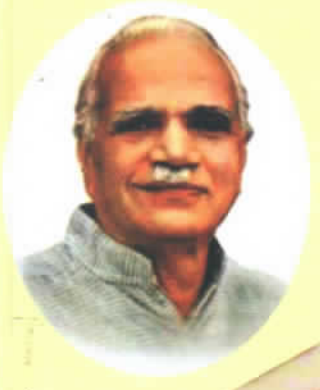
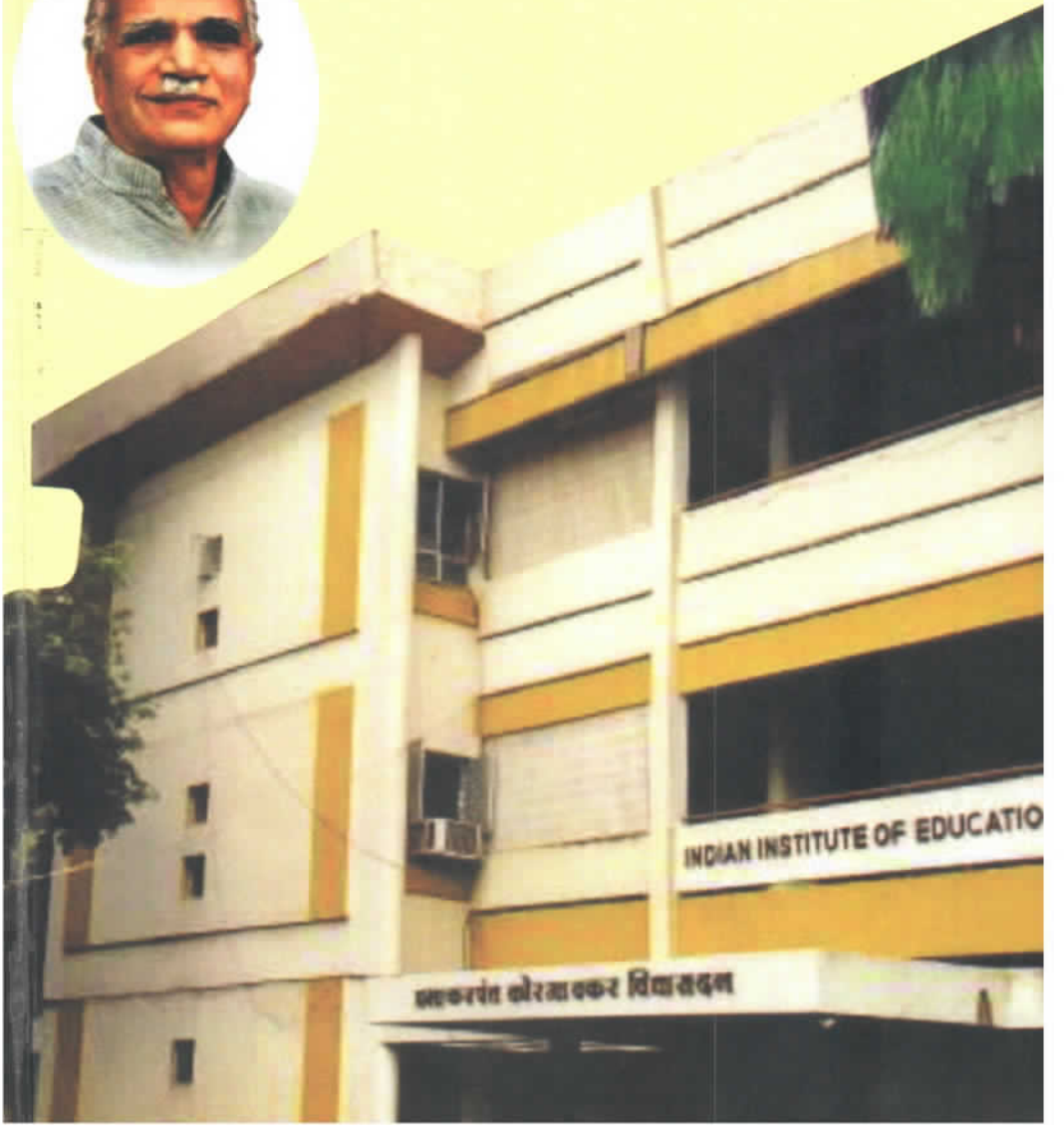
UGC CARE LISTED PERIODICAL
ISSN 2278-6864

शिक्षण आणि समाज

Education and Society

Multidisciplinary Special Issue
September 2022
Part - II





Education and Society

Special Issue
UGC CARE LISTED PERIODICAL
ISSN 2278-6864

शिक्षण आणि समाज
Education and Society

Since 1977

Multidisciplinary Special Issue
September 2022
Part - II

The Quarterly dedicated to the policy of "Education for Social Development and Social Development through Education"

Indian Institute of Education
J. P. Naik Path, Kothrud, Pune-38

Education and Society

Special Issue

Indian Institute of Education

Founders

Prof. Dr. J. P. Naik and Dr. Chitra Naik

Administrator

Hon. Sanjeev S. Sharma

Academic Collaboration

Shivaji University Commerce & Management Teachers' Association (SUCOMATA)

Publisher

Indian Institute of Education

J. P. Naik Path, 128/2, Kothrud, Pune 411038.
Contact No. 8805159904
Web-site : www.iiepune.org
E-mail : shikshananisamaj1977@gmail.com
E-mail : iiepune1948@gmail.com

'Shikshan ani Samaj'(Education & Society), the educational Quarterly is owned, printed and published by the Indian Institute of Education, Pune. It is printed at Pratima Offset, 1B, Devgiri Estate, S.No. 17/1B, Plot No. 14, Kothrud Industrial Area, Kothrud, Pune 411038 and Published at Indian Institute of Education, J.P. Naik Path, 128/2, Kothrud, Pune 411038. Editor: Dr. Jayasing N. Kalake

Index

Organic Farming – Scenario in Town

Smitusha T. Varande
Research Scholor,
Karmaveer Bhaurao Patil Institute of
Management Studies and Research, Varye, Satara
Varsha Y. Ingale
Research Scholar,
Rayat Institute of Research and Development, Satara
Dr. Sarang S. Bhola
Head Department of Management,
Karmaveer Bhaurao Patil Institute of
Management Studies and Research, Varye, Satara

Abstract:

The Covid -19 pandemic made people more health conscious and turned towards healthy life style. As the effect of this demand for organic agri food products rose vigorously. To cater this demand there need a strong supply chain of organic agri food products in the market. The present research studies the supply chain of organic agri food products and challenges and opportunities in this sector. Samples of 30 farmers and 6 suppliers were taken and data analysis done using frequency, percentage, and measures of central tendency. It has found that there is very weak supply of organic agri food products in the market and the prime reason is unawareness of farmers and suppliers about opportunities in this field.

Keywords : Organic supply chain, organic farming, agri food products, organic food, organic products.

Introduction:

With the rising rate of lifestyle disorders and harmful impacts of chemicals present in various products on the human body made an unexceptional rise in demand for organic products. The term organic products refer to products which are made by using organic agricultural practices i.e. by eliminating the use of chemicals. Most well known organic products are organic food products. To cater this rising demand there should be a proper organic supply chain. The organic agri product supply chain means a network between a company and its suppliers to produce and distribute organic products to its final buyers.

India is known as an agricultural country as 70% of its population is engaged in agricultural practices. So it is a source of various raw materials for many countries in the world. Before the 1940 farmers followed organic agricultural practices as there is unavailability of chemical fertilizers. The emergence of chemical fertilizers shifted organic agriculture techniques

to chemical incentive techniques which are helpful in increasing the yield and giving better profits. But in turn it also deteriorated the quality of the produce and the soil. Nowadays people are becoming more health conscious and aware of harmful effects of chemically made products so there is a gradual shift to organic products. Government, farmers, policy makers and environmentalists promote organic agriculture for the safety of people and the environment. With this the demand of organic products not only raised in India but throughout the world. To cater to this demand many farmers, suppliers and entrepreneurs started working in the organic industry. Government schemes like Rashtriya Krishi Vikas Yojana (RKVY) and Mission for Integrated Development of Horticulture (MIDH) and Network Project on Organic Farming encourage farmers to go organic. Also the third party certification provided by Agriculture Processed Food and Export Development Authority (APEDA), Ministry of Commerce, Government of India. The country's apex institution for food safety and security, the FSSAI has come out with the 'Jaivik Bharat' framework to promote organic farming. The globally recognized third-party certification process is controlled by APEDA. The certification process has increased the authentication of organic products and provides opportunities to farmers and sellers in the foreign markets.

Literature Review:

The study found that young and educated farmers switch to organic farming. It was observed that farmers shift towards organic farming for economic reasons to earn better income. Most of them take low interest rate subsidies and it plays a vital role in promoting organic farming. (Ali Kemal Ayan, 2017)

Suppliers have to pay certification costs to prove the product to be organic by getting an organic label; otherwise, their product will be considered as conventional which has no additional health utility. Customers are heterogeneous in their perception of brand valuation, while the health utility from organic labels is the same due to the equivalence of organic standards. (Yanan Yu1)

The study points out that retailers transfer to wholesalers the responsibility to manage small organic producers. It also suggests that as the organic product is under the retailer's own brand, and therefore most of the value perceived by the consumer is retained by the retailer. (Luciana Marques Vieira, 2013)

The paper indicates that some firms are more likely to work with their suppliers: wholesalers, firms that buy from producers or grower cooperatives, firms who have been in business longer and those with a larger share of sales coming from organic products. (Oberholtzer, 2009)

The study found that most of the organic products in supply chains particularly made for food are involved in local producers and they work together to promote the local food markets. These partnerships help boost the rural economy, creating new ways of selling local produce and attracting new types of customers. They also promote cooperation between local farms, the tourist industry and the food sector. (Rzeczycki, 2015)

The main obstacles to the optimization of the organic food chain include poor information management, insufficient communication with consumers, and the diverging objectives and needs of the actors of the chain. (Marja-Riitta Kottila)

For organic farmers, marketing the organic products seems to be a real problem. After the organic farmers have to sell their products as conventional products. Searching for a new marketing channel and negotiating with new traders is time-consuming. (E. Baecke and G. Rogiers, 2002)

Organic farming yields more nutritious and safe food. The popularity of organic food is growing dramatically as consumers seek the organic foods that are thought to be healthier and safer. Thus, organic food perhaps ensures food safety from farm to plate. (Suryatapa Das, 2020)

The organic farming industry also faces some other challenges: (i) maintaining and increasing consumers' trust in the organic farming products and the organic farming industry in general, and (ii) facing new and fierce competition from market intermediaries and other types of "sustainable" products. (Zahaf, 2012)

There is widespread use of contracting in the organic sector and that securing supplies of a highly differentiated product is less costly when using contracts than when relying on the spot market. Most contracts include quality standards and specific quality testing protocol: these provisions are similar to those included in contracts for conventionally produced agricultural commodities. (Carolyn Dimitri, 2018)

Research Methodology

Demand for organic food products rose rigorously when people got aware about the harmful effects of chemicals present in conventional products and also the rise of various lifestyle disorders made people more health conscious. In the pandemic period people realized the importance of healthy food and started preferring organic food products. Organic farming has its own benefits over conventional farming like it is environment friendly, increases soil fertility, reduces pollution, consumes less energy etc, so overall awareness is created about organic products in the minds of consumers as well as the suppliers. (NDTV news, 2020)

The study is conducted to find out the answers to following questions.

1. How the farmers and suppliers work to cater this ongoing demand?
2. Why suppliers prefer organic agri food products supply?
3. What are the challenges the organic suppliers face?
4. Is there awareness among organic suppliers regarding various organic standards proposed by APEDA?
5. Are organic suppliers aware of various schemes of government for organic farming and supply?

The study is undertaken with an objective, to study the supply chain of organic agri food products, to study the challenges before the organic agri food product suppliers and to assert the adequacy of organic agri food product suppliers.

The study has undertaken to test the two hypotheses those are,

H1: Organic agri food products suppliers are aware of standards for production, , storage and transportation, labeling, packaging and certification standards proposed by APEDA.

H2: Organic agri food products suppliers are aware of various government schemes provided by the government to promote organic products.

The study is descriptive in nature and has undertaken in Satara city. The primary data source is data collected from organic farmers and suppliers and the secondary data source is data regarding organic farming, organic supply chain, organic farming standards and schemes is collected using secondary data source i.e. through websites. The organic farmers and suppliers are sample units from study. Data from 26 farmers and 6 suppliers was collected using structured schedule using convenient sampling method. The collected data is analyzed using statistical methods and tools like excel and SPSS. The data has been collected using likert scale or likert type scale where 1=strongly disagree, 2 =disagree, 3=neither agree nor disagree, 4=agree and 5=strongly agree and table is represented using mean, median, standard deviation and coefficient of variance.

Data Analysis

The analysis of data focuses on analysis of data collected from farmer, analysis of data collected from supplier and the hypotheses testing

Table 1: Reasons to prefer Organic Farming

The following table shows the descriptive statistics of reason to prefer organic farming. Ten reasons are given to mark on five point likert scale where 1=strongly disagree, 2 =disagree, 3=neither agree nor disagree, 4=agree and 5=strongly agree and table is represented using mean, median, standard deviation and coefficient of variance.

Sr.	Reasons	Mean	Median	SD	Coefficient of variance
1	High profit margins	3.269	3.000	0.6038	0.365
2	Wish to produce Environment friendly Agro products	4.077	4.000	0.5602	0.314
3	Opportunity to grow variety of crops	4.192	4.000	0.5670	0.322
4	Customer demand	3.615	4.000	0.8038	0.646
5	Wish to provide nutritious food to society	4.115	4.000	0.8162	0.666
6	Increases soil fertility	3.769	4.000	1.1422	1.305
7	Reduces Nitrogen Run-Off Induced Pollution	3.423	4.000	1.0648	1.134
8	Lower cost of production due to use of natural fertilizers	3.731	4.000	1.1156	1.245
9	Lower number of competitors	3.769	4.000	1.1066	1.225
10	To preserve traditional methods of agriculture	3.615	4.000	1.2026	1.446

(N=26)

Source: (Field Data)

Above table 1 show the mean score for ten different reasons to produce organic is ranging from 3.26 to 4.19 with a standard deviation ranging from 0.56 to 1.20.

Besides high profit margins all other are the reasons to prefer organic farming, in which opportunity to grow variety of crops and wish to provide nutritious food to society are given priority by samples.

Table 2: Challenges in Organic Farming

The following table shows the descriptive statistics of Challenges in organic farming. Eleven challenges are given to mark on five point likert scale.

(N=26)

Sr.	Challenges	Mean	Median	SD	Coefficient of variance
1	Low yield because of no use of chemical fertilizers	2.115	2.000	0.8162	0.666
2	Lack of awareness of customers regarding organic products	3.192	3.000	0.9389	0.882
3	Inadequate infrastructure	1.654	2.000	0.6288	0.395
4	Shorter shelf life of products	2.423	2.000	1.1017	1.214
5	Knowledge intensive farming	3.192	3.000	0.8953	0.802
6	More efforts required	3.577	4.000	0.6433	0.414
7	Lot of marketing is required	3.923	4.000	0.9767	0.954
8	Cost of produce is high	1.654	1.000	0.9356	0.875
9	Customer scrunch due to high price	3.538	4.000	1.0288	1.058
10	Difficulty in convincing consumers of organic produce	3.654	4.000	0.9774	0.955
11	High risk involved	1.808	1.500	1.1668	1.362

Source: (Field Data)

Above table 2 that the mean for eleven challenges ranging from 1.65 to 3.92 with a standard deviation ranging from 0.62 to 1.16. the major challenges has come up as required to take more efforts, lot of marketing, customer scrunch due to high price and difficulty in convincing consumers of organic produce as major challenges followed by knowledge intensive farming and lack of awareness of customers regarding organic products. It seems that the marketing efforts in a professional way and technical support are needed to channelize the system.

Besides the challenges sample farmers were asked on price they get for organic products, it has seen that samples are completely satisfied with the price they get for their produce.

Table 3: Samples Marked the Opinion on the Correctness of following statements

The table below shows the opinions of the samples on the correctness of following statements. Three statements are given to mark; frequency distribution table is presented with the help of percentages.

Sr.	Parameters	Frequency	Percentage
1	Demand is high compared to supply	10	38.4
2	Consumers won't buy due to high prices so demand is low	12	46.1
3	Consumers fail to differentiate between conventional and organic so they won't buy	4	15.3
	Total	26	100

(N=26)

Source: (Field Data)

Above table 3 shows that 46.1% of samples marked consumers won't buy due to high prices so demand is low, 38.4% demand is high compared to supply and 15.3% consumers fail to differentiate between conventional and organic so they won't buy.

The Analysis below is of Data Collected from six Suppliers.

Table 4: Reasons to prefer Organic Agri Product Supply

The table below shows the reasons to prefer organic farming. Five reasons were given to mark on five point likert scale.

(N=6)

Sr.	Parameters	Mean	Median	SD	Coefficient of variance
1	High profit margins	3.500	4.000	0.8367	0.700
2	Wish to provide nutritious food to society	4.333	4.000	0.5164	0.267
3	Customer demand	3.667	4.000	0.5164	0.267
4	Low competition	3.667	4.000	0.8165	0.667
5	To promote organic products	4.333	4.000	0.5164	0.267

Source: (Field Data)

Above table 4 shows the reason to supply organic products received the agreement mean score ranging from 3.50 to 4.33. the noble reason found prominently that the suppliers with to promote the organic products with an intension to provide nutritious food to society.

Table 5: Challenges in Organic Farming

The following table shows the descriptive statistics of Challenges in organic farming. Eight challenges are given to mark on five point likert scale.

(N=6)

Sr.	Parameters	Mean	Median	SD	Coefficient of variance
1	Highly perishable due to no use of chemical preservatives	2.000	2.000	0.6325	0.400
2	Lack of awareness of customers regarding organic products	3.667	3.500	0.8165	0.667
3	Costly storage infrastructure	2.167	2.000	0.7528	0.567
4	High knowledge and skill required	3.167	3.000	0.7528	0.567
5	Lot of marketing is required	3.667	4.000	1.3663	1.867
6	Customers scrunch due to high prices	3.667	4.000	1.0328	1.067
7	Consumers are not fully aware of Organic Produce.	4.500	4.500	0.5477	0.300
8	Difficulty in convincing consumers of organic produce.	3.833	4.000	1.1690	1.367

Source: (Field Data)

Above table 5 shows the challenges in organic farming ranging from mean score 2.00 to 4.50. The major challenges are seems to be of marketing side i.e. demand side of consumers. That consumers awareness, difficulty in convincing customers, high prices of produce, marketing are some major challenges organic farmers face.

Sample suppliers opine that the demand for organic products is very high and very few consumers do not buy due to high price.

Hypothesis Testing

(Testing of Hypothesis for data collected by farmers)

Hypothesis 1:

Organic agri food products suppliers are aware of standards for production, storage and transportation, labeling, packaging and certification standards proposed by APEDA.

The samples were given to mark awareness of various standards on five point likert scale where 1= not at all, 2= small extent, 3= some extent,

4= moderate extent, 5=great extent.

The hypothesis has been tested using one sample't' test at test value 4.

H0: $\mu = 4$

H1: $\mu ? 4$

Table 6: Awareness about Production, Storage, Transportation, Labeling, Packaging and Certification standards proposed by APEDA (One Sample Statistics)

One-Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
I am aware of production, storage and transportation, labeling, packaging and certification standards proposed by APEDA	26	2.8012	1.01249	.19857

Source: (Compiled by Researcher)

Above table 6 shows the mean score of all statements average is 2.80 with relatively high standard deviation of 1.01. This shows that the samples are less aware of standards proposed by APEDA.

Following are the details of one sample 't' test.

Table 7 Awareness about Production, Storage, Transportation, Labeling, Packaging and Certification standards proposed by APEDA (One Sample 't' Test)

One-Sample Test						
	Test Value = 4					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
I am aware of production, storage and transportation, labeling, packaging and certification standards proposed by APEDA	-6.038	25	.000	-1.19885	-1.6078	-.7899

Source: (Compiled by Researcher)

Above table 7 shows that the latent variable processed at 95% level of confidence the value of one sample 't' test is -6.038 at 'p' value 0.000 shows that the null hypothesis is rejected and alternative hypothesis i.e. $\mu=4$ is accepted.

This shows that the samples are not aware of standards proposed by APEDA.

Hypothesis 2:

Organic agri food products suppliers are aware of various government schemes provided by the government to promote organic products.

The samples were given to mark awareness of five schemes, where of government regarding organic farming.

The hypothesis has been tested using binomial test at test proportion 0.50.

H0: X1 = X2

H1: X1 ? X2

Table 8: Awareness of Government Schemes for Organic Farming (Binomial Test)

Binomial Test						
		Category	N	Observed Prop.	Test Prop.	Exact Sig. (2-tailed)
Paramparagat Krishi Vikas Yojana	Group 1	No	26	1.00	.50	.000
	Total		26	1.00		
Rashtriya Krishi Vikas Yojana	Group 1	No	23	.88	.50	.000
	Group 2	Yes	3	.12		
	Total		26	1.00		
National Program for Organic Production	Group 1	No	25	.96	.50	.000
	Group 2	Yes	1	.04		
	Total		26	1.00		
National Project on Organic Farming	Group 1	No	25	.96	.50	.000
	Group 2	Yes	1	.04		
	Total		26	1.00		
Capital Investment Subsidy Scheme	Group 1	No	26	1.00	.50	.000
	Total		26	1.00		

Source: (Compiled by Researcher)

Above table 8 shows that, there is equal proportion of Yes: No

Null hypothesis is rejected.

There is significant proportion of Yes: No

i) In case 1 and 5 i.e. first row and fifth row respectively 2 is only rated since all the samples marked No.

H1 =X1 < X2

ii) In case 2 i.e. second row 2 is highly weighted since majority samples marked No.

Since majority of samples i.e. 88% marked No.

H1 =X1 < X2

iii) In case 3 and 4 i.e. third row and fourth row respectively 2 is highly weighted since majority samples marked No.

Since majority of samples i.e. 96% marked No.

$H1 = X1 < X2$

The said hypotheses were also testing using the opinions collected from the organic farm produce suppliers which results the same as the results received from the testing of organic farm produce growers.

Findings:

From collected and analyzed data, researcher has stated following finding.

Research is based on working of the two major players in organic supply chain i.e. organic produce growers and suppliers. It has seen that the farmers are willing to produce the organic agri produces to cater the demand of consumers. The major challenges faced found to be of marketing specifically difficulty in convincing consumer of organic produce, extensive marketing needs and make aware consumer on organic products. So the major thirst is on demand side to reach out and convenience.

The data shows that the demand for organic produce is high and since the prices are also high consumers reluctant to buy the produce.

It has found that the entire supply chain in organic agri produce is at primary stage and there is a long way to go with attaining the vertical.

Suggestions:

The study was focused on working of organic agri food products supply chain. Some suggestions are proposed on the basis of findings.

1. There is a need to make farmers and suppliers aware about organic certification and its benefits.
2. There is a need to support organic farm produce growers technically to keep the cost of produce low and even get better yield.
3. Training regarding sales and marketing is required to extent to stakeholder in entire supply chain or organic agri produce.
4. There is a need to create awareness among farmers and suppliers of organic agri food products about various government schemes.

Conclusion:

The study is conducted in a small town reveals that the entire supply chain of organic agri produce is at primary stage. The notion of stakeholder in organic agri produce is good and the momentum is taking place. The support of agri technology and professional marketing is needed to mobilize the entire supply chain. The demand side is ready to accept. The challenges before the entire industry is to make use of technology to reduce the cost and still increase the yield of agri produce as well as to make consumers assure on supplying the organic agri produce.

Reference:

- Ali Kemal Ayan, I. B. (2017). Suppliers of Organic Food: Evidence From Sisli And Kartal Ecological. International Journal of Scientific Research and Management (IJSRM) , 5553-5559.
- Carolyn Dimitri, L. O. (2018). A sustainable supply chain for organic, conventional agro-food products: The role of demand substitution, climate change and public health. Journal of Cleaner Production , 564-583.
- E. Baecke and G. Rogiers, L. D. (2002). The supply chain and conversion to organic farming in Belgium or the story of the egg and the chicken. British Food Journal 104 , 163-174.
- Luciana Marques Vieira, M. D. (2013). An analysis of value in an organic food supply chain. British Food Journal 115 , 1454 - 1472.
- Marja-Riitta Kottila, A. M. (n.d.). THE ORGANIC FOOD SUPPLY CHAIN IN RELATION TO INFORMATION.
- Oberholtzer, C. D. (2009). Meeting market demand in the organic sector: Handler-supplier relationships in the face of tight supply. Renewable Agriculture and Food Systems 24 .
- Rzeczycki, B. T. (2015). Construction of Green Supply Chain for Organic Products. Operations and Supply Chain Management An International Journal , 37-47.
- Suryatapa Das, A. C. (2020). Organic farming in India: a vision towards a healthy nation. Food Quality and Safety, Volume 4 , 69-76.
- Yanan Yu1, Y. H. (n.d.). Certify or not? An Analysis of Organic Food Supply Chain.
- Zahaf, L. H.-E. (2012). Production and Distribution of Organic Foods: Assessing the Added Values.

■