

Economic Aspects of Organic Farming¹

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ABSTRACT

This article examines the economic and environmental factors unique to tiny, landless, and marginal farmers, and then suggests ways in which such farmers might increase their income via the practice of organic farming. The majority of farmers are economically marginalized, making it unrealistic to expect them to invest in large quantities of fertilizers and chemicals, thus they must turn to organic practises instead. And for the many individuals who own just a few acres of farmland, organic farming is a great option. The Fair-Trade Alliance of Kerala (FTAK) is a group of local farmers with the goal of expanding their access to the international fair-trade market. In comparison to the free market, the method results in lower prices for goods, which is good news for fair trade exporters. By analysing FTAK, this study highlights its positive effects on income and highlights the importance of the growing organic food industry, premium pricing, and incentives for farmers. According to the findings, organic farming is a more effective way to increase Indian farmers' income by 20-50%, and that fair trade farmers received higher prices (20-50%) for their commodities when selling them directly to international buyers.

Keywords: *Organic farming, Agriculture, economic, Economic Aspects*

INTRODUCTION

Indian farmers have been utilising organic methods for decades. Organic farming was essential to the success of the great Indian civilization. In old India, the whole industry of agriculture was done utilizing organic practices, where the fertilizers and insecticides were sourced from plant and animal products. Although the phrase organic farming is obtaining popularity in recent times, yet it was launched about 10000 years ago when ancient farmers started cultivating dependent on natural sources solely. The importance of organic farming in today's agricultural sector is growing. Organic farming is being pushed and is gaining recognition all over the globe, notably in Southeast Asia, as part of the newest attempts to foster agricultural systems that are both socially and environmentally sustainable. The plan focuses on reducing the use of costly inputs like chemical pesticides and synthetic fertilisers, while expanding and effectively employing farm-based resources. Both farmers and consumers are becoming more aware of the risks associated with the widespread use of

synthetic pesticides in agriculture. Finally, encouraging farmers to adopt organic agriculture practises may help enhance ecological and environmental integrity. Previous studies have shown that both the organic farming industry and the market for organic foods are constantly growing in popularity throughout the globe. Opportunities in the Indian market are expected to expand as the country's growing middle class learns more about the benefits of organic produce. Both organic and conventional farmers reported significant barriers to crop output, with the former citing difficulty finding qualified workers and the latter citing a need to pay them more. (Amarnath and Sridhar, 2012). The good environmental and health consequences of organic farming are impossible to put a price on, and Government support for traditional forms of fertiliser and pesticide may be ignored.

BENEFITS OF ORGANIC FARMING

Actual field data show that organic farming is more profitable than modelers had anticipated. The models'

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stated presumptions seem acceptable. Given that it is challenging to account for the differences between the two systems in models, a closer look at the unspoken assumptions may be informative.

1. Better Taste and More Nutrition

Organically grown fruits and vegetables taste significantly better than those that are produced using other methods. This is because they are allowed a lot more time to mature and are not given artificial stimuli. These crops' sugar molecules have more time to mature and evolve into a delicious and wholesome product.

2. Reduces pesticide and chemical residue in soil

Due to its reduced reliance on synthetic fertilizers and pesticides, organic agriculture helps alleviate some of the world's most pressing ecological problems. Soil, water, air, and plant and animal life are all protected. Significant environmental problems including soil erosion, air pollution, water pollution, etc., are mitigated as a result.

3. Promotion of Biodiversity

Increasing biodiversity benefits all forms of life, hence practices like crop rotation to boost soil fertility and natural animal husbandry are advocated. When organic farms provide wildlife refuge, local ecosystems benefit as a result.

4. Consumes Less Energy

In contrast to traditional farming methods, which make liberal use of synthetic fertilizers, organic farming does not depend on their usage. Not using fertilizers helps save energy for the greater good.

Creating synthetic fertilizers uses a lot of power, so it's hardly surprising that they're so expensive. Organic agricultural practices are generally accepted to reduce energy use by 30–50% on average. When compared to conventionally produced crops, organic ones use 35% less energy, while organic dairying uses 74% less energy, according to research from the British Department of Environment, Food, and Rural Affairs.

5. Long-term sustainability

As a method of food production, organic farming is one that can be maintained throughout time. Instead, then reacting to issues after they have already arisen, which sometimes be too late, organic farmers use a proactive, preventive strategy.

6. Reduced erosion and better water management

Reducing soil erosion is a goal of both soil improvement and the practice of maintaining a "covered" landscape with mulches and cover crops. Organic farming uses less water because its crops are more densely packed into the soil and because of the soil's enhanced structure and increased amount of organic matter.

7. Familiarity with the techniques

The practice of organic farming is a return to the way things were done before the advent of machinery. This makes it simple for farmers to learn and implement organic agricultural practices that draw on long-established conventional wisdom. A farmer's success depends on his ability to maximize the benefits he derives from the resources at his disposal.

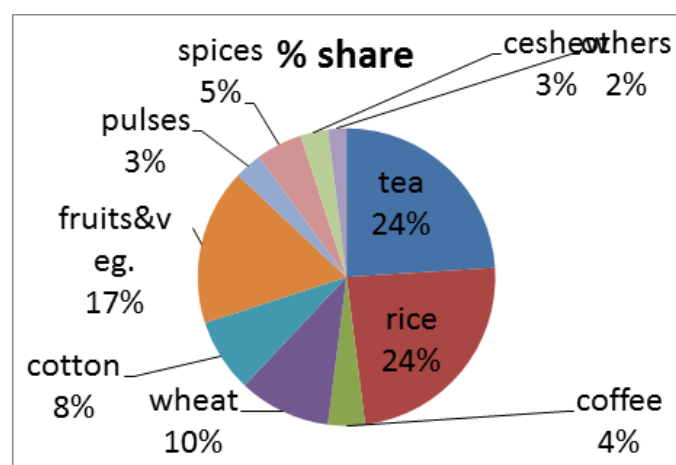


Figure 1. Economic benefit of Organic Farming in India

LITERATURE REVIEW

Susanna Kujala et.al (2022) Sustainable food production and rural revitalization are two goals that may be attainable with organic farming. As a result, many nations have set goals to increase their proportion of organic farmland. Organic farming was supposed to account for 20 percent of Finland's farmland by 2020. While there has been some growth in the percentage of farmland dedicated to organic farming, there are still large variations across regions. Our research aims to determine the causes of these variations. In previous studies, important aspects like subsidies have been left out of the equation; this study, however, investigates the role that subsidies play in explaining the disparate regional prevalence of organic farming in Finland. Literature reviews, government figures, and a sizable survey of organic farms all contribute to the data set. We use QCA to determine the three main causes of the rise in Finland's organic farmland share. The first route, which is used by the three areas with the highest organic shares, is characterized by a strong emphasis on dairy production, a long history of organic farming, and substantial dependence on government subsidies. We find that there is not a single cause for the disparate rates of organic farming throughout Finland's regions. As an additional consideration, subsidies are a major cause of organic farming's geographical differences.

M. Manjula et.al (2021) Since 2005, both the federal and state governments in India have actively supported organic farming via policy. In light of environmental concerns, the government of India has shifted its focus from conventional, chemical-input farming to organic farming. Despite this, organic farming is still a niche industry, accounting for less than 2% of the country's net planted area. This study proposes using market-based tools, which have proven effective in changing agricultural methods in certain countries throughout the world, as a complementing policy mechanism to hasten the shift to organic farming in India.

Muhammad Waqar Akram et.al (2022) Farmers' preferences for organic farming were analyzed in this study. It was first used by industrialized nations as a means of reducing pollution caused by the heavy application of synthetic fertilizers and pesticides in an effort to increase crop yields. While organic farming provides ecologically preferable practices for agricultural production, it has yet to gain widespread acceptance among Asian farmers. This research used a survival analysis (SA) to analyze why and how long it takes farmers to switch to organic farming. Farmers' motivations, agricultural policy, and risk perception were all examined here as factors in the survival study. Using the Analytic Hierarchy Process to weigh numerous factors Analysis of the farmers' goals as shown by the process. Three areas in Punjab, Pakistan,

were chosen as the sites for data collection from which agricultural farms could provide samples. The empirical evidence was gathered using a questionnaire. This research found that farmers' motivations were significant in determining whether or not they would embrace organic farming practices, and that younger farmers and those more comfortable taking risks were more likely to do so. The research also found that enticing farmers to switch to organic practices requires a shift in policy and the introduction of an unique package for organic agriculture.

Ivan Tsvetkov et.al (2018) This study examines the current progress in organic plant growing from a scientific, regulatory, economic, and environmental perspective. The article contrasts conventional farming with organic farming in terms of its effect on biodiversity and soil fertility. The current variety of national and international policy tools in this sector is a major challenge to the widespread implementation and future growth of organic farming. Particular focus is placed on cutting-edge research methods that hold great promise for resolving widespread issues in plant-based organic farming. Some say organic farming isn't viable yet since it doesn't produce enough food. Because of this, there is an urgent need for more funding to boost the networking among organic farmers, researchers, and national and international policymakers.

Dalvir Singh et.al (2017) Carbon emissions from the agricultural sector due to the usage of synthetic agrochemicals have been shown to have negative effects on the environment, as stated by Pretty and Ball (2001). Through the use of cutting-edge agricultural technology and methods, the Green Revolution of the 1960s helped the nation get closer to food security. Over time, Insects and diseases have become more of a problem due to the increased use of chemical fertilisers and pesticides. Research by others (P. Btattacharya et al., 2005). It has been noted by Joshi (2010) that the over use of chemical inputs in agriculture is causing the deterioration of agricultural land, water supplies, and food quality. The experiment-based studies of Rasmussen et al. (1998)⁴ and Tilman (1998)⁵ on long-term agricultural circumstances in the European Union and North America found that intensive agriculture has exploited soil fertility and organic matter levels.

METHODS

A total of 120 farmers, or 40 from each panchayath, provided information on their 2018 harvests of pepper, ginger, turmeric, cocoa, coconut, and cashew nuts. To get first-hand information from the farmers in these panchayaths, we use a questionnaire, an interview schedule, and focus group discussions. This research used secondary sources like published reports,

personal and FTAK data, and fair trade alliance branches in Kerala. Graphs, percentages, and the standard growth rate were utilized to break down the data.

Both the financial and ecological merits of organic farming in India are assessed. This study relies heavily on original sources, making it an empirical article. There was a survey conducted in 2010 with six organic farmers from the states of Uttar Pradesh and Uttarakhand.

DATA ANALYSIS

Figure 2 shows that a staggering 47% or more of organic product sales are dependent on FTAK. Table 1 shows that the organic items were priced more by the fair trade alliance. The price difference was greatest for the spices pepper, turmeric, chocolate, and ginger.

Table 1. Open market for organic goods and fluctuating FTAK prices

Sl. No	Products	FTAK	Price (Rs per Kg)	
			Other markets	Difference (in %)
1	Pepper	400	300	25
2	Cashew nut	140	110	21
3	Turmeric	30	15	50
4	Coconut	45	35	22
5	Ginger	42	32	24
6	Cocoa	155	105	33

Source: Field survey, 2018

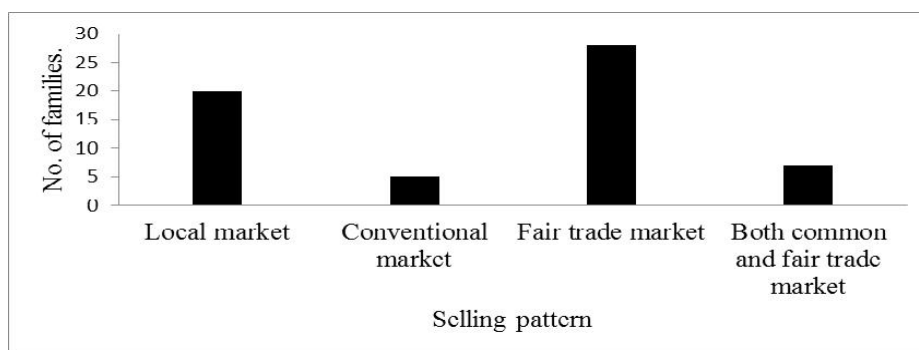


Figure 2: Trends in the Market for Biologically Based Goods

Table 2: Funding for organic agriculture

Sl. No	Land of households		Annual income of households	
	Size of Land (in hectare)	%	Income (in Rs)	%
1	Below 0.2	32	Below 25000	17
2	0.2 – 0.4	10	25000 – 50000	25
3	0.4 – 1.6	42	50000 - 1 lakh	50
4	Above 1.6	16	1 lakh - 4 lakh	8

Source: Field survey, 2018

Note: (1 USD = 66 Rs)

FTAK and socio-economic conditions of organic farmers: FTAK included steps that helped advance women into leadership roles. Seventy-five percent of the farmers in the research region are above the age of 55, showing that the elderly are strong proponents of organic farming.

Table 3: Organic farmers age under FTAK

Sl. No	Age of farmers	Percent of farmers
1	35–45	10
2	45- 55	12
3	55–65	42
4	65–75	33
5	75–80	3
	Total	100

Source: Field survey, 2018

According to Table 3, if a farmer engages in organic farming, he or she may expect to make an average of Rs. 42,796.00 per year, with a standard deviation of Rs. 6,441.00. The price of bio-fertilizers per acre of farmland for rice cultivation is shown in table 4 based on reports from a variety of sources. Both the amount of rice produced and its overall cost are listed. At the current market price of Rs 2300.00 per inorganic quintal and Rs 2991.67 per organic quintal, the price of rice has been determined.

Table 4: Agriculture Economic Value of Organic Farming

Name	Area in Acre (Reduced to 1 Acre, 1 Acre=43,545.72 Sq Feet.)	Cost of Bio- Fertilizer in Rs (1 Acre)	Production of Rice Quintal/Acre	Economic Values in Rs. of One Crop Price 2,991.67/Qt	Economic Profit Values in Rs. of One Crop (After Cost Deduction)
Respondent 1	1 acre	2,500.00	12 qt.	35,900.00	33,400.00
Respondent 2	1 acre	1,875.00	16 qt.	47,867.00	45,992.00
Respondent 3	1 acre	2,000.00	14 qt.	41,883.00	39,883.00
Respondent 4	1 acre	2,100.00	14 qt.	41,883.00	39,783.00
Respondent 5	1 acre	2,000.00	16 qt.	47,867.00	45,867.00
Respondent 6	1 acre	2,000.00	18 qt.	53,850.00	51,850.00
Average	1 acre	2,079.17	15 qt.	44,875.00	42,796.00

The increased cost of organic output may be attributed to the continued high price of manure compared to conventional fertilizers. Even though the human labour component seems to be larger in organic cropping, this is not the case. Unfortunately, the whole price is still more than the value of the inorganic product. The net return per hectare and return-cost ratio continue to favour the inorganic farms, even though the price per quintal of lady's finger from organic farms is greater than that of its inorganic equivalent.

Table 5: Cost A1 for cultivation

Cost items	NGO area		Government area	
	OFS	IFS	OFS	IFS
Hired human labour wage	16,178.08	15,479.60	12,955.54	12,443.45
Bullock labour charge	1,676.05	1,676.05	1,676.05	1,676.05
Hired machinery charge	2,173.18	2,161.03	2,191.15	2,186.15
Cost of seed / seedling	8,294.00	8,010.15	8,150.72	8,294.00
Cost of fertilizers		13,221.21		13,239.12
Cost of manures	24,424.92		23,947.04	
Cost of p.p. materials		5,581.24		5,149.25
Cost of bio-p.p. materials	1,715.56		1,713.48	
Irrigation charge	2,118.91	2,446.81	2,091.54	2,463.53
Interest on working capital	462.88	387.34	500.84	429.20
Land revenue & tax				
Deprn.on farm implement	22.50	22.50	22.50	22.50
Miscellaneous expenses	2,240.97	2,068.44	2,331.38	2,186.15
Total	49,060.92	41,250.61	52,989.14	45,600.71

It's worth stressing that the crops we're interested in here are vegetables. There's a promising market for these crops. However, due to the perishable nature of the goods, an efficient distribution system is essential. Also, the state's vegetable storage options remain limited.

According to the average rank score, the organic farmers are most knowledgeable about the product's high quality in the NGO and Government sectors, followed by the organic farm product's positive effects on human health. It's worth noting that although farmers in the Government region rate these phenomena at #8 in terms of importance, farmers in the NGO area position it at #3, suggesting that they are more conscious of the fact that organic farming is more lucrative than any other form of farming. For this reason, NGO-area farmers may have stuck with organic methods for so long. Truth be told, crop yields drop on organic farms during the transition from inorganic to organic farming, and in the first few years, a greater number of organic manures must be applied to the soil to keep its nutrient levels stable. Lower yields and greater input costs for manuring the land reduce the overall profitability of farming. Farmers in the Government sector have just been engaging in organic farming for the last five years, therefore their perception of the financial rewards of this practice is much lower than that of farmers in the NGOs sector, who have been engaged in organic farming for well over a decade.

Table 6: Ranking of organic farmers' awareness

Sn	Questionnaire	NGO area		Government area	
		Score	Rank	Score	Rank
1	High profitable	3.30	3	2.23	8
2	Minimum production risk	2.77	7	2.47	6
3	Higher employment potentiality	2.80	6	3.33	4
4	Lower recurring cost for inputs	2.97	5	3.50	3
5	Beneficial for health	4.17	2	4.33	2
6	Increasing consumer demand	3.20	4	2.50	5
7	Higher price of organic product	2.53	8	2.34	7
8	Good quality	4.20	1	4.63	1

In organic farming, the biological potential of the soil and subterranean water supplies is preserved and guarded against the deterioration or depletion caused by both natural and human causes. Many of the methods used by organic farmers are also commonplace in other agricultural systems. To put it simply, organic production only allows for the use of natural inputs and strictly forbids the use of synthetic ones.

CONCLUSION

The report assesses the financial and ecological advantages of organic farming in India. Six organic farms provided information for this study. Paper authors concluded that a farmer's exposure to educational materials on organic farming was one of the most significant factors in his or her acceptance of the practice. Conventional farmers who had received enough education about the dangers of eating tainted food and began dabbling with organic farming. Organic farming helps the environment by fostering long-term growth and protecting soil fertility. Organic farmers in Kerala benefit from Fair Trade Alliance Kerala's assistance in maintaining food safety, fair pricing, and improved socioeconomic situations. For the purpose of increasing farmers' incomes through the fair trade minimum price and premium, a group of

small farmers has formed an organization to facilitate access to the global fair trade and equitable trading market. The organic goods industry has grown in prominence as a key source of revenue for international trade. It also helped organic farmers by offering various plans for expanding their output. Analysis shows that FTAK's initiatives improved agricultural output and efficiency.

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