

Certification of Organic Products by Farmers in Sri Lanka

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Citation: Malkanthi, S. H. P. (2020). Certification of Organic Products by Farmers in Sri Lanka. *Ikonomika i upravljenje na selskoto stopanstvo*, 65(3), 75-89 (Bg).

Abstract

Similar to some other countries, the lack of proper certification systems creates significant problems in identifying real organic products in Sri Lanka as well. Therefore, the present study aims to investigate the current situation of organic certifications used by farmers in two selected districts of the country which are having high potentials for organic agriculture. Initially, a literature review was conducted to find out the present situation of organic product certification in the world and in Sri Lanka. This was followed by a field survey conducted from March 2017 to December 2018 using 300 randomly selected farmers. The data were analyzed by descriptive statistics. According to the literature review findings, some developed countries such as USA, Canada, New Zealand and Australia etc. carry out organic certifications in a well-organized manner. Meanwhile, seven international organic certification agencies are operating mainly for export products in Sri Lanka. However, currently only four certification systems are functioning for the local market products. As per the field survey findings, out of four, only two certification systems are used in these areas. While few farmers (2.3%) use the "Participatory Guarantee System" (PGS) and very few farmers (1.3%) use "SriCert" certification. However, most farmers (49.7%) are willing to shift towards organic agriculture and adopt organic certifications in future. Challenges such as the doubt about a reduction in harvest and income from organic farming, lack of market opportunities for organic products, low level of awareness of certification process, high cost and complexity of certification process are acting as barriers. Therefore, the development of user-friendly certification procedures and awareness programs for the potential farmers and initiating marketing facilities for certified organic products will motivate farmers towards the certification of organic products.

Key words: organic agriculture; organic farming; organic certification; organic products; Sri Lanka

Introduction

Organic agriculture (organic farming) is a process of crop and livestock production, mainly without using farm inputs such as pesticides, fertilizers, genetically modified organisms, antibiotics, and growth hormones. Thus, it is a universal system designed to boost up the productivity and fitness of different communities within their agro ecosystem, including soil organisms, plants, livestock, and people. The principal goal of organic agriculture is to enhance agricultural systems that are sustainable and harmonious with the environment. The commonly accepted definition for organic agriculture is the definition of the In-

ternational Federation of Organic Agriculture Movements (IFOAM) (2005). Accordingly, "Organic agriculture is a production system that sustains the health of soils, ecosystems, and people. It relies on ecological processes, biodiversity, and cycles adapted to local conditions, rather than the use of inputs with adverse effects. Organic agriculture combines tradition, innovation, and science to benefit the shared environment and promote fair relationships and good quality of life for all involved".

Organic food refers to food products that are produced, prepared, and processed without using any chemical substances. Hence, organic food production prohibits the use of chemical pesti-

cides, chemical fertilizers, or chemical preservatives. Therefore, organic foods are increasingly gaining popularity among a greater portion of the population to get their benefits. Community sentiment is that organic food is healthier compared to the conventional ones, and it is the primary reason for its increased demand over the past decade. The choice of consuming organic foods is, thus, a growing global trend today, following the realization of strong self-improvement needs. Organic agriculture is, therefore, an ecological production management system that directs to enhance soil biological activities, biological cycles, as well as biodiversity (Conserve Energy Future, 2019).

According to world information, the demand for organic food production is rising globally, with the concern for health benefits and also due to environmental sustainability than conventional products (Tashi and Wangchuk, 2016; FAO, 2018; Mie et al., 2017). The development trend of organic agriculture in the world during the past decade shows positive growth. For example, organic food markets in the USA and Canada have a rapid growth rate of 20%, while Europe has 7.8% per year (Sri Lanka Export Development Board (SLEDB), 2017). As per FiBL (2018), the organic sector is flourishing in many countries. The demand of consumers for organic products is increasing, and more farmers are moving for organic cultivation. More lands are certified organic, and 178 countries have reported organic farming activities; in a workshop in Sri Lanka in 2018, the Managing Director of the Biocert International Pvt. Ltd. Dr. Dillip Dhaker stated that the organic food and beverage market size and the demand would be worth 320.5 billion US\$ by 2025. Therefore, Sri Lanka needs to be ready with the organic food certifications to meet this growing world demand (Jayasuriya, 2018).

Organic certification is referred to as a worldwide recognized set of standards focused on proving that agricultural and food products have been produced with an emphasis on the conservation of environment and enhancement of biodiversity. Organic certification is also referred to as organic integrity protected in every step and verified by independent inspection from seed to sale

(Baier, 2005). According to Bhat (2009), organic certification is a procedure of giving an independent third-party assurance that an identified process has been methodically assessed to provide adequate confidence for specified products and specified requirements. Organic certifications are mainly formulated based on guidelines or basic standards supplied by the IFOAM and Codex Alimentarius. However, currently many government certification bodies and private organizations worldwide offer organic certification services.

Organic standards are sets of requirements that describe what practices could be considered as organic products. Typically, organic standards attempt to address various aspects of organic production. It can be considered as general farm production requirements, crop production requirements, livestock production requirements, processing and handling requirements, requirements for the collection of wild products, and social justice requirements and labeling requirements of all the products. Organic producers can voluntarily decide to comply with organic standards. However, organic certification is essential to access specific markets reliably and to call their products as organic in those markets. Hence, they often require the certification to a particular standard or government regulation (IFOAM, 2019).

Different Organic Certification Programs in the World

Many developed countries across the world pay great attention to organic agriculture and organic certification procedures. For instance, certification and standardized ways are more potent in the US and are fixed by law in the United States Department of Agriculture (USDA) National Organic Program (NOP). The final rule of the NOP was developed by the USDA to implement the Organic Foods Production Act of 1990 (OFPA), and the NOP is based on recommendations of the National Organic Standards Board (NOSB), appointed by the Secretary of Agriculture to provide advice to implement OFPA and review substances allowed in organic production and handling (Tundys and Rzeczycki, 2015). In

the USA, both raw and processed organic products must comply with the standards and requirements of the USDA. These regulations of the USDA certification system describe the specific standards required for using the word “organic” or the USDA organic seal on food, feed, or fiber products.

Organic Farms in New Zealand provide an organic certification system for producers supplying the New Zealand market, and certification is designed for the small-grower to be low-cost, educative, and supportive. Mexico has a dual certification system for small-scale farmers and large-scale producers. Indigenous smallholders of Mexico undertake a low input, process-oriented organic farming, in which, certification is based upon extensive document review. The small-scale farmers rely on support from regional producer organizations, whereas large-scale farmers depend on the support from international organic-product distributors. Although the Mexican state has not developed a national strategy, 98.60% small-scale farmers are certified, and they are doing group certification by connecting with extension agents as inspectors. Foreign foundations provide the primary support for smallholder certification efforts (Laura et al., 2005).

Organic growers of Australia certify small farmers and are not accredited by the Australian Quarantine and Inspection Service (AQIS) (Biological Farmers of Australia, 2006). Farmers in Australia use domestic certifications developed by the National Association for Sustainable Agriculture, Australia (NASAA) and the Biological Farmers of Australia (Wynen, 2007). More than half of the organic farmers in Germany are members of private certification associations active in Germany. These certification systems remain with regional or provincial level, and small-scale organic farmers are provided with certification subsidies. Organic farmers in the United Kingdom (UK) have several approved certification schemes. The Soil Association is the dominant certification body, which currently certifies over 70 percent of UK organic farmers (Becker, 2009), in addition to Organic farmers and Growers (OFG), Scottish Organic Producers Association (SOPA), Biodynamic

Agricultural Association (BDAA), and Organic Food Federation (OFF) (Sonderskov and Daugbjerg, 2011).

Many developed countries have performed various research studies related to organic food certification. For instance, two quantitative studies in the United States revealed that over 70% of fruit and vegetable growers are following organic practices, though they are not USDA certified. As per previous research, small farmers, beginning farmers, and farmers selling directly to consumers are less likely to pursue organic certification (Veldstra et al., 2014; Torres et al., 2016). According to the literature, cost and bureaucracy related to obtaining certification continue to serve as barriers (Constance and Choi, 2010). Also, Canadian farmers are allowed to sell, label, and represent their certified organic products without having to be certified by the standards of other countries, and third-party certification bodies conduct the certification of organic farms approved by the Canadian Food Inspection Agency (Environmental Nutrition, 2011).

According to a survey of the Research Institute of Organic on organic rules and regulations, 87 countries had organic standards in 2017, and 18 countries are in the process of drafting legislation. Some countries have no organic legislation but have national production standards. Such standards provide a national definition of organic products and are a reference point for certification activities. They do not necessarily lead to the adoption of a national inspection and certification system, which the government could supervise. Furthermore, IFOAM basic standards form together with the IFOAM accreditation criteria, which constitute the IFOAM Norms. It provides a framework for certification bodies and standard-setting organizations to develop their certification standards. They focus on how organic products are grown, produced, processed, and handled for foods, fibers, aquaculture, and social justice. Canada and the US implemented the first reciprocal agreement between regulated organic systems in the world, and the EU had initiated procedures for approving certification bodies of organic products outside the EU. It could be considered as a new step of the expansion of the

organic certification throughout the world (FiBL and IFOAM, 2018).

FAO, IFOAM, and UNCTAD started the Global Organic Market Access (GOMA) project in 2009. GOMA aimed to facilitate equivalence, harmonization, and other types of cooperation to simplify the trade flow process of the products among various organic guarantee systems. The rapid development of the number of certification bodies is noted throughout the world, mainly in the European Union, the United States, Japan, South Korea, China, Canada, and Brazil. A growing trend of the certification systems of organic producers through PGS across the world were also noted (Tundys and Rzeczycki, 2015).

Thousands of organic producers are verified and certified through PGS in over 70 countries. Based on the data collected through the Global PGS Survey 2017 conducted by IFOAM Organics International, PGS initiatives are established in 66 states, with at least 311'449 farmers involved in PGS initiatives worldwide. This includes mostly small farmers and small processors. There are currently at least 241 PGS initiatives, of which 127 are fully operational, and 115 are under development, with a total of 76'750 certified producers (FAO, 2018).

Organic Certifications Available in Asia

The world is moving towards organic agriculture, and Asia is no exception. Among different certification systems, Asia has more PGS than any other region in the world. Out of 260,366 producers involved, 49,559 are certified. This development is related to the expansion of PGS in the entire region during the past years. In Asia and the Pacific, PGS initiatives are found in Cambodia, Thailand, the Philippines, India, Nepal, Bangladesh, Sri Lanka, Vanuatu, Fiji, and many others. Compared to 2015, the number of producers certified through PGS had a growth rate of 74 percent, while the number of producers involved has increased by more than four times. India has the highest number of producers involved in PGS, which increased from 6'000 producers involved in 2015 to 250'856 in 2017. Among these, a total of 46'598 have already obtained PGS certifica-

tion. The Philippines has the next highest amount of producers involved (1,995), whereas Thailand has the highest amount of producers certified (1,116). In Southeast Asia, in general, PGS development has taken a massive step forward in the last years (Willer et al., 2018).

Quality assurance mechanisms are highly useful in working, and there is no direct evidence in expectation of the market on third-party certification in Asian countries. For instance, India constitutes with responsible authority as the Agricultural and Processed Food Products Export Development Authority (APEDA), for organizing the training of certification bodies. However, few Asian countries such as Malaysia, Thailand, and the Republic of China have government certification services, while many countries with government certification also chose to establish accreditation mechanisms such as Thailand and China. Paull (2007) reported that China had adopted an innovative path via Green Food towards achieving an organic future. It is expected that one-third of the total agricultural land in production will be converted to certified organic production, and China will become one of the largest organic food producers in the world. China has a higher potential to redefine the standard for internationally traded food certified as organic.

Organic standards in Sri Lanka initiated since the early 1990s. An initiative in 1996 finalized a preliminary draft set of standards for organic production, which was Lanka Organic Agriculture Movement (LOAM), and other voluntary groups have developed a set of guidelines for standards in organic production and processing, published by the Ministry of Environment and Natural Resources in 2005. However, this was not a mandatory regulation. Sri Lanka Standards Institute (SLSI) has prepared a national organic standard to function from 2008. This was the first national-level certification program for organic production and processing in Sri Lanka. However, Sri Lanka lacks a nationally organic certification system and a national certification body (Jaya-sundara, 2010).

Many Asian countries have conducted research studies related to the certification of organic food. Based on the research on "Certifica-

tion of Organic Products”, Ummyiah et al. (2017) reported that in India, organic agriculture has increased by 29-fold during 2003–2008. By March 2010, it had more than 4.48 million hectares under organic certification. However, most farmers are not well aware of the organic food market development and emphasize the responsibilities of major key player responsibilities in disseminating such information for relevant farmers.

In their research on “Organic Certification: A Case Study of Organic Valley Nepal”, Khanna and Tripathi (2018) have revealed that Nepal government has authorized an organization called Organic Certification Nepal (OCN), which offers internationally accredited inspection and certification services to local operators. Many other international organizations such as NAA-SA (Australia), ECOCERT (France), One Cert Asia (USA), IMO (Switzerland), Control Union (Netherlands), and CertAll are also active in Nepal, with their agents. Many procedures are available to certify whether a product is organic or not. Furthermore, interaction with farmers revealed that 81.61% of people are aware of organic farming, while 68.96% are not aware of organic certification.

The worldwide organic food and beverage market is expected to reach 320.5 billion US\$ by 2025. Biocert is a regional certification body that provides inspection and certification services for organic farming, sustainable agricultural practices, good agricultural practices, and livestock management. According to Mahesh Fernando, Biocert Sri Lanka Country Manager, the Biocert will facilitate Sri Lankan producers and exporters to obtain the world’s leading organic and other certification services. Biocert is an ISO65/17065 accredited regional inspection and certification body that provides inspection and certification services for organic farming, sustainable agricultural practices, good agricultural practices and livestock management. The range of recognized standard covers the organic supply chain from input manufacturers to producers to wholesale, and retail operations certified organic integrity “from paddock to plate”. Biocert International Pvt. Ltd. certification program is recognized globally, providing international access to the products and

brands it certifies. This company is now a recognized control body by the European Union Commission to provide organic certification services. Therefore, Sri Lankan companies engaged in export-oriented organic food production could benefit from this certification. Most countries look for certification by a third party in organic food imports, and the food industry is moving towards organic farming, and conventional methods have become outdated. Sri Lanka must adapt to this change, and the best way to move forward is to obtain third-party certification, which brings international recognition to the value chain (Jayasuriya, 2018).

According to the study on “Awareness of Export-Oriented Small-Scale Farmers in Sri Lanka” (Karalliyadda and Kazunari, 2018) reported that enhancing small-scale farmers’ knowledge on the production aspects and certification, quality assurance, administration, and marketing is necessary, and the certified organic farming brings more benefits for producers compared with non-certified organic farming.

Many Asian countries have conducted research studies related to the certification of organic food. Based on the survey on “A Study on the Consumer Awareness of Organic Certification of Food Products in Mysore City”, Bharath and Chandrashekar (2018) reported, farmers of organic food production in India must update their knowledge on the certification of organic products, and the NGOs and other farmer forums have to work towards creating a conducive environment to share knowledge on organic certification.

The world today is shifting towards the consumption of organic food. Due to this trend, some agricultural producers, retailers, and marketers attempt to cheat consumers to get benefits. Consumers face difficulties in finding real organic products in the market, especially in developing countries. In this context, finding answers for questions such as what are the certification systems used in organic agriculture in other countries and in Sri Lanka, what is the level of awareness of farmers towards organic standards and certifications, what are the present and future activities of farmers towards organic farming, and also, what are the issues and challenges associ-

ated with the certification of organic products in Sri Lanka are crucial at present. Therefore, the primary objective of this study was to investigate the application of organic standards and certification systems in the Sri Lankan context, based on Badulla and Ratnapura districts. Thus, this investigation aims to identify the organic certification systems applied in other countries and in Sri Lanka, assess the farmers' awareness on organic certification systems, detect the certification systems used by farmers at present and their willingness to convert their farming into organic, and investigate the challenges for organic farming in these two districts.

Research Method

The study areas of this research were Ratnapura and Badulla districts in Sri Lanka, where the majority of the people are farmers and numerous agricultural activities are performed (Fig. 1). The areas have favorable climatic and soil conditions and infrastructure facilities for agricultural practices. Furthermore, these two districts are important catchments of many major rivers of the country. Presently, most farmers practice chemical agriculture, and they face several issues and challenges in meeting the required standards and organic product certifications.

At the beginning of the study, a comprehensive literature review was carried out to find out the organic certification systems used at pres-

ent in the world as well as in Sri Lanka. Secondly, a field survey was conducted using a pre-tested questionnaire from March 2017 to December 2018. The sample consisted of 300 farmers as 150 from each district. Farmers were selected by applying a stratified random sampling technique, carried out in two stages. The first stage was involved in a random selection of two DS divisions (strata), namely, Kandaketiya and Meegahakiula, out of 15 from Badulla District.

Similarly, from Rathnapura district, two DS divisions (Opanayaka and Embilipitiya) were selected out of 17 DS divisions. At the second stage, 75 farmers were randomly selected from each DS division, making a sample of 300 farmers. Among them, only a few farmers practice organic certification. They were further questioned related to the certification methods they follow. The standard considered here was "organic products are produced, prepared, and processed without using any chemical substances". Other than that, all farmers were asked questions related to organic agriculture to find their awareness of organic agriculture and willingness to convert their farming into organic. Further discussions were conducted with farmers to identify the challenges they face in organic farming. Data were analyzed using descriptive statistics.

Results and Discussion

Results of the study are arranged in six sections. The organic certification systems used in other countries and the present status of the organic standards and certification in the Sri Lankan context are explained at the beginning. The next sections provide detailed explanations on the farmers' awareness on the certification systems, certification methods followed by farmers, the willingness of farmers towards organic farming, and challenges faced by the farmers regarding organic certifications.

Organic Certifications Used in other Countries

Certification programs differ across the world. Different governments use different certification

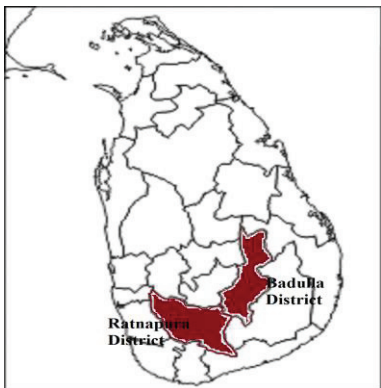


Fig. 1. Map of Sri Lanka illustrating the study areas: Badulla and Ratnapura Districts

systems and organic logos. Table 1 present the most commonly used certification systems.

Various countries use different types of organic certification systems. Most states that apply or-

ganic certifications are economically advanced countries. Since consumers of those countries are well-educated and have a significant influence on organic, they pay great attention to the quality of

Table 1. Organic certification systems and logos used in various countries

Logo	Description
	The Canadian Food Inspection Agency (CFIA) is responsible for the monitoring and enforcement of regulations and verifying the application of the Canadian Organic Standards. Certification bodies are accredited based on the recommendation of conformity verification.
	The official Canada organic logo is designed to build the existing system of domestic accreditation and certification. The CFIA enters into agreements with Conformity Verification Bodies (CVBs), which assesses recommends for accreditation and subsequently monitor certification bodies.
	Skal Biocontrole is dedicated to proving the reliability of organic products in the Netherlands. They are the organic control body in the Netherlands. This logo ensures that the product meets the quality and production methods provided for organic food in the European Union (EU).
	This is the certification that allows the export of organic food items to the USA. This certificate regulates the standards for any farm, wild crop harvesting, handling production & processing operations, and exports or imports of organically produced agricultural products.
	The Australian Quarantine and Inspection Service (AQIS) operates its organic certification program while approving and auditing private inspection agencies. It issues a quality management certificate after receiving the AQIS approval.
	Australian Certified Organic (ACO) is a certifier for organic and biodynamic produce. They provide certification services to operators from all sectors of the organic industry, ensures compliance with national production standards, and allows tracing of all products to their origin.
	The Ministry of Agriculture established the Austrian label “AMA Biozeichen” as a unique label for different organic food producer associations. It guarantees that the products only use organic raw materials.
	AB (Agriculture Biologique) is the national logo of France for organic products. The Ministry of Agriculture gives this certification mark to organic foods, which contain 100% organic (or at least 95% organic) agricultural products in processed products.
	AIAB (Italian Association for Organic Agriculture) certifies organic products and companies in a broad range of categories and developed the label “Garanzia AIAB” with a specific standard for Italian organic farming. AIAB is specialized in the evaluation and certification of agricultural and organic labels.
	The New Zealand biological producers and consumers’ society owns BioGro. It is a registered not-for-profit, working to increase awareness and demand for certified organic products.
	BIO Hellas is a popular food certifies companies that cover the whole chain of foodstuffs from animal farms to food retailers to export industries. This has the approval of the Greek Ministry of Rural Development.
	Bioland is one of the leading associations for organic farming in Germany. Its’ organic farming standards are continuously maintained, adapted, and developed to include all aspects of ecological agricultural production, animal husbandry, and processing.
	Germany uses Bio Siegel as a national logo to differentiate organic products from others. This logo is permitted to use only on products containing at least 95% of organic ingredients of agricultural origin.



Bio Suisse is a Swiss organic growers association. It has different standards for agricultural production and processing. The Bio Suisse standard covers a wide range of areas in the production of plant and animal products, processing, and marketing.



The Certified Organic Associations of British Columbia (COABC) are top organic certifying agencies. They provide organic product certification, regional development of organic food production, processing, and marketing.



California Certified Organic Farmers (CCOF) is a full-service organic certification agency. It also provides international trade access for their clients and maintains ISO Guide 65 accreditation with IOAS for EU equivalency.



US Certified Naturally Grown (CNG) is a non-profit organization offering certification tailored for small-scale, direct-market farmers, and beekeepers using natural methods.



Chao Vivo is an organic food products and production processes label from Brazil. They provide a guarantee of origin and assurance of conformity of organic products with national and international standards.



Afrisco provides the basis for ensuring the integrity of organic production systems and food products in South Africa. It is associated with Ecocert, licenses organic food production, processing, and packaging, and associated non-food products. It provides organic certification for farmers, food processing companies, and farm input suppliers.



The Chinese Ministry of Agriculture manages the China Organic Food Certification Centre, which approve the certification of organic products. China National Accreditation Service also accredits this for Conformity Assessment. It is responsible for organic agriculture promotion and engaged in organic-food certification.



The Japanese Agricultural Standards (JAS) for organic plants and organic processed foods of plant origin are based on the guidelines for the production, processing, labeling, and marketing of organically-produced foods. The JAS certification system ensures the reliability of JAS marks through certification by Registered Certifying Bodies (RCBs).



Organic Alliance Malaysia (OAM) prepared a domestic organic labeling scheme to enforce the organic labeling regulation and offer assistance at a reasonable rate. Currently, SOM does not cover the verification of import or certification of processing or repacking activities.



India Organic is a certification existing for organically farmed food products. It certifies that an organic food product conforms to the National Standards for Organic Products, which ensures the product or the raw materials used in the product were grown through organic farming. The country has an internationally acclaimed certification process in place for export, import, and domestic markets.

Source: Literature review, 2018.

the food they consume. Some developing countries such as Malaysia and India have also started organic certification by now.

Brief History and the Present Status of Organic Certification in Sri Lanka

Sri Lanka has an impressive agricultural history of over 2500 years, which mainly based on traditional farming systems. The country was self-sufficient in rice and other crops, and hence,

was called the “Granary of the East” in the past. Frequently, the ancient writings in religious monasteries cite the use of organic compounds obtained from leaves, seeds, roots, and bark of the Neem (*Azadirachta indica*) trees, indicating the popularity of the organic agriculture systems of Sri Lanka in the past. The agricultural practices used for many years with indigenous knowledge of our traditional farmers have immensely contributed to developing sustainable agriculture in Sri Lanka (Kariyawasam, 2015). The formal or-

ganic certification process was started in the early 1970s, and there is a significant amount of history on organic certification in the country. Producers all over the country maintain a high reputation in organic crop production and export different varieties of organic products adhering to international standards. For over a decade, Sri Lanka had exported a range of organically certified food products, and thus, considered as the pioneer in the Asian region to introduce organically produced and certified tea and cinnamon to the world market. The total area under organic agriculture in Sri Lanka in 2008 was established as 19,191 ha (0.81% of the total cultivated lands), which further increased to 31,585 ha (1.33% of the total cultivated lands) in 2010. Statistics also highlights the significant increase in organic production from 4216 Mt in 2007 to 41,128.3 Mt in 2010 (FIBL statistics, 2016).

The SLEDB has initiated actions to establish the National Organic Control Unit (NOCU) as per the regulations published under section 29 of the Export Development Act No. 40 of 1979. The SLEDB further explained that, as per the regulations, all organic exporters, importers, traders, producers, processors, certification bodies, inspection bodies, and laboratories must register with the NOCU to ensure the reliability of organic agricultural products operated within Sri Lanka and exported to the international market. Some large- and medium-scale producers/farmers and private companies process and export certified organic products to other countries. All leading exporters do their cultivation, and also some exporters have made various arrangements such as out-grower systems/community-based cultivation, contract farming, and sales agreements. The major export markets for Sri Lankan organic products are the USA, Germany, France, Japan, UK, The Netherlands, Sweden, Switzerland, Australia, Canada, Belgium, and Austria. After its pioneering move in introducing organically certified tea to the world market, Sri Lanka has expanded the product range to non-traditional agricultural products such as Spices, Essential oils, Herbs, Herbal preparations, Desiccated coconut and other Coconut-based products, Oilseeds, Pulses, Ca-

shew, Rubber, and Tropical fruit and Vegetables (SLEDB, 2017).

However, most farmers in the local market are small-scale farmers who still produce non-organic products. Out of the small number of organic farmers, only a few use certification systems. As the farmers are small-scale and only supply to the local market, it is difficult to manage the cost and paperwork requirements of third-party certification. Therefore, many countries have started to develop alternative verification systems for local markets where producers and consumers have the opportunity to meet directly. In the PGS, producers and consumers undertook their time to maintain standards and systems, inspect farms, and confirm the products are organic. The objective of this is to reduce cost and make organic food more accessible and affordable. PGS can also serve as a stepping-stone for small-scale farmers to help them to get an acceptable level of certification.

The leading certification bodies in Sri Lanka involved in small, medium, and large organic producers are the NOCU of the Export Development Board and Sri Lanka Standards of Institute (SLSI). SriCert certification body and Good Market Organic Participatory Guarantee System are also operating in the country. NOCU is implemented under the SLEDB as an independent national body to control the export and import of all agricultural products, while the Sri Lanka Accreditation Board (SLAB) does the accreditation. The NOCU registers all certification bodies and laboratories accredited by the SLAB, and any organic product processor or exporter who wishes to obtain an organic certification should contact a registered organic certification body such as NOCU (SLEDB, 2017).

SriCert is a locally originated private certification body. The Good Market Organic Participatory Guarantee System was initiated in February 2013 by producers and consumers who wanted to make organic more accessible and affordable in Sri Lanka. It is being protected under the Lanka Good Market (Gte) Ltd. PGS of the Good Market builds a mutually beneficial relationship between consumers and producers. This system is different from the third-party certification and

applies to small-scale farmers than the exporters. It is a system based on mutual trust, where the consumers know and can investigate the origin of the product. This certification system is also based on the IFOAM norms for organic production and processing. It is an IFOAM recognized PGS, which means the IFOAM PGS logo can be used on promotional materials and producer certificates, but not on products. In a PGS, producers and consumers volunteer their time to maintain standards and systems, inspect farms, and ensure that products are organic. The goal is to keep the cost down and make organic food more accessible and affordable. Each producer who wants to participate in the organic PGS must sign an organic producer promise to confirm their commitment to these standards. For independent producers, the promise must be signed by whoever is responsible for onsite practices. Another way is the producer groups, where each member must review and sign a pledge (SLEDB, 2017).

At present, organic certification is taking place in the country at two categories as certification for the international market and the local market. Regarding the organic certification for international markets, organic regulations are formulated based on guidelines or basic standards provided by the IFOAM and Codex Alimentarius. Presently, seven international certification agencies are operating in the country as external inspectors or/and certification bodies. The Sri Lanka SLEDB is setting up an independent body to obtain the Third country registration in Europe. This controlling authority will govern the organic sector in the country and register Sri Lanka in the third country list of the EU. This action helps to reduce the cost of certification and facilitate organic products to penetrate the EU-member countries. The most significant issue here is that they will reduce tariff barriers on organic agricultural products and support exporters to be competitive in catering to the international markets, and raise a premium price to penetrate the international market. Some certification agencies such as Control Union – formerly known as SKAL International (Netherlands) and IMO (Switzerland), have local inspectors for carrying out inspections in Sri Lanka and also in the re-

gion. Presently, seven international certification agencies are operating in the country, as external inspection and certification bodies, named as the Institute for Market Ecology (IMO, Switzerland), NASAA (Australia), Naturland (Germany), EcoCert (Germany), Demeter and Bio Suisse (Switzerland), Organic Farmers and Growers Ltd (United Kingdom), and Control Union (SKAL, Netherlands) (SLEDB, 2017). Organic certification systems available in Sri Lanka are presented in Table 2.

Organic Certification Bodies Available In the Local Market

Only four certification systems were identified on organic certifications used for the local market, as presented in Table 3.

According to the results of this study, only four certification systems were identified on organic certifications used in the local market. The Control Union, SLSI, PGS, and SriCert organic certification systems help local farmers to apply organic certifications for their products. Among these certification bodies, Control Union and SLSI are the best certification bodies since they are controlled under higher inspection. SriCert organic certification, considered as a private certification, having low recognition in Sri Lanka. The PGS certification process is considered as a community-based approach, although it is less trustworthy. At present, farmers can obtain the service of these certification bodies without much difficulty.

Awareness of organic certifications and certification systems by farmers

Information about farmers' awareness of organic certifications and different organic certification systems were reviewed. Table 4 presents the results.

Only 7% of farmers are aware of organic certifications, which is comparatively a small amount. Out of four basic types of organic certifications available in Sri Lanka (Control union, SLSI, organic certified, and SriCert), only two certification systems, PGS and SriCert, are used by 2.3%

Table 2. International certification agencies operating in the country as external inspection or/and certification bodies

Logo	Description
	Naturland is the organic certification required for exporting products to Germany as certified organic. The standards set by this certification were in existence long before the EU regulations came into place. These oversee everything from production, to processing, to the sale of the final goods in the shop.
	The International Certification Office (ICO) of Demeter International works together with approved inspection bodies to carry out Demeter inspections around the world. One should maintain the organic regulations of the country, and retain them rigorously from soil preparation to final packaging.
	ECOCERT primarily certifies food and food products but also certifies cosmetics, detergents, perfumes, and textiles. The company inspects about 70% of the organic food industry in France and about 30% worldwide.
	NASAA was the first organic certification entity in Australia. It is a non-profit membership-based association, which covers the organic supply chain, including input manufacturers, producers, processors, and wholesale and retail operations.
	Institute for Market Ecology (IMO) is a private international organic certification body, involved in both certification and inspection. It also offers various other certifications such as Forest Stewardship Council FSC and Marine Stewardship Council MSC.
	Skal Biocontrole is dedicated to proving the reliability of organic products in the Netherlands. They are the organic control body in the Netherlands. This logo ensures that the product meets the quality and production methods provided for organic food in the European Union (EU).
	USDA is the federal regulatory framework in the USA. This certificate regulates the standards for any farm, wild crop harvesting, handling production & processing operations, and exports or imports of organically produced agricultural products. The seal is used for products adhering to USDA standards that contain at least 95% organic ingredients.

Source: Literature review, 2018.

Table 3. Organic certifications used for the local markets in Sri Lanka

Logo	Description
	Control Union Certifications was created in 2002 when the Control Union acquired the Dutch Skal International, an auditing arm of Stichting Skal. Services offered are Organic certification, Forestry certification, Food safety certification, and Organic latex certification.
	Sri Lanka Standards Institution (SLSI) is the National Standards Body of Sri Lanka, established under the Bureau of Ceylon Standards Act No. 38 of 1964. This award is provided to identify Sri Lankan organizations; as a result, it exhibits higher performances in improving superiority by maintaining quality management and quality achievement.
	Lanka Organic Agriculture Movement is presenting certification services offered by SriCert, a locally originated private certification body. Certified organic from the Control Union Inspection Services supports the exporter community by providing certification services.
	Good Market has incubated an Organic PGS in Sri Lanka, recognized by IFOAM Organics International. PGS is a locally focused, quality assurance system. They certify producers mainly based on the active participation of stakeholders. They ensure that products are organic. The goal is to keep the cost down and make organic food more accessible and affordable. The participatory guarantee system started in 2012.

Source: Field survey 2017–2018.

and 1.3% of farmers respectively. Farmers mentioned that certification systems are not yet popular among them. These farmers are not highly educated people, and also most organic farmers are small-scale farmers who only supply to local markets, who cannot afford the high cost and the paperwork requirements of third-party certification.

The willingness of farmers to shift their farming into organic

The willingness of farmers to convert their conventional farming into organic was investigated, and Table 5 presents the summary of the findings.

According to Table 5, 49.3% of farmers are willing to convert their farming into organic

farming even though they are not practicing at present. This is a favorable situation. Most farmers have identified the benefits of organic farming such as the possibility of low cost for fertilizer, health benefits, eco-friendliness of organic agriculture, and high-income generation from organic farming. During this study discussions were made with farmers about benefits of organic farming and its necessity for today's context. Farmers revealed that it help them to realize the importance of organic products and make their preference towards organic farming.

Challenges for organic farming

Information obtained from the target farmers helped to identify the possible difficulties of organic farming in these two districts (Table 6).

Table 4. Farmers awareness about organic certifications (n = 300)

Awareness about organic certifications	Frequency	Percentage
I know about it	21	7.0%
I don't know about it	260	86.7%
Not responded	19	6.3%
Certification systems already used by farmers		
Not using any certification system	289	96.3%
Use the Participatory Guarantee System (PGS)	07	2.3%
Use SriCert certification system	04	1.3%

Source: Field survey 2017–2018.

Table 5. The willingness of farmers to convert conventional farming into organic (n = 300)

Willingness	Frequency	Percentage
Yes	149	49.7%
No	97	32.3%
Not responded	54	18.0%
*Reasons for the willingness to convert conventional farming into organic		
Low cost for fertilizer	142	47.3%
Health benefits	126	42.0%
Environmental friendliness	58	19.3%
High income from organic products	42	14.0%

**Since this is a multiple choice question frequencies can be greater than the sample size.*

Source: Field survey 2017–2018.

Table 6. Major challenges of organic farming in study areas (n = 300)

Challenge	Frequency	Percentage
Doubt of reduction of harvest and income	157	52.3%
Difficulties in preparation of organic fertilizer	92	30.6%
Difficult to control crop diseases	23	07.7%
Lack of market opportunities for organic foods	15	05.0%
Lack of organic input in the market	13	04.3%

Source: Field survey 2017–2018.

According to Table 6, the significant challenges farmers encounter in organic farming are the fear of less harvest that leads to income reduction, difficulties in the preparation of organic fertilizer, lack of market opportunities, and lack of necessary inputs. Such reasons discourage most farmers from practicing organic farming.

Conclusions

Most of the economically advanced countries such as USA, Canada, Australia, New Zealand etc. practice organic certifications efficiently and effectively. In Asia, China, Malaysia, and Thailand use organic certifications within the country up to a significant level.

In Sri Lanka, although organic certifications are essential for export products, it is not mandatory for sending products to the local market. Currently, only four certification bodies, namely Control Union, SLSI organic certified, SriCert, and PGS, are functioning for the certification of organic foods in the local market.

Most farmers in Badulla and Rathnapura districts are ignorant of organic certifications. Out of the target group, very few use the PGS certification and SriCert certification systems, which are comparatively cheap and easy to access.

At present, about half of the farmers in the study areas are willing to convert their conventional farming into organic farming, if they have necessary facilities. Farmers pay attention to some positive aspects of organic farming, such as low cost for fertilizer, health benefits, eco-friendliness, and high-income generation from organic farming.

Primary challenges for organic farming in these areas are the fear of reduction of the harvest that leads to lesser income, difficulties in the preparation of organic fertilizer, lack of market opportunities and lack of necessary inputs. However, it can be concluded that while the number of local organic certification systems is gradually increasing in Sri Lanka, the attention of farmers, producers, and consumers towards organic certification is also rising at a higher rate.

Recommendations

- Establishment of new organic certification agencies domestically.
- Conduct farmer awareness programmes on organic certification systems and provide them with knowledge necessary for organic fertilizer preparation, pest and disease controlling, organic products handling and processing etc.
- Organic product value creation in accordance with market demand.
- Provide input for farmers at low cost and make the local certification systems cost-effective and straightforward to make them affordable for farmers.
- Make small farmer groups and funding certification costs with the help of certification agencies.
- Make better marketing facilities and help farmers to market their organic products.

These recommendations help more and more farmers to certify their organic products, and also for the consumers to purchase certified organic products at reasonable prices. Finally, it helps to

develop a sustainable organic market in the country in long-run.

Acknowledgment

This investigation received financial support from the Sabaragamuwa University of Sri Lanka under Grant No. SUSL/RG/2016/12. The author is grateful to all officers for their support in making the research study successful.

References

- Baier, A.** (2005). Organic certification process. *National Sustainable Agriculture Information Service*. [Accessed 21 March 2012]. <https://attra.ncat.org/viewhtml/?id=163#Introduction>
- Becker, T. C.** (2009). European food quality policy: the importance of geographical indications, organic certification and food quality assurance schemes in European countries. *Estey Journal of International Law and Trade Policy*, 10 (1753-2016-141183), 111-130.
- Bharath, C., & Chandrashekar, A.** (2018). Study on the Consumer Awareness of Organic Certification of Food Products in Mysore City. *International Journal of Research in Business Studies and Management*, 5(5), 8-15.
- Bhat, B.** (2009). Opportunity and the challenge of the organic certification system in Nepal. *Journal Agric Environ*, 10:144-149. <https://doi.org/10.3126/aej.v10i0.2139>
- Constance, D. H., & Choi, J. Y.** (2010). Overcoming the barriers to organic adoption in the United States: A look at pragmatic conventional producers in Texas. *Sustainability*, 2(1), 163-188. <https://doi.org/10.3390/su2010163>
- Jayasundara, Y.** (2010). Organic Agriculture in Sri Lanka. *Youngagrians.blogspot.com*. <http://youngagrians.blogspot.com/2010/06/organic-agriculture-in-sri-lanka.html>
- Jayasuriya, S.** (2018). Demand for organic food certification on the rise. *Sunday observer*: <http://www.sunday-observer.lk/2018/08/19/business/%E2%80%98demand-organic-food-certification-rise%E2%80%99>
- Karalliyadda, S. M. C. B., & Kazunari, T.** (2018). Certified Organic Farming: Awareness of Export Oriented Small-Scale Farmers in Sri Lanka. *Journal of Sustainable Development*, 11(6). <https://doi.org/10.5539/jsd.v11n6p259>
- Kariyawasam, T.** (2015). Workshop on cultivation and processing of organic agro crops for export. <http://www.ft.lk/agriculture/workshop-on-cultivation-and-processing-of-organic-agro-crops-for-export/31-479221>
- Khanna, S. A., & Tripathee, L.** (2018). Organic certification: a case study of organic valley, Nepal. *International Journal of Applied Agricultural Sciences*, 4(1), 14. <https://doi.org/10.11648/j.ijaas.20180401.13>
- Laura, G., Tovar, Martinb, L., Cruza, M. A. G., Mutersbaughb, T.** (2005). Certified organic agriculture in Mexico: Market connections and certification practices in large and small producers. *Journal of rural studies*, 1214.
- Mie, A., Andersen, H. R., Gunnarsson, S., Kahl, J., Kesse-Guyot, E., Rembialkowska, E., ... & Grandjean, P.** (2017). Human health implications of organic food and organic agriculture: a comprehensive review. *Environmental Health*, 16(1), 111.
- Paul, J.** (2007). China's organic revolution. *Journal Org. Syst.*, 2(1):1-11.
- Sønderskov, K. M., & Daugbjerg, C.** (2011). The state and consumer confidence in eco-labeling: organic labeling in Denmark, Sweden, The United Kingdom and The United States. *Agriculture and human values*, 28(4), 507-517. <https://doi.org/10.1007/s10460-010-9295-5>
- Tashi, S., & Wangchuk, K.** (2016). Organic vs. conventional rice production: comparative assessment under farmers' condition in Bhutan. *Organic Agriculture*, 6(4), 255-265.
- Torres, A. P., Marshall, M. I., Alexander, C. E., & Delgado, M. S.** (2017). Are local market relationships undermining organic fruit and vegetable certification? A bivariate probit analysis. *Agricultural economics*, 48(2), 197-205.
- Tundys, B., & Rzeczycki, A.** (2015). Construction of green supply chain for organic products. *Operations and Supply Chain Management*, 8(1), 37-47. <http://dx.doi.org/10.31387/oscm0190132>
- Ummyiah, H. M., Jabeen, N., Afroza, B., Mushtaq, F., Mufti, S., Nabi, A.** (2017). Certification of Organic Products. *Int. Journal Current Micr. App., Sci* 6(11) (2017): 2300-2308. <https://doi.org/10.20546/ijcmas.2017.611.273>
- Veldstra, M. D., Alexander, C. E., Marshall, M. I.** (2014). To certify or not to certify? Separating the organic production and certification decisions. *Journal Food policy*, 49:429-436. <http://dx.doi.org/10.1016/j.foodpol.2014.05.010>
- Wynen, E.** (2007). Standards and compliance systems for organic and bio-dynamic agriculture in Australia: past, present and future. *Journal of Organic Systems*, 2(2), 38-55.
- BFA**, (2006). Regulation in organic foods in Australia and New Zealand, incorporating the management of an organic standard. Concept Paper, 24 August 2006. Biological Farmers of Australia, Chermshire, QLD.

Conserve Energy Future. (2019). What is Organic Food and 15 Health Benefits of Eating Organic Food? <https://www.conserve-energy-future.com/15-health-benefits-eating-organic-food.php>

Environmental Nutrition. (2011). Organic food regulations can vary from country to country. *Journal Florida Jewish*.

FAO (2018) Participatory guarantee systems for sustainable local food systems. <http://www.fao.org/3/I8288EN/i8288en.pdf>

FiBL and IFOAM, (2018). The World of Organic Agriculture: Statistics and Emerging Trends. Retrieved from: <http://www.organic-world.net/yearbook/yearbook2018/pdf.html>

FiBL, (2016). Data on organic agriculture in Europe. The organic data network website, maintained by the

Research Institute of Organic Agriculture (FiBL), Frick, Switzerland. <http://www.organicdatanetwork.net/odn-statistics/odn-statistics-data.html>

FiBL, (2018). A booming organic sector: more farmers, more land, and growing market, Presented by the Research Institute of Organic Agriculture FiBL and IFOAM. <https://www.fibl.org/fileadmin/documents/en/news/2018/mr-world-of-organic-2018.pdf>.

IFOAM, (2005). The IFOAM Norm of organic production and processing. London Press, London, pp. 254.

IFOAM, (2019). General Information on Organic Standards and Certification. <https://www.ifoam.bio/en/general-information-organic-standards-and-certification>

SLEDB, (2017). Organic Certification in Sri Lanka. <http://www.srilankabusiness.com/organic/organic-certification-in-sri-lanka.html>