



## **The Global Governance of Food Standards: A Case Study of the Standards of Thai Organic Rice**

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### **Abstract**

This research has three objectives. The first one is to investigate the global governance process of food standards by using organic rice as a case study to unravel its origin and development, relevant actors, sources of authority, and interactions among the actors. The second objective is to study the governance of the organic rice standards in Thailand in relation to the global governance of organic agriculture standards. The last one is to understand the problems of the governance process of the standards of Thai organic agriculture and try to propose solutions to those problems. This research was conducted qualitatively and gathered the information through documentary research and key informant interviews. The findings revealed that organic agriculture was initiated by non-state actors who were aware of the negative impacts of modern agriculture. Later, these actors internationally collaborated and established a non-governmental international organization called the International Federation of Organic Agriculture Movement (IFOAM). Since then, IFOAM has played a vital role in the process of global governance of organic agriculture standards. Albeit with the absence of political authority and economic power, IFOAM is regarded as an epistemic community of organic agriculture that holds 'epistemic authority.' Such authority is exerted through the global governance process in three dimensions, namely the dimension of regulation-making, the dimension of knowledge contesting, and the dimension of empowering. In the case of Thailand, the process of organic agriculture standards reflects conflicts between formal and informal institutions. The lack of cooperation between the government and non-governmental sectors has been a crucial obstacle to the development of the efficient governance process of the organic agriculture standards in Thailand.

**Keywords:** *Global governance, Standard, Organic Agriculture, Rice, Epistemic Community*

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### **1. Introduction**

In the age of globalization, many activities, both their actions and consequences, are not limited within the states' borders but take place on a global scale. With the condition of 'anarchy', the international system has not yet had any organization equivalent to 'world government' that processes the absolute authority to govern these activities. So far, the best attempt to manage and organize such activities by international actors is called 'global governance.' In the present, there is global governance for many international issues, including, but are not limited to, environmental degradation, human rights violation, poverty, and infectious diseases. However, this research is another attempt to understand the process of global governance by studying it through issues like 'food standards. Food is considered one of the necessities of human beings. Everyone needs sufficient, nutritious, safe and, if possible, delicious food. Similar to other activities, the supply chain of food has been affected by globalization. Nowadays, most food producers and consumers are strangers and can be thousands of miles apart. To maintain the global food trade, a system that can assure the consumers of the quality and safety of food as well as protect the producers from any false accusation and legal problem is needed, which is the reason why the issue of food standards is important.

This research aims to investigate the global governance process of food standards by using organic rice as a case study because rice is one of the most important crops in Thailand for both domestic consumption and exports. Thai organic rice has gradually expanded its global market, and the export growth has been around 20% in recent years (Green Net, 2016a). The Thai government has launched the National Organic Agriculture Development Strategy Plan 2018-2022. In 2018, the Ministry of Agriculture



and Cooperatives (MOAC) introduced a 3-year project, publicly known as ‘Million-Rai Organic Rice,’ to expand the organic rice growing area to 1 million Rai (1,600,000,000 square meters). For the rice to be called ‘organic rice,’ it must get through the process of standard certification, and there are various organic standards to choose from nowadays. While the standard of regular rice focuses on the physical qualities of the end product (such as its color, size, milling degree, and the percentage of broken rice.), the standard of organic rice, including other organic plants, emphasizes the whole process of rice production. As a result, the process of organic’s standard certification is more complicated. It involves more actors, which is the reason why this research aims to study the global governance of organic rice standards by unraveling its origin and development, relevant actors, sources of authority, and interaction among the actors.

## 2. Objectives

This research has three objectives. The first one is to investigate the global governance process of food standards by using organic rice as a case study to unravel its origin and development, relevant actors, sources of authority, and interactions among the actors. The second objective is to study the governance of the organic rice standards in Thailand in relation to the global governance of organic agriculture standards. The last objective is to understand the problems of the governance process of the standards of Thai organic agriculture and try to propose solutions to them.

## 3. Materials and Methods

This research was conducted qualitatively by gathering information through documentary research and key informant interviews. Primary and secondary documents were used as the source of information for this research. Primary documents included official documents from the government, newspapers, and announcements from relevant organizations. Secondary documents covered research reports, books, journal articles and dissertations. While the primary documents were heavily used in the case study part, the secondary ones were utilized in the theoretical part as well as the section involving the development of global organic standards.

The interviews were conducted in a semi-structured way by incorporating conversational aspects to structured interviews. There were 28 key informants; 26 of them gave an interview face-to-face, and another two were interviewed by phone. The key informants included eight organic farmers, four organic rice traders, three representatives from accreditation bodies, five representatives from certification bodies, two government officers, and six representatives from the non-governmental organizations that have worked to support organic agriculture in Thailand. However, some key informants had overlapping roles; for example, while they are rice traders, they also have a role in an accreditation body.

## 4. Results and Discussion

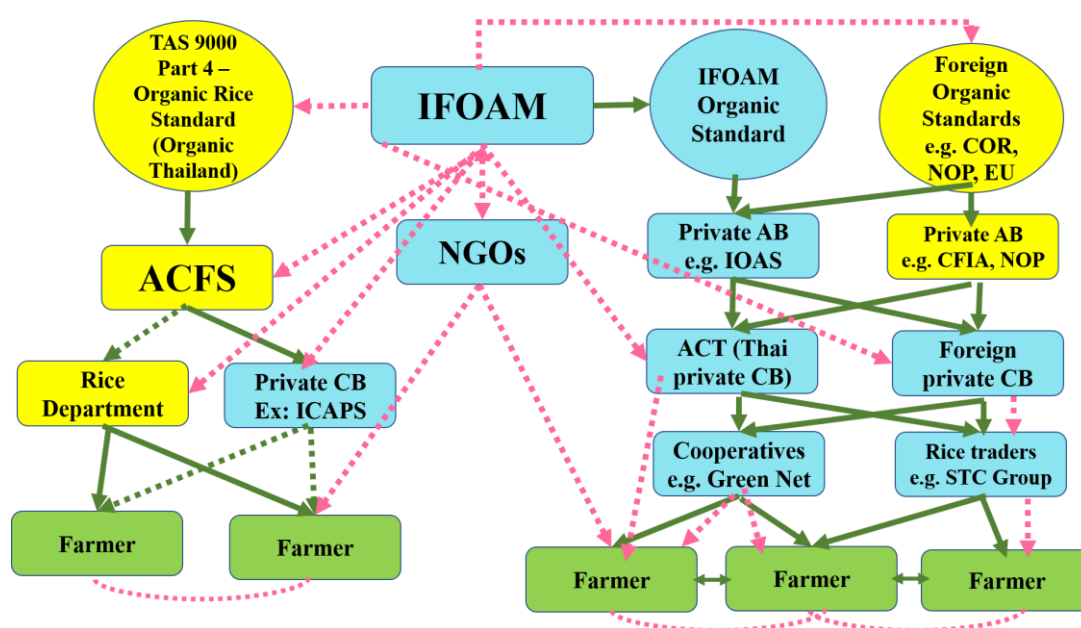
The results of this research will be elaborated in two main sections. The first section concludes about the governance of the standards of organic Thai rice in connection to the global governance of organic standards. The second section will discuss the theoretical framework and show how this research has conversed with the existing global governance theories.

### 4.1 The Result from the Case Study: The Governance of the Standards of Thai Organic Rice

There are two certification systems of organic standards which are the ‘third party certification system’ and the participatory guarantee system (PGS). The former is a system that requires an independent organization to review the process of organic agricultural production and certify that said production process does comply with that particular standard. The latter does not need any independent organization in the certification process. According to the International Federation of Organic Agriculture Movements (IFOAM), the definition of PGS is locally focused quality assurance systems that certify producers based on the active participation of stakeholders and are built on a foundation of trust, social networks and knowledge exchange (IFOAM, 2019).



In Thailand, both systems have been used in certifying standards of organic rice as well as other organic agricultural products. The first Figure shows the governance process of Thai organic rice standards in connection with the global governance of organic standards.



**Figure 1** The Governance of the Standards of Thai Organic Rice (Third Party System)

IFOAM is placed in the middle of the Figure because this organization has played crucial roles in every process of global governance of organic agriculture standards which are managing knowledge, developing norms, formulating and promulgating recommendations, and institutionalizing ideas (Weiss & Thakur, 2014). Briefly explaining, IFOAM was established in 1972 by five founders from five countries: Nature et Progrès from France, Rodale Press from the United States of America, Soil Association from the United Kingdom, Soil Association of South Africa, and Swedish Biodynamic Association from Sweden (Paull, 2010). These organizations had been developing and disseminating knowledge about organic agriculture, long before the existence of IFOAM. However, IFOAM was established in the context of the expansion of international trades, including organic agricultural products. Consequently, the very first tasks of IFOAM were to propose the universal definition for organic agriculture which had no consensus at that time and set up the standards for organic agriculture as well as the process of certification (Schimid, 2007). Nowadays, there are many governmental standards of organic agriculture, such as the standards that belong to the United States, the European Union, Canada, Japan, China, and Thailand. In creating their standards, all countries did use IFOAM Basic Standards for Organic Production and Processing as the foundation, and in terms of the certification process, they all follow the process designed by the organization as presented in Figure 1. However, IFOAM is not operated in the top-down style. However, there are experts in organic agriculture in many countries around the world, including Thailand, who work with IFOAM by contributing the insight information about organic farming in their regions and countries (Information acquired from the interview with Mr. Vitoon Panyakul, a board member of IOAS and the secretariat of the Earth Net Foundation on September 13, 2018; IOAS, 2018).

In Figure 1, different colors are used to differentiate the types of actors. Blue boxes represent non-state actors, yellow boxes represent state actors, and the green ones represent farmers. Green solid arrows



show the interaction between actors in the process of organic standards certification, while pink dash arrows show the process of knowledge dissemination regarding certified organic agriculture. The organic standards mentioned in Figure 1 are IFOAM organic standards, foreign organic standards such as Canadian Organic Regime (COR), National Organic Program (NOP which belongs to the USA), organic standards of the European Union (EU), and TAS 9000, which is the organic standards of the Ministry of Agriculture and Cooperatives of Thailand, by which TAS 9000 Part 4 is the specific standards for organic rice. In other organic standards, organic rice is considered one type of organic crops and does not have the specific standards for its own, but Thailand is the only country that has designated the specific standards for its organic rice. After having organic standards, owners of such standards have to appoint accreditation bodies (AB). In the case of IFOAM, the organization established the International Organic Accreditation Service (IOAS) as its first AB. As specified in IOAS (2019) website, AB is an independent, technical expert that verifies the correct application of the standard and the requirements for certification, objectivity, transparency, and freedom from conflicts of interest amongst others. Since February 2015, IFOAM has opened the possibilities for accreditation bodies other than IOAS to offer IFOAM accreditation (IFOAM, 2016). Like IFOAM's, other foreign organic standards have appointed their accreditation bodies. For example, National Organic Program (NOP) has been appointed to act as an AB for organic agriculture standards of The United States of America and the Canadian Food Inspection Agency (CFIA) has been assigned as an AB for organic standards of the Canadian government. Many standards also appointed other private organizations like IOAS to act as their accreditation bodies. However, all accreditation bodies, both private and public, must conform with the standards that were designed for assessing AB by the owner of each organic standard. Most owners choose to use the requirements of ISO/IEC 17011 (ISO standards, online-a) as the standard to assess their accreditation bodies. In the case of the standards of Thai organic agriculture, including Thai organic rice, the National Bureau of Agricultural Commodity and Food Standards (ACFS) has been the only accreditation body since the standards were created.

Certification bodies (CB) are organizations accredited by accreditation bodies. Their primary responsibility is to endorse the certification to assure that the producers of organic agriculture have produced products in compliance with a particular organic standard. Certification bodies are periodically inspected by AB whether they conform with every requirement specified for CB. Most organic standard certifying systems follow ISO/IEC 17065: 2012 as requirements for bodies certifying products, processes, and services (ISO/IEC, online-b). Certification bodies for IFOAM's and foreign standards that are operated in Thailand are all private organizations. Organic Agriculture Certification Thailand (ACT) is an independent certification body established in 1995 with support from IFOAM, local private organizations, and people that have been the advocates of alternative agriculture in Thailand. (ACT 2019) (Information acquired from the interview with an ACFS Standard Specialist on October 19, 2018).). ACT is so far the only Thai certification body that can certify organic agriculture standards of foreign governments such as EU standards and Canadian standards as well as private international standards like IFOAM's. Apart from the ACT, many foreign certification bodies are operating in Thailand. Group certification is widely practiced in the certification of foreign organic agriculture standards in this country. By certifying in groups, a group of farmers has to implement an Internal Control System (ICS) and are certified collectively by a CB who assesses the performance of the system (IFOAM, n.d.). In most cases, the groups are either in the form of cooperatives or getting support from rice exporting companies. The cooperatives and rice exporting corporations are responsible for the certification cost, and the organic certificates belong to them, not to each farmer.

For Thai governmental standards like TAS 9000, there are both public and private certification bodies. The concerned departments within MOAC have been assigned to act as certification bodies for TAS 9000. For example, the Rice Department has been assigned to be the CB for TAS 9000 Part 4, which is the standard of organic rice. These departments have become certification bodies of TAS without being accredited, and the periodical inspection is not required to maintain the status of CB because ACFS believes that these departments have competencies in acting as certification bodies and have already followed the requirements stipulated in ISO/IEC 17065 (Information acquired from the interview with an ACFS

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The diagram illustrates the PGS (Participatory Guarantee System) models in Thailand. It shows the following components and their interactions:

- Top Level:** IFOAM, PGS IFAM, and Government office (e.g., MOAC).
- Second Level:** Earth Net Foundation + Green Net, Lemon Farm, Other PGS groups, and TOAF (with PGS Organic logo).
- Third Level:** Provincial Organic Cooperative (e.g., Chiang Mai).
- Bottom Level:** Farmers (represented by green boxes with double-headed arrows).

**Flow and Interactions:**

- Support/Information Flow (Dotted Lines):** IFOAM, PGS IFAM, and Government office (e.g., MOAC) provide support or information to Earth Net Foundation + Green Net, Lemon Farm, Other PGS groups, and TOAF. TOAF also provides support or information to the Provincial Organic Cooperative.
- Direct Participation/Certification Flow (Solid Lines):** Earth Net Foundation + Green Net, Lemon Farm, Other PGS groups, and TOAF all lead to TOAF. TOAF then leads to the Provincial Organic Cooperative. The Provincial Organic Cooperative leads to Farmers.

PGS was used by some groups of farmers as the system to certify their products before the establishment of IFOAM. IFOAM did not initiate this system, but IFOAM has made PGS become more systematic and universally accepted. The official definition given by IFOAM is that “Participatory Guarantee Systems (PGS) are locally focused quality assurance systems. They certify producers based on the active participation of stakeholders and are built on a foundation of trust, social networks, and knowledge exchange.” (IFOAM, n.d.). IFOAM created general principles for PGS, which contain six key elements; shared vision, participatory, transparency, trust- “integrity-based approach,” learning process, and horizontality (IFOAM, 2007). These are principles to manage the relationship within groups of PGS farmers. However, each group has the freedom to choose which organic agriculture standards they want to comply with. They can adapt and come up with their organic agriculture standards that are more suitable for their local conditions. For example, Muan Jai Natural Agricultural PGS group created its organic standard



by following the organic principles of IFOAM and also included requirements about local forest preservation in doing organic farming (Information acquired from the interview with a founder of Muan Jai Natural Agriculture on September 24, 2019). Figure 2 shows that each PGS group has its logo that the members can put on their PGS certified products. IFOAM also created the IFOAM PGS Recognition program which any PGS group can apply to, and if IFOAM assesses that that group follows all the key elements mentioned above, IFOAM will grant the rights to use the logo 'PGS IFOAM' on that group's organic products.

In Figure 2, IFOAM is placed in the center again because all organic PGS groups in Thailand have followed the PGS principles of IFOAM in managing the group and in supporting other groups to develop their own PGS. There are many PGS groups in Thailand, and all of them are private organizations. For example, Thai PGS Organic Plus was established by Earth Net Foundation and Green Net Cooperatives. Lemon Farm Organic PGS is the PGS network established and supported by Health Society Company Limited who owns Lemon Farm Supermarkets where healthy and organic products are sold. Another group that has supported many farmers to group and do organic farming and use PGS as the certification system is the Thai Organic Agriculture Foundation (TOAF). TOAF box has both blue and yellow colors, representing both private and public actors because even though TOAF is a private organization, most of its members are former officers from the Ministry of Agriculture and Cooperatives and projects that TOAF have worked on are mostly governmental ones assigned by the organizations like MOAC and Agricultural Land Reform Office (Information acquired from the interview with the secretary of TOAF on October 12, 2019). TOAF has also used IFOAM principles as the guidelines to manage and support the establishment of organic agriculture PGS groups, and TAS 9000 is the standard that TOAF has chosen for the farmers to follow in doing organic agriculture. Moreover, TOAF has worked with some provincial organic cooperatives such as the one in Chiang Mai. The PGS group within the network of the provincial cooperatives can switch to the third-party system for TAS 9000 certification without conversion periods. It is the reason why some organic PGS groups that had their own standards, such as Muan Jai Natural Agriculture, decided to become a member of the Provincial Organic Cooperatives in Chiang Mai. The increasing numbers of farmers in the group have forced the group to find another way to sell more products. In the hope to expand its market, the group plans to switch the certification system from PGS to the third party one so that their products can have 'Organic Thailand' logo to show that they are certified with TAS 9000.

The latest development of organic agriculture PGS in Thailand is that in 2019, many PGS groups reached the agreement to establish the Thai Organic PGS Federation (TOPF) which has the purpose of strengthening the PGS system in Thailand and making it become more widely accepted among Thai consumers. To pursue this endeavor, TOPF has signed the memorandum of understanding with the MOAC to enhance the cooperation between private and public sectors regarding this issue (Green Net, 2019).

In conclusion, 'market' is the main factor determining which system of certified organic farmers and producers should use. If they want to export their organic products to foreign countries that have their compulsory organic standards, such farmers and producers must get through the third-party certifying process of those standards. If their markets are local or foreign markets that do not have compulsory organic agriculture standards, farmers and producers can choose to certify with any standard that makes their organic products seem credible. Organic Thailand logo that represents TAS 9000 still has a problem with its credibility. TAS 9000 is still a voluntary standard, not a compulsory one. In 2013, there was an attempt from ACFS to make the organic rice standard or TAS 9000 Part 4 become the compulsory standard (Green Net, 2016b). However, there were many protests from private sectors so that ACFS had to stop processing the issue. There were several reasons why many parties did not agree to make TAS 9000 Part 4 be the compulsory standard. First of all, there would have been additional burdens for farmers and producers who already have their products certified by other foreign standards because if TAS 9000 Part 4 has become compulsory, all producers of organic rice within the country have to ask for the TAS 9000 Part 4 certification and this might as well affect those PGS organic farmers. The logo 'Organic Thailand' on their rice packs would not help them to sell more rice abroad as TAS 9000 does not have 'equivalent status' with any foreign standards.



One of the most important problems of the governance of the standards of Thai organic rice as well as other organic agriculture in Thailand is that the formal institution and the informal institution do not complement each other (Mantzavinos, 2011). In Thailand, private actors were the initiators in growing organic crops as well as developing them into certified products, and this can be considered an informal institution. Formal institutions in the form of governmental standards like TAS 9000 came later. Moreover, the governance from the government side does not comply with global governance in many aspects. The governmental organic agriculture standards are highly centralized within the government organizations, which has made the process ineffective. All departments of MOAC that work as CB for TAS 9000 do have other functions to fulfill so that they cannot act as a full-time certification body. In theory, ACFS also accredited private CB, but in practice, most 'Organic Thailand' products have been certified by public CB because of the subsidy from the government. Another problem with the governance from the government part is that by assuming that all government offices are already competent, there is no process of accreditation and periodical inspection from AB to CB like other international organic agriculture standards have. These are the problems that cannot be solved by private sectors or public sectors alone, but the cooperation between both is needed to make the complementation between formal and informal institutions in the governance of organic agriculture standards in Thailand.

#### 4.2 Theoretical Result: 'Epistemic Authority' of Non-state Actors in the Global Governance

As the previous section already answered the questions about how the global governance of the standards of organic farming and the governance of that issue in Thailand work and what the problems are, this section will elaborate more about the aspects of global governance theory deriving from the case study. The main focus will be on the authority within the global governance; where it comes from and how it operates within the process of global governance.

As already explained in the previous section, IFOAM is one of the most important actors within the global governance of standards of organic agriculture. IFOAM is an independent movement that does not possess the authority to make and enforce laws and rules like states and does not have the economic power that allows big corporations to dominate some agenda. However, the kind of authority that IFOAM has acquired is 'epistemic authority,' or the authority ones gain from being an expert or very knowledgeable about particular issues. IFOAM, established by five of the most important pioneers of organic agriculture from around the world, has acted as a global epistemic community of organic agriculture since the beginning. IFOAM has gained and maintained its epistemic authority through initiatives and activities of the organization. The initiatives of IFOAM to create the definition of organic agriculture that has been recognized internationally and to set up the organic agriculture standards as well as the certification system happened before the states like the USA, Canada and EU have their governmental standards for organic agriculture. Such IFOAM initiatives can be considered the involvement of IFOAM in the first process of global governance which is knowledge management. Until now, IFOAM has had managed knowledge about organic agriculture by organizing international periodical conferences such as Organic World Congress (OWC) which is considered the world's largest organic gathering (Organic World Congress 2020, 2020). Apart from the triennial conference, IFOAM also hosts a lot of workshops and training programs and continues disseminating knowledge regarding organic agriculture via its online and offline publications.

The second and third processes of global governance are norm development and recommendation formulation and promulgation. IFOAM's standard of organic agriculture, which is called 'IFOAM Basic Standards' has a significant influence on government regulations for organic farming, starting with the EU regulation of 1991. All subsequent laws, regulations, and standards of organic agriculture in the world including Codex Alimentarius Guidelines developed by the Food and Agriculture Organization (FAO) and the World Health Organization (WHO) have directly or indirectly built on the expertise and foundations distributed by the IFOAM Basic Standards (Geier, 2007). In other words, IFOAM Basic Standards has become the norm and guidelines in developing regulations and standards regarding organic agriculture. Moreover, IFOAM has formulated and promulgated its recommendations through the sister organization



like IOAS which was established as the accreditation body (AB) to inspect and verify the quality and performance of existing organic certification programs (Geier, 2007).

These processes of developing norms and formulating and promulgating recommendations have also been pursued via the Participatory Guarantee System (PGS) by IFOAM. As already mentioned in the previous section, IFOAM has developed the PGS principles which have been used as the guidelines to develop PGS farmer groups worldwide.

All initiatives and activities pursued by IFOAM as well as its cooperation with international organizations like FAO have made IFOAM become a global institution of organic farming. With the support of IFOAM, sustainable agriculture has become one of the five issues that FAO has considered its priorities (FAO, 2013). It is how IFOAM has fulfilled the last process of global governance, which is idea institutionalization. Despite the existence of global governance, four mentioned processes namely, managing knowledge, developing norms, formulating and promulgating recommendations and institutionalizing ideas are still progressing, and IFOAM itself continues with its initiatives and activities to maintain and enhance its epistemic authority.

After explaining how IFOAM has gained its authority and has become a vital non-state actor in the global governance of the standards of organic agriculture, this final part will elaborate on how such authority operates within the global governance process. The operation can be explained in three dimensions, namely the dimension of regulation-making, the dimension of knowledge contesting, and the dimension of empowering.

For the first dimension, the regulation, in this case, is in the form of standards. The importance of standard certification can be explained in two aspects. First, standard certification makes international trade possible in the age of globalization when producers and consumers are far apart. Standard certification ensures consumers the quality of the products, protects producers from unfair competition, and helps eliminate unqualified products from the market. Second, standard certification enhances the competitiveness of the products. Standards become a factor that consumers use to make their decision by determining which standard is the most reliable. In the case of organic agriculture, this applies to the markets that do not have compulsory standards like Thailand. However, as there are varieties of standards of organic agriculture, both private and public, the market access is the most crucial factor that the producers use to decide which standard they should choose to certify their products.

The contestation of knowledge in the field of organic agriculture has occurred before the establishment of IFOAM and the existence of global governance for this issue. Knowledge contesting can be considered a crucial feature of the management of knowledge which is one of the vital processes of global governance. Conferences, workshops, publications, and other relevant activities make room for knowledge contesting that will develop the knowledge body of organic farming. However, the findings revealed that when there is a contestation between the scientific knowledge and the belief of consumers and the market, in many occasions, the latter prevails (DiMatteo & Gershuny, 2007).

Finally, global governance of standards of organic agriculture gives alternatives to all stakeholders. It offers consumers safer and more healthy agricultural products meanwhile offers farmers an alternative from intensive farming. Global governance has empowered organic farmers and producers by disseminating knowledge regarding organic agriculture as well as expanding the market for their products through the certifying system. PGS is another alternative that global governance has offered to smaller groups of farmers. It has provided them with another option for certifying their products apart from the third-party system that can be costly, complex, and in some cases, unreachable due to the legal requirement. PGS has brought a new business model to some entrepreneurs. For instance, Lemon Farm, a well-known supermarket that offers organic and healthy products, has supported farmers to form the organic agriculture PGS groups. Lemon Farm has helped and advised those groups according to IFOAM PGS principles. Ultimately, Lemon Farm has acted as their market. Not only does this process help those organic farmers in securing their market, but it also guarantees that Lemon Farm has an uninterrupted supply of organic farming products that follows IFOAM Basic Standards in their production process.



## 5. Conclusion

The finding of the research concludes that the global governance of the standards of organic agriculture is not a 'top-down' process. Instead, it started from the people level and then developed into a strong international movement that later has played a vital role in all processes of global governance. In the case of Thailand, organic farming also started in the private sector. The rice trader and NGOs had worked with farmers in producing certified organic rice long before the Thai government established its standard for organic agriculture. Despite having the state authority, the Thai government cannot make all stakeholders accept the credibility of TAS 9000 and its certification process. This evidence shows that in the process of global governance of organic agriculture standards, there are other types of authority like the economic authority of the market as well as the epistemic authority possessed by epistemic communities like IFOAM. As a result, the policy suggestion this research can provide is that the cooperation between the government of public stakeholders in organic agriculture is crucial because the private sector has a linkage with the important actors in global governance and, in some cases, it has a role in the global epistemic community. By doing so, the Thai government will learn to readjust its role to be more appropriate within the governance process of standards of Thai organic rice and other organic farming products.

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## 7. References

- ACT. (2019). About ACT. Retrieved February 20, 2020, from <http://actorganic-cert.or.th/about/>
- DiMatteo, K., & Gershuny, G. The Organic Trade Association. *Organic Farming: An International History* (pp. 253-263). Trowbridge: Cromwell Press.
- FAO. (2013). Our priorities: the FAO strategic objectives. Retrieved February 22, 2020, from <http://www.fao.org/3/mi317e/mi317e.pdf>
- Geier, B. (2007). IFOAM and the history of the international organic movement. *Organic Farming: An International History* (pp. 175-186). Trowbridge: Cromwell Press.
- Green Net. (2016a). Overview of Thai organic agriculture (in Thai). Retrieved February 15, 2020, from <https://www.greennet.or.th/ภาพรวมสถานการณ์เกษตรอินทรีย์-2/>
- Green Net. (2016b). Compulsory Standards of Organic Agriculture: Truth and Questions (in Thai). Retrieved February 22, 2020, from <http://greennet.demotoday.net/blog/1865>
- Green Net. (2019). TOPF Shakes Hands with MOAC and Agrees to Move PGS Forward (in Thai). Retrieved February 22, 2020, from <https://www.greennet.or.th/สมาคมเกษตรอินทรีย์/>
- IFOAM. (n.d.). General information on organic standards and certification. Retrieved February 20, 2020, from <https://www.ifoam.bio/en/general-information-organic-standards-and-certification>



- IFOAM. (n.d.). Participatory Guarantee Systems (PGS). Retrieved February 21, 2020, from <https://www.ifoam.bio/en/organic-policy-guarantee/participatory-guarantee-systems-pgs>
- IFOAM. (2007). Participatory Guarantee Systems: Shared Vision, Shared Ideals. Retrieved February 21, 2020, from [https://www.ifoam.bio/sites/default/files/page/files/ifoam\\_pgs\\_web.pdf](https://www.ifoam.bio/sites/default/files/page/files/ifoam_pgs_web.pdf)
- IFOAM. (2016). The IFOAM Accreditation Program. Retrieved February 20, 2020, from <https://www.ifoam.bio/en/ifoam-accreditation-program>
- IFOAM. (2019). PGS guidelines: how to develop and manage Participatory Guarantee Systems for organic agriculture. Retrieved February 16, 2020, from [https://www.ifoam.bio/sites/default/files/page/files/pgs\\_guidelines\\_en\\_web.pdf](https://www.ifoam.bio/sites/default/files/page/files/pgs_guidelines_en_web.pdf)
- IOAS. (2018). Structure. Retrieved February 20, 2020, from <https://ioas.org/about-ioas/structure/board/>
- IOAS. (2019). About IOAS. Retrieved February 19, 2020, from <https://ioas.org/about-ioas/>
- ISO standards. (online-a). ISO/IEC 17011. Retrieved from <https://www.iso.org/standard/67198.html>.
- ISO standards. (online-b). ISO/IEC 17065: 2012. Retrieved from <https://www.iso.org/standard/67198.html>.
- Mantzavinos, C. (2011). Institutions. *The SAGE Handbook of the Philosophy of Social Sciences* (pp. 399-412). London: SAGE Publications.
- Organic World Congress 2020. (2020). What is the Organic World Congress?. Retrieved February 22, 2020, from <https://owc.ifoam.bio/2020/en>
- Paull, J. (2010). From France to the World: The International Federation of Organic Agriculture Movements (IFOAM). *Journal of Social Research & Policy*, 1(2), 93-102.
- Schmid, O. (2007). Development of standards for organic farming. *Organic Farming: An International History* (pp. 152-174). Trowbridge: Cromwell Press.
- Weiss, T. & Thakul, R. (2014). The United Nations meets the twenty-first century: confronting the challenges of global governance. *The SAGE Handbook of Globalization* (pp. 489-504). London: SAGE Publications.