Int.J.Curr.Microbiol.App.Sci (2019) *8*(8): 2597-2606

International Journal of Current Microbiology and Applied Sciences
***ISSN: 2319-7706* Volume 8 Number 08 (2019)**
Journal homepage: http://www.ijcmas.com

Original Research Article https://doi.org/10.20546/ijcmas.2019.808.302

Marketing of Organic Farm Products: Spatial and Brand-wise Price Analysis in Karnataka, India

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Keywords

Brands, Conventional, Organic, Marketing channels, Redgram

Article Info

Accepted:
22 July 2019
Available Online:
10 August 2019

A B S T R A C T

The study examined the economics of marketing of organic farm produce in Kalaburagi district using primary data from 60 farmers each cultivating Sorghum and Redgram comprising of 30 farmers each practicing Organic Farming (OF) and Conventional Farming (CF) and also from 30 organic retail outlets. The spatial price variability of organic farm produce across different brands were analysed using retail prices of different organic farm products from different markets in Karnataka viz., Gadag, Dharwad, and Bengaluru.. The results of the study indicated existence of two marketing channels (MC) for sale of organic produce, i.e., MC-I (Producer to Consumer) and MC-II (Producer to Retailer to Consumer). In case of MC-I, processing of redgram grains into dal accounted for 72 per cent and 64 per cent of the total marketing cost when sold in local market and organic melas, respectively. However, in MC-II, the total marketing cost was the highest for Kodo millet (Rs. 39.63/kg), lowest for sorghum (Rs. 6.75/kg) and the profit margin realised was the highest in marketing of Tur dal (Rs. 91.62/kg), lowest for Ragi (Rs. 12/kg). The price variability across the major brands in case of Bajra was the highest (17 %) where as it was the least in the case of Foxtail millet (2 %), Barnyard millet (2 %). Prices of organic products also showed variability across markets (places) and prices were relatively higher in Bengaluru market compared to other markets.

Introduction

India has always been known for its traditional farming techniques but somewhere it lost it in the name of advance technology and high product yield. Intensification of agricultural production by way of widespread use of concentrated fertilizers and pesticides has resulted in manifold increase in the production and productivity of crops. However, the ill effects of these agrochemicals are clearly visible on soil health, soil microbes, quality of ground water, fodder and food material. Thus organic farming is becoming need of the present time.

Organic 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.Organic farming involves the use of biological materials, avoiding synthetic substances to maintain soil fertility and ecological balance minimizing pollution and wastage. Therefore, Organic farming is an agricultural production system which favours the maximum use of organic material *viz.*, crop residues, animal excreta, legumes, on and off farm organic wastes, growth regulators and bio-pesticides with an environmentally and socially responsible/acceptable approach.

The organic food market in India is growing at 25-30 per cent, but the awareness about organic farming is still low in India despite huge spending. It has been projected that the domestic organic food market would touch the $1.36 billion mark by 2020. In 2014, the size of the organic food market, which is highly unorganised, was $0.36 billion, and organic pulses and foodgrains took the lion's share of the market, said the study prepared by industry body Assocham and TechSci Research (economictimes.indiatimes.com, Oct 15, 2015).

There is need for improving the marketing channels for organic products, besides ensuring regular supply, establishing strong network of organisations to promote organic farming, educate the people about benefits of organic farming and branding of the products. The increased health awareness, disposable income and more number of modern retail outlets have contributed for growth of markets for organic products. The increase in organic food consumption is evident from the fact that many organic food stores (inclusive or exclusive) are spurring up in bigger cities.

In present days, all major hypermarket and supermarket retail chains, including Spencer's, Fabindia, Hypercity, Spar, Nature's Basket, Namdhari Fresh, Le Marché and Nilgiri, have a dedicated shelf for organic food. These modern retail stores are continuously increasing shelf space for organic food products, which is still a small part of overall business. "In the last few years, organic food has captured a shelf space of about 2-5 per cent in modern food retail. On an average, there are about 100-200 SKUs of organic food available in any retail chain offering organic food products," says Kapoor. Apart from the modern retail network, organic food is also available through exclusive or producer owned stores in bigger cities. A few of such stores are Organic India, Live Organic, Sresta Naturals, Pristine Organics and Monarka Organic among others.

There is an increasing awareness about natural or organic or sustainable farming among cultivators in view of the food safety and soil and environmental pollution arising out of the chemical or inorganic farming and increasing costs of chemical fertilizers and chemicals. This augurs well in the creation of a healthy society and a country of prosperous agriculture and healthy people.

According to "India Organic Food Market Forecast & Opportunities, 2017", Indian organic food market is anticipated to grow at a significant CAGR of around 19 per cent during 2012-2017 (www.techsciresearch. com). 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.

Now a day the demand for organically cultivated produce is increasing. Due to asymmetric information pertaining to cultivation, certification, marketing,

processing and about end users, market imperfections are increasing. The market imperfections are manifested in lopsided price spread between the producer and the consumer. In some products / produce, the price spread reflects the cost of the intermediate marketing functions, while in some other cases; the price spread is so huge that, the colossal price spread can hardly be justified. Organic farm product need premium price as there would be underproduction and large part of it should go to farmers.

Due to absence of promotion campaigns for organic product marketing, market is mostly consumerised. The strong attention to marketing of organic product should be an integral part of successful organic farming.

The major problems in marketing of organic products are too high price expectation by the seller which may impede demand, low consistency in quality of the products, lack of proper marketing network lead to wide price spread. However, there is need to premium price for organic products as there would be underproduction and large part of it should go to farmers. The organic food market in India is growing at 25-30 per cent, but the awareness about organic farming is still low in India despite huge spending by the government. In this background the present study was undertaken in Karnataka with an overall objective of studying the existing marketing system, price variability over space and brands of different company's organic farm products.

Materials and Methods

Kalaburagi district of North Eastern Dry Zone of Karnataka was selected, which is one of the districts in successful implementation of organic village programme sponsored by the Government of Karnataka. Primary data was collected from 60 farmers each cultivating Sorghum and Redgram comprising of 30 farmers each practicing Organic Farming (OF) and Conventional Farming (CF). The snowball sampling technique was adopted for selection of farmers practising organic farming. The required primary data were collected through personal interview method with the help of pre-tested structured schedule on various aspects like marketing practices, marketing cost so as to estimate the marketing margins and price spread in marketing of organic farm produce. The spatial price variability of organic farm products across different brands were analysed using retail prices of different organic farm products from different markets in Karnataka (Gadag, Dharwad, and Bengaluru) were collected.

The data were analysed using the simple measures of central tendency like mean, mode frequency distribution and percentages for meaningful comparison and interpretation.

Results and Discussion

Marketing practices and marketing channels for organic farm products

The involvement of the Farmer Producer Organisations (FPOs) in marketing of organic produce has helped to realise the higher prices for organic produce compared to produce grown under conventional method of cultivation.

The marketing channels are the routes through which the product moves from the producer to ultimate consumers. It was observed during the survey that there existed two channels for organic grown redgram and sorghum crops in the study area, *viz*.

Marketing Channel I

Where the producer is selling his produce directly to the consumers either in the local

markets or in melas such as Organic Mela, Siridhanya Mela, etc.

Marketing Channel II

In this channel, the organic produce is reaching the consumers through retail outlets located in cities (like Bengaluru, Gadag and Dharwad etc.)

The details on channel-wise quantity of redgram and sorghum produce marketed by the respondents in the study area is presented in Table 1It could be observed from the table that in total 30 sample farmers for each crop, majority of the redgram sample farmers (80 %) sold bulk (72 %) of the produce through MC-II. Similar trend was noticed for sorghum also wherein majority of the farmers (83.33%) sold 82 per cent of the quantity (2451 Kgs) through MC-II, while five farmers marketed 538 Kgs of produce through MC-I., which accounted for 18 per cent of total sorghum produce, while 20 per cent of farmers growing organic redgram sold about 28 per cent directly to the consumer.

Marketing cost and price spread

Marketing channel-1

To assess the efficiency of existing marketing channels for organic farm produce, it is essential to know the cost incurred at each stage of marketing. The channel-wise details on marketing cost incurred by the producers are presented in Table 2. The major items of marketing cost consisted of processing of redgram grains into dal which accounted for 72 per cent and 64 per cent in the total marketing cost when sold in local market and organic melas, respectively. The packing cost accounted for about 11 per cent in case of local market and 10 per cent in organic melas for marketing of Tur dal.

However, in the case of sorghum the packing cost was the major item of cost, since sorghum will be largely sold as grains without any processing and hence the packaging cost accounted for 52 per cent and 31 per cent, when produce is sold in local market and organic melas, respectively. The grading and sorting cost was 14 per cent for sorghum and about ten per cent for Tur dal in local and organic melas, respectively.

Marketing Channel -II

The marketing cost, margin and price spread in marketing of different organic farm produce marketed through Channel-II (Producer-Retailer-Consumer) are presented in Table 3. The marketing cost incurred by the retailer where he procured the produce from the farmer consisted of transportation cost, processing charges, grading and standardization charges, sorting and grading charges including wastage and packing cost. The total marketing cost was the highest for Kodo millet **(**Rs. 39.63/kg) followed by Barnyard millet (Rs. 39.26/kg), Little millet (Rs. 34.27/kg), Proso millet (Rs. 31.12/kg), and Groundnut (Rs. 26.89/kg), respectively.

The profit margin realised was the highest in marketing of Tur dal (Rs. 91.62/kg) followed by Groundnut (Rs. 50.11/kg), Green gram (Rs. 46.46/kg), Jaggery (Rs. 35.60/kg), Foxtail millet (Rs. 34.04/kg) etc. The analysis regarding producer's share in consumer's rupee was the highest for Ragi (68.53 %) followed by Sorghum (64 %), Green gram (61 %), Jaggery (52 %) and was the least for foxtail millet (27 %).

The producer's share in consumer's in the case of ragi, rice, wheat, and bajra was also less and just over forty per cent. The price

spread was observed to be the highest in case of Tur dal (Rs. 116/kg) followed byGroundnut (Rs. 77/kg), Kodo millet (Rs. 66.50/kg), Little millet (Rs. 60.50/kg). Thus marketing for organic product found to be imperfect market and the marketing middlemen denying the larger share of producer in consumer price and lead to wide price spread. Prices of organic produce at local markets and organic melas

Details on prices of different organic farm produce sold by the farmer-producers are presented in Table 4. The results reveals that the price paid by the consumers in local market was relatively lower compared to prices in melas. The difference in prices was 33 per cent for Wheat, Bajra, Ragi, Foxtail millet and Jaggery, while it was 25 per cent in case of Kodo millet, Little millet and Barnyard millet. The lowest price difference was observed in case of Groundnut (17 %).

Table.1 Channel-wise marketing of organic produce in the study area

SN	Crop	MC-I				MC-II				Total	
		No	%	Qty (Kgs)	%	No	%	Qty (Kgs)	%	No	Qty (Kgs)
1	Redgram	6	20.00	456	27.87	24	80.00	1180	72.13	30	1636
2	Sorghum	5	16.67	538	18.00	25	83.33	2451	82.00	30	2989

Note: MC-I: Marketing Channel-I: Producer - Consumer
MC-II: Marketing Channel-II: Producer – Retailer – Consumer

Table.2 Marketing cost incurred in marketing of Tur dal and Sorghum

(Rs. /quintal)

Sl. No.	Item wise expenditure	Tur Dal				Sorghum			
		Local market		Organic mela		Local market		Organic mela	
		Cost (Rs.)	Per cent	Cost (Rs.)	Per cent	Cost (Rs.)	Per cent	Cost (Rs.)	Per cent
1	Bagging	80	3.07	126	4.27	80	14.73	112	12.28
2	Transportation	30	1.15	230	7.79	30	5.52	220	24.12
3	Loading	10	0.38	10	0.34	10	1.84	10	1.10
4	Unloading	10	0.38	10	0.34	10	1.84	10	1.10
5	Grading and Sorting	258	9.90	258	8.74	78	14.36	125	13.71
6	Packing	288	11.05	288	9.76	285	52.49	285	31.25
7	Processing	1880	72.14	1880	63.69	0	0.00	0	0.00
8	Miscellaneous	50	1.92	150	5.08	50	9.21	150	16.45
	Total	**2606**	**100**	**2952**	**100**	**543**	**100**	**912**	**100**

Note: Processing cost includes losses and broken during processing (recovery losses)

Table.3 Details of marketing cost, margins and price spread for the major organic farm produce

(Rs. **/Kg)**

Sl. No	Products	Producer price	Transportation Cost	Retailer's purchase price	Processing charges	Grading and sorting including wastage	Standardization and Grading charges	Packing charges	Total marketing cost	Effective Retailer's Purchase Price	Profit margin	Consumer price	Producer's Share in Consumer's Rupee (%)	Price spread
1	Rajmudi rice	29.00	2.33	46.27	4.00	0.29	1.16	3.00	25.72	54.72	17.86	73.00	40.00	44.00
2	Wheat	28.00	3.00	40.33	0.00	0.28	1.01	3.00	16.62	44.62	18.88	63.00	44.00	35.00
3	Sorghum	34.00	2.50	36.50	0.00	0.34	0.91	3.00	6.75	40.75	12.58	53.00	64.00	19.00
4	Bajra	25.00	2.00	27.00	0.00	0.25	0.68	2.00	4.93	29.93	22.08	52.00	48.00	27.00
5	Ragi	38.00	2.00	40.00	0.00	0.38	1.00	2.00	5.38	43.38	12.07	55.00	69.00	17.00
6	Kodo millet	31.00	2.00	58.36	8.50	0.31	1.46	2.00	39.63	70.63	26.87	97.00	32.00	66.00
7	Little millet	32.00	2.00	53.61	9.00	0.32	1.34	2.00	34.27	66.27	26.23	92.00	35.00	60.00
8	Proso millet	28.00	2.00	47.16	8.50	0.28	1.18	2.00	31.12	59.12	25.88	85.00	33.00	57.00
9	Barnyard millet	30.00	2.00	56.55	9.00	0.30	1.41	2.00	39.26	69.26	20.74	90.00	33.00	60.00
10	Foxtail millet	22.00	2.00	35.85	9.00	0.22	0.90	2.00	25.96	47.96	34.04	82.00	27.00	60.00
11	Green gram	85.00	2.50	87.50	0.00	0.85	2.19	3.00	8.54	93.54	46.46	140.00	61.00	55.00
12	Groundnut	48.00	3.00	69.67	0.00	0.48	1.74	3.00	26.89	74.89	50.11	125.00	38.00	77.00
13	Tur dal	64.00	2.50	77.79	5.00	0.64	1.94	3.00	24.38	88.38	91.62	180.00	36.00	116.00
14	Jaggery	50.00	4.00	54.00	0.00	0.50	1.35	4.00	9.85	59.85	35.60	95.00	52.00	45.00

Table.4 Prices charged by producers for major organic farm produce

(Rs. **/Kg)**

SNo.	Products	Local market	Organic mela	% Difference
		Consumer price (Rs.**)**	**Consumer price (**Rs.**)**	
1	Rajmudi rice	50	60	20.00
2	Wheat	60	80	33.33
3	Sorghum	45	55	22.22
4	Bajra	30	40	33.33
5	Ragi	45	60	33.33
6	Kodo millet	80	100	25.00
7	Little millet	80	100	25.00
8	Proso millet	75	90	20.00
9	Barnyard millet	80	100	25.00
10	Foxtail millet	60	80	33.33
11	Green gram	100	120	20.00
12	Groundnut	120	140	16.67
13	Tur dal	140	160	14.29
14	Jaggery	60	80	33.33

Table.5 Prices of major organic commodities at different places in Karnataka

(Rs. **/Kg)**

SN	Products	Gadag	Dharwad	Bengaluru	SD	Mean	CV
I	**Millets**						
1	Araka (Kodo millet)	100	100	97	1.18	99.17	1.19
2	Bajra (Pearl Millet)	35	35	52	8.01	40.67	19.71
3	Baragu (Proso Millet)	100	100	85	7.07	95.00	7.44
4	Navane (Foxtail millet)	55	55	82	12.73	64.00	19.89
5	Ragi (Finger Millet)	38	45	55	7.17	46.15	15.54
6	Samai (Little Millet)	95	95	93	1.18	94.17	1.25
7	Oodalu (Barnyard Millet)	100	100	90	4.71	96.67	4.88
II	**Cereals**						
8	Jowar	35	40	53	7.74	42.78	18.09
9	Rice-Raajmudi		60	73	6.29	66.29	9.49
10	Rice-Sonamasuri		75	70	2.50	72.50	3.45
11	Wheat	55	55	63	4.01	57.83	6.93
III	**Pulses and products**						
12	Cow pea	100	100	133	15.56	111.00	14.01
13	Green gram	85	85	140	25.93	103.33	25.09
14	Chana dal	90		105	7.50	97.50	7.69
15	Green gram dal		185	240	27.50	212.50	12.94
16	Tur dal	165	180	220	23.21	188.33	12.33
IV	**Oilseeds and others**						

17	Ground Nut	170	189	125	26.84	161.33	16.63
18	Sesamum oil	130	150		10.00	140.00	7.14
19	Safflower oil	170	180		5.00	175.00	2.86
20	Jaggery		80	96	7.73	87.73	8.81

Table.6 Price variability for organic produce by different organic companies

(Rs./**Kg)**

SN	Products	Organic Arya	Turn Organic	Tattva	Terra Green	Pro-Nature	24 Mantra	SD	Average	CV
I	**Cereals**									
1	Bajra	84					60	12.00	72.00	16.67
2	Jowar	80		74			80	2.83	78.00	3.63
II	**Millets**									
3	Barnyard millet	126					130	2.00	128.00	1.56
4	Foxtail millet	115			120			2.50	117.50	2.13
5	Kodo millet	126					150	12.00	138.00	8.70
6	Little millet	144			130			7.00	137.00	5.11
7	Proso millet	126					140	7.00	133.00	5.26
III	**Pulses and Oilseeds**									
8	Green gram	230	260	220	235	236	260	14.95	240.17	6.22
9	Groundnut	220	240	210		216	220	10.09	221.20	4.56
IV	**Value added products**									
10	Chana dal	155	170	190				14.34	171.67	8.35
11	Jaggery	130			136			3.00	133.00	2.26
12	Tur dal	280			290	296	270	9.90	284.00	3.49

Price variability of organic produce across different places in Karnataka

The retail prices of major organic commodities across different places of Karnataka are presented in Table 5. Among the millets, Foxtail millet price showed the highest value of coefficient of variation (20 %) followed by price of Pearl millet (19 %) and the lowest price variation was observed in the case of Little millet (7 %). In the case of cereals, the highest and the lowest variation were noticed in the prices of Red-rice and Wheat as revealed by their Coefficient of Variation (CV) value of 23 per cent and six per cent, respectively.

Whereas in case of pulses the price of tur dal showed the highest variation while Bengal gram prices appeared to be relatively uniform across the different markets as the CV values for these crops were 23 per cent and only four per cent, respectively. The price variation was more in organic Groundnut oil (20 %) and safflower oil maintained uniformity (3 %) across different district markets in Karnataka.

The price variability across the markets in different parts of the state was the least in the case of Kodo millet, Little millet, Safflower oil and Sonamasuri rice as revealed by relatively lower value of CV for prices of these crops across the markets in the state.

Price variability for organic produce by different organic companies

There are many companies involved in procuring, branding and marketing of organic farm produce. The data were collected from 38 retail outlets across the districts on prices of different organic produce for leading brands. The price variability of different organic produce marketed under different brands is shown in the Table 5.

Majority of the organic produce were marketed under a different brands, Greengram and Groundnut were marketed under many brands. In case of Green gram, the turn organic and 24 mantra brand fetched the highest price (Rs. 260/kg) and for Groundnut, turn organic brand fetched the highest price (Rs. 240/kg).

Results presented in Table 6 revealed that Bajra fetched the highest price in cereals under Organic arya brand (Rs. 84/kg) with price variability of 17 per cent, among millets the highest average price was for Kodo millet (Rs. 138/kg). For green gram the average price was Rs. 240/kg and for Groundnut, it was Rs. 221/kg. Among different value added products the average price of Tur dal was the highest (Rs. 284/kg). The price variability as indicated by the co-efficient of variation was the highest for Bajra in cereals (17 %), Kodo millet (8.70 %) among millets and Chana dal (8.35 %) among value added products.

In conclusion, there existed two marketing channels for organic farm produce, first Channel involved direct selling to consumer and in the other Channel produce reaches consumer through retail outlets situated in major cities of the state. Among the items of marketing cost processing cost was the major in the case of redgram while for sorghum, packing cost was the major which will be sold as grain. The price benefit of organic tur dal was about 30 per cent higher compared to conventional tur dal and 20 per cent higher in the case of organically grown sorghum compared to conventionally grown sorghum. The total marketing cost was highest for Kodo millet followed by Barnyard millet, Little millet, Proso millet, Groundnut. The price realisation for different organic farm produce was relatively higher in melas compared to local market. There existed many companies for marketing of organic farm produce under their brand names. The price variability was highest in case of Bajra followed by greengram, Kodo millet and Chana dal. The least variability was observed for Foxtail millet and Barnyard millet. Prices of organic products also differed from one city to the other and prices were relatively higher in Bengaluru market compared to other markets.

The results revealed that, the imperfections in marketing of organic farm products denying the larger share of producer in consumer price and lead to wide price spread. Therefore strengthening of market information service, value chain linkages, regulation of middlemen, development of exclusive channels and markets for organic products in public-private partnership model would promote organic farming. In addition,

The training programmes for all the stakeholders emphasising win-win-win situation for farmers-middlemen-consumer on production, post-harvest handling, value addition and marketing would promote organic farming.

Acknowledgement

This study was a part of the M.Sc. Thesis submitted by the first Author under the guidance of second author to the UAS, Bengaluru and third Author. Authors are thankful for the financial support extended by the Karnataka Agriculture Price Commission, Government of Karnataka for the study.

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How to cite this article:

Akash, M.G. Chandrakanth and Gaddi, G.M. 2019. Marketing of Organic Farm Products: Spatial and Brand-wise Price Analysis in Karnataka, India. *Int.J.Curr.Microbiol.App.Sci.* 8(08): 2597-2606. doi: https://doi.org/10.20546/ijcmas.2019.808.302