

Factors Affecting Inducement for Organic Farming in Bangladesh

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ABSTRACT

Purpose: While organic farming is quite pervading around the world, it received minimal momentum in Bangladesh. Therefore, this study aims to find the dominant factors and major constraints to pursue organic farming in Bangladesh.

Methodology: Primary data are collected from forty producers, one processor, and two distributors from the Bogura district. Mostly descriptive statistics are used to achieve the objectives.

Findings: Findings show that lower cost of productions, ethical farming practices, higher return, and premium prices are the primary inducement for organic farming over the traditional methods. However, losing arable land, lack of credit and technical aid, and different marketing constraints are the notable impediments to pursue organic farming in Bangladesh. Building awareness, developing effective marketing channels, private-public partnerships in production, storage, and distribution could be a way to reduce these impediments and encourage more organic farming in Bangladesh.

Limitations: This study considers only one particular district of Bangladesh among the few where organic farming is prominent. Few other production locations could be included in future studies.

Practical Implications: This study provides practical implications for existing and potential producers, processors, and distributors of organic farming in Bangladesh.

Originality: This study provides a bridge to the existing literature gap in organizing organic farming in Bangladesh, especially by identifying the factors inducing organic farming and major constraints to this process.

1. Introduction

Bangladesh is traditionally an agriculture-centered economy, with around 20% of its GDP, and nearly 65% of national employment comes from the agricultural sector (Miah et al., 2020). The authors also mention that agricultural growth paralleled the country's GDP growth and contributed to poverty alleviation with improved agricultural productivity. According to the World Bank (WB, 2016), agriculture played a fundamental role in poverty eradication in Bangladesh (48.9% in 2000 to 31.5% by 2010) and generated income for 87% of rural people. Moreover, the seventh Five-Year plan (7FYP 2016-20) set a target to ensure the country's agricultural sector be profitable, sustainable, and competitive by promoting agricultural diversification. However, according to Food and Agriculture Organization (FAO, 2016), Bangladesh's agricultural sector is severely constrained by climate change, food safety, gender inequalities, food security, and new technologies to increase yield diversification. Therefore, sustainability in Bangladesh's agriculture sector is essential which can be achieved through organic farming practices (Faruk et al., 2004).

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In recent decades, agricultural production notably shifted towards organic methods from traditional inorganic techniques worldwide. Even though Bangladesh is fulfilling its food demand through inorganic farming with modern technologies (Faroque et al., 2013), recent evidence showed that such practices cause soil degradation over time, which eventually lead to a long-term injury to the environment and, more importantly, to economic profits (Kirchmann & Thorvaldsson, 2000). However, these problems can be avoided by using organic farming. Organic production methods require lower input costs, offer higher profits, have no external costs, usually safer for consumption and the environment, and contribute to poverty alleviation (Islam et al., 2019). Saha et al. (2017) further added that organic farming offers higher yields, variety in produces, improves soil productivity, and maintains soil health. Despite these advantages, organic products' appearance compared to inorganic products, lack of consumers' responsiveness, and the flawed market system make producers less interested in organic farming in Bangladesh (Islam et al., 2019).

Evaluation of these positive aspects and negative concerns varies from country to country based on their available resources, traditional approaches, technological advancement, and nation's development status. Hence, this study considers the impact of existing beliefs on undertaking organic farming in only a particular context where Bangladesh could be an interesting study point. According to Willer et al. (2020), Bangladesh has 6285 hectares of land under certified organic production, where 504 hectares of land in organic agriculture and 5781 hectares of land in aquaculture (shrimp). These organic productions also generate employment for around 9335 producers. Besides these, 503.9 hectares of land are used for organic tea production, directly exporting to the USA, UK, Japan, Germany, and other leading OECD countries. The EU had already imported around 251 metric tons of different organic products from Bangladesh in 2018. Therefore, this study considers Bangladesh in its research scope.

Although the production technologies used in agriculture are relatively similar nationwide, the market mechanism, distribution systems, price and cost structure, and marketing initiatives are quite different among major divisional areas and small cities of Bangladesh. Different parties involved in vegetable markets and interactions between these economic agents make it a more complex market chain, where the products' prices are well linked (Mahmoud et al., 2005). According to the (Hassan et al., 2013), agriculture marketing and marketing actors vary widely with different produces and production locations. Therefore, this study further narrows the research scope to one divisional city- Bogura to represent organic products' local production practices and market mechanisms. This study aims to find the major factors that are affecting the inducement for organic farming in Bangladesh. In this regard, the research objectives are first, to identify the factors influencing the practice of organic farming in selected areas of Bangladesh and second, to identify different problems that impede the persuasion of this organic farming.

This study contributes in several ways. It generates essential insights for academics, practitioners, and policymakers. This research is designed to accumulate different motivations and impediments in organic farming, an area of inquiry that has been relatively under-studied in the context of Bangladesh. Therefore, it sheds some light on the existing literature gap, which academics could further explore. This study also contributes by generating practical implications for the potential and existing organic farmers. By identifying the prime factors that work as inducements for organic farming and associated impediments, this study offers important insights for the current and potential organic farming practitioners in Bangladesh. Moreover, these findings would be essential for the policymakers and other stakeholders in initiating a holistic approach to solve the problems that impede organic farming in Bangladesh and introduce different incentives for the expansion of such farming.

The rest of the paper is organized as follows. The next section is the literature review explaining some of the reasons to choose organic products over inorganic ones and what may have caused impediments on the way. Section three is the methodology, including the research approach, population and sample, data and sources, data collection method, and data analysis techniques. Section four includes the analysis and relevant discussion of significant findings of this study. Lastly, the conclusion and other implications of this study are presented in the final section.

2. Literature Review

Organic farming received minimal momentum in Bangladesh, while it is quite pervading around the world. A few previous studies focused on organic farming in Bangladesh, especially its advantages and prospects. However, none of these studies accumulated all the dominant factors to pursue organic farming and major problems that impede the

process. Willer et al. (2020) states that under the different government and non-governmental projects, many small and medium producers and entrepreneurs are becoming enthusiastic about organic practices because of increasing demand. However, to make organic products commercially viable, many issues still need to be addressed, ranging from cost, productivity, profitability, farming techniques to delivering the product to the final consumers. Consequently, only a handful of districts have started organic farming, such as Tangail, Bogura, and Chattagram, which have differences in farming management techniques and associated complications. Besides, Willer et al. (2020) pointed out that acquiring people's trust in organic production is also a significant challenge.

According to Ullah et al. (2015), cost, productivity, profitability, compatibility, and efficiency have a significant positive impact on organic farming practice because it increases farmers' income and protects the environment from pollution by avoiding the use of toxic chemicals and fertilizer. Organic farming does not use any chemical substances in production nor depends on irradiation, industrial solvents, or chemical food additives for processing, so the production costs are few (Mukul et al., 2013). Islam et al. (2019), in a cost-benefit analysis on tomato and corn farming in organic and inorganic production methods, concluded that organic farming could be profitable in the long run because of its lower costs. Wanawan and Tapat (2019) showed that economic profit, ecological benefit, and health benefit motivate farmers to take on organic practices. Organic fertilizers in the production process yield a higher number of fruits with better quality, which offered better economic returns (Saha et al., 2017).

Some of the studies have argued the social and environmental aspects of organic practices too. Hoque (2012) stated that organic farming can be socially, environmentally, and financially viable while ensuring food security to small and marginal farmers. Adebisi et al. (2019) stated exposure to information such as economic viability, health and environmental effects of inorganic, organic pest and soil fertility management, and social capital can help producers motivate to take on organic farming. Rahman and Yamao (2007) argued that the organic farming community is higher in social capital in the "generalized" and "institutional" network structures and also better affiliated with the Non-Government Organizations (NGOs) and government organizations. Islam et al. (2019) recommend organic farming as a viable option for poverty alleviation. Moreover, in the saline soil where growing tomato seemed to be challenging, organic fertilizers with recommended doses of inorganic fertilizers provide higher yield, protect soil health, preserve the environment from specified hazards and generate higher income for producers (Saha et al., 2017).

Price is considered a crucial factor in any market system because of its nature and impact. Pricing for new products should be in a way that covers production costs and affordable to consumers (Obigbemi, 2010). According to Adebisi et al. (2019), the higher price of organic products over conventional is a significant driver in pursuing organic farming. Iqbal (2015) argued that consumers in Dhaka city are willing to buy organic products at a 10%-20% higher premium than inorganic products. Wang et al. (2019) further added that consumers are willing to purchase organic products at a premium price even though that depends on other factors such as education, income, purchase price, etc. Consumers are willing to pay up to a 20% premium price for organic products than inorganic ones (Aryal et al., 2009). Moreover, Birkhofer et al. (2016) argued that certified organic products need premium prices due to lower yield than their inorganic counterpart, and without government subsidies, this price may increase even more in the future. According to Islam et al. (2019), in an unflawed market system where organic products' price should be lower than conventional but the premium price is charged.

Even though these studies strongly advocate organic practices, few studies have found some discrepancies too. Sarker and Itohara (2008) argued that limited land, lack of capital, higher price, limited knowledge, and social obstacles are unique constraints to expanding organic farming in Bangladesh. According to Hossain (2012), unavailability of farming land, the fewer supply of organic fertilizers, fewer yield, promotion of inorganic fertilizers and higher-yielding seeds, no promotional coverage for organic products, confusion among producers, unethical practices by several NGOs are causing barriers to the broader adoption of organic farming. According to Musa et al. (2015), misconceptions among stakeholders, mixing up conventional with organic farming and inadequate and unmarked supply of safe food are a few other notable constraints that impede organic farming expansion in SAARC countries, including Bangladesh. Besides, lack of consumers' unawareness coupled with premium prices of organic produce discourages people towards organic products (Islam et al., 2019).

There is no alternative to a proper marketing system in horticultural crops throughout the year to avoid post-harvest loss. Mamoon and Haque (2013) argued that the future of organic production in Bangladesh depends on a better-constructed distribution channel. Nevertheless, the vegetable market in Bangladesh is unsystematic, scattered, and filled with disruptions. Hassan et al. (2013) stated that every vegetable market channel is crawling with intermediaries. Besides, inadequate market infrastructures, the hegemony of intermediaries in the marketing channel, absence of modern marketing tools and equipment, lack of market information, lack of knowledge and skills, and lack of specialized training are among the critical constraints mentioned in that study.

These previous studies addressed several important issues ranging from opportunities to constraints of organic farming. Nonetheless, such issues differ in specific contexts and need to be carefully assessed to develop a standard set of factors applicable to Bangladesh's overall organic production. Hence, there is still a gap in existing literature, especially in finding primary inducement for organic farming in a specific location within a country like Bangladesh. However, before getting into organic practices from a business perspective, it is also necessary to assess why one should pursue organic farming and what impedes such a process in Bangladesh. Therefore, this research tries to bridge some of the existing literature gaps by identifying the primary factors that induce the farmers in organic farming and the different impediments towards organic farming.

3. Methodology

This study adopts a qualitative research approach to summarize events faced by a group of individuals. Using this qualitative approach, data for this study are obtained through the interview, recorded in a natural-setting, documented, and then represented in numerical values. Qualitative studies cover a wide range of areas such as research strategies, specific techniques for understanding people in the natural context while expanding areas in humanities, social sciences, and the arts, drawing a broad, sensitive postmodern and critical sensibility (Denzin & Lincoln, 2002). This study is also descriptive in nature. The descriptive study represents a particular issue's critical phenomenon using different graphs, charts, and tables in a logical sequence (Huda & Islam, 2020). Therefore, descriptive research best matches to present the reality of a phenomenon (De Jong & van der Voordt, 2002).

The study considers the farmers of Chopinagar Union, Shahazanpur Sub-district, and processors and distributors located in Bogura district. Keeping in mind the objectives, organic producers' viewpoints are chosen since they concentrate exclusively on organic farming and are critical in developing organic products for the market. From that focal point, the products follow downstream through actors involved in distributing, marketing, and selling the organic product to consumers. Farmers selected in this study are practicing organic farming under Grameen Unnoyon Prokolpo (GUP) project, where 525 farmers in total are involved in organic farming. Farmers are selected, keeping different economic factors such as age, income, sex, education level in mind. The study area is chosen purposively due to researchers' familiarity with the place and the considerable number of people practicing organic farming. Data have been collected from forty farmers in the vicinity, one processor, and two distributors among the total four distributors in the Bogura district using the convenience sampling technique in a non-probability sampling approach.

Open-ended questions followed by face-to-face interviews are used in this study to facilitate the respondents' understanding of different terms, i.e., the word "organic" seemed to have different meanings to different people. Most channel actors communicate well with face-to-face interviews because it helps capture the differences and explores their thoughts and issues that might be important to understand the production methods. It took 20-30 minutes to interview each of the forty-three respondents in total. Answers are recorded in a digital recording device and then analyzed using a phenomenological approach. The phenomenological approach tries to explain a phenomenon from the viewpoint of those who have experienced it (Teherani et al., 2015). Therefore, data collected from these actors in the channel reasonably comprehensive in its scope but not necessarily accurate.

Secondary data are collected from various sources such as previous research papers, articles, websites, journals, newspapers, and government organizations such as BARI, DAE, Agriculture Information Service, and Horticulture Export Development Foundation. Secondary data offers the scope of more detailed and integrative results. Furthermore, this study adopts a descriptive analysis where different descriptive statistics are presented in a logical order. In the analysis, the first section is dedicated to finding out reasons for pursuing organic practice, and the second section is about finding out the problems relevant to the process.

4. Results and Discussion

4.1 Factors Influencing the Organic Farming

4.1.1 Cost of Production

One of the major drivers for initiating organic farming is the cost of production. Table 1 shows the estimated cost of broccoli production in the study area. In conventional methods, fertilizers cost taka 26493.88 per hectare, whereas it only costs taka 18906.83 per hectare in organic methods. The pesticide's total cost is taka 13098.48 per hectare in the conventional method, and it costs taka 10862 per hectare in organic farming. According to Islam et al. (2019), organic farming can be profitable over inorganic in both the short and long run because of its lower cost structure.

Table 1. Per Hectare Cost of Broccoli Production in the Study Area

Inputs	Cost in Taka (Inorganic)	Cost in Taka (Organic)
Irrigation	7849.09	7849.09
Plowing	6736.36	6736.36
Seed	20583.33	20583.33
Weeding	39295.45	39295.45
Fertilizers	Urea: 5748.36 TSP: 5434.00 MOP: 3705.00 Gypsum: 1496.97 Boron: 1122.73 Organic Fertilizers: 8981.82 Total: 26493.88	Trico-Compost: 17784.00 Boron: 1122.73 Total: 18906.83
Pesticides	13098.48	Bordo Mixer: 5434.00 Pheromone Trap: 2464.00 Sticky Trap: 2470.00 Total: 10862.00
Total	114,056.59	104,233.06

Source: Primary data collection, 2020

4.1.2 Ethical Practice with Higher Return

To get a higher yield, farmers over years often use chemical and other inorganic fertilizers, which in the long run degrade the soil's productivity and cause the source of several diseases to the consumers of those products. This practice indeed offers a higher return to the farmers but is subjected to ethical grounds. Besides, previous studies showed evidence that chemical fertilizers and pesticides cause harm to human health and the environment while it increases production costs to the producers. On the contrary, organic fertilizers and pesticides are made of natural substances, readily available, and cost even less than chemical fertilizers, which could be a source of higher return with ethical farming practice. According to Saha et al. (2017), organic fertilizers give higher yields while protecting soil's organic matter and keeping the environment and health safe from pollution.

Based on the soil testing and nature of the cultivation area, the requirement and use of different organic and inorganic fertilizers might vary. Table 2 compares the total cost of different organic and inorganic fertilizers for tomato production in the study area. While conventional farming method with traditional fertilizers show a total cost of taka 60317.4 per hectare, applying only vermicompost costs taka 29,640 per hectare, co-compost costs taka 29640 per hectare, and Trico-compost costs taka 17,784 per hectare. Therefore, any of the organic fertilizers have costs lower than conventional farming with inorganic fertilizers. However, agricultural producers also suggest that a combination of organic fertilizer with recommended doses of inorganic fertilizers may need to be used depending on soil and seed quality.

Table 2. Per Hectare Estimated Cost of Inorganic & Organic Fertilizers for Tomato Production

Name	Quantity (Kg)	Per unit price (Tk.)	Cost (Tk.)	Name	Quantity (Kg)	Per unit price (Tk.)	Total Cost (Tk.)
Urea	550	16	8800	Vermi-Compost	1,482	20	29,640
TSP	450	22	9900	Co-Compost	1,482	20	29,640
MP	250	15	3750	Trico-Compost	1,482	12	17,784
Gypsum	120	12	1440				
Boron	2	70	140				
Cow-Dung	907.2	40	36288				
Total			60,318				

Source: Estimated cost based on primary data collection, 2020

Moreover, Table 3 compares the total input costs, income from the total output, and total benefits between inorganic and organic farming adopted in the study from Islam et al. (2019). The total input cost is USD 710.06 per hectare in the inorganic tomato production method, whereas it is only USD 442.31 per hectare in organic farming. Moreover, the total benefit is also higher in organic farming, USD 578.40 per hectare compared to an inorganic method, which is USD 399.41 per hectare. However, the income from total output is higher in inorganic production compared to organic farming. Although some studies have shown lower yields in organic farming, participants interviewed claimed to have similar, sometimes even higher yields in organic farming. Moreover, organic farming follows IPM to control pests and diseases. In case of leaf curl of tomato caused by a virus transmitted by whitefly, measures like growing seedling Undernet, a yellow sticky trap which only costs taka 10 to make, uprooting of infested plants and weeds are some methods used that are environment-friendly, less costly, and keep soil and human health safety.

Table 3. Organic vs. Inorganic Farming Practices of Tomato

Inorganic Farming	Organic Farming
Fertilizers: Sulfur, Synthetic Fertilizer, Pre-plant Fertilizer, and Zinc Foliar	Fertilizers: Compost, Manure, Blood-meal fertilizers, Organic Liquid pesticide, and Bone-meal fertilizers
Total Input Cost: USD 710.06 per hectare	Total Input Cost: USD 442.31 per hectare
Income from Total Output: USD 1109.47 per hectare	Income from Total Output: USD 1020.71 per hectare
Total Benefit: USD 399.41 per hectare	Total Benefit: USD 578.40 per hectare

Source: Adapted from Islam et al. (2019)

4.1.3 Premium Price

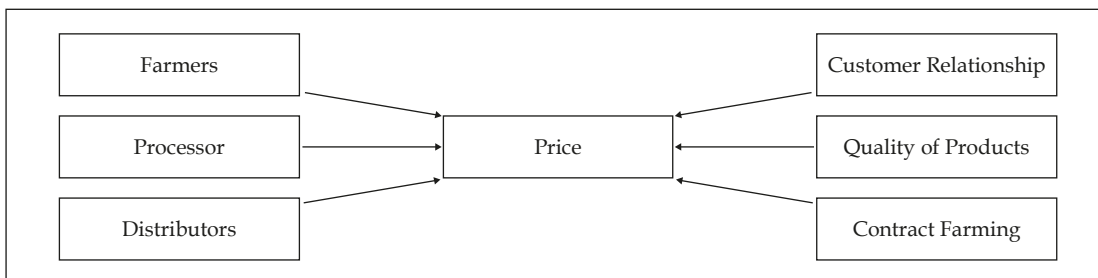


Figure 1. Factors affecting the price of organic products. Source: Authors' development based on primary data collection, 2020

Respondents mentioned that one of the reasons to pursue organic farming is the privilege of charging a premium price. The respondents failed to justify or show a specific breakdown of their cost structure or pricing but agreed that there is a consensus among distributors and consumers that organic produce usually sells at a higher price than traditional products. This phenomenon drives farmers and distributors to set a higher price for their organic produces. Premium price with lower costs of production generates a possibility of a higher return. However, the price should also be reasonable enough for consumers to purchase the products. Figure 1 shows the interaction of different factors derived from the respondents' interviews that contributing to determining organic products' price. In the direct effect, the production and operational costs (incurred by farmers, processors, and distributors) induce the price level. Besides, in the indirect effect, factors like sustainable customer relationships, quality of the products, and contract farming scope influence the price level.

Respondents also argued that price offers the appropriate incentives to the farmers to keep continuing their production. It is also a mere reflection of consumers' willingness to pay an extra amount to get environment-friendly products. With enough supplies and a systematic marketing system, organic products' prices could be within reach of all segments of society. However, in the study area, it is evident that, despite lower production costs, organic products are usually sold at a higher price in the market compared to inorganic products. One reason for charging the higher price is to keep the producers motivated enough to continue organic farming and to get fair prices for their products while maintaining profit margins for the actors involved. Table 4 compares the retail market price of different agricultural products produced by both conventional and organic farming. In each category, the price of organic products is either equal to or higher than that of conventional products.

Table 4. Comparison of daily prices of conventional and organic products at retail stores in the study area

Products Name (Winter Vegetables)	Weight	Conventional Products (in taka)	Organic Products (in taka)
Cauliflower	Kilogram	25-30	30
Gourd	Kilogram	30-35	40
Radish	Kilogram	10-12	20
Eggplant	Kilogram	20-30	36
Carrot	Kilogram	50-60	68
Spinach	Kilogram	20-25	33
Red Spinach	Kilogram	20-30	31

Source: Primary data collection, 2020

4.2 Problems that Impede the Persuasion of Organic Farming

4.2.1 Limited Arable Land

In organic farming, it usually takes a minimum of six months to prepare the land for further production after harvesting. Besides, farmers require a minimum of twenty-four months to thirty-six months to convert their land for organic farming, which was previously used for farming in conventional methods. During this conversion, the selected land needs to be preserved from any other alternative use, i.e., conventional farming. Keeping productive land unutilized for a more extended period without harvesting discourages producers from organic farming. Consequently, the proportion of land in organic farming is declining over the years, especially in recent times. Figure 2 also supports this declining trend. Total organic agriculture areas in 2012 increased to 16198 hectares from 14527 hectares in the previous year and maintained a steady position over the next three years then decreased to 12708 hectares in 2016, 7594 hectares in 2017, and 6285 hectares in 2018.

Moreover, according to the Bangladesh Bureau of Statistics (BBS), Bangladesh's total agricultural land reduced to 8.52 million hectares in 2010-11 from 9.44 million hectares in 1985-86. The BBS data also shows a decrease in agricultural land simultaneously followed by an increase in non-agricultural land. In 1976, the non-agricultural land was 8.17%, which increased to 12.31% in 2000 and 16.47% in 2010. Hasan et al. (2013) also argued in their report that agricultural lands are transforming into other activities such as urbanizations and industrializations. Therefore, the proportion of agricultural land is declining in Bangladesh, severely constraining its organic farming scope. If the government does not develop an incentive plan for small and medium-scale producers, it is impossible to motivate people interested in organic farming.

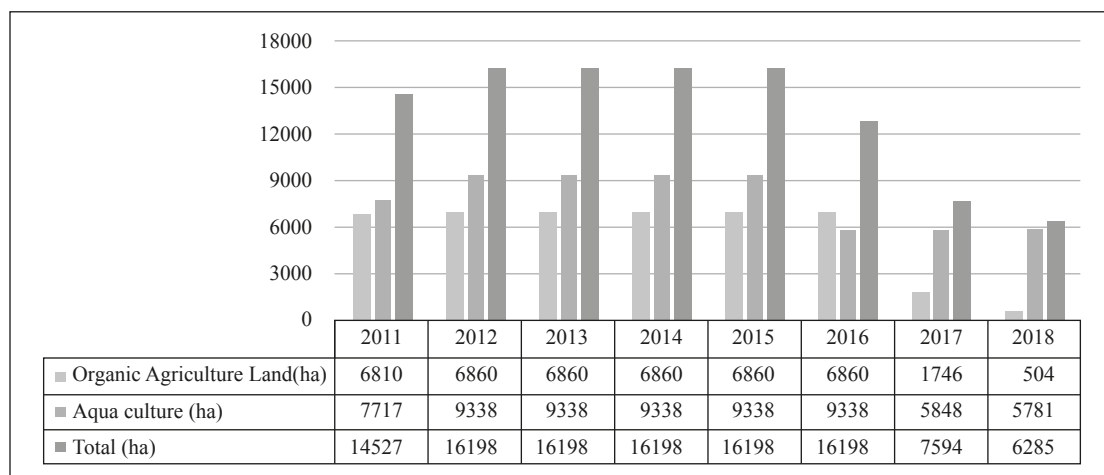


Figure 2. Organic Land Utilization in Bangladesh between 2011 and 2018. Source: Authors' development based on Willer et al. (2020)

4.2.2 Insufficient Credit-Aid

Most of the farmers in Bangladesh have little or no access to institutional credit. This picture is not different for the organic producers in the study area also. Special organizations like Bangladesh Krishi Bank (BKB) often fail to support enough loans with the growing needs at an affordable rate. Moreover, banks have to perform on outstanding funds, which leave them with minimal deposits. In 2007-08 according to the agriculture yearbook of 2019, the outstanding amount was taka 173892.5 million, total disbursement was 75348.2 million, the total amount recovered 53839 million, and overdue was 59429.2 million. Small farmers who practice farming on lease get no credit benefits because of insufficient collateral. Even NGOs are unable to support farmers with inadequate collateral. Being in a credit crunch, banks also show reluctance to offer credit schemes to the farmers, especially females. Besides, applying for a loan is coupled with paperwork and constrained by the farmer's technical and educational skills. Such extensive paperwork and commitment to repay the loan amount with higher interest often make organic farmers reluctant to apply for a loan from an institutional setup.

4.2.3 Lack of Technical Aid

In organic farming, using advanced agricultural technologies with disaster tolerant seed varieties could be a turning point. For example, estimation shows that while a combined harvester requires one and half hours of labor to complete a task, it requires seven to eight hours of five manual laborers to complete the same task. Therefore, using advanced technologies is time-saving in terms of the workforce as well as less expensive and beneficial. Table 5 shows different operations performed manually and mechanically in the study area. It shows that organic farmers have limited technical aids, preventing them from having more excellent production and higher income.

Table 5. Operations Based on Different Methods

Operations	Methods
Land Preparing	Mechanical
Planting	Manual
Weeding	Manual
Fertilizers, Pesticides (Herbicides)	Manual
Harvesting	Manual
Processing	Manual + Mechanical

Source: Primary data collection, 2020

Small-holding sizes of the farms do not allow to use of more giant machines. Due to a lack of funds, small farmers cannot afford machinery of their own. Also, they lack proper knowledge and skill and fail to execute or repair, which leads them to pay higher charges for minor technical glitches. Besides, in the traditional production process, farmers currently use different imported hybrid seeds, High Yielding Varieties (HYV), and local varieties seeds. HYV seeds are developed in laboratories with high chemical inputs to change their characteristics, and hybrids are imported from different countries where the weather is not similar to that of Bangladesh. The organic fertilizers do not best match the imported and HYV seeds used in different areas in Bangladesh because of these issues. Consequently, farmers have to use chemical fertilizers for better production. Due to no proper policy and regulations, farmers are also compelled to use imported and HYV seeds over local varieties seeds, which are usually free from chemicals, less expensive, and easily conservable for the next harvesting.

4.2.4 Marketing Constraints

Interview with the producers, processors and distributors reveals several marketing constraints that impede organic products' smooth flow from farmers to the end consumers. These marketing constraints can be categorized into five major areas: competition, customers, suppliers, intermediaries, and policy-related. These five categories of constraints, their associated issues, and the percentage of the total are presented in Table 6. These percentages are assigned based on the interpretation of the interview findings recorded in this study. Based on this assigned percentage, in descending order of severity, the sequence of the constraints are as follows, intermediaries, customers, suppliers, competition, and government policy.

Organic products have to directly compete with conventional products regarding colors, texture, shapes, and size. Besides, such competition also prevails within organic produces regarding price, quality, supply chain, and distribution. Organic products are also constraint by consumers' awareness, trust, and acceptability, in which a collective afford from both private and public sectors is required to ensure accountability and transparency. Besides, to ensure the quality and proper value of organic products, all suppliers' and retailers' constraints must be solved. The government's policies also, to many extend, impede the expected expansion of organic farming practices in Bangladesh.

Table 6. Marketing Constraints Faced by the Organic Farmers in Bangladesh

Aspects of Constraints	Constraints Items	Percentage
Intermediaries	Riddled with intermediaries and syndications Improper flow of market information Malpractices	30%
Customers	Lack of awareness Lack of trust Lack of transparency and accountability	25%
Suppliers	Insufficient organic materials Lack of processing equipment Lack of transporting facilities	20%
Competition	Conventional Products: Colors, shininess, shapes, and sizes Prices: Seasonal price fluctuation, Lower price of inorganics Ineffective supply chain	20%
Government Policy	NOP 2016 (Drafting) Lack of Government initiatives No farmers' cooperative society	5%

Source: Authors' development based on primary data collection, 2020

5. Conclusion

Lower cost of production is one of the major factors that induce producers towards organic farming. All forty farmers interviewed responded positively in this regard. Moreover, organic practice ensures ethical implementation of farming through organic fertilizers and pesticides, which is lower in cost than its inorganic counterparts. Besides, it preserves the fertility of the land and increases the chances of higher return without causing any harm to the environment. Though interviewed farmers also claimed similarly or sometimes even higher yields in organic farming than conventional farming, they failed to show any concrete numerical support for this statement.

Furthermore, delivering garden-fresh products within four hours of harvesting due to proximity to the production area, sustainable customer relationship, contract farming with the legalized network, and trusted payment methods help producers set a premium price for the organic products. All these factors- lower costs, ethical production practice, premium price, higher return, etc.- induce organic production. These findings also matched with previous similar researches, where authors also added those consumers' awareness and interest in using organic products work as a stimulus for producers to pursue organic farming.

However, losing arable land while there is already a prevailing scarcity, landlessness or small farmers' dependency on share-cropping, insufficient credit aid compared to conventional farmers, lack of technical aid, lack of proper awareness and confusion among the producers, and lack of training are major impediments that demotivating producers to take on organic farming. Moreover, unsystematic market structure is further adding to the problem. Markets are congested and have developed in an unplanned manner. Most vegetable markets lack necessary support facilities such as warehouses, cold storage, potable water, drainage, or vehicle access for loading and unloading. Because of the high perishable nature and free of chemical preservatives, organic products need cold storage and proper transport facility as soon as possible. Moreover, due to the premium price charged organic products still only affordable for a segment of society, this indicates a niche market. Even a few people aware of organic products, they are reluctant to pay a higher price for organic products with the bare appearance and prefer choosing alternative options with lower prices and glossy outlooks.

Therefore, a holistic approach from all stakeholders of Bangladesh's agricultural sector needs to be initiated. A framework of public-private partnership might ensure accountability and transparency. Besides, respondents also raise the important policy measures. The government might set a bar on the use of arable land for purposes other than cultivation. Even though BKB has initiated a credit program, "MujibBarsho Credit scheme," disbursing Tk 300 crore from the bank's fund to provide loans to small farmers and females, still this is not clear how to ensure the intended use of the fund. Also, there is no alternative to government-initiated training programs to educate farmers on using the latest agriculture machinery and IPM execution to make organic farming more beneficial in terms of time, costs, and labor. Finally, enacting "National Organic Policy" could positively affect price, production cost, attract more investments, strict control the quality of products, promote and protect small and medium-sized entrepreneurs, expand the country's export basket, and raise awareness about the benefit of organic consumption and protect consumer rights. Besides, the government needs to offer incentives and coverage of production losses when an inorganic farmer shifts to an organic farming method.

This study tries to shed a few lights on the existing literature on organic farming in Bangladesh. This study also generates a few essential insights for both existing and potential organic farming practitioners in Bangladesh by identifying the factors affecting the inducement for organic farming and its associated major problems. However, this study is not without its limitations. The current sample used in the study is concentrated on the producers, processors, and distributors of only one primary location of the country, which could be further extended into other major divisional cities in future studies. Besides, in future studies, the sample size could also be extended to ensure a more reliable representation of the producers. Future studies can also adopt different techniques and measures to mitigate current impediments to pursue farming in Bangladesh.

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