Journal of Agricultural Science and Technology B 8 (2018) 253-265 doi: 10.17265/2161-6264/2018.04.008



Facilitating Trade in Organic Food Products: The Case of India and ASEAN

Arpita Mukherjee and Avantika Kapoor

Indian Council for Research on International Economic Relations, New Delhi 110003, India

Abstract: This paper discusses how India and Association of Southeast Asian Nations (ASEAN) countries can increase their trade in organic food products. With rise in demand for organic food products globally, India and select ASEAN member countries have become key producers and exporters of organic food products. Trade in organic food products is governed by regulations, standards, certification and accreditation procedures, which enables differentiation of organic products from conventional products. Organic standards ensure premium price for the farmers and producers, while consumers are assured of authenticity of the product. Standards can act as a barrier to trade as regulations governing organic food products can vary across countries. Some countries are also in process of developing regulations. This paper discusses the role of different multilateral agencies in designing standards and how countries can address issues of difference in standards by signing unilateral and bilateral equivalence arrangements, trade agreements and harmonizing their standards within regional groups. It also discusses how India and ASEAN countries can align their domestic regulations in line with the global best practices so that they can sign equivalence arrangements to enhance their exports. The paper concludes that measures such as coming up with a comprehensive definition of "organic", having a uniform standard for organic products encompassing domestic market and trade, having a single nodal agency for both domestic market and exports, developing organic clusters and reducing the cost of third-party certification will help enhance trade in India and ASEAN, and enable these countries to access third country markets.

Key words: ASEAN, equivalence arrangement, India, organic food product, trade, agriculture.

1. Introduction

Globally, there is growing awareness environmental protection, sustainable agricultural practices and the adverse impact of chemical inputs (such as insecticides, herbicides, fungicides and bactericides) on the soil, environment and human health. This has prompted a shift towards organic farming and consumption of organic food products by both the developed as well as developing countries [1, 2]. Organic food products are broadly defined as those food products which are produced without the use of synthetic external inputs such as chemicals, fertilizers, pesticides and synthetic hormones or genetically modified organisms.

While the market for organic food products is growing globally, it is difficult to estimate the market

Corresponding author: Arpita Mukherjee, professor, research fields: international trade, trade policy and agriculture.

size and global trade of organic food products due to the shortage of cross-country comparative database. The Research Institute of Organic Agriculture (FiBL) and International Federation of Organic Agriculture Movements (IFOAM) conduct a yearly survey of organic products using indicators such as land under organic production, number of organic producers, size of organic market and number of countries with organic regulations. The FiBL and IFOAM [3] survey, covering 178 countries, show that the total land under organic farming increased from 11 million hectares in 1999 to 57.8 million hectares in 2016, and the global organic market was valued at USD89.7 billion, up from USD17.9 billion in 2000. The number of organic producers globally also increased from 200,000 in 1999 to 2.7 million in 2016.

In India and Association of Southeast Asian Nations (ASEAN) countries, the share of land under organic agriculture, although small (Table 1), is growing at a fast pace [3]. For instance, between 2006 and 2016, land under organic agriculture in Philippines, Indonesia and India has grown by 182,965, 56,408 and 459,689 ha, respectively. In 2016, India ranked 10th (among the 178 countries surveyed) in terms of area of land under organic agriculture (with 1.49 million hectares). Further, India had the largest number of organic producers (835,000 producers) while Philippines ranked the fifth (165,994 producers).

Studies have also shown that India and select ASEAN countries have become key producers of certain organic food products that have demand in the international market. For example, Brunei has specialized in organic aquaculture, Cambodia in organic rice, Indonesia and Vietnam in organic coffee, fruits and vegetables, and India has export competence in organic products such as oilseeds, tea and basmati rice [4, 5], which has made them key exporters of such produce. Trade in organic food products has increased as consumers and producers are located in different countries. The data collected under the FiBL and IFOAM [3] survey show that in 2016 the countries with the largest organic markets were US (USD47.5 billion), EU (USD37.5 billion) and China (USD7.21 billion). The survey also highlights that in 2016, India had the third largest number of exporters (669), after China and Germany. Organic exports from India were valued at USD333.5 million, and exports from Cambodia, Thailand and Vietnam were valued at USD1.24 million, USD34.71 million and USD95.47 million, respectively. Along with exports, the growing domestic demand has also increased trade in the region.

Existing studies also highlight that the Asia Pacific market will emerge as the fastest growing market for organic food and beverages growing at a compound annual growth rate (CAGR) of 28.5% between 2014 and 2020 [6]. Countries such as India, Singapore, Malaysia and Indonesia have seen a rapid growth in domestic demand for organic food products and cities such as Delhi and Bengaluru (India), Kuala Lumpur (Malaysia) and Manila (Philippines) have become hubs for organic food products consumption [7]. This is likely to increase the regional trade in organic food products.

The market for organic food products is governed by regulations pertaining to standards, certification procedures, labeling and logo, which helps to distinguish such products from conventional products. Organic food products are treated as premium products and standards are set by countries to ensure that producers adhere to certain requirements, while the consumers are assured about the authenticity of the product. The regulations governing organic food products can vary across countries and, therefore, organic

Table 1 Organic agriculture land and producers in select ASEAN countries and India (2016).

Country	Organic agricultural land in hectares	Share of organic in total agricultural land (%)	Number of producers
Cambodia	9,717	0.2	6,753
Indonesia	126,014	0.2	5,810
Laos	7,668	0.3	1,342
Malaysia	603	0.01	119#
Philippines	198,309	1.6	165,994
Myanmar	4,568	0.04	12
Thailand	57,189	0.3	15,670
Vietnam	53,348	0.5	8,365
India	1,490,000	0.8	835,000

Source: Compiled from FiBL and IFOAM [3].

The table does not contain data on Singapore and Brunei as it is not available in FiBL and IFOAM [3]. In Singapore, there were a few processors. In Brunei, there were 29 ha of land under organic aquaculture.

#: The figures for the number of producers from all countries are given for the year 2016, except for Malaysia where the figures are for 2013 (which are the latest data available).

food product exporters have to abide by the regulations, standards and other requirements specified by the importing countries, which can act as a barrier to trade.

Given this background, the paper focuses on how organic trade can be discussed under multilateral trade agreements and how such trade can be facilitated through equivalence arrangements, which can be unilateral or bilateral. Taking the example of India and select ASEAN countries, which are exporters of organic food products, the paper examines how these countries can align their domestic regulations in line with the global best practices so that they can sign equivalence arrangements to enhance their exports of organic food products.

This study is based on secondary data and information analysis. It studies the regulatory framework for organic products set by international standards-setting organizations, and by different countries, various trade agreements countries have entered into and how they affect trade in organic products, and how international organizations and individual countries define organic products and set standards and regulations. It discusses the organic policy of India and ASEAN member countries, identifying the commonalities and differences, and how countries can align their policies to facilitate trade of organic products. It also suggests the way forward on how to design a domestic regulation based on international best practices which will enable India and ASEAN member countries to sign equivalence arrangements and enhance trade in organic food products.

The next section examines the role of different multilateral agencies in development of organic standards.

2. Role of Different Multilateral Agencies in Development of Organic Standards and Promoting Trade

The term "organic" is associated with a certain kind

of food standard and process, for which consumers are willing to pay a premium price. To distinguish organic products from conventional products in order to protect consumer interests, and help farmers and processors earn a premium price, several countries have come up with organic regulations, standards, certifications, labelling conditions, etc. According to FiBL and IFOAM [3], in 2017, 87 countries had organic regulatory frameworks while 18 were in the process of drafting the same. Some countries such as India and Thailand have fully implemented organic agriculture regulations, while others such as Philippines, Indonesia and Vietnam are in the process of doing so [3].

It is important to note that since different countries have different regulations regarding organic products, for exporters exporting to various countries, adhering to different organic regulations can act as a barrier to trade. In order to remedy this, international organizations have come up with organic standards, which in some instances match the country standards and in others, act as the minimum standards that have to be followed. At an international level, the standards with regard to organic produce are set by: (i) Codex Alimentarius Commission; (ii) International Organization for Standardization (ISO); (iii) IFOAM. The Codex Alimentarius Commission has developed the Guidelines for the Production, Processing, Labeling and Marketing of Organically Produced Foods for the harmonization of requirements for organic products at the international level, and to provide assistance to governments wishing to develop national legislation in this area [8]. Several countries use the Codex Guidelines as a minimum standard in order to develop their domestic legislation on organic farming. ISO has developed ISO:65 titled "General Requirements for Bodies Operating Product Certification Systems", which lays down the requirements to ensure the competence, consistent operation and impartiality of product, process and service certification bodies [9]. Many countries (such as Japan and Canada) require to comply with ISO:65 in order to accredit certification agencies that certify organic products [10]. The IFOAM Basic Standards for Organic Production and Processing, along with the IFOAM Accreditation Criteria for Bodies Certifying Organic Production and Processing, are called IFOAM norms. IFOAM norms are used by private certification bodies to assess organic production and processing facilities [3]. Governments can use these texts to develop national organic agriculture programmes, which are often more detailed as they respond to specific country needs.

In terms of standards developed by different countries and/or regions, Japan has the Japanese Agricultural Standard (known as JAS) for organic food, US has the National Organic Program (NOP) and Canada has Canadian Organic Standards. India developed an export standard for organic food products, under the National Programme for Organic Production (NPOP).

In order to address the trade barriers related to technical standards labels, etc., as set by different countries' regulatory bodies, the World Trade Organization (WTO) Agreement on Technical Barriers to Trade (TBT Agreement) came into being during the Uruguay round on January 1, 1995 [11]. The TBT Agreement mentions that: "The Technical Barriers to Trade (TBT) Agreement aims to ensure that technical regulations, standards, and conformity assessment procedures are non-discriminatory and do not create unnecessary obstacles to trade. At the same time, it recognizes WTO members' right to implement measures to achieve legitimate policy objectives, such as the protection of human health and safety, or protection of the environment. The TBT Agreement strongly encourages members to base their measures on international standards as a means to facilitate trade. Through its transparency provisions, it also aims to create a predictable trading environment."

Discussions have taken place in the past at the WTO with respect to organic agriculture and how it can be covered under the TBT Agreement. In this

context, it is important to note that the Article 2.7 of the TBT Agreement refers to how member countries can enter into equivalence of technical regulations. Overall, WTO encourages countries to enter into equivalence and mutual recognition of standards and processes. In addition, it discusses how to harmonize standards and provide national treatment so that barriers to trade are reduced.

3. Promoting Global Organic Trade through Equivalence Arrangements, Trade Agreements and Harmonization of Standards within Regional Groups

3.1 Equivalence Arrangements

As discussed above, the WTO encourages countries to sign equivalence arrangements. An equivalence arrangement is defined as "the term by which two or more trading partners (governments or jurisdictions) recognize each other's technical regulations as equivalent for the purpose of trade" [12]. In simple terms, equivalence means the recognition of standards in each other's countries. These could either be unilateral equivalence (non-reciprocal or only one party recognizes the other's standards) or bilateral equivalence (reciprocal or both parties recognize each other's standards). Equivalence arrangements have a positive impact on international trade in organic produce by reducing the cost of complying with different standards and by reducing the requirement for multiple laboratory testing and certification by different third-party certification bodies.

A number of developed economies have entered into organic equivalence arrangements with other developed economies, such as the bilateral equivalence arrangement of US-Canada which was enacted in June 2009 [13]. Some developed countries have given unilateral equivalence to developing countries. For example, EU had unilaterally given equivalence to India on 29 June 2006 for fresh and processed agriculture produce, but in the year 2013, it revoked the equivalence for processed food products. In this

context, equivalence arrangements can be revoked, resulting in an uncertain operating environment.

3.2 Trade Agreements

To ensure certainty for trading partners, organic products have now become key components of trade agreements as commitments under trade agreements are difficult to revoke. For instance, the Trans-Pacific Partnership (TPP) signed between Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore, US (until January 23, 2017) [14] and Vietnam has included Annex 8-G on organic products in chapter 8 (Technical Barriers to Trade) [15]. In this annexure, it is mentioned that all parties signatory to the TPP are encouraged to exchange knowledge and information related to organic production, certification and control systems among themselves. In addition, the parties are also encouraged to co-operate with each other to expand, evolve and strengthen international rules and regulations relating to trade in organic products. The annexure has guidelines related to equivalence as well. It mentions that if a party seeks equivalence of technical regulations, standards or conformity assessment procedures pertaining to organic products with another party, then the concerned party should acknowledge and respond to this request for equivalence if the adequately fulfilled conditions are equivalence-seeking party. In case the party does not accept the technical regulations, standards or conformity assessment procedures of the other party as "equivalent", then the party should explain the reasons for its refusal [16].

3.3 Harmonization of Standards across Members of Regional Groups

In the regional context, EU has come up with regulations such as the Council Regulation (EC) No. 834/2007 which defines the European requirements for organic production detailing the aims, objectives and principles of organic farming and production [17].

There are two other implementing regulations, namely Commission Regulation (EC) No. 889/2008 [18] which lays down the rules for organic production and labeling of organic products and Commission Regulation (EC) No. 1235/2008 which details the rules for arrangements for imports of organic products from third countries [19]. All EU member states follow these regulations, and products labelled as organic and sold in EU must be produced in accordance with these regulations.

The ASEAN member countries are at different levels in development of organic standards. In 2002, in order to promote organic trade in East, South-East and South Asia, the FAO, IFOAM and the United Nations Conference on Trade and Development (UNCTAD) came together to harmonize different organic standards and technical regulations [20]. These three partner organizations set up the Global Organic Market Access (GOMA) project which has taken up several initiatives, such as setting up of regional initiatives for harmonization of trade and the creation of Asia Regional Organic Standard (AROS). Several other initiatives are also being undertaken, such as the creation of the "Framework of the Strategic Plan of Action for the ASEAN Co-operation on Organic Agriculture (2014-2017)" by the ASEAN economic community [21]. This framework lays down the priority action, activities and schedule along with deadlines required for developing ASEAN standard on organic agriculture.

4. Organic Regulations in India and ASEAN Countries: A Brief Overview

Organic regulations need institutional framework to monitor and implement the regulation. The major areas of regulation for organic products include development of standards, accreditation, certification, and labeling. The sub-sections below discuss the institutional framework and regulatory regime of organic products in India and select ASEAN member countries, to highlight the commonalities and differences.

4.1 Nodal Agency Regulating Organic Products

In various ASEAN countries, there is a single nodal agency for organic farming for both the domestic market and exports, which is the ministry of agriculture or department of agriculture. For instance, in Malaysia, the nodal agency for governing organic agriculture is the Department of Agriculture Malaysia (DOA) [20]. In Philippines, the nodal agency for organic agriculture is the Bureau of Agriculture and Fisheries Standards (BAFS) under the Department of Agriculture, Republic of the Philippines. However, in some ASEAN countries and in India, there are separate agencies responsible for regulating and promoting organic food in the domestic market and the exports. For instance, in Thailand, Department of Agriculture in the Ministry of Agriculture and Cooperatives is the nodal agency for organic farming standards and logo and the Ministry of Commerce is responsible for promoting Thailand's organic products both in the domestic, as well as the international market [22].

In India, there is no nodal agency for organic food products and trade. The Agricultural and Processed Food Products Export Development Authority (APEDA), under the Department of Commerce, Ministry of Commerce and Industry is the nodal agency for organic food exports, while the National Centre of Organic Farming (NCOF) under the Ministry of Agriculture and Farmers' Welfare is responsible for the promotion of organic agriculture for domestic market. The Food Safety and Standards Authority of India (FSSAI), under the Ministry of Health and Family Welfare, is the nodal authority for designing policies related to organic food imports and domestic food business.

4.2 The Regulatory Framework in Select ASEAN Countries and India

In India, with the growing demand for organic food

in the key markets especially US and EU, APEDA took the initiative to design export policy that can help the country sign equivalence arrangements with key trading partners. 1 The NPOP was developed by APEDA in early 2000, which laid down the standards, regulations, labeling process, logo, mandatory certification requirements and certification process for exports. The third-party certification system with traceability to farm was developed as products exported to key developed country markets can only be labelled as organic if they are certified by a third-party certification agency, which itself meets certain global standards. India thereafter signed unilateral equivalence arrangements with EU.

To help the domestic market for organic to grow, and to encourage small and marginal landholders to enter into organic farming, the Ministry of Agriculture and Farmers' Welfare came up with the Participatory Guarantee System for India (PGS-India) in 2011 [23]. The NCOF, under the Ministry of Agriculture and Farmers' Welfare, is the nodal agency for PGS-India. PGS-India is a voluntary self-certification system. The Ministry of Agriculture and Farmers' Welfare is of the view that by reducing the cost of third-party certification and through simpler certification process, it can support faster growth of organic farming. The PGS-India is based on IFOAM's PGS guidelines.² In 2017, the FSSAI created the Food Safety and Standards (Organic Foods) Regulations 2017, for the

¹ Different countries can have different regulations and standards of organic products, which can act as a barrier to trade. To mitigate this they can sign equivalence arrangements. An equivalence arrangement in international trade implies that two or more trading partners (governments or jurisdictions) recognize each other's technical regulations as equivalent for the purpose of trade. In simple terms, equivalence means the recognition of standards in each other's countries. These could either be unilateral equivalence (non-reciprocal or only one party recognizes the other's standards) or bilateral equivalence (reciprocal or both parties recognize each other's standards).

² Although PGS is not recognized in developed countries (such as the UK), a number of developing countries including Brazil, Mexico, Thailand, Malaysia, Cambodia, Philippines, Vietnam and Sri Lanka have adopted this system.

domestic market and imports, under which they approved NPOP standards, PGS-India standards and also kept provisions for approving any other system or standards as may be notified by the FSSAI from time to time.

In ASEAN, while some countries such as Thailand already have fairly comprehensive regulations for both the domestic market and trade, others are in the process of developing them. In Thailand, organic crop standards were drafted as early as 1995. At the same time, the certification body, Organic Agriculture Certification Thailand (ACT) was established, which offers organic certification for export markets and certain types of domestic production. In 2003, the Ministry of Agriculture and Co-operatives of Thailand came up with "Organic Agriculture: The Production, Processing, Labeling and Marketing of Organic Agriculture" covering crop, livestock, and aquaculture for application as a voluntary standard at the national level [24].

In Philippines, the standards for organic known as the "Philippine National Standard for Organic Agriculture PNS/BAFS 07:2016 (Organic Agriculture)" were originally prepared and adopted in 2003 so as to provide a uniform approach to the requirements on conversion, crop production and labeling. These standards were revised in the year 2016 in order to achieve equivalence with the ASEAN Standard for Organic Agriculture. However, these standards have not yet been fully implemented [25].

In Indonesia, the regulations on organic food products known as "The National Standard of Indonesia on Organic Food Systems" were developed in 2002. Subsequently, in 2013 Ministry of Agriculture & Rural Development brought out regulations on organic agriculture for the domestic market under the Regulation of the Minister of Agriculture Concerning Organic Agriculture System. These regulations have laid down rules for labeling, certification and use of Organic Indonesia Logo [26].

The case of Vietnam is interesting. Vietnam does

not have national standards and a comprehensive legal framework for production, certification and quality control of organic agricultural products. In addition, there is no national organic certification system in Vietnam [27] and growers have to depend on international certification bodies for obtaining certification [28]. Yet Vietnam was among the top 10 countries in organic exports in 2016 [3].

Countries such as Cambodia are moving towards sustainable agriculture practices and organic farming in a big way. In March 2017, Cambodia's Ministry of Agriculture, Forestry and Fisheries, announced that it will ban all agricultural pesticides containing the fungicide tricyclazole, following the new maximum residue level announced by EU [29]. The Cambodian Organic Agriculture Association is also planning to introduce binding national standards for organic production based on AROS.

As mentioned earlier, there is an ongoing work within ASEAN to harmonize the organic standards across member countries.

4.3 Certification of Organic Products

Organic products are mostly classified as follows: third-party certified organics, self-certified organics/others, and/or naturals. Two major types of certification processes are followed—third-party certification and self-certification under the Participatory Guarantee Systems (PGS).

Third-party certification process is a process in which an approved third-party agency, which meets certain international quality requirements, certifies the product as organic food product. This is considered to be the best system for guaranteeing or verifying that the products are organic. This type of certification is highly regulated with well-defined standards, norms, procedures and accreditation programmes, and thus helps in ensuring the authenticity of the product and its traceability. However, such certification can be costly as payments have to be made to the approved third-party agency to follow the due diligence process

as is laid down by the country's regulatory standards or the standards of the country to which the exporter is keen to export the produce.

The PGS is a process of self-certification. Its features and processes may differ country-wise and in PGS-India a group of farmers can certify each other. In this method, local organic producers or farmers and even consumers actively participate, based on social networks and trust, and are accordingly certified. PGS is considered by developing countries as an affordable alternative to third-party certification, especially for small farmers. As of 2017, PGS was established in 66 countries, with approximately 311,449 farmers involved worldwide [3]. India is the leading country in terms of producers involved in PGS among 73 countries with 250,856 producers. In the same metric, Philippines ranks second in Asia (after India) with about 1,995 producers involved in PGS [3]. In other ASEAN countries, such as Vietnam, Thailand, Cambodia, Laos and Myanmar, PGS initiatives are operating effectively. However, a number of developed countries including US and EU do not approve of this system and, therefore, for exports to such markets exporters from developing countries have to follow the third-party certification process.

In India, there are 28 such certification bodies listed under NPOP [30]. In some ASEAN countries, there exist domestic third-party certification bodies for accreditation of organic produce whereas in others, producers have to depend on foreign certification bodies for accreditation of the organic produce. For instance, in Vietnam, the organic products meant for exports are certified by foreign certification bodies such as the Insulated Cable Engineers Association of Italy, Organic Agriculture Certification Thailand, etc. In Cambodia, the Cambodian Organic Agriculture Association certifies organic products for the local market. For organic products meant for exports, the inspection and certification is done by international certification bodies such as Control Union or ECOCERT.

The nodal agency that approves certification bodies can vary. For example, in Malaysia, the DOA is the certification body that makes decisions about certifying applicant processors and/or handlers while in India, APEDA (under the Ministry of Commerce and Industry) selects and approves the certification bodies which then certify the product as organic.

Overall, since organic is a premium product, absence of a clearly defined standard, label and logo can lead to incidence of malpractices. If the standards are voluntary, it is difficult to implement punishment based on such standards. Unless domestic, import and export standards are synergized, it is difficult to sign bilateral equivalence arrangements or be a part of the global production networks and organic value chains. The policy and regulatory experiences of India and some ASEAN countries show that the regulations are evolving and they are trying to come up with comprehensive regulations based on international best practices. In this context, it is important to note what they can learn from the global best practices. The next section highlights the global best practices and elaborates what India and the ASEAN countries can learn from them.

5. Conclusions and the Way Forward

The discussion in the sections above shows that organic agriculture is evolving and the demand for organic food products is increasing globally. India and ASEAN countries are in different stages of developing the regulations for organic products to support the domestic industry and promote trade. While different countries have different regulations with regard to organic production and trade, their regulations can have certain commonalities and the best practices, as laid down by the international organizations such as IFOAM. India and ASEAN countries are also trying to align their domestic policies in line with the global best practices which would help them integrate into the global organic market. This section highlights some of the practices such as a clear definition of

"organic", a single nodal agency regulating organic production, and uniform standard for organic products, among others which, if made part of the regulations in India and ASEAN, will help them to become part of global value chain and sign equivalence arrangements and trade agreements.

5.1 Clarity in the Definition of "Organic"

To begin with, India and ASEAN countries may come up with comprehensive definitions of "organic agriculture" and "organic food". In this context, they may see the example of the US Department of Agriculture definition, (USDA) which comprehensively defined "organic farming", "organic food" and "organic processed food". Further, there are three types of organic products: (a) certified organic products, which are certified by an accredited third-party certification body; (b) non-certified organic products, which are under the PGS; (c) natural products, which are cultivated on land which is by default organic [5]. While some countries may allow trade in organic food products under PGS and natural products, most developed countries (such as the US and EU member states) only allow import of certified organic products. Therefore, such products have to be clearly defined.

As India and most of the ASEAN member countries have both third-party certification as well as PGS, they should define organic food products, organic food products under PGS and natural products. These definitions should be in line with international definitions provided by FAO and IFOAM. Definitional clarity is needed for labelling and logo of organic food products.

5.2 A Single Nodal Agency

As mentioned earlier, in India and select ASEAN member countries, there are separate nodal agencies that regulate organic food for domestic market and trade (exports and imports). In such instances, there is need for co-ordination among the different

agencies/ministries in order to ensure that the organic policies are implemented effectively.

Ideally, there should be a single nodal agency for developing organic agriculture standards regulating organic practices for domestic market, export and import. In most developed countries and in many developing countries such as Brazil, Bhutan, Malaysia and Mexico, there is a single nodal agency for organic farming and that agency is the ministry of agriculture or any department/cell/agency under the ministry of agriculture. It also helps to sign equivalence arrangements and trade agreements. However, if there are separate nodal agencies, it is necessary to have inter-ministerial coordination, clear mandate, and policy which can then be implemented by different government departments.

5.3 A Comprehensive Policy and Uniform Standard for Certified Organic Products

There should be a comprehensive policy and single uniform mandatory standard for organic products encompassing domestic market and trade. The standard should be in line with globally approved standards. A clear standard for exports as well as imports will help India and ASEAN countries sign bilateral equivalence agreements, which is crucial to facilitate organic exports and, more importantly, to avoid importing sub-standards organic produce.

As mentioned in section 3, the ASEAN members have taken a step towards harmonization of standards laying out the framework for co-operation. In this context, ASEAN can learn from the example of EU, which has a common standard for all EU member states. The EU's Directive Council Regulation (2007) on organic farming lays down the rules on production, processing, certification and labeling of and trading in organic products. India has designed mandatory standard for organic product exports (NPOP) based on the EU organic policy/directives. This helped India get unilateral equivalence from EU for unprocessed/fresh organic produce. However, EU is not keen to give

unilateral equivalence now; hence there is need to have a mandatory standard for the domestic market as well. The Food Safety and Standards (Organic Foods) Regulations 2017, does not clearly define a standard for the domestic market, which may lead to multiple standards. In such cases, it is difficult to sign bilateral equivalence arrangements. A single common standard and a uniform certification process for the domestic market, imports and exports facilitate the signing of equivalence arrangements. In case of India, NPOP can be easily adopted in the domestic market while the voluntary PGS-India standards may also continue, but FSSAI should not approve any other standards. ASEAN countries can adopt the similar strategy of adopting a third-party certified standard and self-certified standard. Given that both India and ASEAN member countries promote PGS, they may work together to promote and facilitate trade in organic food products, which are self-certified under PGS.

5.4 Laying Out a Vision Document

The governments in ASEAN member countries are keen to develop and promote organic agriculture. Some of the countries such as Laos have laid down their agricultural development strategy highlighting their strategy for organic agriculture and organic products as well [31]. India and ASEAN countries can also develop a comprehensive strategy or vision document for organic products, laying out clearly how the government plans to promote organic agriculture. This vision document can lay out short-term (five years) and long-term (for example, 10 years) targets, which will take into account sustainable development goals and organic agricultural practices, and measures needed to improve environment and soil quality, produce chemical-free and safe food, and to ensure consumer health.

The PGS network has developed and expanded in the countries studied. However, a number of developed countries do not allow imports from PGS farmers, which restricts the access to global markets for those farmers. While both PGS and third-party certification of organic products can continue, and PGS can continue to provide subsidies and other forms of assistance to farmers for converting their land into organic, over time countries should develop a strategy to convert PGS farmers into third-party certified farmers so that they are linked to the global value chains and at the same time, they are not made to bear the high expenses of third-party certification (as most of the PGS farmers have small or mid-sized lands, ranging from 1.4 ha to 4.4 ha).

5.5 Developing Organic Clusters

India and the ASEAN countries can identify "organic clusters" where no chemicals (both synthetic and biological) have ever been used on the farmlands. The governments may also develop agro-processing facilities near these clusters by providing common infrastructure like cold storages and pack houses. These clusters can be dedicated to specific crops and can be third-party certified. They can also serve as organic export promotion hubs where buyers from developed countries may visit and source organic produce.

5.6 Provide Subsidies for Third-Party Certification

In developing countries, it is seen that the major reasons which inhibit small and mid-sized farmers to move into organic farming are high cost of third-party certification and little or no financial support from the government in provision of organic inputs or to cover against yield losses in converting from conventional to organic farming. The government in India and ASEAN member countries may consider subsidising the third-party certification cost as it would help farmers engage in organic agricultural exports. In India, the government has set up its own certification bodies in some states that provide certification services at reduced cost *vis-a-vis* the private certification bodies. Similar steps may be taken by the

ASEAN countries.

Global examples show that a number of countries give subsidies for loss of yield due to conversion of land from conventional to organic farming. For example, in UK, the Department for Environment Food & Rural Affairs gives organic conversion grants for the income foregone due to the loss in yield for converting land from conventional to organic farming. Similar subsidies can be designed by India and ASEAN member countries to shield against business losses. In addition, the governments may also consider providing subsidies for purchase of off-farm organic inputs such as netting, poly houses, vermicomposting pits etc., during the initial period of organic farming.

The ASEAN member countries may consider imparting training in organic farming methods and practices as the Indian experience shows that farmers benefitted from the training [32]. All these measures would encourage small and marginal farmers to take up organic farming and increase their income.

To summarize, India and ASEAN member countries have a huge potential for organic farming and the governments in these countries are working towards developing a comprehensive organic policy. The paper highlights how equivalence arrangements, mutual recognition and harmonization of standards can be used as instruments to facilitate trade. The paper also throws light on the right policy that India and ASEAN countries can adopt to push the growth of the organic sector. Measures such as coming up with a comprehensive definition of "organic", having a uniform standard for organic products encompassing domestic market and trade, having a single nodal agency for both domestic market and exports, developing organic clusters, and reducing the cost of third-party certification would help in enhancing the growth of the sector. These policies would enable the organic sector to grow, boost the organic food exports, increase farmers' income and generate employment in the processing sector and supply chain.

Acknowledgments

The authors express their gratitude to Rajat Kathuria, Director and Chief Executive, ICRIER, for providing the opportunity to work in this area. They would also like to thank Amway India Enterprises Private Limited for sponsoring this study.

An earlier version of this paper was presented at the ASEAN Food Conference 2017 in Ho Chi Minh city, Vietnam in November 2017. The Journal of Agricultural Science and Technology B selected this paper from that conference for publication.

References

- [1] Keyes, S., Tyedmers, P., and Beazley, K. 2015. "Evaluating the Environmental Impacts of Conventional and Organic Apple Production in Nova Scotia, Canada, through Life Cycle Assessment." *Journal of Cleaner Production* 104: 40-51.
- [2] Sadiq, M. S., Singh, I. P., Umar, S. M., and Yusuf, L. T. 2017. "Comparative Investigation of Climate Change Potential of Agro-chemical Inputs Used by Efficient and Inefficient Soybean Farmers of Niger State in Nigeria vis-à-vis Pathways of Minimizing Its Impacts on Agro-ecology." SKUAST Journal of Research 19 (2): 209-21.
- [3] Forschunginstitut fur Bilologischen Landbau (FiBL) and International Federation of Organic Agriculture Movements (IFOAM). 2018. "The World of Organic Agriculture—Statistics and Emerging Trends." Retrieved from http://www.organic-world.net/yearbook/yearbook-2018/pdf.html.
- [4] Fouilleux, E., and Loconto, A. 2017. "Voluntary Standards, Certification, and Accreditation in the Global Organic Agriculture Field: A Tripartite Model of Techno-Politics." Agriculture and Human Values 34 (1): 1-14.
- [5] Mukherjee, A., Dutta, S., Mendiratta, D., Kapoor, A., and Goyal, T. M. 2017. "Promoting Organic Food Products and Exports: Status, Issues and Way Forward." Working Paper 342, ICRIER, New Delhi.
- [6] Grand View Research. 2017. Organic Foods and Beverages Market Analysis by Product (Fruits & Vegetables, Meat, Fish & Poultry, Dairy Products, Frozen & Processed Food), Organic Beverages (Non-dairy, Coffee & Tea, Beer & Wine), and Segment Forecasts, 2018-2025. Market Research Report, USA.
- [7] Global Organic Market Access. 2010. "Scoping Study for Equivalence and Harmonization of Organic Standards

- and Technical Regulations in the Asia Region." Rome, Italy: UNCTAD, FAO and IFOAM. Retrieved from http://www.fao.org/docrep/013/am017e/am017e00.pdf.
- [8] Food and Agriculture Organization. 1999. "Guidelines for the Production, Processing, Labelling and Marketing of Organically Produced Foods." Accessed July 25, 2017. www.fao.org/input/download/standards/360/cxg_032e.pd f.
- [9] International Organization for Standardization. 1996. ISO/IEC Guide 65:1996—General Requirements for Bodies Operating Product Certification Systems. Accessed July 25, 2017. https://www.iso.org/standard/26796.html.
- [10] Morgera, E., Caro, C. B., and Duran, G. M. 2012. "Organic Agriculture and the Law." FAO Legislative Study 107, Development Law Service FAO Legal Office, Rome, Italy. http://www.fao.org/docrep/016/ i2718e/i2718e.pdf.
- [11] World Trade Organization. 1995. "Agreement on Technical Barriers to Trade." Accessed July 10, 2017. https://www.wto.org/english/docs_e/legal_e/17-tbt_e.htm.
- [12] Global Organic Market Access. 2013. "Bilateral Equivalence Arrangements on Trade of Organic Products: A Review of Processes Leading to Arrangements between Canada and United States, Canada and European Union and European Union and United States."

 UNCTAD, FAO and IFOAM, Rome, Italy. http://www.fao.org/docrep/017/aq205e/aq205e.pdf.
- [13] Canadian Food Inspection Agency. 2009. "United-States-Canada Organic Equivalence Arrangement (USCOEA)—Overview." Accessed May 10, 2018. http://www.inspection.gc.ca/food/organic-products/equivalence-arrangements/uscoea-overview/eng/132806 8925158/1328069012553.
- [14] The White House. 2017. Presidential Memorandum Regarding Withdrawal of the United States from the Trans-Pacific Partnership Negotiations and Agreement.

 Accessed June 28, 2018. https://www.whitehouse.gov/presidential-actions/preside ntial-memorandum-regarding-withdrawal-united-states-tr ans-pacific-partnership-negotiations-agreement/.
- [15] Government of Canada. 2016. "Consolidated TPP Text Chapter 8—Technical Barriers to Trade." Accessed May 7, 2018. http://international.gc.ca/trade-commerce/trade-agreemen ts-accords-commerciaux/agr-acc/tpp-ptp/text-texte/08.asp x?lang=eng.
- [16] Office of the United States Trade Representative. 2015. "TTP TBT Chapter Text—Chapter 8." Accessed July 27, 2017. https://ustr.gov/sites/default/files/TPP-Final-Text -Technical-Barriers-to-Trade.pdf.
- [17] European Commission. 2007. Council Regulation (EC)

- No. 834/2007 of 28 June 2007 on Organic Production and Labeling of Organic Products and Repealing Regulation (EEC) No. 2092/91. Accessed May 7, 2018. https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri =CELEX:32007R0834&from=EN.
- [18] European Commission. 2008. Commission Regulation (EC) No. 889/2008 of 5 September 2008 Laying Down Detailed Rules for the Implementation of Council Regulation (EC) No. 834/2007 on Organic Production and Labeling of Organic Products with Regard to Organic Production, Labeling and Control. Accessed May 7, 2018. https://eur-lex.europa.eu/eli/reg/2008/889/oj.
- [19] European Commission. 2008. Commission Regulation (EC) No. 1235/2008 of 8 December 2008 Laying Down Detailed Rules for Implementation of Council Regulation (EC) No 834/2007 as Regards the Arrangements for Imports of Organic Products from Third Countries. Accessed May 7, 2018. https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CE LEX%3A32008R1235.
- [20] United Nations Conference on Trade and Development. 2008. "Harmonization and Equivalence in Organic Agriculture Volume 5: Background Papers of the International Task Force on Harmonization and Equivalence in Organic Agriculture." Accessed May 7, 2018. http://unctad.org/en/PublicationsLibrary/ ditcted2008d3_en.pdf
- [21] Association of Southeast Asian Nations. 2013. "Framework of the Strategic Plan of Action for the ASEAN Cooperation on Organic Agriculture (2014 to 2017)." Accessed July 25, 2017. http://www.asean.org/wp-content/uploads/images/Comm unity/AEC/AMAF/OtherDocuments/SPA%20on%20Org anic%20Agriculture.pdf.
- [22] Win, H. E. 2017. Organic Agriculture in Thailand. Thailand: Food and Fertilizer Technology Centre for the Asia and Pacific Region.
- [23] PGS Organic Council. 2012. "History of PGS in India." Accessed February 8, 2018. http://www.pgsorganic.in/history-of-pgs-in-india/.
- [24] The Gazette of India. 2017. Notification on Food Safety and Standards (Organic Foods) Regulations, 2017. Accessed May 7, 2018. file:///C:/Users/Akapoor/Downloads/Gazette_Notification _Organic_Food_04_01_2017.pdf.
- [25] Bureau of Agriculture and Fisheries Standards, Republic of Philippines. 2016. Philippine National Standard. Accessed July 24, 2017. http://www.bafs.da.gov.ph/accreditation/assets/document s/BAFS-PNS-OA-07-2016.pdf.
- [26] National Bureau of Agricultural Commodity and Food Standards. 2003. Thai Agricultural Standard. Accessed

- July 23, 2017. http://www.acfs.go.th/standard/download/eng/TAS-9000.pdf.
- [27] Sustainable Food Trust. 2016. "Organic Initiatives in Hanoi." Accessed June 28, 2018. https://sustainablefoodtrust.org/articles/organic-food-safet y-vietnam/.
- [28] Vietnam News. 2017. "Organic Product Demands Keeps Rising." Accessed June 28, 2018. http://vietnamnews.vn/economy/377412/organic-product-demands-keeps-rising.html#V1yvyAouspzvdWkY.97.
- [29] Khmer Times. 2017. Ministry Bans Tricyclazole Imports.
 Accessed June 28, 2018.
 https://www.khmertimeskh.com/news/36979/ministry-bans-tricyclazole-imports/.
- [30] Agricultural & Processed Food Products Export Development Authority. 2016. List of Accredited Certification Bodies under NPOP. Accessed June 28, 2018. http://www.apeda.gov.in/apedawebsite/organic/npop_certification_bodies.doc.
- [31] Ministry of Agriculture and Forestry. 2015. "Agriculture Development Strategy to 2025 and Vision to the Year 2030." Accessed June 28, 2018. http://www.maf.gov.la/wp-content/uploads/2016/01/MDS -2025-and-Vision-to-2030-Eng.pdf.
- [32] Mukherjee, A., Dutta, S., Goyal, T. M., Kapoor, A., and Mendiratta, D. 2017. *Organic Farming in India: Status, Issues and Way Forward.* New Delhi: Academic Foundation.