ON THE RISE: TAIWAN’S ORGANIC AGRICULTURE

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ABSTRACT

With organic share of agricultural land roughly 0.8%, Taiwan ranked 3rd in organic adoption rate among Asia Pacific countries. This essay will introduce the steps Taiwan took in administrating, guiding, and promoting organic agriculture. From making laws to designing the dedicated cultivation zones, establishing the industrial value chain to expanding the marketing channels, a great deal of administration and guidance experience has been accumulated by Taiwanese authority that other countries may reflect upon. By sharing measures Taiwan has taken to enlarge organic participation and their field results with the fellow participating countries, we hope to exert our efforts in the global development of organic and sustainable agriculture and in turn benefit the ecological system.

Keywords: organic, organic Agriculture, certification management

INTRODUCTION

At the very beginning, organic farming started as a set of standards formed by farmers autonomously. Over time, this practice was gradually institutionalized into governmental laws and regulations for more uniformed management (Christian R. Vogl, 2005), and the cultivation areas grew along the way. Global organic farmlands increased from the 11 million hectares in 1999 to 50 million, nearly 1.1% of the world’s agricultural land (Helga Willer and Julia Lernoud, 2017), in 2015. Due to the subtropical geographical location, Taiwan has long been relying on chemical pesticides and fertilizers for its agricultural production, which have profound impacts on its farmers and environment. From 1980, the authority started instructing District Agricultural Research and Extension Stations (DARES) around the country to improve the organic farming techniques. The areas of improvement included soil fertility management, rotation farming, low-intensity cultivation, alternative pest prevention strategies, and, most importantly, using these techniques to increase profits for farmers (Sung-Ching Hsieh, 2004). These attempts addressed the difficulties in organic cultivation with practical approaches and set the tone of utilizing organic farming as a way of helping farmers generate greater profits.

In accordance with the spirit of the organic agriculture by IFOAM and International Food Standard (CODEX), Taiwan defines organic agriculture as the agricultural production system that uses agronomical, biological, or machinery methods with fully natural matters, where any uses of chemical matters, genetically modified organisms and its associated products are prohibited. This way ensures that the entire production process meets the environment-friendly criteria. In conjunction with the aim of elevating the quality and safety attributes of agricultural products and its processed products in the country, the Agricultural Production and Certification Act was legislated in 2007. In which are the provisions about organic production, processing, packing, distribution, and other procedures that they shall conform to the regulations put forth by the central administrative authority. This was the first time organic agricultural products became formally regulated by the government, as violation would face respective penalties from the competent authority, and is marked as a milestone for the development of Taiwan’s organic agriculture. On top requiring organic products to clear the certification process before being sold as organic, this law and its derived regulations also detail a sound third-party certification system that ensures all certification process adheres to the associated standard. This aspect is critical, as better management results in products of better quality, boosts consumer confidence, and leads to greater market demands. On the other hand, numerous incentivizing measures are rolled out to encourage farmers and agricultural operators to make the transformation, and, because of it, the area of organic cultivation had increased significantly. As of the end of 2016, the total...
certified organic farmland was 6,784 hectares, a 3.3 fold increase from the 2,013 hectares in 2007. Taiwan’s organic cultivation rate was 0.8%, which was higher than most of Asia Pacific countries, like Vietnam, 0.5%, Indonesia, 0.5%, or Mainland China, 0.4%. In fact, the only countries in this region that have higher organic adoption are Korea and Philippines, with 0.9% and 0.8%, respectively. The goal Taiwanese government set back in 2007 was to double the organic cultivation by the year 2012, and the result exceeded this target by over 5,000 hectares, showing that those measures had indeed paid off. To pass on these experiences to other countries, this report will give a comprehensive overview of how Taiwanese government helped its organic agriculture develop.

The central agricultural administrator in Taiwan, the Council of Agriculture (COA), has set the goal of reaching 12,000 hectares of organic cultivation by the year 2020. This shows that the organic development in Taiwan is picking up steam as days go by. If more countries could join us and work together, the eco-friendly farming can expand and bring about a truly sustainable agricultural development.

**STRATEGY FOR PROMOTING TAIWAN ORGANIC AGRICULTURE**

1. **Strengthening the legal framework**

   By the year 1997, Taiwan only had a series of executive order, namely, “Counseling Guidelines for Organic Certification Bodies”, “Production Standards of Organic Agricultural Products”, and “Establishing Guidelines for Organic Certification Counseling Teams Governing Organic Activities”. Their subject of governance limited to just farmers, and those violators were only advised to rectify.

   The Agricultural Production and Certification Act legislated in 2007 has expanded the scope including operators throughout the supply chain, from producing, processing, packing, and distributing, and these operators are generalized as the agricultural operators. On the administration side, there also is a clear division of duties between the central authority, the COA, and local authorities on municipality, county, and city levels. The COA is mainly responsible for regulating certification bodies (CB), administrating CBs’ operation and imposing the punishment. Local authorities, on the other hand, are in charge of sample examination and inspection of organic agricultural products as well as imposing punishment on the agricultural operators. The certification standard was also amended to be more sophisticated. Aside from the previous scope covering only production, numerous steps in production like processing, packing, and distributing have been incorporated into this new law, making its provisions more comprehensive than previous executive orders.

   A number of regulations have been derived from this very law thereafter. To manage agricultural products in greater details, regulations like “Enforcement Rules for Agricultural Product Production and Certification Management Act”, “Organic Agricultural Product and Organic Agricultural Processed Product Certification Management Regulations”, “Regulations Governing Management over Agricultural Product Marks”, “Operating Guidelines for the Handling Examination and Sample Inspection Results of Organic Agricultural Products and Organic Agricultural Processed Products”, “Regulations for Agricultural Examination and Sample Inspection”, and “Regulations for the Sampling Mechanism and Number of Agricultural Food Products and Its Processed Products” have been stipulated.

   In administrating CBs, “Regulations Governing Management over Agricultural Product Certification Bodies”, “Operating Guidelines for Accreditation of Organic Agricultural Product Certification Bodies”, and “Table for Determining Certification Bodies’ Violation against the Obligations under Agricultural Production and Certification Act” have been introduced. Furthermore, TAF, a signed member of International Accreditation Forum Multilateral Recognition Arrangement, has been assigned as the Designated Assessment Body to help central authority audit organic CBs.

   Finally, to handle affairs concerning organic imports, various regulations are supplemented, such as “Organic Agricultural Product and Organic Agricultural Processed Product Certification Management Regulations”, “Examination Guidelines for Issuing Approval Documents for Organic Food Products and Processed Products”, and “Operating Guidelines for On-site Inspection in Organic Equivalent Countries to Conduct”. The main purpose of these laws is to state how and under what terms can organic products certified by certification bodies of organic equivalent countries access Taiwan.
2. Dedicated organic zones and clustered farming

As clustered farming and group certification reduce production costs and prevent contamination from surrounding fields for organic operators, the central authority has been proactively guiding governments on municipality, county (city) levels and farmers’ organizations to set up organic farming clusters. “Guidelines for Infrastructure Subsidy for Improving the Environment of Organic Farming Clusters” has thus been formulated to assist the clusters in improving its environment planning, field management, road improvement, etc. The result is as follows:

(1) Establishment of public organic zones: In coordination with Taiwan Sugar Company and Veteran Affairs Council, local government rented lands from these institutes to set up organic cultivation zones. In these zones, waterway, stacking grounds, packing houses, refrigerating rooms, and logistic faculties have been constructed. As of today, a total of 16 zones have been formulated.

(2) Guidance for farmers to establish farming clusters: By mobilizing participants in Fallow Land Revitalization and “Small Landlords, Big Farmers” Program, the operation scale of each farm can expand and farming can be created, a mechanism much easier for marketing personnel to accommodate. A total of 10 zones of this kind have been established.

3. Technology development and training courses

(1) Formation of organic research and technical service groups: District Agricultural Research and Extension Stations under the COA around the country were advised to establish Organic Research Groups and Organic Technical Service Groups. And they help develop organic agriculture on various fronts like market research, cultivation improvement, and industry support.

(2) Professional training for organic farmers: Advanced organic cultivation courses are provided at farmer academy in the hope of elevating farmers’ skills.

(3) Research on key technologies related to organic crops and materials: Prevention of pest for leafy vegetables, increase of land fertility, weed management are some of the topics of research. Those successful advancements would be introduced to farmers through demonstration events.

(4) Development of new technologies and production materials: Invention of non-pesticide methods of managing pests and weeds and fertilizers that are suitable for organic uses like microbial bacteria or biological fertilizers.

4. Guidance on processing, extending the industrial value chain

(1) Guidance on production and marketing facilities improvement, elevating the overall operation efficiency.

(2) Guide organic farmers to engage in contractual farming with distributors, stabilizing the supply of organic goods.

(3) Enhance the facility capacities of organic farming clusters and integrate adjacent farms into greater production and marketing organization, creating a core-satellite collaboration system.

(4) Develop the secondary industry of processing, improving the rural business environment and aiming toward a six-grade organic industry.

5. Enhancing certification management

(1) All organic certification bodies shall first apply for a certificate to the Designated Assessment Body, currently, Taiwan Accreditation Foundation (TAF). Once the assessment is passed, a certificate with the validity of 3 years will be issued, making the assessed body a qualified organic CB. To ensure that the operation of certification bodies remains sound, TAF will conduct follow up examinations at least once a year. These examinations can be categorized into scheduled examinations and unscheduled examinations. The main purpose of them is to make sure that all of the legal and administrative works are in full accordance with the law and the certifiers are indeed capable of indentifying its own issues. The COA in addition would inform the certification bodies and TAF if the violation has been found in local competent authorities’ annual inspection or common citizens file complains. The liable certification bodies are responsible for coming up with investigation reports and improvement measures, and TAF would continuously follow up on the case to ensure that the underlying problem is fully addressed.

(2) To disqualify unfit CB, the COA has put in place a violation record system. It runs on the “Table for
Determining Certification Bodies’ Violation against the Obligations under Agricultural Production and Certification Act". Once a serious violation is found not properly handled, the CB’s right to carry out certification will be voided.

(3) Working with a professional institute to co-audit organic CBs: Since 2007, the TAF has been assigned as the Designated Assessment Body under Operating Guidelines for Accreditation of Organic Agricultural Product Certification Bodies. As the sole institute in the country obtaining qualifications like QMS, EMS, and Product Certification in the MLA, TAF is also the only institute in the field participating in International Accreditation Forum. To ensure that this audit process stays effective and fair, a review group consisting of members from all relevant fields is gathered to conduct case-by-case review and audit on certification bodies. In the future, the COA will continue to collaborate closely with TAF, taking its advice and reinforce administration and audit on certifiers accordingly.

(4) The COA holds on-the-job training for inspectors of CBs, in which many other inspectors would share their experience, and the assessment personnel from TAF would also explain how some of the more complex cases are to be handled. This measure improves the skill and competence of inspectors in carrying out their inspection duties.

(5) Enhanced sample examination by local competent authorities on the quality and labeling of organic products in both fields and markets. The detailed measures are as follows:
   A. Formulate yearly inspection and examination plan and the SOP for examining organic agricultural products and its processed products. The examination on both products in markets and fields are conducted accordingly. In a year, an average of 1,800 quality inspections and 3,000 labeling inspections are carried out.
   B. Once a violation has occurred, competent municipality, county (city) government will inform operators to pull the products off the shelf within a day and collect them back within 10 days. The operators will then be informed that reexamination is applicable. But if the product still fails the reexamination with pesticide being detected, the local authority will question the operator and collect evidence. The penalties will be imposed according to respective regulations. The CBs are also responsible for carrying out inspection and verification as well as suspending the producer of its certified status and retrieving certification labels. Each month, the result of quality and labeling will be published on the AFA website (http://www.afa.gov.tw) with the details of recent violations against the production and certification regulations. All information is fully disclosed to consumers for them to inquire.

(6) Hold inspections and administrative sanctions related seminars to improve local competent authorities’ ability in handling tough cases.

6. Expansion of marketing channels

(1) Assisted municipality and county (city) government to create an organic group catering supply system. Every segment of the supply chain, from origin farms, distribution channels, to catering end, has been well integrated by supply contracts. This measure was taken in the hope of encouraging the ones involved to use organic produce, like the family of the students who consume them. As of 2016, a total of 1,264 schools, distributing across 11 counties (cities), had participated in this program. The students benefitted were around 780 thousand. With them consuming such dishes once a week, roughly 119 MTs of organic vegetables are consumed each week. In addition, various promotion events, volunteer training, and organic courses on primary school campuses have been held. An average of 200 such events is carried out annually.

(2) Guided supermarkets and wholesale markets to set up dedicated sales counters. Farmers of organic crops are also encouraged to take part in grand food exhibitions, many of which have sections specific for organic demonstration. This measure enables consumers to identify the organic products and make purchases decisions accordingly. As of 2016, 110 of dedicated sales counters had been set up and an average of 2 marketing exhibitions had been held yearly.

(3) Set up 16 sites of organic farmers’ markets, assisting farmers of small scale in their sales efforts. This also acts in line with the call for local consumption.

(4) To stay close to the market trends, organic farms have been guided to establish their online store, as 203 of them have been established, enabling direct selling for farms. Organic products now can be directly shipped to consumer ends. This endeavor also extends to the advertisement tool like online organic news papers. Also around 100 farm households have been advised to adopt organic QR code system, which allows consumers to inquire their products on mobile APP.

(5) Since 2013, in coordination with the program of using organic ingredients in school lunch, many civil
organizations, organic volunteers, and school teachers joined together in promoting education on organic farming and diet. As of 2016, students from 345 primary schools had participated in over 750 sessions of Education on Organic Farming and Diet. These sessions included farm experiences and cooking courses to let young students learn more about the concept of organic. Starting with family members, these ideas can gradually transform people’s mindset and create greater popularity of organic products among consumers.

7. Future challenges and plans

Despite the diligent efforts from the government in promoting organic and continuous positive results, there remains to be several challenges:

(1) Aging and outflow of farming population and the mentality of farmers are largely fixed on the conventional methods and hard to change.
(2) Initial investment of organic agriculture is high, and farmers lack the associated cultivation skills.
(3) Organic production materials are high in cost and inconsistent in quality.
(4) Organic fields face contamination from surrounding fields.
(5) Organic marketing channels are not well developed.

In response, Taiwanese government started to pursue new policies, aside from reinforcing the aforementioned measures, including:

(1) Technology advancement and secure material supply
   i. Provide rewards for young farmers to engage in organic transition period (3 years), encouraging more of them to adopt organic practices.
   ii. Establish marketing mechanism for organic plants, where operators from all across husbandry or fisheries may join this business and expand the supply of organic ingredients.
   iii. Hold organic courses (departments), training technical personnel for organic agriculture
   iv. Establish an organic seed and seedling production and supply system.
(2) Create dedicate organic laws to stay in line with international norm
   i. To further our organic development and facilitate the adoption of international agreement or participation in international organization, we create a new set of laws dedicated to governing organic activities.
   ii. Guide organic products of high potential to explore export markets and ease the pressure on domestic marketing.
   iii. Proactively taking part in seminars, exchange events held by international organizations like IFOAM to learn from developed countries.

Expansion of marketing channel and promote education on farming and diet

(1) Develop regional sorting and processing value chains, encouraging investment by private enterprises in sorting, processing, and logistics centers, in combination with the present marketing channels
(2) Facilitate the establishment of modern storage and logistics system, in connection with local brands and cultural characteristics.
(3) Channel the resources of civil organizations and volunteer groups to promote consumer education
(4) Assist local communities in supporting local farming system. Turn organic farms into places of not just production but also consumption, to realize the idea of living an organic life.

Support aboriginal regions and improve soil and water conservation

(1) Encourage private investment in rural areas or aboriginal tribes for them to develop organic agriculture.
(2) As aboriginal countries are often the water source, organic agriculture should be seen as a way to conserve its precious soil and water resource, enriching the ecological system.
(3) Promote social enterprises, assisting aboriginal tribes in development of organic agriculture.
(4) Take advantage of cultural elements that are unique to eastern and aboriginal countries to develop organic agricultural products and processed products of genuine specialty. This way more people would visit eastern and aboriginal countries for enjoyment and leisure and in turn benefit the aboriginal economy.
CONCLUSION

Given the diverse values organic agriculture has to offer, like environment protection, rural development, and food safety enhancement, this is truly the path any modern agricultural should take.

After over 20 years of development, Taiwan has established an organic industry of decent magnitude and its certification system. As New Agriculture Policy we are embarking on put more emphasis on co-existence of agriculture and natural environment, to amplify the sustainability and environment friendliness attributes of organic practices, the Organic Agriculture Act we are drafting will introduce more supporting measures for eco-friendly farming, encouraging farmers to overcome the ideological and technical difficulty in making the transformation. If more farmers join this endeavor, the entire agricultural sector may see quantitative followed by qualitative change and Taiwan will flourish into an island of Lohas.

As international trade in organic goods is growing, it is wise for Taiwan to go global by reaching bilateral organic deals with other countries, facilitating its organic products to access foreign markets, and establishing substantive cooperation on organic affairs.

REFERENCES

