WILL JAPANESE AGRICULTURE SHIFT ITS FOCUS TO SAVING THE ENVIRONMENT?
— TAKING EU'S GAP AGRICULTURAL POLICY AS A MODEL —

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SUMMARY

- Since the 1990s, against concerns about the environmental impact of chemical fertilizer-dependent agriculture, the EU has promoted GAP policies with the aim of more environmentally friendly agriculture.
- While Japan has been lagging behind in promoting GAP that focuses on environmental conservation so far, recently there have been attempts to utilize GAP for sustainable agriculture policies by taking the EU as a model, which shows that Japanese agriculture is starting to become more environmentally friendly. Since the transition to environmentally friendly agriculture could create business opportunities as well as threats for related industries, its development is attracting close attention.

The spread of chemical fertilizers in agriculture helped to increase food production after World War II, and contributed significantly to population growth. At the same time, excessive input of nitrogen, which is a main component of chemical fertilizers, has long been considered problematic because of the potential threats to biodiversity, human health, and animal health mainly through the environmental impact of water pollution caused by nitrates[1].

Under these circumstances, the EU has implemented policies to encourage GAP (Good Agricultural Practices[2]) with the aim of lowering the nitrogen balance. Meanwhile, Japanese has been slow to promote GAP aimed at environmentally friendly agriculture, and its nitrogen balance has remained high for a long time. More recently, however, signs have started to appear that Japan is moving towards a more environmentally friendly agriculture using GAP. In this report, I will examine the potential for environmentally friendly agriculture in Japan, using the EU precedent as a model.

[1] Nitrates are chemical compounds of nitrogen and oxygen. Plants absorb nitrogen in the form of compounds, such as nitrates or ammonia. When there is excessive nitrogen in the soil, nitrates over necessity could be absorbed by plants, leading to the accumulation of large volumes of nitrates in them. This can cause symptoms of poisoning in humans or animals that take these plants. Furthermore, if excessive nitrogen is introduced to arable land or pastures, or livestock excrement is not properly disposed of and is discharged into the groundwater, the concentration of nitrates in the groundwater will rise. Not only does this threaten biodiversity, it could also cause health damage to humans or animals that drink the groundwater.

[2] GAP is a general concept, and in this report I will use the term to mean "good agricultural practices". However, it has been translated into Japanese variously to mean "proper agricultural methods", "proper agricultural practices", "proper agricultural management", "proper agricultural activities", "a good way of agriculture" and "working on better agricultural production". In Japan, it is often translated loosely to mean "agricultural production process management methods" because the widely recognized private sector certification programs incorporate the approach of HACCP, which is a management technique for reducing or eliminating risks that threaten food safety in food product manufacturing processes.

1. THE MAIN FOCUS OF THE EU GAP IS ENVIRONMENTAL CONSERVATION

GAP is a general concept meaning "good agricultural practices". The United Nations' Food and Agriculture Organization (FAO) defines GAP as follows: "Good Agricultural Practices are 'practices that address environmental, economic and social sustainability for on-farm processes, and result in safe and quality food and non-food agricultural products'"[3]. GAP origin is believed to be the proposals made by the FAO in the 1970s for the proper use of agrichemicals.

In Japan, GAP is widely recognized as private sector certification programs[4] including GLOBALG.A.P. Such programs have been designated as a requirement for supplying food to the 2020 Tokyo Olympics and Paralympics, and their use has been encouraged as a means of promoting exports of agricultural produce. Accordingly, GAP tends to be seen as a concept for the food safety and reliability or the distribution of agricultural produce.

Meanwhile, in the EU, the environmental impact of agriculture is seen as an important issue, and GAP is viewed as a promotion tool for environmental conservation, and has been promoted under the framework of sustainable agriculture policies since the 1990s.

2. THE EU HAS USED GAP TO PROMOTE ENVIRONMENTALLY FRIENDLY AGRICULTURE

From the 1960s onwards, the EU prioritized and promoted agricultural production increase under the Common Agricultural Policy (CAP) at the time, through its price support policy[5] and the export subsidies. As a result, however, huge input of chemical fertilizers as well as the livestock excrement increase, which led an increasingly serious water pollution caused by agriculture-derived nitrates.

Against this backdrop, in 1991 the EU adopted the Nitrates Directive, for the purpose of reducing the nitrogen balance to alleviate and control water pollution. At the same time, it obliged all member states to develop a Code of Good Agricultural Practice (COGAP) that sets out the specific production activities for farmers to achieve this goal.

From 1992 onwards, in the context of a fiscal burden increase for the export subsidies and of the response to the Uruguay Round negotiations, the CAP shifted from its previous price support policy to direct payments[6]. Under such circumstances, cross compliance[7] was introduced through the 1999 reforms, requiring farmers to comply with COGAP for the receipt of direct payments to ensure awareness on GAP among farmers.

At that time, whether to adopt cross compliance or not was left to the member countries judgment , and the content and standards for COGAP were different among member countries, in accordance with their regional characteristics. For this reason, in 2003 further reforms were implemented through an EU-wide GAP policy

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3 FAO COAG 2003 GAP paper

4 Certification programs provide "process certification" for farmers who have followed good agricultural practices (GAP) but do not provide "results certification" guaranteeing the quality (including food safety) of the agricultural produce itself.

5 Price support is a policy that increases farmers' income indirectly by using public funds to support higher prices for agricultural produce, for example, a government purchase of agricultural produce at high prices. Since the establishment of the WTO, there has been a global trend towards reducing or abolishing such policies because they may disturb the market mechanisms that form prices for agricultural produce.

6 Unlike price support, which increases farmers' income indirectly, direct payment is a policy for subsidizing farmers' income through direct subsidies. It is referred to as "income support" in contrast to "price support".

7 Cross compliance(CC) refers to a policy method imposing certain requirements for the receipt of subsidies. In other words, subsidies are matched to requirements. The method was first used in the United States in the 1980s, when subsidies were paid on condition of leaving soil fallow for the prevention of soil erosion.

called GAECs (Good Agricultural and Environmental Conditions), and cross compliance became obligatory for all member states[8].

At the same time, cross compliance was further strengthened by adding SMRs (Statutory Management Requirements)[9], which extended the scope of farmers' management to include other related fields beyond the environment. In addition, the current CAP[10], has expanded the scope of farmers' obligations to areas previously treated as optional, such as the obligation to plant at least three crops for promoting crop diversity, which results in the stricter requirements of the policy.

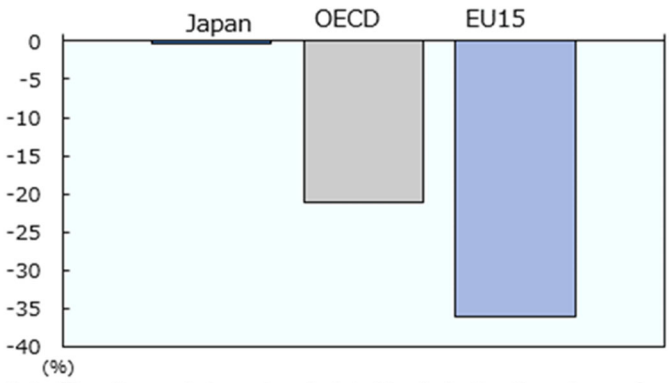
In this way, since the 1990s the EU has politically promoted environmentally friendly agriculture based on GAP for almost 30 years. As a result, the nitrogen balance in the EU has fallen from 110kg/ha in the 1990s to 72kg/ha today.

3. JAPAN MODELS EU GAP IN ITS SUSTAINABLE AGRICULTURE POLICY

3-1. Japanese agriculture with a heavy environmental impact

On the other hand, Japan currently has a high nitrogen balance of 178kg/ha, which is 2.8 times the OECD average and 2.5 times the EU level. At least, the balance has been at this level since the 1990s (Figure 1), indicating that the nitrogen balance has been excessively high in Japan for a long time.

Figure 1: Nitrogen balance reduction rate
(Comparison of 2013-2015 average to 1993-1995 average)



Note: The nitrogen balance is calculated by deducting the volume of nitrogen absorbed by plants, etc., from the volume of nitrogen released through fertilizers, livestock excrement, and nitrogen fixation, etc. It is used to measure excessive nitrogen.

Japan's high nitrogen balance are considered to be caused by the large volumes of chemical fertilizer for food production increase under its price support policies based on the food control system, and the fact that even after the food control system abolition, Japan's part-time farmers, who account for the vast majority of farmers in Japan, have habitually continued inputting large volumes of chemical fertilizers. Moreover, since the food control system was abolished in 1995, efforts have been made to turn agriculture into a growth industry for approximately 20 years, calling for farmers to improve productivity and efficiency. Although the "Food safety and reliability" and the "distribution of agricultural produce" are easy-to-understand concepts, and interest in these areas has increased as a result, the "environmental conservation" is not linked directly to higher profits, and it has tended to be neglected.

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8 Applied in 2005

9 A total of 19 rules and directives need to be adhered to on matters such as human, animal, and plant health, and animal welfare, as well as the environment.

10 The current CAP is effective from 2014 to 2020. The next CAP for 2021 onward is under discussion with a view to revising the current system to further increase its effectiveness as environmental measures.

3-2. Japan introduces "international level GAP standards" for cross compliance

In Japan, direct payments of subsidies for environmentally friendly agriculture was introduced in 2011 as a measure to support a reduction of the customary use of chemical fertilizers and chemically synthesized pesticides by 50% or more through, for example, organic agriculture. A requirement for the subsidies was to comply with a code of action for agricultural production "in harmony with the environment" (the "agri-environmental code"), which was formulated in 2005 and was equivalent to a Japanese GAP code. However, the code failed to set out the activities in detail that farmers needed to implement, and implementation was checked through self-inspection only, meaning it lacked objectivity and could be described as mere formalities. Amid this situation, in 2018 the agri-environmental code was replaced with "international GAP standards" as the requirement for receiving subsidies.

"International GAP standards" refers to private sector certification programs such as GLOBALG.A.P. and ASIAGAP. GLOBALG.A.P. is one of those programs created in 1997 by a private non-profit organization composed of leading European retailers, such as Tesco in the UK, to guarantee the reliability of suppliers of agricultural produce in the retail industry. ASIAGAP is an upgraded version of Japan's certification program JGAP, which was created using GLOBALG.A.P. as a model.

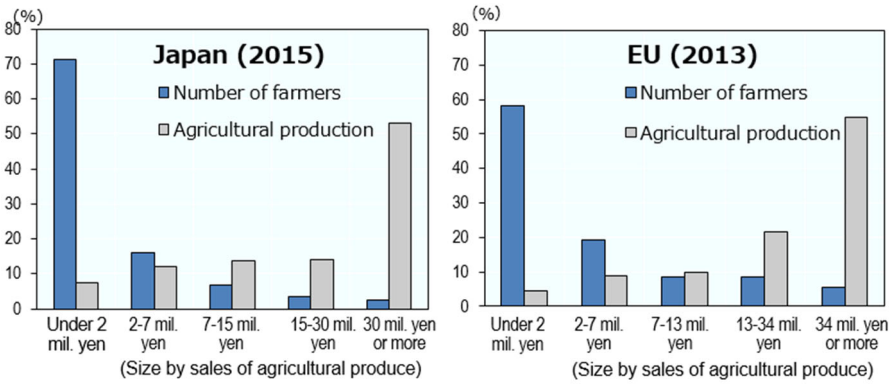
Under the current system, farmers can get subsidies only by submitting a form to declare understanding in GAP and its implementation after self-inspections referring to the checklist released by one of the certifying organizations, while obtaining private sector certification enables farmers to prove their implementation objectively. Furthermore, the scope of GAP required by private sector certifiers covers a broad range of areas other than the environment, such as occupational safety, food safety, and animal welfare, and it is similar to the EU's cross compliance.

3-3. Japan takes first steps towards environmentally friendly agriculture

One difference with the EU is that Japan's recent cross compliance system is completely voluntary; Even if farmers do not implement GAP, they simply lose their right to receive subsidies without any penalties. In other words, it lacks enforceability. Another difference is that the EU has the minimum level of activities that farmers need to implement for cross compliance, whereas Japan makes higher international standards the requirement for receiving subsidies.

Those differences from the EU could be seen as the policy message that the government wants farmers who have a greater awareness and take initiatives to be the recipients of subsidies. In the past, the structure of Japanese agriculture was such that a large proportion of agricultural production value was accounted for by large numbers of smallholders.Currently, similarly to the EU, more than half of agricultural production value in Japan is now by large-scale farmers (Figure 2). Amid these changes surrounding the Japanese agriculture, the above developments can be seen as a sign that the focal point of agricultural policy is shifting away from smallholders protection towards supporting farmers with a strong business mindset.

Figure 2: Ratio of farmers and agricultural production by business size



Source: Compiled by MGSSI based on OECD data

When the GAP approach was introduced to Japan for the first time in the early 2000s, the division responsible for promoting GAP at the Ministry of Agriculture, Forestry, and Fisheries was the Plant Products Safety Division for food product safety, but since 2015, the responsibility has been transferred to the Sustainable Agriculture Division, which promotes sustainable agriculture. Japanese agricultural policy has finally taken its first small steps towards environmentally friendly agriculture based on GAP, 30 years after the EU.

4. TOWARDS ENVIRONMENTALLY FRIENDLY AGRICULTURE IN JAPAN

4-1. Transition to environmentally friendly agriculture presents both risks and opportunities for related industries

Alongside cross compliance, the EU has raised the minimum level of activities that farmers need to implement by creating stricter laws and regulations, such as the Nitrates Directive to acheive environmentally friendly agriculture. Similarly, Japan will likely need to change its laws and regulations as it seeks to promote environmentally friendly agriculture.

If this happens, less chemical fertilizers will be used, which threats agricultural inputs businesses. At the same time, the development of alternative inputs and new technologies to meet the needs of environmentally friendly agriculture may offer new business opportunities. Possible examples include seed varieties that increase yields or improve quality in terms of the shape or flavor of crops, even with small amounts of chemical fertilizer; smart agricultural technology, such as soil analysis for optimal fertilization, or variable rate fertilization technology; or technologies that compensate for the weaknesses of organic fertilizers (such as lacking immediate effect).

Moreover, when environmentally friendly agriculture becomes more popular, opportunities are likely to emerge for industries further downstream in the supply chain. It will become easier for food processing industry to carry out domestic procurement of ingredients such as organic agricultural produce, and the market is likely to expand for the retailers for premium agricultural produce.

4-2. Towards truly environmentally friendly agriculture

In the West, there is strong interest in the environment, particularly among young people. While this is often considered attributable to cultural or religious differences, we cannot ignore the EU's agriculltural policies history as playing a significant role in forstering the background of the environmentally friendly consumer attitudes in the EU.

Spending on CAP accounts for approximately 40% of the EU's budget. This figure is lower than the over 60% of spending previously accounted for by the CAP, but it still accounts for a large proportion of EU spending. Securing this level of funding requires consensus-building and understanding among tax-paying EU citizens. For this reason, for the past 30 years, the EU has communicated to its citizens the need (justification) for using public finances to support the economic burden on farmers who pursue environmentally friendly agriculture.

As a result of the EU promotion to foster environmental awareness in schools alongside its agricultural policy, even elementary school children are now said to be aware that chemical fertilizer-dependent agriculture harms the environment. The young generation that has grown up in the EU with that knowledge from childhood are not just "digital natives" but also "environmental natives". Their strong level of environmental awareness is not something that occurred coincidentally from cultural or religious differences, but is something which has been cultivated.

The EU, where truly environmentally friendly agriculture has been firmly established and supported by such consumers, is a good model for Japan to follow. The EU's direct payments, which focus on support for environmentally friendly agriculture, account for a large proportion of CAP expenditure, at 70%. In contrast,

Japan's directly paid environmental subsidies account for just 0.1% of the Ministry of Agriculture, Forestry, and Fisheries' budget. The focus of Japanese agricultural policy still remains on a single crop – rice. The future direction of Japan's environmentlally friendly agriculture highly depends on whether or not the government can raise a question once again to Japanese citizens, i.e., taxpayers, about the usage of taxes, and make a shift from the currrent policy with overemphasis on rice to a cross-product policy with the main objective of environmental conservation.