, employment pattern and income is presented in the Table 4.1

Nearly 40 per cent of the consumers belonged the to age group of 35-45 years (Table 4.1). Sathyendra Kumar and Chandrashekar (2015) also reported that majority of the consumers belonged to the age group of 35-45.

With respect to literacy level of the consumers, the Table 4.1 clearly reveals that none of them were illiterates. Since, the study was under taken in Bengaluru city it is quite obvious that the respondent have minimum level of education. Among the literates 41.67 per cent are graduates. Ragavan and Mageh (2013) also reported that majority of the consumers were graduated.

Nearly 53.33 per cent of the females are purchasing the organic products than male. Sathyendra Kumar and Chandrashekar (2015) also reported that majority of the consumers were females.

The Table 4.1 also reveals that among the consumer an overwhelming majority (80 %) belonged to nuclear type of families. This clearly reveals that the presence of joint

families in the study area is significantly less (20 %).Ragavan and Mageh (2013) also reported that majority of the consumers were belonged to nuclear family.

Nearly 76.67 per cent of consumers were non-vegetarians. More than one third of all consumers were working in private sector. Since, the study was conducted in Bengaluru city, which is the IT and BT hub of India, the people residing here have huge opportunities of private jobs. Ragavan and Mageh (2013) also reported that majority of the consumers were working in to private sector employment category.

The share of consumers earning from the range of more than 25,000 -40,000 is marginally higher.

5.2. Document the availability and product range of processed organic food products in Bengaluru city

The study has clearly revealed that various types of processed organic brands were available in the market. This clearly indicates that the consumer preferences were varied depending upon their preference for reputation of the brand of a company. This clearly reveals that the processed organic food products were important from the point of health, nutritional value, flavor, aroma and other attributes.

5.3. Factors influencing consumer preference for processed organic food products in Bengaluru city

5.3.1 Purchase frequency of processed organic food products by consumers in Bengaluru City

The purchase frequency of consumers for processed organic food products in Bengaluru city is presented in Table 4.16. The table clearly reveals that nearly 33.33 per cent of consumers purchase fort nightly. The consumers who were purchasing once in a month next in the order of importance with 28.33 per cent. Hardly 16.67 per cent of consumers purchase once in a week. Similarly, hardly 11.67 per cent of consumers purchase once in two month and consumers purchasing once in a three month is also very marginal 10 per cent. This clearly indicated that the consumers who are purchasing

regularly are negligible. However the consumers were purchasing once in a fort night and once in a month are significant in terms of number (50 %)

5.3.2 Sources of information to consumers about processed organic food products in Bengaluru city

The result clearly indicate that the nearly more than one third of consumers are influenced by friends/relatives in their purchase behavior. It is interest to note in the age of internet friends and relatives very much influenced purchase behavior of consumers

5.3.3 Brand loyalty of the consumers towards processed organic food products

The brand loyalty of consumers in respect to processed organic food products is presented in the Table 4.18. It is interest to that two third of consumers purchase a specific brand and a continuous basses. This may be due to confidence of the consumers on a company or brand of the company. The table also revealed that a marginal numbers of consumers (11.67 %) are ready to experiment with different types of processed organic brands.

5.3.4 Consumer surplus for processed organic food products in Bengaluru city

The consumers' willingness to pay higher price for particular processed organic food products brand is presented in the Table 4.19. The table clearly revealed that (48.33 %) of consumers were willing to pay higher price (10 %). Another one third of consumers (31.67 %) were willing to pay higher price in the range of (5 %). This clearly revealed that consumers are willing to purchase processed organic food products brand even if the prices are high in the market, which signify the important of processed organic food products to the consumers from the point health, nutritional value and other factors

5.3.5 Consumers preferred time for purchase of processed organic food products in Bengaluru city

In the Table 4.20. revealed that more than half of consumers preferred time to purchase processed organic food products was evening, because most of the working women, men and housewives purchased during this time, only marginal percentage of

consumers purchased in the afternoon (20 %) and very few consumers (11.67 %) purchased in the morning, they may housewives and others.

5.3.6 Factors influencing consumer preference towards processed organic food products in Bengaluru city

The factors influencing the consumer preference for processed organic food products is presented in the Table 4.21. The first step is to check the adequacy of factor analysis with the help of Kaiser-Meyer-Olkin (KMO) measures and Bartlett's test (Table 4.8). The KMO measures was 0.595 which reveals that the factors extracted will fair amount of variance. The chi-square value for Bartlett's test was significant. Hence income is the major factor influencing the consumer preference, therefore null hypothesis was rejected. This reflects the importance shown by the urban consumers for processed organic food products. It is clear from the study that urban consumers have accepted processed organic food products, similar to any other food products.

The factors influencing the consumer preference for processed organic food products is presented in the Table 4.22. and Fig. 4.1 value greater than 1 are considered for determining the factor influencing the consumer preference with the help of scree plot. It is clear from the table the 4 factor has Eigen value greater than 1. Hence only 4 factor were shown in the Fig.1. The study clearly indicates the consumer preference for processed organic food products is mainly influenced by nutritional content, appearance, affordability, health consciousness is the most important attribute, followed.

This clearly highlights the fact that consumers in Bengaluru city prefer processed organic food products which are of very significant in their day to day consumptions. For example consumers buy processed organic food products in the form of cereals, pluses, millets, fruits and vegetables. This also highlight the fact that from the point of company who are involved in the marketing of processed organic food products, there is a huge potential in this segment, since, consumers buy processed organic food products which are needed and day today bases, it is inferred from the study that the consumers have to buy these processed organic food products frequently , which indicates continuous

demand in a market which necessitates continuous production and marketing of processed organic food products by companies.

5.4. Constraints in marketing of processed organic food products

The constraints faced by traders in marketing of processed organic food products in Bengaluru city is presented in the Table 4.23. It is clear from the table that the not all the customers who visit organized retail market are not buying processed organic food products. In this respect the respondent traders were asked to indicate the reasons in the marketing of processed organic food products. The traders have indicated clearly that lack of awareness about processed organic food products (rank I) is the number one reason. Traders also revealed that the effects of processed organic food products on their health is considered as next important reason (rank II). Hence there is a taboo in the consumption of certain types of customers. The traders also revealed that processed organic food products are very expensive from the point of customers. The other constraints indicated by customers as revealed by the traders are concerned by artificial additives, not satisfied with taste, and lack of aware about nutrient content and tangible benefits of processed organic food products was not proven.

VI SUMMARY AND SUGGESTION

Organic food is produced by farmers who emphasize the use of renewable resources and the conservation of soil and water to enhance the quality of the environment. (UASD)

India is bestowed with lot of potential to produce all varieties of organic produce due to its various agro climatic regions. In several parts of the country, the inherited tradition of organic farming is an added advantage. This holds promise for the organic producers to tap the market which is growing steadily not only in the domestic market but also in the export market.

As on March 2016, India has brought 57.09 lakh ha under organic cultivation. India exported 2.64 lakh tons of various organic commodities worth about Rs. 1,900 crore, which account for 0.3 per cent of total global organic trade.

Karnataka stands 5th in the country in terms of total cultivated area under organic certification (93,963 ha) as on March 2016 and 3rd in terms of total certified production with 2, 82,633 tons.

The present study is a modest attempt to document the availability and product range of processed organic food products, factor influencing the consumer preference for processed organic food products and to document the constraints in marketing of processed organic food products. The study is confined to a consumer preference for processed organic products in Bengaluru city. The specific objectives with which the research was conducted were:

i. To document the availability and product range of processed organic food products marketed in Bengaluru city

ii. To analyze the factors influencing consumer preference for processed organic food products in Bengaluru city and

iii. To document the constraints in marketing of processed organic food products.

For the study, a sample of 60 respondents was purposively selected. The data regarding consumer preference for processed organic food products was collected using a pre-tested structured schedule. The simple random sampling method was used to select the respondents from different localities in Bengaluru city. The data collected for the study was analyzed using factor analysis and garrets ranking.

The general information regarding socio economic characteristics, data regarding specific objectives like, factors influencing consumer preference for processed organic food products, were collected from respondents randomly by personal interview method. Further 30 retailers were selected to document the product range of processed organic food products in organized retail market in Bengaluru city.

6.1 Major findings of the study

1. Majority of the consumers belonged to the age group of 35-45 years.
2. All the consumers were literates with literacy level ranging from primary school to post graduation. Nearly 41.67 per cent of the consumers were graduates.
3. The percentage of female consumers purchasing processed organic food products is slightly higher (53.33 %) compared to male consumers (46.67 %).
4. Majority of the consumers belongs to nuclear i.e. 80 per cent families.
5. Three fourth of consumers were non-vegetarians (76.67 %). Hence the number of vegetarians are very less in number (23.33 %).
6. 38.33 per cent of the consumers were working in private sector followed by 25 per cent of consumers working in Government jobs. Nearly 20 per cent were housewives. The rest (16.67 %) are doing their own business.
7. 41.67 per cent of consumers' income was ranged from of Rs. 25,000- 50,000 per month.
8. Two third (33.33 %) of consumers purchase fortnightly followed by 28.33 per cent of consumers purchase monthly once.

9. Around one third of consumers are getting information from relatives/ friends (36.67 %), followed by 23.33 per cent from mass media.

10. One third (36.67 %) of consumers confined to use specific brands. Further 30 per cent of consumers have clearly revealed that the prefer to buying the same brand, even if price are slightly higher than other brands.

11. Nearly half (48.33 %) of consumers are ready to pay up to 10 per cent, followed by 31.67 per cent of consumers are ready to pat up to 5 per cent.

12. Majority of consumers prefer to purchase in the evening (68.33 %) followed by 20 per cent prefer to purchase during afternoon.

13. The results of the factor analysis revealed that the important factors influencing the consumer preference for processed organic food products was mainly due to nutritional content, appearance, affordability, health consciousness is the most important attribute, followed by convenience.

14. The major constraints in market were lack of awareness of products by customers (65.16) followed by concern about side effects of processed organic food products (58.73). The respondents felt that products are expensive (53.26), followed by concern about artificial additives in processed organic food products (52.96), non-palatable of taste(48.46), lack of awareness about nutrient contents by consumers (41.63) and scientifically not proven tangible benefits of processed organic food products (28.3).

6.2 Suggestions

- The study has clearly demonstrated that consumers buy processed organic food products frequently, which indicates continuous demand in a market which necessitates retailers to make availability of processed organic food products.

- The consumers were willing to purchase organic brands even if the prices are little high in the market which signify the important of processed organic food

products to the consumers from the point of health, nutritional value and other factors.

- The consumer preference was varied depending upon their preference for reputation of the brand of the company, the importance of processed organic food products from the point of health, nutritional value, aroma and other attributes. The companies should focus more on these attributes of products.
- It is interesting to note that in the age of internet friends and relatives very much influenced purchase behavior of consumers. The companies can go for advertising in social media as well.
- The retail stores involved in sales of processed organic food products can display the nutritional value and advantages of consuming the processed organic food products on the top of the shelves in the outlet as it is one of the factor influencing in preferring processed organic food products.

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