



A Review of Indonesia's Organic Agriculture Development

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INTRODUCTION

Agriculture is one of the significant sectors in the economic development of society in Indonesia. The agricultural industry absorbs 35.9% of the total workforce in Indonesia and accounts for 14.7% of Indonesia's GNP (BPS, 2012). The development of the agricultural sector is taking an essential role in maintaining people's welfare. The organic farming system can be one way out to advance Indonesian agriculture. With these organic farming system opportunities will emerge so that agriculture can develop sustainably.

However, in terms of organic farming, Indonesian farmers face many challenges, especially in conditions of tropical air humidity which make it difficult to control pests and diseases. Most organic farmers still do it manually, which indirectly requires more labor and increases farmers' expenditure due to natural pesticides that are not yet on the market. The products produced are usually not as attractive as chemical products. Fruits or leaves will typically be smaller and perforated.

Also, there are currently many problems that arise in terms of human resources, technology, and government regulations — starting from the lack of training for farmers about this system to market access which is still difficult to reach and is even considered even non-existent. The absence of a clear distribution channel to accommodate organic products produced a barrier to organic farmers today. It turned out to also be due to a lack of socialization to consumers and the public about the existence of these natural products.

On the other hand, large cities already have a high level of demand for organic products. The trends and awareness of the impact of chemicals have also been a factor in the top market. People prefer natural products compared to chemical products. Excellence in terms of the health of natural products is rich in essential nutrient content which can minimize cancer and can fight free radicals.

The organic farming system is a big opportunity for Indonesia, but it is also not easy to run. Here the farmers will choose and see the opportunities that exist to determine their destiny. Also, it is expected that young people will also be more interested in plunging into the field of agriculture, especially organic agriculture, whose business opportunities are still tremendous. The government must also be consistent in helping develop organic agriculture. The hope is that this system will improve the welfare of farmers while increasing the level of the national economy.

This review paper will discuss the development of organic agriculture in Indonesia over the past few years, including the conditions of Indonesia's organic agriculture, various government regulations, and government development program as well as the participation of the private sector such as Non-Governmental Organizations in the development of organic agriculture. In the discussion section, it will discuss the issues and challenges faced by Indonesia's organic agriculture and analyze how to improve them.

OVERVIEW OF INDONESIA'S ORGANIC AGRICULTURE DEVELOPMENT

The beginning of organic agriculture in Indonesia

Organic farming in Indonesia itself has been around since the beginning, and of course, it is still traditional. After the new order period, farmers who used natural ingredients in conventional farming systems were directed to use chemicals to maximize their agricultural output and achieve food self-sufficiency. Organic agriculture conceived after the community felt the negative impact of the green revolution in the 1970s. Many agricultural lands, especially rice fields, have been degraded due to the massive use of chemical fertilizers. Agricultural, environmental ecosystems have drastically changed with the loss of biodiversity for pesticides. Plant pests are increasingly resistant to drugs, leading to even higher doses.

There are not many tracks in organic agriculture in Indonesia, but there is a footprint that indicates that the private sector has a significant role in the development of organic agriculture in Indonesia. In 1984, the private sector established a non-governmental organization called Bina Sarana Bakti (BSB), which became the first organic training center in Indonesia and was known as one of the pioneers of organic farming development in Indonesia.

Organic farming in Indonesia is still relatively new. Government regulations regarding the modern organic farming system were launched in 2010 through the Indonesian National Standards Regulations. In recent years, natural agricultural products such as fruits and vegetables as well as byproducts have

begun to trend, and the market is increasing significantly that it is necessary to control organic products in the form of national standardization with the launch of governmental organic certification regulations.

Government Initiatives Program Go Organic 2010

The launching of the 2010 Go Organic Program by the Ministry of Agriculture has been carried out since 2001 with the vision of realizing Indonesia as one of the largest organic food producers in the world. The success of the program requires the integration of the roles and responsibilities of all relevant stakeholders, including the government, to facilitate the implementation of the Go Organic 2010 program starting from policy formulation, socialization of the organic food system, preparation of organic food system infrastructure, institutional training, development of facilitators organic farming, preparation of organic inspectors, including facilitating market access for quality organic products.

Toward Program Go Organic 2010, Competent Authority for Organic Food (OKPO) establishes policies regarding the regulation, supervision, and development of organic food systems. Together with relevant stakeholders, OKPO initiated a review of the Indonesian National Standard on organic food system as a reference for producers to pursue a formal recognition through certification. OKPO has also issued a guidebook that supports the application of the standard for organic food systems, starting from guidelines governing the implementation of quality assurance for cultivation and processing of organic products, requirements for certification bodies, inspection guidelines and certification, the competence of inspectors and facilitators, and guidelines of the use of Indonesian organic logo.

Most of the Go Organic 2010 programs were considered unsuccessful because many challenges and issues occurred during the program. However, an outcome of this program is the establishment of regulations to regulate organic products circulating in Indonesia such as the 6729: 2010 Organic Food System SNI (Standar Nasional Indonesia) on the Organic Food System.

Recent government program

The trend of organic agriculture in Indonesia was introduced by several modern farmers who had understood the advantages of the organic farming system. Many non-governmental and private sector institutions (agribusiness) aim to develop organic farming systems in Indonesia through fostering human resources or aiming at reaching the export market for organic agricultural products.

In President Joko Widodo's 2014-2019 Vision and Action Program, on page 42 point 12, it states that there is a need to spur sustainable agriculture development based on biological accommodation-region with the pattern of developing organic agriculture and efficient agriculture by saving land and water (Hoesein, 2018).

In the year of Working Cabinet administration, as stated in the *Nawacita* (Food Self-sufficiency Program 2015-2019) the government's agriculture development plan was to build 714 *Desa Organik* (organic villages) until 2019 and an additional 1,000 units until 2024. The concept of *Desa Organik* is

not just about agriculture or food products, but more meaningful to a sustainable life - sustainable development - a healthy lifestyle for the community and also for the environment.

According to the Indonesian Organic Statistics data, the total area of organic land in 2016 was 261.4 hectares, while the already certified area was 79.8 hectares. The largest organic product from Indonesia is coffee, which is as much as 346,200 tons with a land area of 46,924 ha. This was followed by rice with a production of 12,276 tons, and followed by honey at 2,702 tons. The next products are cocoa, cashews, coconut sugar, spices, bark, and palm sugar. According to the Indonesian Organic Alliance, organic products certified in 2015 were 69 products, an increase from 2014 with only 57 products (Latief, 2018).

The Ministry of Agriculture encourages the use of organic fertilizers to farmers. The Directorate General of Agricultural Infrastructure and Facilities has also provided subsidies since 2008. During the last three years (2016-2018) the absorption has continued to increase (Rahayu, 2019).

Besides financial assistance to organic farming operators, the government through the Directorate General for Processing and Marketing of Agricultural Products has published many books related to several aspects that support organic farming development at the national level. These are as follows: organic food directory, guidance on certification and inspection of organic food product. There is also the guidance on the application of standardization on crop-based organic farming such as bee organic farming and cattle organic farming as well as guidance on the application of standardization on organic food processing and organic food labeling guidance on integrity recommendation of imported organic foods. (Rochayati; Irawan & Husnain, 2011).

Private sector participation

The members of the private sector such as agribusiness and non-governmental organizations take a large part in the development of agriculture in Indonesia. The development of organic agriculture which was recorded as the initial footprint of development started in 1984 by the NGO "Bina Sarana Bakti (BSB)." This was followed by The Indonesia Network of Organic Agriculture (Jaker-PO) which was a first national networking scale for Organic Agriculture in 1998. In 2000, the staff of the Department of Agriculture and academics formed the form MAPORINA (maporina.com) to improve the welfare and conservation farmer through organic agriculture. Continued in 2003 an NGO called the Indonesian Organic Producers Association (APOI) was formed. NGOs initiatives working with farmers became Cooperative Farmer's ideas which were then supported by the government. The union between the government, regulators, farmers and the private sector eventually became a Cooperative (Koperasi).

Case study: The success of Indonesian organic product exports are carried out by Cooperative Farmers

In 2014, Simpatik Cooperative Farmers was formed at the initiative of the regional government and

farmer groups. This cooperative is established based on market opportunities (market-oriented) and the potential of organic rice products in the farmer groups of Sukabumi Regency, West Java. In 2016, this Cooperative Farmers managed to get an international organic certificate so that it could export organic rice to the whole world. Members of the Simpatik Cooperative Farmers consist of 265 farmers spread across ten farmer groups, which have a land area of 50.57 ha. In June 2017, the Simpatik Cooperative Farmers succeeded in launching the first export of 17 tons of organic rice to Germany. The commodity was released by the Head of the Tasikmalaya District Agriculture Service. Partnering with PMA Corps, they were targeting 2017 to export six organic containers of rice which is equivalent to 120 tons. Meanwhile, in 2018, the focus was on 12 tanks or 240 tons. Besides organic rice, this organization also serves the market demand for turmeric, peanut, vanilla and palm sugar commodities.

THE LEGAL BASIS OF INDONESIA'S ORGANIC AGRICULTURE

Specific regulations for organic farming systems have been established which are mandated in the Indonesian National Standard SNI 6729-2016 as a change from SNI 6729-2010 and Minister of Agriculture Regulation Number 64 of 2013. Both regulations play a role in controlling and disciplining farming activities to the distribution of organic agricultural products in Indonesia, including provisions that describe the rules of imported products for organic products and quality standardization with Indonesian Organic Logo. In addition to the two principal regulations above, it is necessary to pay attention to government regulations for agriculture, plantations, food security, and consumer protection which are regulated in:

- a. Law Number 12 the Year of 1992 concerning Plant Cultivation System
- b. Law Number 18 the Year of 2004 concerning Plantation
- c. Law Number 18 the Year of 2009 concerning Animal Husbandry and Animal Health
- d. Law Number 36 the Year of 2009 concerning National Health
- e. Law Number 18 the Year of 2012 concerning Food
- f. Law Number 13 the Year of 2010 concerning Horticulture
- g. Minister of Agriculture Decree Number 380 / Kpts / OT.130 / 10/2005 concerning Appointment of Directorate General of Processing and Marketing of Agricultural Products as Competent Authority of Organic Food.
- h. Government Regulation Number 68 the Year of 2002 concerning Food Security and Government Regulation Number 28 the Year of 2004 concerning Food Safety, Food Quality, and Nutrition.
- i. Government Regulation Number 58 the Year of 2002 concerning Fostering and Supervision of the Implementation of Consumer Protection

These nine provisions are the basis for the formation of regulations of the Ministry of Agriculture on organic farming systems. This basis can be a measuring tool towards which and what is the

government's goals in their organic farming system.

Governments plan

The Working Cabinet year will end soon in 2019. The government's plan toward organic agriculture is still racing against programs of the Ministry of Agriculture and the Ministry of Trade of Indonesia. The new government program has not yet been published. However, the Ministry of Trade is committed to pushing the export of Indonesian organic products on the international market. The Ministry of Trade's National Export Development encourages exports of Indonesian organic products (Mandiri, 2019).

Issues and challenges

Organic farming requires that the land used is natural or has not been polluted by chemicals and has good accessibility. Quality and area are considered in the selection of land. Fertile soil in Indonesia has generally been cultivated intensively using chemical fertilizers and pesticides due to the Green Revolution. Unpolluted land that is still available in Indonesia, in general, has never been used as agricultural land. On the other hand, natural fertile soil is located in the rural area which makes it difficult for farmers to sell their products. Even if it is necessary to use existing fertile ground, according to Regulation of the Ministry of Agriculture No. 64 the Year of 2013, it requires a long conversion period of minimum two years.

The volume of world organic agricultural land reaches 1.4% (IFOAM, 2019). Developed countries such as Australia, the United States, Canada, and Europe taking the most significant percentage of the world organic market. (Ministry of Agriculture R & D Agency, 2002). In Asia, East Asian countries such as China, Japan, Taiwan, and South Korea dominate the market for organic and natural food products.

The market potential of organic agricultural products in the country is positively increasing even though it is still constrained because it is only for consumers with middle to upper economic conditions. Other constraints faced include:

- 1) Government regulations have not provided price standards for organic agricultural products, which makes it difficult for fair trade between producers and consumers;
- 2) Substantial investment is needed at the beginning of development because it must choose land that is genuinely sterile from agrochemical materials;
- 3) There is still a lack of information about the advantages of natural food products;
- 4) Farmers are reluctant to produce natural agricultural products due to uncertain domestic demand market.

The potential

In the past ten years, the world organic product market has increased significantly. In 2018 the market was estimated to reach US\$ 161.5 billion with a growth rate of 15% per year. Whereas in 2016 the market was valued at US\$ 93.1 billion. The five main producing countries currently are India, Uganda, Mexico, Ethiopia and the Philippines (Liliyah, 2018). However, it is possible for Indonesia to enter into the international market competition. Indonesia has better considerable potential to compete in the global market. It has various comparative advantages as follows:

- 1) There are still many land resources that are still not contaminated or can be open to develop organic farming systems. The area available for organic farming in Indonesia is extensive. 75.5 million hectares of Indonesia's land is available for agricultural businesses, only about 25.7 million hectares of rice fields, and plantations (BPS, 2000);
- 2) Technology to support organic agriculture is available such as composting, planting without tillage, and natural pesticides;
- 3) Government regulations for the Organic Agriculture System and the Indonesian National Standard for organic products are well developed. The law is a form of adequate support from the government;
- 4) Domestic organic markets increase positively and significantly;
- 5) Many Non governmental organizations that focus on Indonesian natural products that increase convenience for agricultural extensions to improve human resources for ecological farming systems;
- 6) The rise of investment from stakeholders in the natural agriculture sector in the country;
- 7) Distribution and transportation for export and import activities from and to Indonesia are adequate;
- 8) Indonesia is a member of ASEAN which is in the free trade area, benefits for fellow countries' export and import activities in Asia.

Further development of organic agriculture in Indonesia must aim at meeting global market demand. Therefore exotic commodities such as vegetables and plantations such as coffee and tea which have a quite bright export potential need to be developed soon. For example, Indonesia is the second largest exporter of coffee products after Brazil, but on the international market Indonesian coffee does not have a trademark.

Other products that have excellent opportunities to be exported from Indonesia are rice, coffee, honey, tea, chocolate, cashews, coconut palm sugar, coconut oil, and vanilla. For farmer groups (Cooperative farmers / GAPOKTAN), rice that has received organic certification is now spread in 16 provinces in Indonesia (North Sumatra, West Sumatra, South Sumatra, Jambi, Lampung, West Java, Banten, Central Java, Special Region of Yogyakarta, East Java, Bali, East Nusa Tenggara, West Nusa Tenggara, South Kalimantan, South Sulawesi and Central Sulawesi) (Mandiri, 2018).

RECOMMENDATIONS

The current status of natural agriculture food production in Indonesia is less reliable as in developed countries. Many obstacles have become issues of the slow development of organic agriculture in Indonesia. Indonesia has vast land and is still very possible for modern farmers to develop natural farming systems. To increase their organic agricultural production, supporting factors are as follows:

- a. To improve the agriculture technology to support operations such as making compost, biological pesticides, hydroponics system, etc.;
- b. Maximize the use of agricultural land by developing organic farming systems. The most developed and potential commodities in Indonesia are horticulture (vegetables); herbs and medicinal plants; rice plants; plantation crops such as pepper, clove, nutmeg, coffee, and vanilla; and livestock products such as milk, eggs, and meat
- c. Improve the education or extension system of organic farmers to boost the human capital in agriculture;
- d. Do counseling regarding certification of organic agricultural products. Certification of natural farm products is one of the essential factors in the sale of local organic products and export products (international market). Local certification of organic products marketed in Indonesia must be certified organic based on National Standard (SNI 6729: 2016), Ministry of Agriculture Regulation No. 64/2013 and Regulation of the Head of the National Drug and Food Supervisory Agency No.1 the Year of 2017; and labeled Organik Indonesia. International certification for exports from Indonesia is a certification issued by the International Federation of Organic Agriculture Movements (IFOAM) and SKAL. More specifically, for example, to market organic products to the European Union, applicants (manufacturers, processors, and exporters) must comply with European Union EC regulations N°834/2007 and EC N°889/2008 and be certified organic by organic certification bodies recognized by the European Commission, such as ACT and QCS that provide European Organic certification services (ICERT, 2018)
- e. Strengthen the Cooperative Farmers such as farmer groups, cooperatives, associations or corporations that are still very relevant to the development of organic farming systems in Indonesia. Cooperative Farmers will be able to strengthen the position of farmers in regional, national even international markets. (Mutowal, 2011).

CONCLUSION

Organic farming in Indonesia is still in the development stage. It means the development is relatively prolonged. Various government programs that were pursued several years ago have not shown significant results yet. The 2010 Go Organic program is still not very successful. There is not too many information published regarding government activities and programs around organic farming in recent years.

However, the government in the Work Cabinet (2014-2019) encourages the productivity of organic products. The government support is promoting the formation of the required organic agricultural product certification agency. Besides, the government is making efforts to establish, develop and strengthen supporting institutions such as farmer groups, extension institutions, marketing institutions (markets for organic products). Also, socialization activities are needed to provide understanding and provision of the meaning and benefits of organic farming to the producer community (farmers), consumers, traders, local government, extension agents and agricultural actors and other related institutions.

There are still many issues and challenges facing Indonesia agriculture system, and slowly the government and farmers continue to work to overcome them. Fortunately, government regulation itself supports the existence of Cooperative Farmers (private sectors) and Non-governmental organizations in the context of domestic agricultural development. The government provision provides freedom for anyone in Indonesia, including foreign companies to participate in the event of organic agriculture. The government support, a collaboration between farmers and stakeholders as well as other private sectors becomes the critical success of the development of organic agriculture in Indonesia.

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